The Role of U. S. Universities in International Rural and Agricultural Development

TUSKEGEE INSTITUTE

April 16 - 18, 1980

conference proceedings

BROOKE G. SCHOEPF, Editor

Proceedings of the Conference:

THE ROLE OF U.S. UNIVERSITIES IN INTERNATIONAL RURAL AND AGRICULTURAL DEVELOPMENT

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Tuskegee Institute

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CENTER FOR RURAL DEVELOPMENT
TUSKEGEE INSTITUTE

TUSKEGEE INSTITUTE, a small university located in central Alabama, was founded in 1881, under the leadership of Booker T. Washington. Its current programs, including both undergraduate and master's level instruction, are concentrated in six major areas: Arts and Sciences, Applied Sciences, Education, Engineering, Nursing, and Veterinary Medicine. Substantial outreach service programs, concentrated in several surrounding counties as well as overseas, along with a sizeable research program, combine to make Tuskegee Institute a comprehensive impact institution.

The Tuskegee approach for dealing with developmental problems and limited resources is especially significant with regard to the problems faced by the emerging nations of the world. As a consequence of Tuskegee Institute's unique history and interest, the institution has attracted a faculty dedicated to humanitarian service and possessing technical and professional expertise of the highest order.

Through the years, Tuskegee has participated in a number of international assistance programs, and today continues to develop programs designed to broaden its participation in the international development effort. Because of these efforts, Tuskegee has long received students from Africa, Asia, the Caribbean and Latin America.

Tuskegee Institute is a unique institution in that it was founded to meet the educational and development needs of Black Americans in a region where material resources and broad-based popular support were often scant or absent. The central purpose of the Institute has always been that of providing pragmatic educational assistance within the particular historical and social context of the American South. Tuskegee has been a pioneer in the areas of agricultural extension, self-help, and what is now called "rural community development." The enduring strength and world-wide fame of the Institute attest to the validity of the original Tuskegee concept and its continuing relevance in the modern world.

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INTRODUCTION

The Tuskegee Institute Centennial Conference on "The Role of U.S. Universities in International Rural and Agricultural Development", held April 16-19, 1980 brought together planners, diplomats, scholars and development workers to debate issues they considered crucial to the 1980's. Focusing on Africa and the efforts of the peoples of the world's poorest continent to take control of their destinies, the contributors employ several quite different approaches to the study of technological and social change. Many adopt varieties of an Afrocentric perspective. Their shared concern is to discover ways to enhance the capacity of African societies to meet the contemporary and future needs of their peoples, and to do this through building upon past strengths and achievements. Afrocentric perspectives call attention to the resiliency of African peoples and cultures and to the contributions of the continent to the development of humankind, probably since our earliest emergence, and particularly in the last 500 years.

Tuskegee Institute has a twin mission, recently affirmed by its current President, Dr. Luther H. Foster. He emphasized that "Tuskegee is first an educational institution of high quality. Secondly--but of utmost significance--Tuskegee is a center of positive societal impact to advance equal opportunity and social justice." Tuskegee Institute has a long history of contributions to international development. Its efforts have been concentrated primarily in Africa and the lands of the African Diaspora. Meeting needs of poor rural people and the education of African and Afro-American leaders have been the focal points of this involvement.

The Conference was convened by the Center for Rural Development at the initiative of Dr. Glenn Howze, Director of the 211-d Program in Comprehensive Planning for Rural Development. The Conference was supported in part by grants from USAID, including the 211 d project, the 122 d International Health Project and Title XII strengthening grant in International Food and Nutrition. The Human Resources Development Center and the Center for Behavioral Sciences generously contributed the efforts of several staff members. An interdisciplinary committee met to plan themes, format and invitations; many committee members acted as moderators for the sessions. Dr. George Cooper, Dean of the School of Applied Sciences, served as Chairman of the Conference.

One hundred and twelve registered participants were joined by students and faculty from Tuskegee Institute, the Atlanta University Center and Auburn University. In addition to university based development specialists, there were representatives from

the U.S. Agency for International Development, the U.S. Department of Agriculture, the U.S. Department of Health and Human Services, the United Nations Food and Agriculture Organization, the World Bank, the Phelps Stokes Fund and the African American Institute. Disciplines represented include:

Agricultural Economics	Medicine and Health Care
Agricultural Engineering	Medical Economics Planning
Agricultural Extension	Nutrition Sciences
Anthropology	Political Science and Law
Animal Sciences	Public Administration
Business Management	Sociology
Crop and Soil Sciences	Veterinary Medicine
Education	

The proceedings were prepared by the staff of the 211-d Project. A number of papers have undergone substantial editing since the Conference, and several have been shifted from the sessions in which they were presented. Two sessions were omitted: "Modes of Production: Precolonial Baselines and Their Transformations", and "The Relationship of Development Projects to Development and Underdevelopment". A special session on Zimbabwe took place in their stead. Commentaries made by several discussants have been ommitted at their request, and three papers were not received in time for inclusion. Section introductions were prepared by the editor unless otherwise noted.

Participants brought to the forum a variety of experiences with respect to the evolving role of universities in the U.S. and Africa. The role of land grant institutions and particularly the historically Black, or 1890, land grant institutions in technical cooperation was considered in the light of development goals with respect to small farmers and to meeting increased food production needs. Many contributed reflections upon the unique experience of the historically Black universities and their potential for a special--and especially valuable--contribution to the field, in reaching out to Africa's poor and predominately rural populations in collaborative efforts to improve their lives and ensure their health and well-being.

Among the questions addressed in all of the panel and workshop sessions were:

What must be done to plan and implement development policy capable of effectively reversing the tide of deepening poverty and human suffering now threatening to engulf many nations?

How are various types resource allocations related to different development strategies and what are their respective outcomes in particular strategy areas?

How does the history of development strategies of the colonial and post-independence periods relate to emerging national and international patterns of social stratification?

What is the potential of Afrocentric perspectives and Pan-Africanism as mobilizing forces for social change?

Specific program, policy and research topics were considered:

- Methodologies for gathering baseline data about agricultural and social systems and their importance in adapting technological innovations selected for application in programs of planned change.

- The role of health, nutrition and health services delivery and the interrelationship of ecology, illness and rural development; the interrelationships between human and animal health and livestock production systems.

- The changing roles of women in African societies and the implications of various change strategies with respect to their impact upon the status of women and family welfare. Women and Development issues were considered in all of the panels and also were singled out for special consideration in one workshop devoted solely to this topic.

- The cross-cutting cleavages of class and ethnicity, considered in relation to development programs and resource allocation, with attention to the impact of development projects upon social structure and conversely, the role of social structure in the choice of development strategies.

- The already existing strategies for local self-help that might be further strengthened so as to mobilize broadly based efforts for social change, and barriers to such mobilization. The use of culture and social organization as a positive force for change.

- The kinds of practical technical collaboration that might be offered to help the poor control their own destinies and ensure that development works for them.

- The types of education for development that have been attempted at various levels and assessment of their efficacy and shortcomings, in an effort to arrive at collaborative, participatory models.

RECOMMENDATIONS

From a session summarizing the work of the Conference emerged recommendations for policy, planning and research. These recommendations embody the general consensus. However, they should not be construed as representing the views of particular individuals, organizations or institutions.

1. The need for further research in all areas, in order to provide baseline data on extant agricultural and agro-pastoral systems at the local level, on political and administrative systems and policies at local and national levels, and on aspects of international relations which affect development policy. System blockages need to be more fully studied along with alternatives and experimental models should not be tied to narrowly defined strategic objectives or ideological doctrines.

2. The need to assure the food security of peoples displaced by technological and social change.

3. The need for research on both small- and large-scale production systems which protect non-renewable resources such as soils, water and minerals for use by future generations.

4. The need to design and implement agricultural and technological research appropriate to the solution of the problems involved in increasing the productivity of small farmers and in providing non-farming populations with income-earning opportunities so that both groups can benefit from development. Existing technology continues to benefit mainly large scale, highly capitalized agricultural enterprises and the larger farmers.

5. The need to design educational systems that promote rural development and encourage people at all levels to use theory to integrate experience and experimentation. Formal education systems need to be made more flexible and adapted to local needs; non-formal education needs to be extended; opportunities for continuous upgrading of skills, literacy and creative problem-solving should be built into development programs. Education in the broadest sense is essential for human sociocultural development and should be considered a basic human right.

6. High priority should be given to programs which improve the nutrition and health of the poor, viewed as the basic infrastructure of development. Conditions which undermine the health status of high-risk groups should be singled out for special attention within the context of community and family health services. The adverse conse-

quences of some cash cropping strategies on health must be considered and alternatives derived in collaboration with the people directly concerned.

7. Many studies show that program effectiveness depends upon the involvement of the people toward whom the programs are directed. This requires early consultation and continuing collaboration during all phases of planning, including research, design, implementation and evaluation. All groups stressed the need for university contributions in this crucial area.

8. The need for administrative environments in both host and donor nations and agencies which are responsive to the substantive thrust of development. There is need for accountability at all levels of development planning and implementation, not only to hierarchical superiors, but particularly to the designated beneficiaries of projects and programs.

9. The need for commitment to promoting rural development on the part of the host country governments, as demonstrated by removing administrative obstacles to implementation; and by rewarding individuals and communities for their efforts.

10. The need to recognize the significant role of women in African development, including ensuring their representation at all levels of policy, planning, implementation and evaluation. There is need for further research to discover ways in which this process can occur.

11. The need for universities in the US and Africa to provide not only technical research and training, but also to serve as a haven for research and debate critical of established development theories and strategies as a condition of progress in the field. Concomitantly, there is a need for governments to fund such work.

12. The historically Black universities, with their record of efforts to effect the economic, social and political advancement of poor and disadvantaged communities, and with their traditional links to the struggle for African independence are a resource that is not fully mobilized in international work. Funding for Afro-American scholars and institutions should be increased so that their particular expertise can be drawn into the effort to create models of technical cooperation which link Africans and Americans in research, planning, implementation and advocacy.

13. The need for international committment to a reallocation of the world's resources oriented toward reducing both waste and want, and toward ensuring the survival of humanity. The particularly low level of development investment in sub-Saharan Africa underscores this need. Development agendas for the 1980's must begin with the political will to effect this reallocation.

14. The need to consider development in broad human terms rather than as economic growth. In this sense, all nations are "underdeveloped" and no nation has found the key to unleashing the full human potential of all its peoples. There is a need to recognize the contributions of humankind variously distributed across time and space.

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Brooke G. Schoepf
Tuskegee Institute
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SECTION I : KEYNOTE ADDRESSES
INTRODUCTION

The first section groups the keynote addresses delivered by four distinguished Afro-Americans whose interest in international development has taken them to universities, government and private foundations at different periods in their lives. They share broad Pan-African concerns and varying Afrocentric perspectives gained in their years of service as scholars, diplomats, educators and planners. Their contributions are linked by several common themes. They stress that survival of humankind depends upon finding solutions to world development problems. Such solutions can only be arrived at in full partnership with Third World peoples beginning with the recognition of the need for reallocation of the world's resources.

The keynote speakers agree that U.S. universities--and particulary the historically Black institutions--have a role to play in development, discovering and transmitting new knowledge and preventing that knowledge from becoming fragmented and too narrowly oriented. They also agree that members of the African Diaspora who can avail themselves of the special admixture of expertise, breadth of knowledge, flexibility, committment and cultural appreciation can make an especially significant contribution through technical collaboration. To be successful, collaboration requires recognition of the expertise of African development workers at varying levels of responsibility and serious consideration of their critical appraisals of development strategies.

The keynote speakers' emphasis on the necessity for global redistribution is crucial in light of the tendency of some western development planners to shift the burden of responsibility for past failures onto local elites. They caution that the level of resource committment must be sufficient to meet the investment needs in all the priority areas and particularly for education and training at all levels. Together they propose that advancing the cause of human betterment in Africa is both a matter of social justice and of advancement towards world peace. The transformation of Africa requires and will bring forth transformations in the global human community.

Dr. John Withers calls attention to two significant reasons for the involvement of U.S. universities in technical cooperation, beginning with the historical committment of these institutions to advancing and transmitting knowledge in the service of human betterment. He proposes that development assistance is not a form of charity, nor is it solely a moral imperative. It is also a matter of strategic concern, since world peace is threatened when disadvantaged people claim "what they see as their rightful share of the world economic product." Dr. Withers elaborates on the goals of development programs in terms of increasing the world's food resouces to meet future needs, of narrowing the gap between rich and poor nations, of reducing the impact of poverty and augmenting the quality of life within all nations. He calls attention to the need to devise systems which increase production while at the same time minimizing environmental deterioration.

Dr. Withers draws critically upon both a globalist perspective of development and underdevelopment as a process inherent in the modern world system and upon one which stresses the role of national elites in contributing to mass poverty and powerlessness. Encouraging western professional and particularly those from the historically Black institutions, to contribute by sharing their expertise, Dr. Withers emphasizes that responsibility for decision-making must reside with the peoples of the lesser developed nations. He concludes that participation in development efforts abroad offers challenging opportunities to learn with and from others in order to reappraise and improve U.S. society. And finally he calls for a reordering of priorities among both donors and recipients.

The Honorable Walter Carrington emphasizes that despite tremendous needs, great resources contributions and greater potential, the African continent has had low priority status in US foreign aid expenditures. One consequence he finds is that many nations have been obliged to continue their dependence upon their former colonial rulers. In addition to supplying direct assistance to African governments, Ambassador Carrington points out that U.S. financial support for international lending agencies is crucial if the latter are to contribute to meeting African development needs. Not only the level, but the type of funding, however, must change. In the face of disappointing results over the past two decades, the international development community has swung from one strategy to another. The dismal record makes it imperative to provide development financing on terms set by African leaders according to their priorities. These quite realistically include infrastructure development and training at all levels, including research at the frontiers of knowledge. Africans must be able to make their own informed decisions about development strategies and technology transfer, rather than continuing to be caught in the double bind of "insufficient absorptive capacity."

Ambassador Carrington goes on to note that the fundamental problems of African development stem from structures and processes of the world economy. Recognizing the call of the non-aligned nations to a New International Economic Order is the first step toward change. Dialogue between rich and poor nations is essential and urgently needed to ensure world survival, which as a result of the current economic crisis is more problematic than at any time in recent history.

The Honorable Professor Elliot P. Skinner explores multiple levels of ethnocentrism, using biblical metaphor to focus on relationships between peasants, nation-states and the world economy. The flux of earlier world-systems is a vantage point for considering the consequences and future of the present one. He notes that since the emergence of states and empires, increases in production through intensified labor mobilization and the application of new technology have occurred largely in the context of increasing concentration of resources and increasing inequality. The consequences of increasing scale and complexity have not bypassed the African continent; quite the contrary. Yet African nations are certainly no more stratified, and many are less so, than nations in other areas of the world.

While colonization and decolonization have set in motion new forces within peripheral nations and those of the imperial core, the enlargement of the human community remains blocked by persistent and powerful interests. Like Ambassador Carrington, Ambassador Skinner questions the basic needs strategy currently in

vogue as a corrective for policy errors. In his view it addresses the problems of development on the wrong level and the wrong scale. A more fundamental policy change is needed, based upon restructuring the relationships between nations and engaging the efforts of African elites, while at the same time making resources available at the village level. Professor Skinner challenges academics to engage their theory and practice, becoming "active participants in the struggles to create a truly humane global community."

Dr. Marie Gadsden emphasizes that the task of harnessing technology in the service of humankind requires broad interdisciplinary outlooks. Education should be a process in which teachers learn and students teach, and from which experts emerge as thinkers as well as doers. Parochialism of whatever variety is antithetical to true expertise. Therefore, exchanges between developing nations as well as between these and the west are necessary.

Describing the Phelps-Stokes Fund's training and educational exchange programs, Dr. Gadsden asks some provocative questions about the role of educators and educational institutions in the development process. She asks if shared learning adapted to the institutional and cultural contexts of host countries actually occurs. She queries our openness to learning from others and to criticism. She asks if U.S. institutions have been able to change as a result of international involvement, and she asks if we have related problems of rural and agricultural development to those of industrial and urban development to meet the challenge of the world-wide trend toward urbanization. These questions are asked in light of what Dr. Gadsden perceives to be alienating and devisive effects of western educatonal experiences upon Africans and the ethnocentrism of western assumptions. She suggests that a processive approach to education must include behavior and attitude modification conducive to meeting development goals.

MAKING THE VISION COME TRUE

John Withers

U.S. universities have a profound stake in their relationships with the nations and peoples of the less developed countries. These countries have represented, over the past two decades, a new challenge to the conscience of mankind and have thus become an emerging field for significant social action. It is, therefore, natural that U.S. universities have received requests for help as initiators and transmitters of ideas and formulas for progress. This is natural because the universities have not only historically taken the lead in responding to the problems of the disadvantaged, but also have assumed a major commitment to economic and social justice.

The involvement of U.S. universities in economic development abroad has been and can be logically attributed to the economic, political, and strategic necessities of the time. But, it has in addition become evident that a threat to any one part of the international fabric has a potential impact on the rest of the world. Thus, we can not ignore threats to the well-being of the world as posed by two-thirds of its people who are just above the level of starvation and who are clamoring for what they see as their rightful share of the world's economic product. It becomes clear then that many problems facing the people of the world must be solved in common over the long run, or not solved at all.

Specific examples of such dilemmas include the international scarcity of major agricultural commodities which, if properly resolved, would require several important policy initiatives:

1. The danger of chronic global scarcity of food underlines the urgency of reducing population growth as soon as possible. This approach is already underway to a limited extent in many industrial countries but is much more difficult to achieve in poor countries. Historical records indicate that birth rates do not usually decline unless certain basic social needs are satisfied, i.e. an assured food supply, a reduced infant mortality rate, and an availability of appropriate health and education services. Populations that double every twenty-four years - as is the case in many poor nations - multiply sixteen fold in scarcely three generations. Thus, it is in the self-interest of the United States to launch an attack on global poverty not only to narrow the gap between the rich and the poor nations, but to meet the basic needs of the poor themselves.

2. Present population trends, together with emerging constraints of food production, call for consideration of the creation of an effective international world food reserve to ensure reasonable stability in the world food economy that would be in the self-interest of all nations. In addition, the world community has a basic humanitarian interest in assuring that famine does not occur in the poor countries following a bad crop year - an assurance the affluent na-

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tions may not be able to provide if the current system of autonomous, nationally-oriented food planning continues without modification.

3. Furthermore, the reservoir of moral concern in the U.S. and other western nations, has been supplemented and intensified by the concern of the younger generation. Much of the alienation that we find in America today is largely a product of the sense of having fallen short of our own national ideas. Thus, there exists an excellent opportunity to direct this awakened moral concern for the poor countries to changing the national priorities here at home. In a real way, too, it can be argued that solving problems in America - such as poverty - must be linked morally to the general world-wide concern for the same problems. A moral imperative to meet human needs cannot stop at the national frontiers - or it is no longer moral.

4. We must remember that our association with other peoples has vividly revealed a rich variety of physical resources, human cultures, and institutions. Truths we hold to be self-evident are not breathed in the air of every cultural climate. Thus, when we try to help others by methods tested at home, we often discover that techniques of economic development spring from a historically determined cultural soil while isolated transplants often wither and die. We must remember that if we are to help others, we must first learn; and, indeed, the educational process is one of joint discovery. We need a continuing reappraisal of our own civilization so that through learning of and with others, we can refine and improve our own society.

Now let me turn to my second proposition, the emerging attitudes of the poor nations towards foreign assistance.

Significant groups of new thinkers and leaders of the lesser developed nations deny that underdevelopment is the result of failures or inadequacies of the poor nations themselves. Rather, they hold that their poverty is the inevitable result of a faulty global economic structure that has frozen poor societies into eternal financial and political dependence upon the rich. They argue that today's world economic system is founded on relationships established in the 19th century and designed to serve the needs of the industrial and imperial nations. They contend that it is a system of the rich, by the rich and for the rich, and that the needs and interests of the poor nations are simply ignored. They hold that even the achievement of political independence by poor nations has not altered their dependence upon foreign capital goods and technology which are monopolized by the industrialized countries.

These critics point out that although capitalist entrepreneurs have given some modest financial aid to the underdeveloped countries it is often to gain such benefits as lucrative and sometimes exclusive rights to vital resources which, in turn, enables them to repatriate enormous profits while the poor nation improves its lot only marginally, if at all. Furthermore, they say, private investors are usually unwilling to invest in local industries that could

eventually compete with producers in the rich nations. Thus, they believe that foreign aid programs were never really designed to help the poor catch up with their rapidly growing needs but are mere palliatives. At worst, they see foreign aid as a charitable red herring designed to divert the attention of Third World leadership while powerful economic interests increase their hold on the global economy. They see foreign aid as helping rich nations at least as much as the poor, and the most committed critics go even further and accuse the rich countries of merely subsidizing the spread of materialism and consumerism, of trying to remake the Third World into the image of Western societies while destroying local cultures in the process.

Gunnar Myrdal has provided an eloquent countervailing view to these severe allegations. He points out that the problems of development are fundamentally political, having to do with the distribution of power in the poor countries. As a result, the concentration of wealth with its inevitable disparities is rapidly increasing. This, in turn, leads to harsh and constant conflicts of interests between classes and tribes. The military dictators, oligarchies, and large land owners who control most poor countries have no incentive to promote the radical changes, peaceful or otherwise, which are required if significant economic and social progress is to occur. Rather, their primary interest is in preserving their power, privileges, wealth and status. Most of the recipient countries have shown little initiative in reforming traditional inequalities in wealth and power. Thus, Myrdal concludes, it is unrealistic to talk about long-range economic development as if it exists in a vacuum rather than dealing with it in the context of fundamental political interests.

In this morass of national sensitivity and international tension and confrontation, what then is the proper role of U.S. universities in international rural and agricultural development? It is fair to say that U.S. universities have drifted on the seas of international development programs without rudder or direction, without compass or destination. There have been exceptions, of course, yet by and large, the international development programs of American universities have been creatures of the moment, improvisations rather than long-range commitments. They have often lacked a fundamental philosophy a basic relevance to the university itself and to its objectives. Contributing to international agricultural and rural development programs, as many have, presents a very difficult problem. Much technical knowledge exists about how to make land yield a bigger harvest, yet, no sector of development has resisted innovation more stubbornly than agriculture and rural development.

The reasons for this resistance are evident. The huge, rural population which makes up the majority in the underdeveloped world, understandingly clings to attitudes and practices of the past. These people are the least able to take risks, the least receptive to technical changes. It is not necessary to further belabor this well-known truism. Except for solutions to the dire problem of controlling population growth, solutions in agricultural development remain the most intractable in all the development process. The need to persuade millions of small farmers to change their ways, suggests no simple or single remedy. Surely this is an area in which U.S. universities can find a challenging role.

Increasingly, the question is less how to increase food production and more how to cope with the ecological consequences of doing so. To keep the ecological problem within a manageable range in the future there is an obvious need to put some limit on world population growth. Here again, U.S. universities have a plentitude of opportunities to contribute to an exceedingly difficult task.

Furthermore, given the inextricable link between hunger and poverty, means must be found to eliminate the abject poverty that besets much of mankind. Neither the stabilization of population, the lessening of ecological stresses nor the elimination of poverty will occur without a reordering of the global, national and personal priorities of donors and recipients alike as they relate to international development. Surely the American universities must be in the forefront of the effort to reconstruct and strengthen the moral imperatives upon which the very concept of economic development rests. And this may well be the most difficult task of all.

There are many other challenging opportunities that will help U.S. universities define their proper role in the sphere of agricultural and rural development. Unfortunately, many Americans have a habit of mind that demands results from "charity" at home and abroad. In fact, we demand results from others that we rarely achieve in our own domestic development. We must remember that economic and technical assistance is not charity and we must constantly remind ourselves of the great difficulties involved in effectuating any truly major changes conceived of on the scale of the development effort.

Furthermore, I would caution that U.S. universities must ever be conscious of their obligation to transmit and advance knowledge. The giving and receiving of knowledge does not respect national boundaries. American universities need to look forward to a new era of far greater mutual interchange with scholars and institutions abroad. Most important, however, we have to realize that the basic decisions about the nature of development in other countries are not ours to make. These decisions are theirs. Only they can choose directions and calculate the price of what they want to do. Indeed, by the very act of making these decisions, people in the lesser developed countries may be truly developing themselves and taking responsibility for what they are to become.

The great step, then, is for all of us (and especially for those who command the power of knowledge) to realize that if we will it, ahead lies not catastrophe, but the best part of the human adventure. The keystone is the full development of the human being - the human revolution which can guide and crown all other revolutions of our time.

THE GLOBAL ECONOMIC ORDER AND THE POOR VILLAGES

Elliott P. Skinner

As I look at this community of persons (be they scholars or technicians) brought here to Tuskegee Institute, I think about one of the early African conferences, (I think that it was in 1911) at which Dr. Booker T. Washington presided. With this in mind, I think it is a fitting arena from which to look at the challenges of a global community, and the greater challenges that we as technicians, scholars, and agents of development will have to deal with in the coming years.

It has been as difficult for mankind to have acknowledged the emergence and requirements of a global community as it will be for people to develop the techniques to meet its manifold challenges. According to one historical tradition, mankind's acquisition of "the knowledge of good and evil" destroyed it's state of original communal bliss and led to expulsion from the Garden of Eden. This same tradition relates how the division of labor between agriculturalist and pastoralist not only led to the first homicide, but prompted Cain to ask the Lord, "Am I my brother's keeper?" As a punishment, the Lord told Cain, "When you till the ground it shall no longer yield to you its strength you shall be a fugitive and a wanderer on the earth." Cain departed, dejected but his descendants built cities, gave wives to those who dwelt in tents and had cattle, to those who played the lyre and the pipes, and to those who were the forgers of all instruments of bronze and iron. In other words, these children of Cain, protected by a sign placed on the forehead of Cain by the Lord, organized human communities. But these entities often created by the use of weapons, lacked the heavenly charter that had initially been promised to mankind. While not all human societies had traditions comparable to that of the ancient Hebrews, almost everywhere the transition to agriculture provided a basis for social stratification, the rise of cities, and the development of aggressive polities.

As though programmed by the same multilineal evolutionary computer, imperial systems arose, spread their civilizations and subsequently declined. Africa saw the rise, spread and fall of Egyptian, Ethiopian, Ghanaian, Malian, Mononomotapan, Songhai and Zulu civilizations among others. Western Asia saw the emergence and expansion of Sumerians, the Babylonians, the Hebrews, the Syrians, the Phoenicians, the Arabs and the Ottomans and their subsequent decline. Alexander the Great may have wept when he found no other worlds to conquer, and Hellenic civilization had a great impact on Africa, Asia and Europe. Yet in time, Greece gave way to Rome which became so great that figuratively and perhaps literally, all roads led to its capital. The Latins not only ruled most of Asia Minor and Africa but extended their sway over the Barbarian Britons, Picts, Scots, Gauls and the Germani. Trouble at home led the Romans to give up their civilizing mission, and like other Imperial people listed above, they never succeeded in conquering those Barbarians on the marches of their empire. Subsequently, those Barbarians exploded from their forest vastness, conquered Rome and romanized peoples alike, and laid the foundation for the rise of Western European civilization, the harbinger of a global civilization.

An important difference between the contemporary Western European imperial system and the ancient ones is that it pulled every human social cultural system within its orbit. Beginning in the fifteenth century and reaching a climax in the early twentieth century, occidental peoples--and here the Great Russians are included- galvanized by a need for commerce. impelled by desire for conquest, and driven by messianic Christianity to convert the heathens, subjected all the world's people to their rule or to their influence. The result of European global domination was cataclysmic. Many sociocultural systems were destroyed. Species of plants and animals ceased to exist, and ecological systems were disrupted. Millions of people were forced, or induced to migrate from their homelands, creating more plural and cosmopolitan societies than the world had ever known. All over Asia. Africa, America and the Islands of the Seas, millions of laborers were recruited to work in the mines, factories and on the plantations, and many of them migrated to the burgeoning urban areas. The result of these processes was that almost all of the major non-white populations of the world were brought into a dependent status under one or another of the European states.

By the 1930's about one-third of the land area of the earth had become colonial territories, and some seven hundred million of the two billion people then living were under European rule and subjected to European civilization. Pursuing their civilizing mission and evangelical zeal, thousands of European administrators. teachers, and missionaries attempted to remake the colonial peoples after their own image. World War I and II with their vast movements of millions of people and untold millions of tons of material, brought greater interaction between dependent peoples and Westerners and shattered most of the myths generated by the colonial situation. Not only were most of the world's peoples presented with technical changes, but also with economic, political and social ideas, that engendered psychological changes.

Even before the end of the war, there were strikes and riots in most dependent areas, and the nationalists and proto-nationalists, began to dream of new heavens on this old earth. Then as soon as the war ended, the nationalists started a struggle to free their people politically, economically, and socio-culturally, promising them all the benefits of independence and modernization. Giving their commitment to Imperial rule, the European powers decolonized their dependent territories with surprising speed. For one thing many of the nationalist were Western-trained, understood the West and could make their demands in terms understandable to the West. Second, many of the ordinary citizens of the metropoles evinced no interest in keeping the colonies and were unwilling to fight to do so. Therefore, it is significant that the more reluctant the colonial power to decolonize its empire, the greater the unrest and rioting among its own citizens. The government of Portugal was actually overthrown by the very soldiers it had sent to fight bitter colonial wars in Angola, Mozambique, and Guinea-Bissau. Third, there is the suggestion that by the end of World War II, the European powers, especially the French under General deGaulle, understood that they had so integrated their territories economically, socially, culturally and psychologically with the metropoles that the nationalists might achieve "national sovereignty," but not true independence. Obviously the European powers envisaged the elaboration of many mechanisms with the hope of perpetuating their domination. But they could not escape the fact that a nuclear bomb, which ended World War II, meant, that now that mankind had the power

the power to destroy itself, there was a greater need than ever to recognize the necessity for a global community.

The dream that brethren should dwell together in peace and harmony was never completely absent from the thinking of visionaries. Even some of the bloodiest military conquerors in history such as Napoleon, dreamt of creating a commonwealth of mankind. Religious mystics and secular philosphers preached the coming of a heavenly kingdom, or attempted to design earthly Utopias. Several visionaries believed that this truly human and humane society would be brought about by the peaceful aggregation of societies over time, either through religious beliefs or by the immutable workings of economic laws. However, for the most part, these dreamers were ridiculed; the International Workers of the World (IWW) and the International Communist Organization failed to persuade many people that they held the road to the future. In our own time, Wendell Wilkie's dream of One World lost him an election campaign. But whether it was to further American domination of Latin America or because he sensed the need for a larger community the perennial president, Franklin D. Roosevelt, inaugurated a good neighbor policy. This did not work very well but it did not prevent Harry Truman from instituting a Point Four program. And from that time onward, American presidents have spoken about a New Frontier and a Great Society- all notions having as a raison d'etre the enlargement of a human community. The irony was that while the growth of technology facilitated the enlargement of the human community the persistence of imperialist economic patterns and age-old socio-cultural differences in many countries made this difficult.

Recognizing that their populations were demanding many of the goods and services that were now part of the expectation of all mankind, the newly independent states began to make demands upon the emerging global community. In April 1955, the Afro-Asian states, meeting in Bandung, decided to devote all their energies to developing their societies. They encouraged the United Nations to launch its First Development Decade calling for a minimum rate of aggregate national incomes by 5% at the end of that period. Subsequently, working through such international as well as national organizations as UNCTAD, the group of 77, the World Bank, the International Monetary Fund the United States Agency for International Development, the French Investment Fund for the Economic and Social Development of Overseas Territories and the British Overseas Development Ministry, all of these states attempted to improve their economies, as well as their peoples' lives. And when despite all of their efforts, the economic gap between the richer western nations and the poor nations of the so called Third World kept increasing, a number of oil-producing nations formed OPEC. The others threatened to develop similar cartels to increase their share of the world's economic wealth and in 1974, called for the promulgation of a New International Economic Order (NIEO) to restructure the global economic system.

The Western powers rejected the call for an NIEO, preferring to tinker with the existing economic structure, rather than completely transforming it. However, two months ago, the group of seventy-seven nations, meeting in New Delhi suggested that "by the year 2000, a global fund of 3 billion dollars be set up and administered by the United Nations Industrial Development Organization." The distribution of these funds and the uses to which they would be put would be decided by the Third World alone. This plan was rejected by the developed nations. However, significantly, in the same month the Willie Brandt report about the North-South relations urged that the North allocate some 5-6 billion dollars a year over the next five years. Not to be outdone, on February 5,

1980, Secretary Vance testifying in favor of the Foreign Assistance Program for FY 1981, declared:

> The countries of the Third World are increasingly involved in our daily lives. They supply the major portion of such critical raw materials as rubber, manganese, and tin, and they are the fastest growing markets for our exports. The cooperation of developing countries is also essential to the solution of global problems that affect us all. No nation acting alone can halt the spread of nuclear weapons or cure the pollution of air and water, or overcome the tensions between spiralling global population growth and finite resources. They can only be international answers or there will be no answers to these and other pressing global challenges.

Thus all of the major political figures in the world have started to accept the concept of a global community. The question of what should be done to meet its challenges is now before us. This is how Mr. Pouna Wignaraja, a development specialist, has put it:

> At no previous juncture in history has mankind been more aware of the potential resources, scientific knowledge, technological capabilities, and unprecedented opportunities available to satisfy its needs, not only in narrow economic terms but in wider social and human terms. And yet, the strategies that are being pursued by industrial and Third World nations alike seem to be leading to a dead end, from the point of view of the national perspectives and also of the global order...In both groups of countries the creativity and potential of people is unlimited, yet life lacks a fullness, resources continue to be misused and major social and political contradictions remain unsolved. (Wignaraja 1977: 35).

Mr. Wignaraja presents a challenge, not so much to politicians who, by and large, have created this problem and are now acknowledging that it must be solved, but to the universities whose task it is to produce the necessary brain power. Unfortunately, many of us at the universities still see ourselves as philosophers or as proto-politicians rather than as scholars and technicians with the skills and expertise to help solve the problems of mankind. Should it be that we do not know the answers and fear to reveal our ignorance? And what is worse, refuse to attempt to gain the knowledge necessary? Let me give you an example, there is now consensus that the model which failed to stimulate development in the Third World had three major components: 1) central planning and control and coordination of the economy at a top down process; 2) industrialization and expansion of the modern sector as a means of rapid economic development and take off; and 3) assistance from developing countries to bridge the savings or foreign exchange gap, whichever was dominant, and the transfer of international technology. There is also belief that this model failed because of the inadequacy of financial and technical external aid, and the resistance of the peasants to meet this shortfall. The result was a call for a policy of "aiding the poorest of the poor" by the leaders of the developed world.

The failure of the (Anti-) Rural Development model thus resulted in the creation of its antithesis: a model exclusively concerned with the rural poor. Thus the first of four principal policy goals in the International Development Cooperation Act of 1978 submitted to the Congress of the United States by the late Senator Hubert Humphrey emphasized "the alleviation of the worst physical manifestation of poverty among the world's poor majority."

This emphasis on rural development, while laudible as a development strategy, runs the risk of ignoring forces and processes still at work in the contemporary world. One important question is whether the proponents of "aiding the poorest of the poor" as the best paradigm for development, recognize the dangers in the hidden assumption that they can easily get at the people in the world's poorest villages. They blithely ignore one of the major forces at work in the developing--and especially ex-colonial territories--nationalism. Many expatriate planners really believe that the leaders of the new states would be immoral to stand in the way of persons who would bring help to their poor people. Yet, so strong was the sentiment of nationalism among African and Asian leaders that they were determined to become independent even in the face of economic threats and hardships. Time and circumstances have moderated many aspects of the prickly nationalism of the Third World countries, but the feeling that they shall not abide coercion still stands. Therefore, development planners who attempt to reach the people in the poorest villages, without considering that these poor people are the citizens of independent nation-states, are courting disaster.

Another danger facing development planners is the curious notion that they themselves are more concerned about the poor than local leaders. Expatriate developers often defend this attitude by alluding to statements of the local ideologues, really politicians out of office, that their elites are rapacious, non-caring, and hopeless members of a comprador bourgeoisie. Thus Samir Amin charges that the elite of the developing countries have not only become the allies of the feudal and imperialist classes, but also contribute towards the marginalization of the masses within the world system by adopting European patterns of consumption, ensuring the profitability of the luxury--goods of their fragile economies, and thereby confirming the social, cultural, ideological and political integration of the privileged classes. Nevertheless, it is also true that few members of the so-called comprador classes in the developing world have held their status long enough to become so entrenched that they have severed kin ties with the rural kinsmen.

Expatriate developers should also recognize that a new emphasis on reaching the poorest of the poor in the world's villages is often interpreted by national development planners as an attempt of expatriates to control the pace and nature of local development. The expatriates often argue that instead of the grandiose and costly country-wide projects which failed, more modest and cheaper projects designed, with the local poor in mind, might well succeed. The national developers reply that this approach not only permits outsiders to determine what is good for their countries but permits them to keep on ignoring development plans generated by local nationals.

Paradigms designed to encourage development in the poorer countries in the contemporary world cannot be effective unless they recognize and attempt to deal with three levels of reality the world community with its own structures and agendas; the nation states with their own structures and agendas; and the structures and agendas of the poor villages. For example, the global United Nations working through such international agencies as the World Bank UNCTAD and UNDP is attempting to get as much money for development as possible It depends upon sovereign states for contributions and therefore must walk a thin line between often conflicting theories, demands and programs of its own bureaucracy and those of the different contributing nation-states. Many of the major nation states are jealous of their sovereignty and economic prerogatives, and the smaller ones are quick to note when UN agencies are following the dictates or rather the suggestions--or goals of the major powers at the expense of the smaller nations. The result is often conflict--conflicts which hamper development.

The major nation states, the principal donors of funds for development, and structurally located between the global community and the developing nations often attempt to manipulate these other two levels. Most Socialist states prefer bilateral relations with the developing countries and take pride in funding projects (such as the Tanzam railroad which the Chinese built) often judged economically unsound by the financial organs of the United Nations and the major capitalist nations. The western nations, led by the United States of America are also reluctant to support the development activities of the United Nations either because they disapprove of the approaches of that world body, or because they have their own view of development in mind. Most other western countries behave exactly like the United States in their aid policies. Therefore any paradigm developed for aiding the poorest of the poor which depends upon help from the rich must take these strictures into consideration.

The poorer developing nation states attempt to put their own development plans into operation in so far as they can obtain the funds to do so. One of their major complaints is that they must rely upon expatriate technicians working in their development agencies to develop plans (thus making these plans Eurocentric) and that the major aid donors pay scant attention to local plans. Given these attitudes it is understandable why many local planners often have negative attitudes toward paradigms for change developed by outsiders. It is not that the national planners doubt the qualifications or capabilities of outsiders but in most cases, they must be convinced that their own views are respected. Only when expatriate planners realize that the sooner the national planners are independent enough to dictate the scope of their own development, that real economic development and cooperation will take place.

Expatriate concerns about the relationship between national elites and their poor is often a source of conflict in the developing world. Many persons declare that there is a "consciousness gap" between leaders in developing societies and the masses of their people. Ideally, these elites should be the ones to attempt to integrate their societies. They ought to be "ahead of others" in perceptions of the need for social change; they should have the ability to articulate the ideas and needs of the masses themselves, and bring to bear the relevant technical expertise to solve local problems. Finally, they should be very conscious of the need to prevent the "alienation" of themselves and of their people in the face of global influences. The problem here is to help these elites accomplish this task without alienating them

While it has been fairly easy to identify and hopefully easy to deal with the constraints of development emanating from the global and national levels, the real bottleneck has been on the local or village level. Significantly, this is the most difficult level because here is the real arena of praxis--that interface between theory and practice. It is here where most projects fail and where one hears such rationalization as "Wawa, West Africa Wins Again"-- when the project failed. It was in the villages of China that the Great Leap Forward fell into a ditch. It is also in the villages where we need the greatest amount of work and because it is here where technicians come face to face with the testing of their own theories, and where they ought to take full responsibility for their failures and return to the drawing board when necessary.

Why are there so many failures of projects on the village level? One of the major reasons why paradigms designed for aiding the poor do fail is that these paradigms are unrealistic about the actual conditions of the poor, and the nature of people who live at the so-called periphery. A major challenge in dealing with these communities is in recognizing that, in many cases, they are relatively isolated from the life of their nation-states in which they exist. It is only when the people in the poor villages are in communication with the outside world that they can have a meaningful input into the plans created with them, or with them in mind. Planners must, therefore, take into consideration the need to expend money to reach these people physically. This means planning for roads, and other infrastructures and the realization that these could well be costly. Yet, it must also be recognized that while villages may be remote from the center of their national life, very few of them are the "primitive isolates" so fondly sought after by the lovers of the exotic. They are instead entities whose inhabitants have often had a history of tragic relations with the outside, and often view outside officials with skepticism or outright hostility. The result is that in addition to being normally parochial (the natural attitude of persons living in small-scale communities), rural people often have negative ideas about the larger arena in which they and their villages exist.

Economic developers should also accept the fact that the traditional institutions in the rural poor villages are often still viable and still functional. They must understand and appreciate that local institutions, which having usully stood the test of time, and haven proven their efficacy and resiliency, are often still regarded by the villagers as the sole basis of social life. This means that developers ought to respect the traditional institutions of villagers, but this does not mean, and should not mean, that planners should refrain from introducing change. Local institutions have never been static and change in rural communities is inevitable, if only because the nation-states of which these are a part, and the global community to which these states belong, are also changing. For communities to remain unchanged is to be retrogressive in a world in constant evolution. Change agents must attempt to harmonize the development plans with the rhythm of life in the villages where possible. Often they have to depend upon the accelerated pace of life on the nation-state level to speed up changes in the rural areas.

The question as to whether development planners, both national and expatriate, should foster total change in the poor villages or settle for incremental changes, is a difficult one to answer. Margaret Mead used to say that it was less painful to cut off the tail of a dog at one fell swoop than to cut off one inch every day. Moreover, she suggested that villagers were often more ready to adopt new lives for old, than the often reactionary change-agent was willing to admit. On the other hand, it is also true that except when faced with natural or man-made catastrophes, human societies normally resist change. It often takes the imminence of physical death to induce people to abandon doomed communities, and then they frequently jeopardize their chances of survival by moving too slowly or like Lot's wife, symbolically look back and suffer. Thus, a difficult problem for designing paradigms for helping the poor villages, is to discover how to cope with those who resist innovation. It is possible that in many cases, the rural people are not against the innovation per se, but that the planners cannot discover why the locals resist certain changes. This should not be completely surprising, since the values of human societies are not easily articulated by insiders, and therefore cannot be communicated to outsiders. When after valiant efforts, the development planner cannot find the reason for local opposition to change, he or she has little recourse but to proceed with change, especially when those changes are dictated by imperatives on the state and global levels. It is a truism, but hardly a consolation to persons whose traditions have been changed against their will, that no change is painless. Every rite de passage, whether for the individual or for society is painful even when a better future is certain.

When embarking upon projects to help the poor in the world's villages, development planners should be aware of the continuing dialectic or contradictions in human affairs. The injunction to involve the local people in planning is an excellent one, especially in projects on the village level. Here, the planners can take advantage of local expertise, and use the existing social and political systems to facilitate their task. But the planners must be aware of the problem of scale. In most cases, the concerns of villagers are very local. Whether due to the environmental or socio-cultural factors, most of these concerns cannot be easily generalized so that they can be dealt with effectively.

Scale is very much at the core of the conflict between the developed and developing world. Thus, it is understandable why the poorer nations would call for the restructuring of the global community including that of a New International Economic Order when several "development decades" ended in failure. These nations insisted that the First World did not provide enough money or resented transferring technology, or significantly, attempted to transfer techniques that were ill-adapted to the Third World. In reaction, the developed countries are resisting the call for a NIEO, claiming that the urban elites of the new states are misusing the aid given to them and that the real task in development is that of aiding the poorest of the poor. What both groups should recognize is the existence of various structural levels with their own requirements and their own agendas. Moreover, it is doubtful whether these levels can be bypassed by either the wealthy or the poor. The task, then, of the people at universities is not only to recognize the complexity of the human enterprise and to be humble in its presence, but by actively harnessing theory and practice, become active participants in the struggle to create a truly humane global community.

The Lord probably felt that He had an easy task because He was dealing with only two individuals in the Garden of Eden. What He did not recognize was that the serpent, by offering the knowledge of good and evil to the primeval couple would wreck his community. The Lord was probably more surprised to find that once expelled from Paradise the division of labor introduced more chaos into humanity and earthly societies. Faced with the challenge of their destiny, human kind have had to work hard to understand their own nature. They will have to work harder still if they would create that earthly heaven in which each would give according to his or her ability, and receive according to his or her needs.

AFRICAN DEVELOPMENT: CHALLENGES OF THE 1980'S

Walter Carrington

Africa, the cradle of man, is also the storehouse of the world's most important minerals. As the American energy crisis deepens, Africa, which supplies us with much of our imported oil, grows in economic importance. Africa's great potential lies largely unrealized. What could become the richest of continents remains the poorest because of western exploitation of her resources under colonialism and the less than benign neglect of her development needs since independence. Africa has historically been the step-child of the American foreign aid program. As African countries broke the chains of their colonial bondage, they sought also to end their tradition of economic dependence on their former imperial masters. The American response has been to encourage the continuance of that dependency. The John Kennedy-G. Mennen Williams political slogan of "Africa for the Africans" came to mean in economic terms, Africa for the British and the French. Economic assistance to the continent was to be their responsibility, not ours.

How low a priority Africa has had in our aid program to the developing world is not difficult to demonstrate. Despite the fact that the number of independent countries in Africa has risen from a handful in 1960 to nearly 50 in 1980; despite the fact that two-thirds of the world's poorest countries are in Africa; despite the fact that the size of our worldwide development and security supporting assistance program has shrunk from $4.4 billion in 1960 to $3.4 billion in 1980; and despite the fact that the aid programs of the French and British in Africa have also been greatly diminished, the percentage of U.S. development and security supporting assistance to Africa has risen only from just under 10% in fiscal year 1960 to 12% in fiscal 1980 and has dropped from $430 million to $422 million. That drop is even more dramatic when the fact of the dollar's severe devaluation since 1960 is taken into consideration.

AFRICA'S SHARE OF U.S. FOREIGN AID

1962-1980

	Fiscal Year	Africa%		Fiscal Year	Africa%
Kennedy	1962	10	Nixon	1970	8
	1963	11		1971	9
	1964	9		1972	8
				1973	6
Johnson	1965	7		1974	6
	1966	7		1975	6
	1967	9			
	1968	8	Ford	1976	5
	1969	10		1977	8
			Carter	1978	10
				1979	10
				1980	10

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America's foreign aid program is supposed to aid the "poorest of the poor." If that slogan had any validity Africa would be the region of the world which receives the largest share of U.S. assistance instead of receiving the smallest. Although it is a continent with vast potential, it remains the least economically developed. The nations of Africa are younger and poorer than those of most of the rest of the Third World. Their systems of education, transportation, power and industrial infrastructure lag behind the rest of the underdeveloped countries. Thirteen of them are landlocked and ten have per capita incomes of less than $100. Their per capita food production steadily falls while their dependence on imported food steadily increases for example. with an expected ton deficit by the end of this decade, Nigeria will have to import as much grain as India. The Sahara desert erodes more and more formerly forested land as it creeps ever southward compounding ecological disaster such as the Sahel drought. The dependence of so many countries on a single export commodity has left them the major victims of the international economic order which favors the industrialized nations of the world.

Against this need must be put the American response. At the end of World War II, when the world's needy were perceived to be in white western Europe, the United States, through the Marshall Plan, gave 2.9% of its Gross National Product (GNP) in economic aid or $2.92 out of every $100 GNP. By 1977, when the needy had become darker in skin color, we gave less than 1/4 of 1% or 22 cents out of every $100 of GNP in aid world-wide. This, in spite of our pledge to reach a target of 7/10th of one percent of GNP. Of this pittance, Africa never received more than 12% in any one year. Where has the bulk of aid gone? In 1980, 11% was earmarked for Latin America (the first year it would receive a smaller share than sub-Saharan Africa); 20% to 10 nations in Asia and 57% to 7 countries in the Middle East and North Africa. Indeed, the combined amount going to Israel and Egypt was was 5 times greater than the total going to 47 African states. In fiscal year 1979, the U.S. provided less than 8% of the non-Communist world's development aid to Africa. This amounted to less than one dollar for every man, woman and and child on the continent.

The U.S. government's fiscal year begins October first. This is a recent change inspired in part by the slowness of the Congressional appropriation process. It used to begin July first. Of course, a kind of Parkinson's Law syndrome developed when the changeover was made. Given three more months to act, the Congress just slowed down its whole process. Here we are in mid-April and the Foreign Assistance Appropriations bill for fiscal year 1980 which began in October 1979 and ends September 30th of this year still hasn't been passed. And it looks as if it might never be passed. For the first time, we will have been operating a foreign aid program for a whole year without a foreign aid bill. What this means in practical terms is that spending for this year, in spite of inflation, in spite of growing needs in the Third World, cannot exceed the inadequate levels approved for 1979.

The effect of the 1980 aid bill will be devastating to the multilateral development agencies like the World Bank, the African Development Bank and the African Development Fund which have already been forced to cut back or cut out spending on projects because the promised American contributions have not been forthcoming. The U.S. appropriation to the World Bank was to have risen from $163 million in 1979 to $328 million in 1980, if the bill approved by the Senate House Conference Committee is ever enacted into law.

The Washington Post contains this perhaps hopeful item concerning Congress which has just returned from Easter recess:

> Later in the week, if sponsors can obtain the votes to pass it, the House may take up a House-Senate Conference report restoring $1.5 billion cut by the House from a bill authorizing additional U.S. contributions to three international development banks.

Things could be worse; no AID bill is not the same as no aid program. Woefully underfunded as it is, the AID program escaped the ax-wielders with its life if not with all its limbs. Senator Roth of Delaware proposed a 1/3 cut in all aid outlays and the elimination of all aid to multilateral organizations. He very nearly carried the Senate.

Many people bemoan the fact that security supporting assistance is part of the AID bill, thereby placing political considerations ahead of economic need and that Israel, a country that is far from underdeveloped, is scheduled in the 1981 bill to get 44% of all new outlays, that Egypt alone is to receive more aid than all the rest of Africa combined. The sad truth is that if security supporting assistance, now euphemistically called economic supporting assistance, and Egypt and Israel were not in the bill, Congress would probably have no incentive for continuing the AID program. Yet another claimant for a large slice of that shriveled AID pie is Turkey. The U.S. has pledged $295 million as part of a NATO aid package of $1.6 billion. But then, Turkey has some special ills which require emergency treatment: 20% unemployment, 80% inflation, lack of hard currency to pay for oil imports--all of this has led to a wave of political violence which persuaded the West that they should act promptly lest the one time "sick man of Europe" suffer a relapse. Compare the West's response to post-Amin Uganda.

Having been told that Africa lacks absorptive capacity, Congress then hobbles the AID program with a host of restrictions making it difficult for us to help the continent increase that capacity. Fad replaces fad as our legislators seek the magic elixir which will cure the Third World's ills and get us out of the foreign aid business. The latest fad calls for our concentrating our aid on the poorest of the poor--a concept noble in intent, but which, in practice risks turning development into welfare. The issue is not whether the poorest of the poor should be helped, but how and by whom.

I deeply believe that Africans and only Africans can determine the strategies that will lift their nations out of the economic mire so many of them languish in. In economic development elsewhere, as in their political and military struggles in Southern Africa, they must be their own liberators. This does not mean that we cannot be of critical assistance but that assistance must be on terms which they set.

Africans see as the greatest bottleneck to increasing their absorptive capacity, their fragile infrastructures and shallow pool of trained cadre. Yet the Congress' new direction emphasis on aiding the poorest of the poor has made the Agency for International Development defensive in their response to these priorities. Offering Africans post-graduate training would be to aid the elite.

Congress is, I am happy to say, becoming less comfortable with its earlier assumptions as it compares the $160,000 it costs to send an American technician to Africa for two years with the $16,000 it costs to train an African in this country for two years to the Masters level. The arithmetic is simple. For $160,000 you can either provide an American technician for two years or ten Africans for twenty or more years.

I do not mean to discourage your involvement in projects overseas. Quite the contrary, indeed there ought to be set aside programs to ensure that Black colleges get a fair proportion of AID projects. But I would also summon you back to the historical role Black colleges have played in training the leaders of our ancestral continent. You need to offer more than tuition waivers to train the African cadre to carry on the projects you have begun.

Africa is the continent where developers are determined that the mistakes of Asia and Latin America will not be repeated. They point to the danger of breeding an unemployed intellectual proletariat--hordes of university graduates roaming the cities in search of a Marxist revolution. Yet how inapplicable is that scenario to Africa. One Latin American country, Columbia, has more institutions of higher education than all of sub-Saharan Africa.

To quote William Cotter, former president of the African-American Institute, from an article in the March-April 1979 issue of our magazine, Africa Report:

> Only 11% of age-eligible Africans were enrolled in secondary schools in 1975, compared with 35% in Asia, 45% in South America, and 91% in the United States. Similarly, only 1.4% of Africans between the ages of 20 and 24 are in universities. This contrasts with 5.7% in Asia 6.7% in Latin America, and 48% in the United States. Thus, Asia has four times the per capita high-level manpower of Africa and Latin America has five times as much.

To quote Cotter again, this time from the Spring 1979 issue of Foreign Policy

> A page-by-page review of the budgets for 219 separate African projects in the AID congressional presentation for Fiscal Year 1979 shows that only 12.2% of AID funds spent on that continent are devoted to training Of this, just over half (1.8 million) is allocated for long-term, higher-level education. By contrast, nearly 90% of AID's African program money goes for AID technicians ($88 million, or 33.2%), commodity purchases ($60 million or 22.8%), and construction and miscellaneous costs ($84 million or 31.8%).

The conventional wisdom is that most of Africa's problems are unsolvable, because the continent lacks that absorptive capacity I've been talking about. Decoded, these words mean that most of Africa is a basket case because the continent is inhabited by and more ominously ruled by—Black Africans. And we all know what happened to those great economies built by Europeans when they were taken over by Africans. Rhodesia is the latest cautionary tale told by the West to the lesser breeds without the law--keep at all costs the whites or that green and fertile land they have built will revert to jungle. But that cautionary tale is really a self-fulfilling prophecy—if the whites go, our aid will not be forthcoming and without the access to western capital and technology, your economy will be ruined.

One of Africa's defenses against that kind of blackmail is an army of trained technicians of its own. But there are deeper problems, structural problems stemming from the way the world's economy is organized. Everything works in favor of the developed north against the poor, less-developed south. In 1973, the Conference of non-aligned nations called in Algiers for a new international economic order. In February of this year, a commission of influential men and women headed by Willy Brandt, the former chancellor of West Germany, echoed the Algiers call. It recommends an expansion of aid and loans from $50 to $60 billion a year over the next five years. The Commission warns that a "fundamental change in relations between North and South as well as East and West is crucial" if the 1980's are to avert "even greater catastrophies than the 1930's".

The report underlines the urgency of the situation and the threat to the world economy if its proposals are not adopted. There will be increased "poverty and hunger, continuing world stagnation combined with inflation, international monetary disorder, mounting debts and deficits, protectionism, major tensions between countries competing for energy, food and raw materials, growing world population and more unemployment". It calls for doubling the lending power of the World Bank to $160 billion, it would reform voting procedures and management at the bank to shift more power to the countries and would revolutionize the way the bank operates by having more of its loans simply support the budgets of the developing countries and not be tied to specific projects.

Export earnings of poor nations would be raised through commodity agreements to guarantee minimum prices for the raw materials they sell. It would have freer trade in the world and lower tariff barriers in the markets of the rich countries against poor ones who process or make manufactured goods from these commodities. The report's title "North-South -A Program for Survival" sums up the urgency of the tasks that confront us in the eighties as well as anything I can think of.

CAREER INITIATIVES AND OPTIONS: GLOBAL SURVIVAL VS PAROCHIAL ISOLATIONISM

Marie Gadsden

Having never visited Tuskegee Institute until the Academic Year 1979-1980, I find myself at this historic institution long known for its sustained commitment to rural development and agriculture, for the second time this school year. My own institutional roots are deep at that antipodal institution of the liberal arts in Georgia, Atlanta University, where that "other educator" in the classic controversy of Black education at the turn of the century waged his scholarly battle to place liberal education for our people on par with industrial and vocational education. Indeed, I had the compelling good fortune to serve for a brief moment as a secretary to Dr. W.E.B. DuBois and the sad experience of being in the neighborhood of Accra when he died there. It is, therefore, consistent with my own professional interests that I have come to share in these conference deliberations to sustain that meaningful function that a disciple of liberal arts can play in agricultural and rural development, and to present my own agenda as a provocative closure for the final formal event of this three-day conference.

First, however, permit me to bring greetings from my foundation and its president, the Honorable Franklin H. Williams. His international commitment and that of the Phelps-Stokes Fund are beyond question. Indeed as an operating foundation, the Phelps-Stokes Fund was demonstrating its concern for "International Rural and Agricultural Development" when it established Booker Washington Institute at Kakata, Liberia, during the presidency of Frederick Patterson in 1953. This Liberian experiment, which continues today as a viable testimony to the role that universities can play abroad, is a ready reminder that the thrust of this conference is both vital and possible of attaining significant impact on the international level.

The Phelps-Stokes Fund endorses unequivocally the commitment of U.S. post-secondary institutions to having a constructive role and participation in development of the rural and agricultural economies that are the lifeblood of most developing nations of Africa. By extension of that philosophical mission, it is committed to the support of development on the international level through collaborative and innovative efforts of educators in the U.S. and in developing nations. Indeed, our foundation mission formally stated is "Education for Human Development." Rural, agricultural societies rely on the human development of their constituencies to survive and sustain the basic fabric of all human societies.

A conference theme such as "The Role of U.S. Universities in International Rural and Agricultural Development," rests clearly on the incontrovertible assumption that there is a role for U.S. universities in International Rural and Agricultural Development. The title of the publication made available to us this morning, The Unique Resources of the 1890 Land-Grant Institutions and Implications for International Development, clearly assumes that the Black Land Grant colleges and universities do indeed have unique resources which could make a contribution to international development. If we are to proceed, ac-

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cepting both of these assumptions, then we should at least ask ourselves some basic questions about the role that we as educators play in the development of this global village our world has become.

1. Is that role integrative or divisive in its impact on both the U.S. institutions (including the 1890 group) and in its impact on those developing countries embraced by our international program activities?

2. Do we seriously attempt to modify our academic curricula and systems and its promoters to accomodate to or integrate the value judgements and the cultural coding of the non-U.S. recipients of this academic and technical sharing so that they can constructively participate as learners and contribute simultaneously as teachers in the broadening of human understanding and self-fulfillment? If so, how?

3. Are we experts in learning at the same time as we are experts in operating as paid specialists in teaching, training and in exporting modern technology?

4. What are our basic motives--individually and institutionally--in accepting and implementing roles in international rural and agricultural development?

5. How do we respond to international recipients who seriously challenge our role, even after their governments negotiate agreements with U.S. institutions for educational, technical, and developmental assistance?

6. Do we prepare our faculties, administrators, students, alumni and institutional communities to accept, relate constructively to and formally benefit from the integration and inclusion of foreign students and foreign faculty and staff in the day-to-day life of the institution? If so, how?

7. In the face of the world-wide trend toward urbanization, how feasible is the focus on "rural and agricultural" and how is this focus distinguished from the urban and industrial/technological development of these countries? Are the two foci complementary and equally addressed in our deliberations?

These questions are posed because one can find clear examples of the divisive impact of foreign training--both western and eastern bloc--on developing nations that have embraced various international program activities. My earliest experience of this problem was in the Republic of Guinea at the dawn of independence in 1959. My most recent experience with it was on my last trip to Africa in 1979 where this point was an issue in our training negotiations for Botswana, Swaziland and Lesotho for the ministries of agriculture, education, and health. It was significant that all three of these nations and all three AID missions emphasized the need for relevant, appropriate, specific training--long and short-term. Everyone accepted as axiomatic that third-country training in other parts

of Africa or in other areas of the developing world should take priority over training in the U.S. or the highly technical, industrial nations of the West. Africans and officials of USAID accepted the evidence that African civil servants might be inappropriately trained or educated and, as a result, return less than useful or constructive in the service of the ministries which released them for advanced degrees or upgraded technical and managerial training.

As a starting point for addressing the matter of career initiatives and options open to us as educators at U.S. universities, our oldest and our only non-government sponsored project now facing a severe shortage of funds is the African Student Aid Fund which once provided scholarships for African students on all levels from high school through the Ph.D and post-doctoral research.

The second program is the Stokes-Moton Refugee student program for Southern tier refugees from Namibia, South Africa, and Zimbabwe, which channels USAID funds to approximately 150 students, who are expected to return to Africa at the conclusion of their undergraduate studies. Several participants are currently enrolled here at Tuskegee Institute.

The third program is the African Paramedical Training Program. It began in August 1979 and brings to the U.S. from Africa some 125 refugee students interested in health and its allied areas. These participants who are recruited from refugee sites, are placed in certificate programs. They too, are committed to return to Africa at the completion of their technical training. This also is a USAID funded grant.

The fourth program, still being negotiated, is the Southern Africa Manpower Development Program for Botswana, Lesotho, and Swaziland with special focus on the manpower needs identified by the Ministries of Agriculture, Education and Health. This projected three year contract will enable African civil servants to obtain degrees in higher education, and localize middle and upper level civil service posts.

The fifth and most comprehensive project which we designate International Education, includes seven modest but meaningful programs which already provide a role for our institutions in international development--whether rural or urban --in every academic discipline, including those in the field of agriculture.

- Under this component, we bring to the U.S.A. for short-term association with the universities in our foundation network, seasoned African professionals of all disciplines. At its best and most ideal, this I.C.A. (formerly U.S. Information Service) sponsored project, the Senior African Lecturers Series, makes possible professional linkages between institutions and individuals and departments.

- Complementary to this project is the Foreign Curriculum Consultant program under Office of Education (Institute of International Studies) sponsorship. It, too, provides annually an African educator for a ten

month stint as a resident at one university, though available on rotation to a consortium of institutions in our International Curriculum Program. This FCC program has brought top quality educators from Togo, Senegal, Ghana, Sierra Leone, and Liberia during the last six years.

- The third program element of our International Education component is the U.S. Lecturers Abroad program. A corollary of the Senior African Lecturers Program, it provides Black educators an opportunity to spend a semester or a full academic year at an African university as a full faculty participant. Again, it could at the optimum, be the basis for both institutional and individual linkages and cooperative research.

- The fourth program element is our summer Ethnic Heritage Seminar to Africa. Since 1971 this Office of Education (IIS) supported program for Group Study Abroad has taken some 156 educators from 35 post-secondary institutions (Native American, Black and White) to sixteen nations in West, East and North Africa. These eight summer groups have been multi-cultural and interdisciplinary. They have spent from four to eight weeks in Anglophone and Francophone countries, pursuing field research, establishing professional links, and correcting stereotypic and parochial impressions of the peoples of Africa. An adjunct of this dynamic component is the Mobile Exhibit--a constantly increasing collection of African and Caribbean regalia that's provided at no fee to U.S. institutions who are willing to cover the cost of its shipment to and from the Washington Bureau of the Phelps-Stokes Fund.

- The fifth program element is our Caribbean-U.S. exchange which over a period of seven years since 1973, has provided opportunities for 88 U.S. professionals and 82 Caribbean professionals to explore development issues over a period of one month in the U.S.A. and in nine nations of the Caribbean. A network of thirty institutions has received and sent educators on this exchange which is made possible by funding from I.C.A.

- The sixth program element, the African Forum, is a travelling issue event; supported by funding from the Ford Foundation, it provides speakers to institutions to conduct a discussion, film presentation and issues-interview on current problems especially in the Southern Africa area where present conflicts clearly circumscribe our foreign policy and influence the well-being and psychic security of Black Americans while threatening the economic and financial stability of U.S.-African relations. Such controversial questions as apartheid, the Angola-Cuba problems, Zimbabwe, and the Front-line States of Southern Africa are examined by journalists, politicians, educators, and diplomats. This forum is provided at no cash fee to the requesting institutions.

- The seventh and major program element of our International Education component is the International Curriculum Development Program (ICDP), supported by Title III of the Department of Education. This twelve month grant program has provided the foundation upon which the preceding elements have rested. The core constituency for all of the other program elements has been the ICDP consortium members. The modest HEW grant support to members and to the Phelps-Stokes Fund as the support agency has made possible the integration, implementation, documentation and evaluation of the International Education component by making possible sustained staffing and a cooperative milieu.

  The ICDP participants have, therefore, been able to develop curriculum modules, develop relevant research for adoption into current courses, and determine appropriate career directions and self-fulfilling professional enrichment options to promote growth and maturation in their various disciplines. The ICDP network has made possible the amalgamation of the several program elements into a full and fruitful international program where disciplines coalesce and researchers/teachers cooperate and share. This mutual development and enrichment have benefitted foreign and U.S. participants, clearly demonstrating a number of specific roles open to U.S. institutions clearly committed to international interests and developments. In this community of professionals, curriculum innovations have been developed, tested, taught, revised, critiqued, exchanged, and disseminated with African, Caribbean and U.S. participants as equal partners and promoters of the program.

These seven programs, consistent with the 69-year involvement of the Phelps-Stokes Fund in Africa education, lead us to subscribe to the assumption and provide much supporting evidence that there is indeed a role for U.S. institutions in International Development.

We see the role as one which must address career initiatives and options of members of the African Diaspora, in particular and of U.S. educators/technicians and African educators/technicians in general. We do not separate this necessary choice of career options from the question of global survival nor the shortsightedness and limitations of parochial isolationism in whatever discipline one pursues. Agriculture is not the monopoly nor the single province of any one people; it is color-blind and pragmatic. An agriculturalist whose insights are confined to Alabama is a prisoner of such parochial training. This is equally true of the agriculturalist in Ghana or Egypt or Trinidad whose agricultural outlook is constrained by ignorance of and indifference to agriculture as a universal phenomenon, a global essential, and an international imperative.

The decade of the seventies highlighted aspects of agriculture in crises: drought, water pollution, acid rain, pesticide damage to the environment (e.g. DDT), fertilizer distribution, improved seed strains, wild life management, mechanization of agricultural equipment, erosion, shifts from subsistence farming to cash-crop systems and loss of self-sufficiency in basic food supplies. From this list of critical factors emerge tremendous challenges and opportunities. In examining these critical issues as we identify options and initia-

tives open to us as individuals and as institutions, the seven program components which I have described serve to illustrate specific career possibilities of which we should make our students and our professional associates aware.

If we acknowledge--as we must--that the role of agriculture is central to the global survival of all mankind, then we must broaden our concerns to embrace attention to human suffering, poverty, dependency, and malnutrition which are rampant in Africa and in much of the Third World. To do this, we must reject a tradition of parochial isolationism in agricultural development as well as in all other aspects of development. We must access our own 'underdeveloped' population segments in concert with comparable analyses of underdevelopment in agriculture world-wide. Our institutions must address "Rural Transformation" in the U.S.A., even as it addresses rural transformation in Africa, Asia or Latin America. Using the examples of program activity supported by the Phelps-Stokes Fund, the career options which emerge are in research, communications, management, field training, political policy, curriculum modification and expansion, faculty re-training and behavior modification, program design and implementation, project-evaluation and review, and in public education and awareness of global issues of agricultural development. Such trained manpower is urgently needed by private and public, international and multi-national organizations.

When "Rural Transformation" became a catch-phrase in the 1960's, I was working in East Africa. A conference of world manpower planners was held at Kericho, organized through the auspices of the late Tom Mboya. Its focus was rural and agricultural development. Specialists from the U.S., Canada, France, Britain, Germany, Sweden, India, Israel, and most of independent Black Africa considered the problems of agricultural development in Kenya. They discussed fertilizers, insecticides, machinery, seed strains, irrigation, exports, imports, bank loans, transportation--an exhaustive array of subjects which affect agricultural development. The incredible irony was that for five days, they met in the heart of Kenya's tea plantations where morning, noon and evening, from the conference rooms, one could see streams of women and children file pass the conference site going to and from their onerous work on the plantation. Not once, however, did these intelligent specialists in agricultural manpower planning discuss the role of women and children in the agricultural labor force in Kenya or the means of transmission of agricultural information and education to these unschooled and unskilled agriculturalists in whose hands and upon whose backs the tea economy of Kenya rested. They set about to transform the rural sector by ignoring two segments fundamental to that sector--women and children--two most obvious human elements in the agricultural equation there. rural sector by ignoring two segments fundamental to that sector--women and and children-- two most obvious human elements in the agricultural equation there.

This invisibility of women in development was again demonstrated at an international conference in Dar es Salaam in 1967 under the auspices of the Overseas Development Council. As the conference moderator gavelled the meeting to attention with the call "Gentlemen," a colleague on the dais tugged at his coat in embarassment and whispered something to him. He looked up and added to his opening greeting the words..."and lady." He had been reminded that there was one woman at the conference. I was the one woman, not an African woman, but an

American woman invited at the ninth hour by a British officer employed in a Kenyan ministry and a former associate of mine at Oxford University. It was the "Old boys and girls" network that accounted for my presence, not recognition of the role of women in planning.

Here at Tuskegee at this conference, let us not repeat the error of Kericho. Let us see and consider the obvious. It is obvious that if Blacks are to contribute to the resolution of development issues on the international level our institutions must equip our youth to be contributors. We must equip them to be perpetual learners, even as they become agricultural experts. We must prepare them to see interrelationships, even as they specialize. As supervisor of Education Officers in Uganda and Kenya in the sixties, the one dilemma I faced with U.S. college graduates was that of limited specialization. The Kenyan Ministry of Education needed Biology instructors who could also teach chemistry; Physics instructors who could also teach mathematics; chemistry instructors who could also teach biology. Alas, our educational system rarely produced that type of instructor. Ours was a narrow, parochial approach to majors and minors. We emphasized specializing; not broadening and interrelationships.

One major role we can play is that of attitude modification. The inclusion of the role of women and children in the discussion at the Kericho Conference in 1966 was a question of attitude modification. Agricultural planning was and still is perceived as a man's domain. The approach toward specialization in one area rather than cross-discipline specialization is also a question of attitude modification. We must decide whether an expert in only one discipline can really be a reliable expert. Our industrial approach has infected academia and the attitude of an expert with an assembly-line mentality has unfortunaely altered the traditional university philosophy of making thinkers, not just doers. For industry, doers have specific validity. For university education, this approach is really not valid.

An equally invalid perception, and one of deeper significance than the sex issue or the specialization issue, is that developed nations can dictate, demonstrate and plan development needs for Third World countries without full partnership and recognition of the expertise of people indigenous to the developing world. The job of attitude modification is certainly one we can all address. We can begin at our own institutions without any new infusion of funds or programs. We can recognize our foreign faculty and student population as human resources and we can intelligently plan ways to draw upon this latent pool of unused or inadequately used human talent and experience. Had we in the university world done this with the host of Iranians in our classes, our current national dilemma and impasse with Iran might not be, or our relationship might be of an entirely different complexion.

Attitude and behavior modification go hand in hand. Both to some degree are the results of being well-informed, mis-informed, poorly informed or uninformed. In this regard, our institutions and our scholars have a major responsibility. The interrelationship of disciplines (Law with Agriculture, Medicine with Agriculture, Nutrition with Agriculture, Economics with Agriculture, Language with Agriculture, Transportation with Agriculture, Science with Agriculture, Engineering with Agriculture--the possibilities are endless) is critical. Committed professionals like the people at this conference must bridge the in-

terstices between these areas of interest inseparable in the real world.

The tragic state of foreign language study is a sorry testimony to the lack of a bridge in a critical juncture in international development. In January of this year, I served as one of the seven-member transition team for International Education for the new Department of Education. The ambiguity both of the role of International Education and the commitment to it was a painful reality. No one was sure where to place it, what to do about it, when to begin to recognize its validity as an integral element in public education, or how to insure adequate and intelligent funding of it, adequate and intelligent staffing of it, or adequate and intellgent management of it.

At this point in our global history, it seems clear that either we must begin to evolve international answers to the issues of agriculture and education or we shall have no reliable or long-term solutions to our problems. There are constant, challenging, creative and constructive careers there for our graduates and for those of us who dare re-tool and renew our involvement in our disciplines in an holistic approach. Our major institutional role in international rural and agricultural development must be to graduate that pool of prepared professionals, broad in outlook and interests, persistent in creative energy and ideation, unselfish in attitude and commitment to improving our world and objective in relationships to intelligent, resourceful, concerned people of wherever origins.

We might ask ourselves the personal question, "What is my responsibility as one keeper of a part of a compound, EARTH?" We might dedicate ourselves to the task of being effective, constructive caretakers and guardians of this global compound. If we do, we cannot then be partners--innocent or deliberate--to isolation from other peoples of the compound or to parochialism and destructive self-interest. "No man is an island," the 17th century English poet Donne philosophized. He was, of course, right. We are all islanders of Mother Earth. What we make now of our opportunities to develop, implement and control our roles will make the difference between what sort of world we pass onto others or whether we have a world at all to pass on to others. Tonight we have a choice; the future may deny us even the occasion to choose.

SECTION II: DEVELOPMENT POLICY: RESOURCE ALLOCATION AND OUTCOMES
INTRODUCTION

As noted in the keynote addresses, the problems addressed by this conference are both grave and complex, related, as they are, to the efforts of peoples of the world's poorest continent to take control of their destinies and achieve a measure of well-being for themselves and their descendants. Two-or-three decades of development have brought scant progress. While some countries have attained remarkable rates of economic growth, their national debt inflation and unemployment rates mount vertiginously, while, in many areas, food production sags. In other countries "stagflation" prevails; there is neither growth nor development, but deterioration, despite high resource potentials. The downward trend, begun in the early 1970's is expected to continue in the 1980's, with many African economies teetering on the brink of catastrophe. It used to be fashionable to seek the causes of underdevelopment in the cultures of the so-called traditional peoples. Today's scholars, in the main. seek more structuralist explanatory paradigms and the contributors to this session work present a variety of structural models.

Dr. Pearl Robinson is a political scientist with wide experience in evaluation of development projects. She finds the strategies promoted by development agencies to be rife with assumptions based on false dichotomies--a number of which she explores in this paper. She shows how Aristotelian either-or logical categories (such as big versus small, integrated versus sectoral-specific, infrastructure versus basic needs, labor versus capital-intensive and male versus female) are detrimental to the conceptualization of local level development. She argues that they must be superseded by a process-oriented approach which relies upon rewards to, and makes possible development initiatives "from below." The central problem addresed by Dr. Robinson is that, in most cases, men and women, elders and children, are "excluded from the process of conceptualizing, planning and exercising responsibility for the control" of development projects. Most often, development projects are done to and ostensibly for people; rarely are they by or with the people whom they are declared to serve. Yet the critical factor determining a project's success or failure is the degree to which local people are committed to project goals and will work to implement them.

The role of the university should be to reconceptualize problems and to do things differently from other development practitioners. However, to date they have not, and Dr. Robinson is not very hopeful about prospects for change, since universities are subject to pressing economic constraints which do not encourage innovation. Yet she argues that it is important for academics to attempt to swim against the tide, and established interests to attempt to create an atmosphere characterized by cultural sensitivity, critical evaluation and appropriate training.

Dr. Willard Johnson's research on emerging large-scale agricultural programs in the Sudan suggests that the involvement of major international financial institutions and transnational corporations constitutes a growing trend in Africa. He proposes that the Sudan's experience with Arab investors from the oil-rich Gulf States who opt for industrial style farm management is a harbinger of future agricultural development planning. Industrial style management en-

tails fragmentation of the production process, along with the consolidation of control over the labor process and decision-making centered in external locations. Hence Dr. Johnson's sub-title: "The Global Big House". Corporate management and factories-in-the-fields are stimulated by two processes. On the one hand, there is the supply of capital and demand for food and other agricultural produce stimulated by oil revenues in the Gulf states, which have new incentives to invest in large-scale farming. On the other hand, the mounting foreign debt and the absence of perceived development alternatives, render the large-scale farming strategy attractive to political leaders in the Sudan and other lesser developed nations.

During the discussion it was suggested that the policy choices made by leaders in the developing world to neglect small farmers are not solely related to national production and foreign exchange goals which make large farm and export agriculture attractive. Another element in the policy choice is related to the benefits accruing to political leaders and government functionaries personally, either as a result of the foreign invesment process or as large landholders in their own right.

Dr. Richard Franke and Dr. Barbara Chasin collaborate in a review of ecology and agricultural policy in order to show how the policies evolved during the colonial period have exacerbated the effects of an unfavorable environment to create massive famine and environmental destruction in the Sahel. They argue that the region, a cradle of African imperial brilliance in the past, still has sufficient resources to produce a decent life for its peoples if those resources are mobilized to that end, rather than drained to produce agricultural exports to France and other European nations. Exploring some of the interrelated factors which have contributed to the Sahel's decline, Drs. Franke and Chasin analyze what they view as the shortcomings of the development strategies currently proposed for the region. These continue the export orientation, misallocation of labor and anti-pastoralist strategies promulgated by past policy decisions which responded to the needs of foreign agricultural, trading and manufacturing firms. They find that local elites--including landowners, merchants and bureaucrats--have now joined in the competition for benefits, thereby contributing to the perpetuation of past policy. If they are correct in their conclusion that rehabilitation of the Sahel requires a thorough rethinking of past errors, then without major changes in policy, the newest Sahel Development Program may lead to renewed famine and ecological damage in the region.

Dr. Robert Bates stresses that agricultural policy is a significant determinant of the deepening crisis of African agriculture. Thus, concern for increased production must consider not only technical aspects of production, but the origins and outcomes of policy. Dr. Bates explores some of the ways in which the agricultural policies of many African governments are derived from and respond to needs of political constituencies more powerful than those of poor small farmers. Thus, it is not surprising that in many nations, in the present period (as in the colonial past) the small farmers' problems are aggravated rather than eased by the policy choices made. While they are the primary losers, the ultimate consequences are felt in all sectors of the economy, negatively affecting economic growth, foreign exchange earnings, food self-sufficiency and the debt burden. In Dr. Bates' view the political effects of these policies

will be opposite to those intended. Instead of maintaining political stability, they will generate incentives for new forms of political organization "that may seek to overthrow the prevalent political order."

The discussant, Mr. Earl Picard, stresses the need to apply the general framework of political economy to understanding the processes of development and underdevelopment. He introduces the technical vocabulary and concepts of this approach to sketch in summary fashion how economic, political, social and cultural development are severely constrained by the international economic system that has developed over the past several centuries. He reviews some of the economic processes that undergird the blockages experienced by African and other developing nations; processes that ensure that internally generated surpluses continue to flow outward; that industrial growth responds to external priorities; that external debts and technological dependency increase along with agricultural stagnation. Mr. Picard cites several authors for whom the political process-that is, the capture of state power by leaders determined to end dependency in all its forms and responsive to institutions of mass participation--is an essential precondition for development.

The reasoning presented by Mr. Picard appears to be confirmed by the analyses presented in this section. Like Professor Skinner, Dr. Robinson argues that mass participation in decision-making and benefits is essential for development. Drs. Johnson, Bates, Franke and Chasin explore the interests currently mobilized against small farmers and pastoralists. They point to the globalization of production and the dominance of multinational firms and finance which result in exacerbation of dependency and inequality. However, positive change is blocked not only by the international political economy but also by interest groups within states. Whether, when, and how the political changes that this group of scholars views as necessary for development to occur will come about must remain open questions.

CLICHES AND MISCONCEPTIONS ABOUT DEVELOPMENT METHODOLOGY

Pearl T. Robinson

Conventional wisdom about how best to promote economic development is rife with contradictions. Indeed, there is a lively methodological debate and it is reflected in the popular development cliches. Conceptually, the options are generally posed as a series of dichotomies: big versus small, integrated development versus the project-by-project approach, basic infrastructure versus basic needs, capital intensive versus labor intensive, and women in development versus the male-dominated approach. When questions of procedure are framed in these terms, the assumption is that one has only to choose the appropriate strategy in order to ensure a high probability of success for any given project. It is this assumption that I wish to challenge.

Following a brief review of these strategies of development, many of which appear to be contradictory, we shall see that they all rest upon a common principle: the primacy of outside intervention. Herein lies the problem of most development methodologies; they suffer the fallacy of a misplaced focus. What is often ignored is that the critical factor in determining success or failure of a project is likely to be the degree to which the particular activity being promoted is internalized by the target population. Of interest here is whether or not the university is able to play a role in facilitating such process.

PROJECT DESIGN AND COMPETING STRATEGIES OF DEVELOPMENT

Although there was a time when most people thought of development assistance simply as a matter of buying a tractor or building a dam, there are now a number of competing theories about how best to proceed. The design phase of projects has thus become politically sensitive because it is at this juncture that decisions are made affecting key variables such as scale, scope, orientation, and the allocation of responsibilities. Let us examine some of the issues that are involved.

First, there are the competing theories about the importance of size i.e., the big versus small debate. The question asked is "what is the optimal size for assuring a successful project?" In response, some argue that the only way to make an impact on a society is by undertaking a large-scale intervention. This philosophy translates into high-budget projects which concentrate on developing strategic sectors by promoting activities which involve some critical segment of the population. The underlying assumption is that in a resource poor country, a heavy influx of capital applied to a specific problem can turn a sector around, promote takeoff, and initiate significant and ongoing spillover effects. Some of the principal agencies which promote this view are the World Bank, the US Agency for International Development, and the European Development Fund.

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Advocates of small projects question the supposed benefits of large scale interventions. They contend that big projects have high overhead costs, serve as conduits for recycling money back into the economics of the donor countries, and that what little does trickle down rarely gets beyond the level of a few priviledged elites. Moreover, the end results are likely to be increased economic stratification as well as greater control by large institutions (both public and private). In contrast, small projects generally allow for money to be put directly into the hands of people in need so that their immediate problems can be addressed. Critics of this latter position point out that small project advocates try to wish away environmental factors by concentrating on scatter-shot activities which hold little potential for transforming the immediate surroundings and have virtually no impact on the larger society. Thus while their let's-help-the-little-guy orientation renders these small scale interventions high in affective content, one cannot assume that they are intrinsically better.

Closely related to this matter of size is the issue of employment. It should be pointed out that a focus on employment was incorporated into development planning almost as an after-thought. In the 1950's and early 1960's, standard orthodoxy was that economic growth would create new jobs. But the reality proved to be quite different. Commenting recently on experiences which led to the reformulation of some of his ideas, Nobel Prize laureat Arthur Lewis said:

> In 1957 I was sent by the United Nations as an economic advisor to Ghana, where I was struck by the rising unemployment of people coming out of school. That set off my interest in studying unemployment (Lewis 1979).

In other words, development economists did not initially conceptualize unemployment as an area of critical concern, and so for years they tried to induce economic takeoff by promoting a heavy reliance on capital intensive technologies in both the industrial and the agricultural sectors. But job creation proved to be an intractable problem. So by 1970, questioning the relative benefits of capital intensive over labor intensive strategies had become a centerpiece of the development debate.

Further disenchantment has emerged in recent assessments of the payoff from investment strategies which were designed to create the basic infrastructure necessary to sustain economic growth. In the least developed countries, such strategies called for the financing of a bare minimum of roads, electrical power plants, some kind of communications network, and perhaps a cement factory. In those countries which benefitted from higher levels of investment during the colonial period, it was possible to turn to more ambitious infrastructure projects, such as a hydro-electric dam or the launching of a steel mill. Both situations have been found to yield disappointing results. Despite more than two decades of extraordinary economic growth, the number of absolute poor is increasing with every passing year (McNamara 1975).

Under these conditions, development theorists have begun to question the logic of continuing to concentrate resources on basic infrastructure. If one assumes that the ultimate objective of aid is to help the poor, then it should be possible to address their problems directly by designing and funding projects to that avail. Such is the aim of recently articulated basic-needs approach to development. A basic-needs strategy sets out to determine how a family and a community can be helped to attain a minimum standard of living. A 1976 International Labor Office report established a list of essentials: adequate food, shelter, clothing, certain household effects, safe drinking water, sanitation, public transport, health and educational facilities (ILO 1976). For the basic-needs strategists, items identify appropriate areas for project intervention.

This seems an apt place to mention a fourth debate--the divergent positions concerning the desirability of designing and implementing autonomous projects, be they large-scale or small-scale. On the one hand there are those who hail the flexibility of planning on a project-by-project basis. It is a methodology which permits the aid donor to target a particular problem by working with a specific population in a well-defined sector. By the early 1970's however, the voices of enlightment extolled the virtues of integrated development. The new ideal is to approach the society as a whole by coordinating the efforts of all the government services and development agencies working in a given locale.

With so much attention focused on the community in all its facets, it was probably inevitable that someone would eventually notice the role of women. Indeed, it is now commonplace to observe that women have been overlooked in a process of development which has traditionally been male-dominated. Western males have been responsible for conceptualizing, planning, and implementing the large majority of development projects, and they have generally proceeded to impose their Eurocentric models on non-European societies. Their culture-bound assumptions about the division of labor by sex have thus permeated the process of development and bear much of the blame for the adverse impact of these programs on women (Tinker and Bramsen 1976). To cite just one of many glaring examples, for years agricultural extension work was directed solely towards male farmers (the Western norm) in regions in Africa where between 50% and 80% of the farming is done by women (Boserup 1970:22).

There is no need to belabor the women's issue here. We know that agencies of all stripes--including the UN, the World Bank, USAID, OXFAM, and the American Friends Service Committee--have discovered women and are promoting their role in development. The real problem, in my view, is not that women are left out while men are being included, but that in most cases the men, the children, and the elders are likewise excluded from the process of conceptualizing, planning, and exercising responsibility for the control over development projects. In other words, the problem we really need to address is the failure to integrate the target population (in all of its various components) into the process of development. Development is all-too-often done to or for people--rarely with them. And it is quite significant that the various strategies we have discussed up to this point all gloss over this critical problem of internalization. In every single case, irrespective of which side of the argument we choose to focus on, the assumption is that the aid donor--i.e., the outsider--has the power to determine success or failure.

One should not impart such a determining role to external factors. It is true that the provision of resources like money, techniques, and skilled people creates opportunities, and that how these resources are packaged--big or small, capital intensive or labor intensive, basic infrastructure or basic needs-establishes the parameters of possibility. But in the final analysis it is the people themselves who: 1) either will or will not perceive the project as a set of possibilities to be exploited, and 2) either will or will not figure out ways to adapt the particular project activities to actual needs. Local initiatives, as articulated through political, economic, social, and cultural institutions, are crucial to determining the success or failure of economic development.

What, then, should be the role of the university in this process? I will advance the proposition that institutions of higher education have a moral and ethical responsibility to do things differently from other aid practitioners. If that is the case, the goal might be pursued in the following manner:

"The university could cultivate and assiduously apply techniques for assuring sensitivity to the local milieu".

"All development activities undertaken by the university could build in mechanisms for critical evaluation and periodic reassessments".

"The university could insist that all projects with which it is involved have some component to address training and upgrading of indigenous talent and capacity".

"Only after it has met these other criteria should the university contract for the provision of technical expertise".

Having said all of this about the university's potential, I must conclude with my personal assessment that we are likely to continue seeing much of the same old patterns. Universities seem eager to conform to the model of all the other contractors in the development business. Consequently, maximizing procurement benefits is a primary concern. In concrete terms, winning an aid contract means that an institution gets overhead costs which may be valued as high as 60% of the project budget, its personnel can obtain positions working on the project, and its facilities may be used to train sponsored students (Auerbach and Yonekawa 1979). Given the present economic climate, such benefits are almost irresistible. For many reasons, then, there is little real incentive to build up local capacities. Nevertheless, I believe it is important to try to swim against the tide. Because if the universities cannot be a part of the solution, they most certainly will contribute to the proliferation of the problems.

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THE AGRICULTURAL INDUSTRIAL COMPLEX - GLOBAL BIG HOUSE

Willard R. Johnson

Especially in Africa, we tend to think of agricultural development as the last hold out for the true champions of the people. We sense that it is there one can try straightforwardly to meet the basic needs of average folk the poorest of the poor.

The cities of Africa already seem hopeless; still more so the many new regimes that seem older in approach than the ones they replaced. They are bent on participating in modern society, not as producers but as consumers. Industrial development based on manufacturing and capital goods production is stalled - the global capitalist system has seen to that. Seldom does an African Asian Pacific or Latin American county reach a level of integrated industrial production -- at least not for its own markets. The production system is maturing into a new phase in which manufacturing is organized on a world scale by transnational corporations producing bits and pieces of complicated products in nooks and crannies of the world.

INDUSTRIAL AGRICULTURE

We are aware of what this pattern of perverse industrialization has done to African society -generating a mass of semi-urbanized unemployed, school leavers and rural out-migrants who are prevented from effective political mobilization and participation. Eventually, many governments are likely to experience upheaval and takeover by junior military men. However we are slow to see that the pattern of global industrialization has already moved into agriculture, even in the tropics.

The 1980's will find us moving toward the global farm Many of the characteristics identified by Richard Barnet in his analysis of the globalization of industrial production apply to agriculture as well:

> The more nearly global the market, the more the giants prevail...The new division of labor in the global factory has been made possible by two sorts of technology. The first is the technology for conquering distance--containerized shipping, jet air-cargo carriers, telecommunications systems. The second is the technology of fragmenting the productive process into a variety of component operations that can be performed across the planet (Barnett 1980).

In the case of agricultural operations this involves the splitting up of fertilizer manufacturing, seed production, equipment supply and maintenance, storage, shipping, packing, warehousing, marketing- all of which will involve the farmer less and less, and may bring together the work of corporations around the globe. The farm is becoming an export platform much like the assembly plants and other import-substitution and export-expansion manufacturing facilities. This will be capital intensive farming. And because of the strength of the corporations and banking institutions involved it is very likely to be capitalistic as well. Only the land is sure to be local, but one can not be sure of its nutrients. The labor, the management, the type of crop may all be foreign, and the product destined for foreign markets.

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This situation will no longer involve the big landlord sitting on the veranda of his house on the hill. As in the case of industrialized agriculture in the West, similarly, the owners and managers of the third world farms will sit in corporate board rooms in New York, Zurich, Kuwait and Ryad, in the global Big House. The production process will increasingly be vertically integrated, producing for far away consumers what machines can plant, harvest, and ship; what carcinogenic additives and sprays can preserve. Nowhere in the process will there be room for many loving hands at home.

Barnet notes that already the grain that is exported from the Western World is handled by just five companies. Only twelve percent of the world's food production is now exported but this will grow in coming years. At present, only Argentina and Thailand are net exporters of grain, but these countries will soon be joined by Brazil and Pakistan.

THE CAUSES

Why is this happening? It is due much more to pull than to push factors—the pull of opportunities for high profits, rather than the push of over-production. The underdeveloped countries have the greatest abundance of underutilized agricultural land but are not increasing their production of food stuffs for export- although they all seem willing to shift from subsistence crops to export cash crops. Rather, the rapidly rising demand for commercialized food often is itself the by product of awkward efforts at industrialization in the underdeveloped world, as people leave the countryside searching for a more exciting life in the cities and cease to engage in food production to meet their own and local market needs. They and their established brothers and cousins in the dominant elite groups also seem increasingly oriented to consume imported goods. To pay for them, production of raw materials, agricultural commodities and export goods with very low levels of processing is emphasized because these products find ready buyers in the industrialized areas. Indirectly, and perhaps unintentionally, production of food crops and other goods for the local markets which cannot earn foreign exchange, is disfavoured.

In the context of rapidly growing populations in the underdeveloped countries, these factors create a need to which the industrialized world is ready and willing to respond. It is not that total world production is insufficient today or that it need be tomorrow. Already global grain production is about two pounds per person, enough to provide everyone 3000 calories a day even without other foods. Yet, half a billion people are malnourished today About 83 million of these people live in Africa. By 1985, the world will need 44 percent more food than what it had in 1970, most of it needed for the poorest element of the underdeveloped world. We will need an additional six million tons of cereals in these countries, or annual increases of about four percent, where recent production increases have averaged less than 2.5 percent. Under the present arrangements and patterns, the need will not be met locally, and the Third World will need to import about 100 million metric tons of cereals. These countries went heavily into debt in 1970 just to import 18 million tons.

The debt of the poor countries is already crushing, which is a problem unto itself, without compounding it with the food problem. Zaire has an external debt of over $4 billion. Ghana is close on its heels. By 1985, the poor countries of the world will have borrowed a net $275 billion, or four times the pre-

sent level. One half of all their export earnings will go just to meet the interest obligations on this debt. They will need to continue to export the goods that readily can earn hard currency, in order to keep their elites living well. They will, therefore, continue to produce the wrong products, in terms of meeting the local needs of the masses. They will keep rolling over their debts and passing on even higher levels of obligation to future generations, for as long as the external lending institutions allow. The lenders will also be tempted to pass on the risks to future generations rather than chance an immediate downfall along with their client states. We have come to the era of share-cropping countries.

In addition to the global trends that will make large scale food exporters take an interest in African markets, there will be the pull of Arab markets for foodstuffs (cf. Johnson 1978, 1980b). Africa may turn out to be a major supplier of these foodstuffs, but not necessarily from resources that remain under national control. Already momentum is gaining for a "triangular" arrangement. Where have we seen that before? In this case, it will be Arab money funding Western technology in African projects to produce food and other materials for Arab as well as other markets, as my recent research has shown. This research has centered for a number of years on the role of international capital in development, and especially the problems of increasing the use and involvement in development of local resources. This work has been carried out throughout Africa under the aegis of the Business Management for Economic Development Project which I direct. The current focus of this work concerns relations between the African and the Arab states, and the implementation of the program of African-Arab Cooperation that was elaborated at the Afro-Arab Summit Conference at Cairo in March 1977 (Johnson 1978, 1980a, 1980b).

The June 26, 1978, Wall Street Journal noted that Arab counries imported $1.7 billion of agricultural commodities in 1970, a figure which rose to nearly $7 billion in 1975, $8 billion in 1976, and is no doubt still rising. They imported in 1976 about 3.5 million tons of wheat, 400,000 tons of rice, 258,000 tons of barley, 156,000 tons of legumes and 149,000 tons of millet. The domestic Arab production of foodstuffs is rising at a rate of only about 3% annualy, but the demand will grow at about 4% a year for cereals, 4-5% for fruits and vegetables, and 5-7% for meat, eggs, milk, sugar, and fats. Clearly, the Arab world provides a tremendous outlet for any surplus food production that Africa might be able to achieve.

THE EXAMPLE OF SUDAN

What is likely to be the pattern of the African involvement in meeting this need? The signal case is that of the Sudan. Phillippe Rondot (1979) sums up the prospects noting that, on the basis of the trends and the diversity and richness of the soils of Sudan, once it is properly outfitted this member-state of the Arab League would be able to nourish not only Egypt, but all the Arab countries of the Gulf. Already, six billion dollars have been committed by the Arab states to a ten-year integrated basic agricultural development program in Sudan. By 1978 for example, Sudan already was second only to Egypt in receiving the largest share of Arab Funds for Economic and Social Development outlays, for example--half of Egypt's 23 percent. The reason for the priority billing to Sudan was easy to see--the Arab nations intend to make Sudan the bread basket for the Middle East.

Although there are problems with each of the major projects in Sudan, as elsewhere, it would be a great mistake to think that the Arab commitments are rhetorical only. A great deal of money has been allocated to Sudanese projects. From the Saudi Fund, $98 million for the Rahad project in 1975, $35 million for Port Sudan airport in 1977, and $30 million for the Savannah project, $35 million for the domestic satellite system, $25 million for telecommunications equipment, $12 million for scientific equipment; from the Arab Fund for Social and Economic Development, $8 million in 1974 for a highway, $4.4 million in 1975 for roads, $11 million in 1976 for another highway, $5 million in 1977 for railway development; from the Islamic Development Bank, $.5 million for roads and $2.2 million for textile mill. The total of concessional bilateral assistance to Sudan from the Gulf states amounted to $3.3 million in 1973; $42. million in 1974 $174 million in 1975; $193.3 million in 1976.

While these figures reflect loan committments rather than funds disbursed. they are a strong indication of the grandiose scale of the Gulf states' plans for the Sudan. New commitments would not follow one upon another with such rapidity if the program were to bog down. Moreover, the aggregrate figure for disbursements as a percentage of total loan commitments for the Kuwait Fund has generally run at about 50%. By all indications the Arab investment program in the Sudan is a serious one and likely to be carried through.

Sudan's leaders expect to benefit as much as the Gulf states from these investments which would increase production by 100-150% through the Basic Agricultural Development Program. Seven hundred percent increases for sugar production, and 500% increases for wheat production form part of these goals. They expect to achieve overall food self-sufficiency with substantial export capacities in sugar, rice, wheat, fruits, and vegetables.

The typical African small farmer, however, has only a marginal role in most of these schemes. Plans call for large-scale industrial farms worked with advanced mechanized equipment, and migrant workers drawn from places like Nigeria and Chad, which already supply a large share of the work force in Sudan's Gezira Scheme. Small farms are included in some of the plans--for example, the Rahad Project provides for some 4000 farms of five acres and nearly 13,000 farms of 20 acres. However, the investment in the large projects is drawn from a consortium of thirteen Arab states and this consortium will have decision making authority over the Integrated Program. The small farmers will be controlled as share croppers, rather than participate as independent agents.

THE IMPLICATIONS

The United Nations' Study of the Future of the World Economy notes that world hunger could be eliminated with just a five percent increase in world food production, but that this is not likely to happen because of social, political and institutional conditions that stand in the way (Leontief et. al. 1977). Barnet and many earlier authors (cf Lele 1975; Warriner 1969; Beckford 1972) point to the need for land reform, that is, the removal of non-technological barriers to increased land use and productivity as a precondition for agricultural and rural development. However, what Sudan has done is to remove the barriers to consolidated land use by big capital as opposed to the small invidual or family farmer. Never mind that the small family farms, under the right conditions, can be the most productive units of agricultural production (Beckford op. cit.) Cre-

ating the right incentives, providing the right training, putting in the right infrastructure, are costly and troublesome. Instead, Sudan seems to have opted for a wide open door approach reminiscent of the early colonial period-concessions for ninety nine years, at zero purchase price. There are no annual rents, no annual fixed taxes. There is only the obligation to provide all the necessary input capital and to pay a portion of the profits to the host country government.

In keeping with this approach, the Sudanese Government has also begun the modification of socialist controls instituted earlier. In the fall of 1979, the Finance Minister announced the lifting of many controls on flow of foreign exchange that were said to have crippled efficiency and hampered the inflow of foreign investment, and even to have slowed of the inflow of foreign currency remittances from Sudanese working abroad (Sudan Government 1969). Companies had found it difficult to import needed parts and raw material, he said, and capable Sudanese had felt the need to seek their fortunes abroad. Under the new arrangement, exporters of many kinds of goods and services in non-traditional fields will be allowed to retain 75% of their foreign currency earnings. Controls on the repatriation of foreign investments are to be removed entirely. These measures are designed to attract capital from Sudanese abroad and from Arab and Western investors. And with regard to Sudan's already huge external debt, estimated to amount to $1.3 billion in 1978, the Minister was expecting the inevitable visit from the International Monetary Fund team that very day.

It is too early to say that current agricultural policy in Sudan represents a harbinger of the future for Africa or the Middle East. Nevertheless, the developments that are occuring there, and the choices they represent, cannot be ignored. The policy being elaborated essentially by-passes the people whom we at this conference have known personally, and have in mind, when we speak of rural development in Africa.

In defense of their policies, Sudan's leaders state that they have tried the other approaches to increasing agricultural production, yet have found themselves languishing in stagnation. Their decision is not the result of a preference for the big corporations or the global financiers, officials assert. If I, an Afro-American scholar, can bring in the sufficient money and know-how to realize the enormous but essentially untapped, productive potential of their abundant rain-fed land, they would offer me the same deal as that which they have given to Saudi royalty, one official told me. As noted earlier, the deal includes advantages such as ninetynine year realty concessions with no money down, no purchase price and no rent beyond the modest share of the profit. I had to think about that one! Even academics are sometimes wistful for the life of the Big House.

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FAMINE, ECOLOGY AND UNDERDEVELOPMENT THE WEST AFRICAN SAHEL

Richard W. Franke and Barbara H. Chasin

Following the dramatic seven-year drought and famine of 1968-74 the West African Sahel is once again the scene of a potential human and environmental disaster. In Senegal, one of the Sahelian countries, rainfall in late 1979 was below average and very uneven. Water in the Senegal river was so low that only 13 percent of the area normally irrigated could be brought into cultivation. Food production is estimated at only one-half the amount needed to feed the country's 5-1/2 million people. Mauritania, another Sahelian country, is currently receiving 50,000-75,000 tons of cereals, while the regions of Gao and Timbuktu in Mali have become near-famine zones for their 850,000 people. Mali has appealed for 123,000 tons of cereals in aid. Overall cereal production in that country is down to 950,000 tons as compared with a yearly average of 1,900,000 in 1970-1979 (West Africa, May 26, 1980).

The long-term outlook for the Sahel is now considered bleak by many experts, despite an ambitious development program there. At a French-African ministerial conference in April of 1980, the French Ministry of Co-operation estimated that by the year 2000, the French-speaking African countries will be able to produce only 60% of their food requirements as compared with 80% today. Half of the countries referred to in this report are included in the Sahel (ibid. May 19, 1980).

Memories are still fresh, however, of the overwhelming tragedy which, from 1968 to 1974, brought the Sahel into major prominence when crops failed, livestock perished, and more than 100,000 people died. Most hard hit were the children who succumbed to disease or died from starvation. In Niger, one of the countries hardest hit by the drought, the recorded incidence of measles, rose from 2,886 cases in 1971 to 29,000 in 1972 and had reached more than 35,000 in 1973. Weakened by malnutrition, many thousands of children died from this disease throughout the Sahel (Sheets and Morris 1974:50). Other necessary resources were also lost. Over 40% of livestock of Tuareg and Fulani herders are believed to have perished while over vast regions, harvests dropped to just 50% of their pre-drought levels (ibid 11).

Beneath the statistics, of course, lie thousands of individual and family tragedies. The trek of a Nigerian herding family described below is representative of what life became for those forced to leave their homes and traditional occupations.

> Sidi Mohammed took his family of 10, including his wife, his mother, a brother, and six children, including a newborn infant, and headed south following the death of most of their animals. With their two remaining camels and three donkeys they aimed to reach Maradi where food was supposedly available. The wife and infant son died on the way. Sidi desperately tried to give away his two youngest daughters since he could not feed them, but no one was able to take them. When they arrived in Maradi, a major peanut and staple crop region near the Nigerian border, they discovered there was no food to be had. They sold their animals and the sons went begging. The family finally took up residence in a refugee camp, in the hope that the rain would come the next year and

somehow they could go back north and begin again (U.S. Senate 1974).

The rains returned in 1974 and 1975, but failed again over large areas in 1977. Further rainfall problems in 1978 led to another 50% drop in harvests, and half a million tons of grain were urgently sought by the FAO to help the Sahelian people through several harsh months (Le Monde, April 18, 1978). The continuing drought, could well set in motion again the migrations of herders from their pastures, and transformation of much of the Sahel into refugee camps where peoples' lives will depend entirely on gifts from overseas. The need for rapid and effective development of the region is recognized by Sahelians and the international community alike.

Many government officials, journalists, and aid experts attribute the recent catastrophe and continuing food problems of the Sahel solely to the weather, or to the drought in combination with population by humans and animals. The latter is said to be due to irrational behavior by animal herders who supposedly built up excessively large stocks of cattle for reasons of "social prestige." While the region is highly susceptible to soil erosion and desertification through misuse of the environment, the Sahel's history suggests that far more complex factors have been at work than those recognized so far by most development agencies. Failure to come to grips with these factors may damage the ambitious development program that has been set up since 1973.

West Africa south of the Sahara can be pictured as a great flat pan tilted slightly towards the south. The coastal zone north towards the desert can be divided into a series of ecological zones, each more arid than the last. The Sahel proper is a belt extending across the southern edge of the Sahara. It is characterized by rainfall of 300-600 mm per year, scrubby brushlands, light sandy soils, and in many areas, luxuriant pastures covered with schoenfeldia grass, a perennial of high nutritional value and easy digestibility for the Zebu cattle that graze there.

Prior to the 16th century, the Sahel was one of the most prosperous regions of Africa. It benefitted from extensive agricultural resources, good pastures, and a strategic location along the transsaharan trade routes. The Sahelian empires of Ghana, Mali and Songhay were based in part on surplus production from ecologically sound farming and herding economies. Farmers grew millet or sorghum as staple grains; herders brought their animals to camps outside the villages during the dry season. Milk from the cattle and goats was exchanged for grain. Equally important was another mutual exchange--cattle grazed the millet or sorghum stubble left on the fields after harvest while depositing their dung as a natural fertilizer for the next year's planting season.

The Sahelian empires prospered through trade in gold and slaves from the south; forest regions of West Africa exchanged for dates, textiles, and salt from the north cities and urban culture flourished along the trade routes. The fabled Timbuktu, for example, was at its height in the 15th century, with a population of 100,000, a university, and 150 Koranic schools. Today, Timbuktu is a remote town of 15,000 inhabitants where nearly everything is in short supply. The decline of Timbuktu parallels that of the Sahel region as a whole, and was brought on by a multitude of interrelated factors.

During the 17th to 20th centuries, the transsaharan caravan routes and urban culture were progressively destroyed by European military expeditions, the western slave trade and the opening of sea routes to the southern coastal areas of West Africa. A dramatic measure of the economic effects of this change in the organization of trade comes from the exchange rates between salt/millet. At the beginning of the 20th century, a camel laden with salt from the desert could be converted into 15-20 loads of millet. By 1945 the same salt brought only 6-10 loads of millet, and by 1974, the salt was worth but 2 loads of millet (Bernus 1974). The decline of the caravans brought on a general impoverishment of the urban centers which had thrived on the transsaharan trade.

During this same period, forces were at work to destroy the economy and ecology in the agricultural and pastoral zones as well. Beginning in the 19th century, France, the main colonial power in the Sahel, demanded that farmers grow peanuts to provide low-cost food and industrial raw materials for the expanding economy of Marseilles. Peanut cultivation was expanded after both world wars in the 20th century and again during the 1950's and 1960's.

Peanut cultivation had numerous detrimental effects on the ecology of the Sahel. Originally introduced from the New World to provision the slave ships, the peanut is ideally suited to the sandy soils and long dry season characteristic of much of the Sahel. When grown as a monocrop however, as compelled by the French, the peanut became a source of soil exhaustion and desertification in agricultural areas and an indirect cause of pasture degradation in herding regions of the Sahel.

Unlike millet and sorghum stalks, the peanut does not provide sufficient fodder for cattle. As the peanut spread, traditional exchanges between herders and farmers--the basis of the ecologically sound economy described above--were disrupted. French colonial researchers worked to develop more drought-resistant varieties of peanuts, while taxation policies forced the farmers to expand into ever more arid zones to acquire cash. As peanut-growing spread northwards toward the desert fringe, farms began to encroach on the nomads' grazing lands. Violence erupted, and the nomads were pushed toward the desert (Franke and Chasin 1979:30).

This was the situation at the time of independence in the 1960's. The new national governments, with funds and advice from foreign development experts, added to the problems by encouraging the expansion of cattle herds with the idea of developing an export beef industry. Vaccination programs and well-digging projects added more animals and more watering sites, but not more pastures. The result was severe overgrazing, especially around the watering sites (Sterling 1980).

Other forms of environmental destruction were also brought about by these mistaken policies. Trees--which hold topsoil in place, help in water absorption of the soil, and serve other environmental functions--were cut down for firewood and animal fodder. Nonetheless production of animals and of peanuts continued to expand. Mali's cattle population increased from 2,365,000 in 1946 to 4,872,000 in 1969 (Gallais 1972:353-368), while peanut production in Senegal went from 45,000 tons in 1884 to more than one million tons shipped out in 1965 (Amin 1973 3-4). In the fragile ecology of the Sahel, such increases can best be described not as production, but as over-production figures.

While overproduction was exhausting the soils and bringing on the overuse of pastures, it was also destroying peoples' traditional means for surviving drought. Because people had to grow cash crops, they had smaller cereal reserves stored in their granaries which had been a source of supply in past times of rainfall shortage.

Throughout the colonial period and up to the present, the transportation network has reflected the export orientation of the economy. Roads and railroads were built primarily into the peanut growing areas. Most other existing roads today are in very poor condition. Consequently, relief supplies cannot be effectively transported outside major peanut areas.

In the wake of the 1968-74 Sahel drought and famine, one of the most elaborate development programs in modern times has been organized. From $827 million proposed in 1973, the Western nations, led by the United States and France, responded to Henry Kissinger's 1976 call to roll back the desert with pledges of $7.5 billion. In 1977, the Western capitalist countries agreed at a meeting in Ottawa, Canada on a $10 billion program for food self-sufficiency and ecological reconstruction. It is to be achieved in three stages culminating in what is called "self-sustaining development" by the year 2000. Because of its regional orientation and because of the existence of an "Interstate Committee to Combat Drought in the Sahel," organized by the African nations themselves, many aid experts in the United States have hailed the Sahel Development Program as a ground breaking venture in development (New York Times, September 11, 1973 and May 2, 1976; OECD 1977; International Development Review).

Despite the enormous commitment of resources, the Sahel Development Program faces serious dilemmas, many of which are holdovers from the recent colonial past and which seem to be poorly understood by current development planners. One major dilemma is created by the tension between export crops and local consumption needs. While attempts to revive peanut production have met with resistance from farmers in many regions, other food products continue to be exported For example, fish taken from rivers in the region could provide as much protein per person as do the Sahel's cattle, sheep, goats, and pigs combined. However, sixty percent of the fish catch is exported. An increase in local consumption of fish would result in major improvement in the health of Sahelians. The development program document agreed upon in the 1977 Ottawa meetings, however, calls for continued fish exports to gain foreign currency to help finance the program.

The Sahel is also being eyed by foreign agribusiness firms as a potential greenhouse for the European winter vegetable market. Bud-Antle, the California lettuce conglomerate, has been producing green beans and other vegetables on a 500-acre, high technology farm in Senegal. When the price of beans plummeted in Europe in 1976, the beans in Senegal had to be destroyed as they were a luxury food with a limited local market (Lappe and Collins 1977:260).

Another dilemma concerns the important relationship between farmers and herders. Instead of reviving this relationship with its ecologically sound set of interchange between animals, crops, soil, and humans, most development projects in the Sahel seem designed to further pit the two groups against each other Franke and Chasin 1979. Researchers in Niger, for example, found that a World Bank irrigation project was flooding lands that herders needed for dry sea son pastures. Bank officials seemed enthusiastic about getting water onto field

will be forced once again to move towards the desert fringe, where overgrazing would then threaten to turn fragile grasslands into the advancing Sahara Desert. The loss of the animals will also make the farmers dependent on commercial fertilizers which most will not be able to afford. A similar project in Mali, centered around the ancient Songhay city of Gao, poses an identical dilemma as complex social and ecological interrelationships are neglected in the headlong rush to get land into production of high-yielding cereals.

A third major dilemma facing Sahel development is the misallocation of labor --a direct effect of French colonial policies. During the colonial period thousands of Sahelians were forced to migrate to plantation and urban work sites in the coastal and rain forest areas of West Africa. In 1978, a team of Dutch soil experts discovered in a region of Mali that simple housing of degraded pastures could revive the schoenfeldia grass cover within two rainy seasons. By chopping the soil so that rain water can soak in rather than run off the overtrampled and hardened earth, seeds long held dormant and dry were found capable of sprouting. A test plot of only 100 square meters, however, required 64 hours of hoeing. For the many thousands of hectares in need of recovery, the work force in the region is hopelessly inadequate, yet thousands of people from this very region eke out a living in other parts of West Africa where they went as migrants. The land is thus left undeveloped despite scientific discoveries of great potential, for the population needed to carry out the work is no longer there. Significantly, the overgrazing of the pastures in this very region came about as an indirect effect of French-sponsored irrigation schemes that were undertaken in the 1930's and which bear an eerie resemblance to the World Bank and USAID projects mentioned earlier.

A final major dilemma facing Sahel development derives from the often competing interests between local elites and local producers. While Sahelian societies were traditionally stratified, colonial policies left a legacy of national bureaucracies which are the centers of wealth and power. The interests of these elites in accumulating riches from the development program threaten to steer several major development projects off the course of environmental rehabilitation. In Niger, for example, a U.S. sponsored grain production project has fallen almost entirely into the hands of large landowners, merchants, and government officials. With higher prices for grains and an enormous market in Nigeria to the south, the landowners and merchants will be seriously tempted to spread production into previous fallow areas in order to reap greater profits. The technology offered by the project will provide just the implements to satisfy this temptation. It was this very same area and very same set of landowners, merchants and government officials whose expansion of peanut production in the 1950's and 1960's drove herders to the northern pastures and brought on much of the overgrazing which many experts have claimed was a major element in the severity of the suffering in the drought of 1968-74.

Along the upper reaches of the Senegal River, far to the west of Niger, is an even more dramatic case of the effects of competing interest groups. Here a $3.5 million U.S. sponsored irrigation project has become a battleground between Senegalese government bureaucrats and a local peasants' federation. The officials are part of a government corporation which is intended to utilize the irrigation technology to produce rice for the urban market in Dakar, the capital city of 750,000 in a country with 5-1/2 million people. The peasant federation has chosen to plant millet, a crop with a higher market value locally and the mainstay of the villagers' diets. U.S. development funds are channeled through

the Senegalese bureaucracy, thus they become resources to be used in the government's attempt to break up the federation (Adams 1977). Ironically, it is the local initiative of the federation, which started its own development project in the region, three years before the outside experts became involved, which provides the justification among these very experts for their enthusiastic endorsement of the rice project.

Sound development policies for the Sahel require a thorough rethinking of past failures in attempting to organize an ecologically rational exploitation of the region's resources. This calls for a creative break with the policies of the most recent past. However, Sahelian farmers and herders continue to find themselves in competition with international businesses, foreign government interests, local merchants, landowners, and bureaucrats, many of whom continue to place their own enrichment above the needs for environmental reconstruction and preservation. Without major alterations, the latest development program could well lead to a revival rather than an overcoming of famine vulnerability in the Sahel.

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AGRICULTURAL POLICY IN AFRICA: POLITICAL ORGINS AND SOCIAL CONSEQUENCES

Robert H. Bates

The policies of African governments toward agriculture are derived policies. They are often times formulated in an attempt to solve problems other than those faced by farmers. And they are frequently formulated out of regard for the interests of persons other than farmers. One consequence is that African governments intervene in markets in attempts to set prices which are often adverse to the economic interests of their rural populations.

The intended beneficiaries of these measures are urban consumers, nascent industries, and the governments themselves, including bureaucrats and members of the political elite. The primary losers are, of course, the farmers. But increasingly there is a recognition that the losers include other sectors of the economy. For none can finally escape the ultimate consequences of these policies the loss of production and the economic stagnation which results from the adverse incentives which they offer.

CASH CROPS FOR EXPORT

It is useful to separate out policies for the "traditional" export crops from policies toward crops destined primarily for the domestic food market. The former include the beverage crops --coffee, tea, cocoa; vegetable oils--palm oil, ground nuts, copra, etc.; fibers, such as cotton and sisal; tobacco, and so forth. The latter include the various categories of basic food stuffs. Historically, the two sectors differ in their economic origins; economically, they represent different markets, and markets that behave in contrasting ways; and, politically, the policies toward these markets rest on different foundations, although this is rapidly changing.

It is a well-known fact, but it bears repetition and emphasis: many governments in Africa have retained the historical pattern of the monopsonistic marketing channels for export crops that were created by their colonial predecessors and have utilized their market power to capture from the farmers a major portion of the gains to be had from production for the world economy [1]. Over the past several years I have collected information concerning the differences in the prices prevailing in the world market and the prices paid to farmers by various governmental bodies for various crops over the period from the late 1940's to the mid 1950's (Bates fc). There is a great deal of variation in these figures, and much of it appears unsystematic. It is difficult to attribute this variation to such forces as differences in policies between governments, changes over time, or contrasts in the "tax potential" of various crops. To focus on the lack of systematic variation is, however, to fail to see the striking feature of these data: the fact that the variation takes place within what, from the farmers' point of view, can only be regarded as draconian limits. Producers almost invariably receive a price that lies below the world market price. And in many cases, they receive less than one-half.

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The governments would claim that these policies benefit farmers, for, they would argue, the dual price policy shelters farmers from fluctuations in the prices prevailing in the world market. This assertion is not necessarily true, however. In one of the first real tests of the governments' willingness to stabilize agricultural prices, for example, the government of Western Nigeria elected instead to stabilize its trading board revenues; given a downfall in the world price of cocoa, the government reduced the price paid to the farmers and thereby, maintained a revenue surplus even in the face of weakening market conditions (Western Nigeria 1962). Moreover, when governments do stabilize prices, they maintain them at a comparatively low level; the farmers do not regard this as beneficial. The cocoa farmers of Ghana, to take one example, have repeatedly revealed that they would strongly prefer a high price, even if it is more variable, to the guaranteed price offered by the government; an important source of their support for the opposition to the Nkrumah government was their resentment over the level of guaranteed prices offered by that regime (cf Beckman 1976).

It is also claimed that the system is beneficial as the funds are kept "in trust" for the farmers. Certainly, governments do use the proceeds of the marketing boards to furnish such services as crop research, disease control, and rural roads. But, increasingly, rather than being retained by the marketing boards and used to finance farming service, the funds are instead surrendered wholesale to the public treasury. Analysis of national budgets in Africa suggest that the funds are not returned to the rural areas (cf Bates 1976; Clark 1978; Walker and Erlich 1959; Ewusi 1977). Instead, they are diverted to the urban and industrial sectors--the "modern" sectors of these societies which are designated as the inheritors of the development process.

It is useful to examine ways in which other sectors benefit from the levies imposed upon the rural producers of cash crops. One is through the provision of cheap capital. The funds of the marketing boards in Nigeria, to illustrate, have been used to provide subsidized credit to Nigerian entrepreneurs. Through loans made at concessionary rates and without adequate security, the Western Region Marketing Board helped to finance a series of industrial and commercial ventures, none of which appear to have provided direct benefits to the farmers. Furthermore the loans, insofar as they were repaid--and many were not--commanded a rate of return below the market costs of capital (cf Federation of Nigeria 1962; Schatz 1970). Another way is through the provision of public salaries. The monopsony rents generated by the noncompetitive structure of the market for export crops are absorbed by the marketing agencies as marketing costs, and increasingly these take the form of an inflated salary structure. Salaries are high; and the salary rolls are inflated through the addition of nonproductive workers. Such tendencies have been noted in the literature on cooperatives in East Africa, in studies of the marketing agencies of Tanzania, and, perhaps most dramatically, in analyses of cocoa marketing in Ghana. I quote here from a commission of enquiry into the marketing of cocoa in that nation:

> The evidence before us suggests that the (agency) used the profits obtained from its monopoly cocoa operations to provide funds for the dance band, footballers, actors and actresses, and a whole host of satellite units and individuals...practice. The C.M.B.'s area of operation...embraces activities and involves a staff which would have appeared absurd only ten years ago (Ghana 1967).

A third way in which levies made upon the farmers are diverted to other sectors is through the provision of concessionary prices. The beneficiaries are the growing set of firms which process agricultural "raw materials" thereby furnishing linkages within the local economy and generating a more mature economic system. Governments maintain low local prices so as to attract manufacturing firms with the prospects of cheap raw materials. Textile manufacturers, vegetable oil producers canning firms and the processors of cocoa and coffee products, to name but a few, have thereby been induced to build plants, hire workers, and undertake local production. The evidence suggests that if these firms had to pay the prevailing world market price for their raw materials, many of them would not have found it profitable to commence production (Killick 1978; Pearson et al 1976; Obben 1976; Tanzania 1977). Indeed, in many instances, despite paying the artificially low local price for farm products, these firms still run at a loss. In any case, through the maintenance of noncompetitive prices, governments impose costs on the farmers for the benefit of manufacturers of these finished or intermediate products.

A fourth way of instituting transfers from export agriculture is through the maintenance of overvalued currencies. Overvalued exchange rates transfer purchasing power from those who derive their incomes in foreign markets to those who make purchases from abroad. The overvaluation of currencies thus penalizes African farmers who export cash crops for the benefit of those industries which import capital equipment and those consumers whose tastes and incomes lead them to purchase goods from the international market.

The state, and its bureaucrats; urban entrepreneurs; nascent industries; and the more prosperous urban consumers--all thus claim resources from the producers of export crops. In part, of course, these transfers are a necessity; it is difficult to imagine, for example, where else the governments of many African states could secure revenues, given the economic dominance of agriculture and the relative prosperity of the export sector. In addition, these transfers may well be desirable. If local industries are to be formed, then capital must be secured; and the economic configuration of most African societies is such that most capital resides in the agricultural sector. Nonetheless, it is highly debatable whether export agriculture can reasonably be expected to bear the level of the burden that is now placed upon it by many African states or whether the manner in which the transfers are secured represents the most efficient manner for financing states or securing industrial development.

Clearly, in some cases, the magnitude of the burden placed upon export agriculture has led to stagnation and decline. The evidence strongly suggests, for example, that for want of attraction incentives, the producers of cocoa in Ghana and palm oil in Nigeria have shifted resources out of the production of these crops, with the result that output has declined (cf Usoro 1974; Ghana 1978). These were once among the most prosperous peasant enterprises in all of Africa. Conversely, where the burdens of taxation have been less, export agriculture has thrived; witness the lightly taxed industries of Kenya, for example, and of the Ivory Coast, which has surpassed neighboring Ghana in the production of cocoa, a crop common to both countries. These observations should not be taken to suggest that export agriculture should not be taxed, but rather to emphasize that, in determining the burden to assign export agriculture, attention must be paid to the costs as well as to the benefits of resource levies.

Lastly, while urban industries and nation states may make claims upon export agriculture which are defensible in terms of necessity or merit, the manner in which these resources are secured clearly gives rise to undesirable practices. The produce collector, the weigher, the local secretary of the cooperative union, the warehouse manager: these persons divert resources from the governments and industries and from the peasants themselves. Bureaucracies are of course a fact of modern life. But the size and costliness of the bureaucracies are subject to choice. The magnitude of the resources consumed by these agencies make it questionable whether they represent the most efficient means of taxation.

Levying resources from export agriculture by taxing output and by maintaining state-sponsored monopsonies to engineer the transfer may thus secure too few returns by discouraging production and do so at too high a cost. The political costs are high, as well, for the methods give rise to rural discontent. The farmers rightly question the weight of the burden they are asked to bear and the prosperity of the salaried personnel who control the marketing channels. As stated by one Tanzanian farmer:

> We regret that after having attained "UHURU" in this country, we, the farmers, have been deprived of all blessings of "UHURU"; our incomes have been dwindling, and what is worse, we are continually being overtaxed...under these circumstances we feel ourselves to be forgotten children...(Tanzania 1966).

FOOD CROP PRODUCTION

In the area of food production, as in the sphere of cash crop production, agricultural policy in Africa is often formulated in an attempt to solve problems other than these faced by farmers themselves. The origins of food policy often lie in efforts by African governments to establish peaceful relations with their urban populations.

The political efficacy of Africa's urban consumers is well-known, and the foundations of urban radicalism rest in large part upon a concern with consumer prices. The anti-inflation forces formed a critical component of the urban nationalist movement which drove the European powers from the continent. So too, the post-colonial governments find their political options constrained by the readiness of urban consumers to mobilize against regimes unable to defend the real value of their money incomes and to mobilize behind political forces which promise to undo policy measures which have imposed higher costs upon the urban populations. Busia, Gowan, Niemery, Sadat, Tolbert, Kaunda, and others all have faced, and some have fallen before, political movements organized in protest over policies significantly increase the level of urban prices (cf Libby 1976; Eriksen 1978).

One consequence is that virtually every African government follows a "low price" food policy (deWilde 1980; Dodge 1977; Krishna 1967). This policy takes different forms. Many governments attempt to directly control the price of food. In some instances, they attempt to set food prices in urban markets. In other instances--such as in Kenya, Tanzania, Zambia and the Sahel--they attempt to maintain monopsonistic marketing structures which offer low prices to rural producers so as to offer low prices in the urban market place. What data are available, it should be stressed, strongly suggest the failure of these attempts to regulate marketing channels. Food crops are widely grown, they have on-farm

uses and can be stored, and they require little by way of specialized skills or equipment for processing. Because of these and other properties, it is easier for the producers of food crops than for the producers of export crops to evade official marketing channels. Evasion, in fact, is the norm.

More effective is the use of commercial policy to alter the price of food. The maintenance of an overvalued currency cheapens the price of foreign foods. And, for most crops, governments apply a tariff policy allows the urban consumer to purchase food items at the world price when it lies below the prevailing domestic price.[2] Moreover, when the world price lies above the domestic price, governments often ban the export of food items. The effect of these measures is, of course, to lower the domestic price of food. It should be noted that this policy contrasts sharply with that followed with respect to industrial and manufactured goods. African governments tend to use commercial policy to shelter domestically manufactured items from the lower world price, with the result that domestic price for these goods rises.

African governments seek to lower the price of food not only by directly manipulating market prices but also by manipulating food supplies. In part, they do so by supplying the domestic market with publicly purchased commodities. As the farming season moves toward the time of planting, and as domestic inventories dwindle, governments in Africa enter the world market and locate, purchase, and import grains for local sale. Imports of food have become part of the annual agricultural cycle in Africa. In other instances, governments directly engage in food production. In many of the African states, major investments are devoted to the construction and operation of state farms, irrigation schemes and costly resettlement projects. Major public authorities operate as food production units.

What little data there is suggests that despite the sometimes massive expenditures of these food production schemes, their marketed output represents a very small fraction of the total marketed crop. Insofar as they make a major impact, then, it can hardly be upon the price of food. Rather, their significance lies in the impact they make upon the social and economic structure of African rural society. First, the schemes appropriate land and water where good land and water are scarce; this is particularly the case when they are located in major river basins. Second, the projects confer upon some farmers--those privileged few who are given tenancies on these schemes--access to farm inputs that the vast majority cannot afford. Lastly, they confer upon a few intensive access to scarce public services. Had other choices been made, the resources that have been devoted to these schemes could have been spread over a much larger population. While having little impact on the price of food, these schemes have thus introduced a new publicly-sponsored basis for and an increased degree of economic inequality in the countryside.

Thus far, we have omitted from our discussion the private farmer. African governments occupy an awkward position with respect to the private farmers. They cannot directly control their production and marketing decisions, as they can those of the farmers on public projects. Rather, governments must generate incentives for increased private production. But, as we have seen, political imperatives eliminate from the feasible policy set the measure that would most directly strenghthen these incentives: increases in the price of food. And, as we shall see, political considerations promote the choice of alternative measures the strengthening of incentives for increased output by lowering costs of production.

A characteristic component of African agricultural policy is the subsidization of food production. (cf Bates fc; Dodge 1977; Ekhomu 1978; Girdner and Olorunsula 1978.) Evidence that proposals for the subsidization of agricultural production emanate from conflicts between governments and urban consumers is offered in commission reports that recommend policy responses in periods of urban unrest (cf Nigeria, Federal Ministry of Information 1975). The subsidies take various forms. Capital equipment can be imported duty-free or at low tariffs. The costs of the purchase of capital equipment are credited against income taxes and subsidized through government loans. Special banks are created for farmers and their interest rates are maintained below commercial rates through subsidies from the public treasury. Seeds and fertilizers are imported by governments and distributed at subsidized prices. The costs of water supplies and irrigation are borne by public agencies; witness the massive growth of irrigation schemes that are laying claim to the major rivers of Africa. And, in many nations, land laws have been enacted which allow governments to appropriate lands and to put them under food crop production.

In part, these measures represent attempts to increase food supplies without increasing food prices and the political pressures from urban consumers help to account for this policy choice. But additional political considerations play an important role in the selection of these policies. The "project" response to the problem of food supplies is politically useful for it gives public authorities divisible, and visible, benefits which they can apportion among the political faithful and withhold from their political enemies. The result is a characteristic distortion of food production programs in Africa: too many projects are often constructed for the quantity of budgeted resources. For the incentives are strong to place projects in each of the significant rural constituencies. Moreover, access to the opportunities created by these projects is often mediated by loyalty to, or prominence in, ruling political factions.[3]

Political considerations also underly the preference for the use of input subsidies instead of higher output prices in promoting increased production. For the benefits of output prices would go to all producers, friend and foe alike. As a political measure, the policy, therefore, holds few attractions for politicians. But at subsidized prices, there exists excess demand for farm inputs; and their allocation must therefore be rationed. Political officials can then exercise discretion among competing claimants for the subsidized inputs. Evidence is strong that access is given to those whose political backing is important to the ruling faction. Rural credit, state allocated lands, and sites of irrigation schemes-these benefits are conferred in a way that creates a cadre of loyalists within the rural sector. The politicization of farm programs is simply a fact of life in African rural development.

CONCLUSION

Government agricultural policy in Africa is thus derived policy, in the sense that it is designed to solve problems other than those faced by the farmers themselves. In particular, it is designed with a fine regard for the political imperative of remaining in power and with a concern for fostering and promoting the economic interests of urban industries. Indeed an aspect of the study of agricultural development in Africa which makes it fascinating to political scien-

tists is the opportunity it offers for detecting and delimiting the emergent structure of the states of Africa. The value of political studies for those concerned with African development is that they disclose a determinant of the relatively poor performance of African agriculture which surely is as significant as the quality of soils or the depredation of diseases and pests: the claims that are made by political and economic rivals who compete with farmers for the economic gains to be made from farming.

NOTES

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1. By one estimate, at independence, government marketing agencies handled 90 percent of palm kernel exports, 80 percent of coffee, 65 percent of tea and 60 percent of raw cotton exports (Temu 1975).

2. One exception would be new crops which governments are trying to promote; another would be crops grown by influential persons. In West Africa, rice qualifies on both accounts and production is highly protected.

3. Perhaps the best documentation of this trend is provided by John Alfred Dadson 1971 in his study, "Socialized Agriculture in Ghana, 1962-1965". Ph.D. dissertation, Department of Economics, Harvard University 1970. The strict correspondence between local TANU units and the committees in charge of Ujamma villages can also be seen as attempts to render food production units into units of political organization (cf. McHenry 1978; Hill 1977).

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CRITICAL OBSERVATIONS ON DEVELOPMENT POLICY, RESOURCE ALLOCATION AND OUTCOMES

Earl Picard

Consideration of development policy, resource allocation and policy outcome must begin with two concerns. The first necessitates placing the above dimensions of the planning process within a broader developmental context. The second requires a fairly specific understanding of what is meant by development, not an easy task given the elusive nature of this concept. By the development context I mean that the development process, as such , and especially as it unfolds in the countries with which we are concerned, must confront the realities imposed by the international political-economic system.

The development context for planners in poor countries revolves around the realities of structural dependence. In Dependence and Transformation, Clive Thomas defines structural dependence as the "extent to which the economic structure of these economies depends on foreign trade, payments, capital, technology and decision-making to generate domestic processes" (Thomas 1974). In other words, structural dependence speaks to an historically evolved, interdependent international economy, that by dint of its ongoing logic, works to the advantage of western industrialized countries we have come to identify as developed.

The problem of structural dependence and underdevelopment can be more sharply focused by briefly examining the categories of dependence as outlined above. Foreign trade, for instance, in all essential respects, continues to conform to the classic pattern of international specialization in which the underdeveloped countries supply crude and semi-processed minerals and raw materials in the advanced sector together with the products of traditional and plantation agriculture, in exchange for finished goods from the western world (cf Weisskopf 1972). Development planning qua planning must proceed in the face of this reality.

In light of this relationship between trade and structural dependence, policies such as nationalization, import-substitution industrialization,efforts to attract transnational corporate investments and the demand for a New International Economic Order (NIEO), to the extent that they accept the preexisting structure of international economic relations as given, have done little to alter the relationship of unequal trade. In some cases, these policies have actually heightened inequalities, particularly in view of the fact that returns to capital in the lesser developed countries continue to be higher than those averaged by capital invested within the industrialized countries (Amin 1976).

Capital and payments dependency are two poles on the same diad and both take on increasing significance as the ability of poor countries to generate capital internally, and thus to avoid balance of payments problems, diminishes. The problem of resource allocation, then, must be tempered by the realization that western-dominated international lending institutions, government agencies, and private banks constitute near exclusive sources from which these funds can be borrowed. The recession that has gripped the international economy has meant that, in general, capital is less forthcoming and that there are more stringent terms attached to such capital as is available. Given the extensive capital

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needs of underdeveloped countries, this means that they are forced to operate within an extremely constrained development context.

On the other side of the diad is the payments problem, or the debt trap. as Cheryl Payer refers to it (Payer 1974). This is becoming a formidable problem to the extent that there is increasing concern that the poor countries will resort to massive debt repudiation and thus spark an international depression. In 1974, external debt for the poor countries was $142 billion. By 1978, that figure had increased to $315 billion according to an article in the New York Times (April 14, 1980). The World Bank estimates that as few as 30 private banks account for some 61% of the 1978 total. A consequence of the mounting debt problem is that massive rescheduling has had to take place, more stringent requirements have been imposed and less money is available in general.

An interesting twist on the debt problem is that it is not the poorest countries that are experiencing the most difficulties in so far as payments problems are concerned but, rather, it is the larger more industrialized countries of the underdeveloped world. Brazil, for example, had an $11 billion payments gap in 1980. Argentina's gap was $2.7 billion; Turkey-$2.5 billion Thailand - $2.4 billion; the Phillipines - $2 billion, and South Korea $1.7 billion. These are the countries that have benefitted the most from western largesse, have experienced 'economic miracles,' have the most transnational investments and have gone further along the road to import-substitution and export oriented industrialization. Policy development and resource allocation must be tempered by the realization of the benefits and drawbacks (considerable in the extreme) of external financing. Further, the constraints placed on the budgets of underdeveloped countries by the fixed obligations that past borrowing imposes means that there will be fewer funds to allocate. Nearly one fourth of Senegal's national budget for instance, is allocated to debt service.

Technological dependence imposes further constraints upon the policy development process. While no one denies the need for rapid technological advance in the poor countries, such technology as has been available from the western world has brought mixed benefits. Consistent with the development orientation of the western capitalist countries technology made available to the underdeveloped countries has been highly capital and energy intensive. The capital problems have been referred to above. Ill-conceived development policies that rely heavily upon expensive technology only serve to worsen the payments situation of the poor countries. Similarly,the acquistion of energy intensive tecchnology,in an era in which the cost of meeting essential energy needs is becoming critical to the survival of the poor countries,means that such technology only exacerbates an already critical energy situation. So, while acknowledging the need for technological advance and the difficulties of developing an indigenous technology, policy development and resource allocation must move from an understanding of the constraints imposed upon the country when it decides to acquire western technology.

Clearly this discussion could continue ad infinitum, but the point to stress is that factors associated with the ongoing viability of the international economic system impinge upon the policy development process, limit resource allocation and determine policy outcomes. Other factors such as protectionism, the brain drain, dependence in the areas of technological and managerial decision-

making, transfer pricing, political dependence, underutilization of internally generated surpluses, and competition among the underdeveloped countries themselves, all serve to define a severely constrained development context.

The immediate objective, then, is to redefine structural relationships which requires bold and decisive action, creativity, and a change in relationships of power, both internally as well as externally. It is only at the point where a genuine attempt to alter the structural relationship of dependence takes place that an attempt at development can be made.

But, what is development? I said earlier that development planning must unfold within a clearly articulated definition of development. William Demas defines development as the "realization of productive potential in all branches and all regions of the national economy." Transformation of the economy in the interest of 'self-sustained' growth, requires transformation of the structure of production. Demas sees seven basic elements in this process:

> These are the capacities to transform as determined by political and social processes and attitudes; the unification of the national market for goods and services; the shift of production and of labor as between primary, secondary, and tertiary sectors of the economy; the development of an increasing degree of interdependence among domestic industries and activities; changes in the importance and composition of foreign trade; the reduction of dualism in the economy; and the development of appropriate institutions (Demas 1965).

Central to this notion of development is a drastic alteration in the priorities of the policymakers. Export orientation gives way to a concern for developing the internal market. Over-dependence on the primary sector and hypertrophy of the tertiary sector is offset by a forthright attempt to develop the secondary sector, that is, the creation of an indigenous industrial and manufacturing sector. Progress in these areas will overcome the tendency to extroversion and begin the process of developing interdependence among domestic industries, i.e. the development of forward and backward linkages. Consistent with these concerns Samir Amin argues that the quest to overcome underdevelopment must be aimed at eliminating sectoral inequality of productivities, disarticulation, and domination (Amin 1976).

Thomas' notion of development turns on the need to converge resource use with demand by designing an economic strategy to cope with the problems of developing indigenous productive forces. His goal, however, is to transform the mode of production to socialism. This is only possible where the fundamental issue of state power is solved. The dynamic convergence can only be focused, he says, in underdeveloped economies;

> in which a political revolution has been initiated and has succeeded in transferring state power to a worker/peasant alliance, thereby, fundamentally altering production relations so that the struggle to bring the productive forces under their control and direction, to disengage from international capitalism, and to raise the material levels of welfare of the population are the central economic issues at that stage in constructing socialism (Thomas 1974).

For Thomas, development begins after fundamental political questions have been addressed. Beyond that, he lays stress on the need to develop an indigenous technology, to increase the share of manufacturing in total output, to increase labor productivity through the introduction of (relatively) capital intensive techniques, to increase interindustrial transactions, and to sharply increase productivity in the agricultural sector - especially for those products oriented toward the internal market.

The views of the authors reviewed here are much more to the point than is generally the case in the development literature. Yet their notions tend to emphasize an economistic definition of development. As I see it development must be a multi-faceted process aimed at addressing political, economic, cultural, social, as well as ideological problems. Hence, development for me is an integrated process involving quantitative as well as qualitative change in all spheres of existence. Economically this involves the promotion of self reliant, rational, socialist development that aims at eliminating inequalities (regional, sectoral, and individual) through the development of institutions, structures and relations that contribute to more effective and socially responsible accumulation, utilization and distribution of human and material resources and of the social surplus. Politically, development involves the extension and promotion of responsible decisionmaking and popular participation through the creation of decentralized structures that encourage local initiative while insuring accountability on the part of delegated representatives. Social development involves the elimination of inequalities and barriers to mobility through the provision of social services, such as health and sanitary facilities and education, to the population based on a criterion of need, both in the indivisocietal sense. Cultural development aims for the maintenance of essental cultural intergrity of a country and it's people while intergrating those postive aspect of external cultural and eliminating offensive or anachronistic cultural pratices originating in the traditional culture. Ideological development means promoting critical self-consciousness in the context of maximizing potential, liberating the human spirit and promoting a sense of collective responsibility. Only by approaching development in a comprehensive manner can development planners expect their policy-making activities to result in the desired outcome.

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SECTION III: AGRICULTURAL RESEARCH: PROBLEMS OF TECHNOLOGY TRANSFER
INTRODUCTION

The transfer of technology from industrial to agrarian societies has been recognized as indispensable to the industrialization of the Third World and to advancing the level of agricultural productivity. What kinds of transfer should take place and how are subjects of intense debate and negotiation. Successful transfer of agricultural technology requires detailed knowledge of the natural and cultural environments in which the technology is to function. Technology is not neutral but serves as a vechicle for social relations. Technology designed for large farms and plantations is often inappropriate for adoption by small farmers and sometimes leads to their extinction or misery. At the same time, successful technology designed to improve the lot of small farmers is often unavailable. Furthermore, it is increasingly recognized that current large farm monocrop production systems include serious technological flaws; among them, deleterious environmental effects resulting in declining crop yields and high levels of petroleum consumption. Thus new research is needed to overcome the technical and social limitations of production strategies currently available. As a very first step, understanding of the processes which have created, extended and maintained rural poverty in Africa is essential to project design and must inform technological research if the poor are to benefit from increased production.

Dr. Booker T. Whatley, the session moderator, emphasized the need for agricultural scientists to understand social systems in order to adapt their designs for improved production. He noted the importance of mixed production strategies containing both subsistence and income-generating crops and outlined the essential features of a system which he has designed to provide a living for limited-resource farm families in the Southeastern US. On the following day, participants had an opportunity to meet with Drs. Whatley, James Allen and Kingston Mandisodza, and to visit Tuskegee Institute's experimental projects.

Mixed, sequential and intercropping strategies are widespread in tropical agrarian systems in both rainforests and savannahs. While some western-trained agronomists continue to regard them as irrational and untidy, thirty years of research on various types of shifting cultivation systems are contributing to their appreciation among researchers who foresee the need to maintain agricultural productivity over the long term without resort to high levels of increasingly costly inputs. Thus, there is growing support for the principle that improved production systems must begin with knowledge of what already exists, and working with cultivators toward common goals.

Dr. Vernon Johnson, an agricultural economist with a distinguished career in the Foreign Service, considers the current and deepening crisis in African food production. He notes that the crisis is due in significant measure to the dearth of research directed toward solving the production problem of small scale farmers. Pointing to the historical roots of this research gap which lay in the interest of the colonial powers, he calls upon the Land Grant Universities, including the 1890 institutions to work to fill this gap. Since this research must be fully adapted to African needs, including the ecology and socioeconomic environments of small farmers, it must be regionalized and carried out within

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African countries. This entails overcoming many difficulties including lack of facilities and infrastructure, friction with donor agencies and host country institutions and unrealistic expectations of university enterpreneurship.

Remarking upon the competition for resources that inevitably tends to favor the larger universities, Dr. Johnson nonetheless suggests that the historically Black institutions have a particuarly significant role to play. These institutions which have had as their mission attention to the special needs of small farmers in the U.S. South, could undertake research on technology designed to improve the African small farmers' use of existing resources and to expand these resources realistically in order to increase both their productivity and their incomes.

Dr. Donald Ferguson is an agricultural economist currently involved in the U.S. Department of Agriculture's international technical cooperation. Like Dr. Johnson, he points to the need to strengthen national research programs to discover technology adapted to the conditions of small farms. He suggests areas for priority research emphasis in the applied sciences. In addition, Dr. Ferguson notes that in many areas, the environmental and economic conditions in which small farmers currently operate are such that little improvement of their productivity or incomes may realistically be expected. There are many poor farmers today whose conditon requires that solutions other than small farm development be envisaged. He proposes that solutions may be found in emigration or in the creation of non-farm employment. While other types of solutions may also be possible, Dr. Ferguson reminds us that there are no comforting panaceas to be sought in rural development.

Dr. Grace Hemmings-Gapihan analyzes relations between groups and their differential utilization of the same facilites in order to predict how each will be affected by a proposed innovation. Her focus is the impact of a solar energy powered grain mill and pump upon the work women do in a village in Upper Volta. She finds that while benefits will occur, for most women they will probably be less significant than originally expected. Dr. Hemmings assesses the social feasibility of various local-level management strategies for the solar energy unit in relation to existing social structure. She concludes that the decision about whether or not to introduce the new technology should be made by the villagers upon full disclosure of information regarding potential costs and benefits. The most feasible management strategy, she suggests, is one which encourages the potential users to express their needs and to draw and build upon their knowledge. This includes learning to run and repair the equipment. In these ways, Dr. Hemmings hopes that the alienation, so frequently engendered by the introduction of technology which escapes local level control, will be avoided.

In his discussion, Peter Hammond notes that more than thirty years of work by applied anthropologists has demonstrated that designs for technological change fail to achieve their intended objectives when they negelect the sociocultural milieu. Yet technology ill-adapted to the conditions of its transfer continues to be exported. Drawing upon his extensive field experience, Dr. Hammond pointed to understandings that can be generated and pitfalls that can be avoided by the application of competent anthropological research. He notes the need to study not only local level structures but national institutions likely to affect the delivery of technical assistance, and offered suggestions for

achieving closer collaboration between African and western scholars. These include providing support for libraries and other data bases built into project budgets and for joint teamwork, so that in-country expertise is increased. Finally, Dr. Hammond called attention to the marked salary differentials which so often separate expatriate advisors and host country counterparts. This brief commentary touches upon themes further explored by other contributors and vigorously debated in informal discussions. Dr. Hammond was unable to edit his text in time for inclusion in the proceedings.

A paper presented in another session has been grouped with the contributions to the session on technology tranfer, because it seems to continue several points explored here. Like Dr. Hammond, Dr. John Lewis is concerned with using existing sociocultural institutions to maximize project success and minimize failures; and like Dr. Hemmings, is concerned with social impact assessment. He demonstrates the need for thorough understanding of farming systems as social systems in assessing or predicting the impact of development project's interventions on various groups. The understanding rests upon an adequate methodology and research competence. Dr Lewis makes clear that assumptions about peasant or pastoralist "mentality" and proclivities based upon idealized versions of what people say they do on questionnaires,—emics in the anthropologists' jargon--are frequently misleading. There can be no substitute for analysis based on actual observations made over time. Furthermore, even the commonly used social categories such as "tribe" and "ethnic group" have a temporal specificity and an ideological use. Thus, historical data about past changes are necessary to the prediction of future movement.

Noting that change is directional and cumulative, Dr. Lewis points out that projects which favor one group may result in irreversible losses to another group or groups with attendant unfavorable consequences for the productivity levels the project was supposedly designed to increase. In the example he considers, the designers' assumptions that a wealthier group would be more productive, untrue at the outset, became true as a result of project interventions. That is, the project assumptions acted as self-fulfilling prophecy. Exploring some of the institutional constraints within AID which prevent development planners from drawing upon social science knowledge, Dr. Lewis' cautionary tale serves as an introduction to this session and the two that follow.

AGRICULTURAL RESEARCH - THE UNIVERSITIES AND RESEARCH TRANSFERS

Vernon C. Johnson

Agricultural research is a subject that generates little, if any, controversy. Like motherhood, the benefits of agricultural research are outstanding and so obvious that the conditions and terms of its occurence go unchallenged. A research project overseas makes sense, we say, because so very little is known, and who has done more in the field of agricultural research and is more qualified to offer technical assistance than our Land Grant Universities? This was the heart of the argument presented to the Senate Subcommittees on Foreign Assistance when legislation on Title XII was being drawn up.

But is the problem that simple? I submit to you that it is not. I shall concentrate on Africa, a most interesting area from a development perspective, and important to U.S. interests. Most Americans have only the most fleeting knowledge about Africa. Unfortunately, this goes for Black Americans and their institutions as well. Therefore, I want to say a word on why Africa is becoming increasingly important. But more precisely, I shall discuss agricultural research needs in Africa and some associated problems that Land Grant Universities including 1890 Universities, will face if they are to play a meaningful role in the critical field of agricultural development. Finally, I confine my remarks principally to research in food production, not because it stands alone as a research problem but because the situation is such that nothing is causing us more concern than food shortages in Africa at this time.

AFRICA AND FOOD PRODUCTION

Let me suggest why all Americans should be intensely interested in Africa. On more than one public occasion, Secretary of State Cyrus Vance has spelled out the growing importance of Africa. It is noted for example, that the U.S. now imports about 50 percent of its oil and almost half of these imports come from Africa. One of every 10 gallons that you put in your tank comes from Nigeria. To oil, we could add bauxite, iron ore, cobalt, manganese, platinum, diamonds, gold, gypsum, coffee, tea, spices, cashew nuts, and pyrethrum. At this point when our economic welfare depends more and more on foreign trade, we find that the exploration for oil and minerals in Africa has been only 5 percent as intensive as in the United States. There is great scope to expand investments. But more than economic and trade advantages, Africa has more countries in the UN than any other continent, and these votes in the General Assembly are sometimes critical to our interests. African leaders, such as Presidents of the Frontline States in Southern Africa and others, have worked closely with the U.S. in solving problems in the world. A final reason for being interested in Africa is there are more persons of African descent in the U.S. than any other single country except Nigeria.

Notwithstanding the growing importance of Africa for the U.S., and in spite of our expanding association--especially in the field of economic assistance-development in many African countries is stagnating, and in no area does the picture look more gloomy than in food production. Africa is the only continent

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where population is growing at a faster rate than food production, and there is a question whether Africans will be able to feed themselves. In 1975, Africa imported 2.6 million tons of food of all kinds. By 1990, if present trends hold it will need to import 17 million tons even with no increase in per capita income. If income increases--say from mineral or oil sales--imported foods might rise to 32 million tons. Food grains, such as maize, rice and wheat are the key imports and Africa is becoming increasingly dependent on imported grain.

This situation of food dependency would not be too serious if the attendant risks were not so high. Let us briefly take note of the risks. First, most African countries do not have foreign exchange with which to buy food, and food aid is very limited. Consistent food surpluses are produced largely by a handful of Western countries--the U.S., Canada, Australia, and Argentina--using rainfed agriculture. A few bad crop years in these countries could wipe out food reserves and create havoc in the Middle East and Africa. Second, plant breeders tell us that some 80 percent of the genetic potential in foodgrain is already used up. Thus food scientists may find it increasingly difficult to maintain ever expanding increases in productivity through plant breeding. But even if science can increase food supplies, the demand for food is outstripping supply. A number of OPEC countries and those in Eastern Europe which until recently were primarily grain-eaters are rapidly shifting to meat and are buying millions of tons of grain to fatten herds. In our own country, gasohol may soon be competing with for grain formerly destined for overseas sales.

Thus it is extremely difficult to see any alternative to African countries producing their own food. They have labor, and 27 percent of the world's unused arable land is in Africa. Then why, in the present declining situation, isn't this potential being put to good use? Why does production remain so low? One of the reasons, I submit, is the dearth of meaningful research, especially research that makes sense to small scale farming and to farmers who produce most of the food that Africa uses. Can't the Land Grant Universities, including the 1890 institutions, do more to fill this research gap?

RESEARCH PAST AND PRESENT

African independence is just reaching its 20th year A discussion on research as a key factor in food production will benefit, therefore, by briefly relating past practices with practices now current. During the colonial era, there was little--if any, concern for nutrition among Africans and it was assumed that small African farmers would continue to produce familiar foods-millet, sorghum, yams, cassava--in the traditional manner. Everywhere the traditional food producing sector was neglected and research and other government services were directed to export crops, many of which were introduced and spread. This permitted governments to secure foreign exchange for the importation of a variety of items including food and drink demanded by Europeans and higher-income Africans. They were not forced to depend on local production. Only in the last stage of the colonial period were a few weak attempts made toward research in food, largely without success.

This neglect in the food sub-sector led, in effect, to the creation of two distinct economies, the domestic and largely subsistence food economy, and the export economy which, as noted, was the recipient of most available investment and research. The African countries have, therefore come to depend on a very ineffective economic response for their food supplies and are therefore resorting to imported food. As more and more people in Africa migrate from the rural villages to larger towns and cities, the problem is further exacerbated. What is being done by way of research to solve the food problem?

Though belated, there are several important attempts to redress past neglect in food research. Under Title XII legislation, the Board for International Food and Agricultural Development (BIFAD) and associated Land Grant Universities will be assisting with research in selected developing countries. On a larger scale, the Consultative Group for International Agricultural Research (CGIAR), is working to increase the impact of International Agricultural Research Stations which are located around the world. More recently, CGIAR established an International Service on National Agricultural Research (ISNAR) to assist developing countries with their national research efforts, and of course, AID and other donors are assisting agricultural research through bilateral projects. As for methodology, the current fashion is to deal with complete farming systems. The idea is to look at agriculture in its entity and approach the system on a multidiscipline basis, define the outstanding problems, determine what needs to be done, and among other things link research findings to farmers' needs.

PROSPECTS FOR RESEARCH AS SEEN BY U.S. UNIVERSITIES

Before Title XII legislation, the larger Land Grant Universities were clamoring for a fuller role in U.S. overseas work. They were used, they contended, only as implementors of projects selected, negotiated, and predesigned by AID country missions without prior consultation. The universities resented this "take it or leave it" attitude. They insisted on contributing to planning and directing programs, especially those being designed for universities' implementation. They wanted to be involved from the beginning and throughout the life of the project. It is not unfair to say that at the beginning of Title XII, the larger universities saw their greatest problem as confrontation between themselves and AID/Washington, mainly about jurisdiction.

Indeed there are problems between BIFAD and AID. Some issues are legal ones, deriving from whether a prospective contractor can assist in planning and approving a project and then be awarded the job to implement it. There are also different opinions about program priorities. They are important! But if U.S. universities are going to make their mark in Africa, problems with AID may not be the most important and certainly not the only ones of consequence. There are three other significant points of friction.

One friction point may be between the universities and the U.S. Country Team in the host country. The problem is one of control. How much independence can a university exercise overseas? The remaining two friction points, and the ones to be discussed through the remainder of this paper are: friction with the host African Government and inter-university frictions.

TRANSFERRING RESEARCH TO AFRICA

We can agree, I think, that universities have done an excellent job of agricultural research in the U.S. But how far will they be able to go in Africa? What are the conditions for success? Who will be their institutional counterparts? What about academic freedom, and what about questions of equity for small farmers under research projects in the face of increasing food needs?

I have underlined the phrase, research in Africa, for two reasons. First, the expressed view-point that "science knows no boundaries" is only partly true, at best. We can indeed transfer certain kinds of research results to Africa; vaccines for humans and animals, and techniques in genetics are cases in point, but on a scale of zero to one hundred, not more than 25% of the research results in this country are directly transferable to Africa. No plant or animal breeder would expect it without full adaptation. Soil characteristics, weather patterns disease and insects, land tenure, sources of farm power, in fact, most aspects of African farming are so different that very little research is directly transferable. Rule one, then, is that the universities' front line research must be in Africa, not in the U.S. and linked into that Burcoum--no private enterprise and no overhead.

A second reason why the U.S. university must establish a presence in Africa is the difficulty of the job. It was mentioned that during the colonial era in Africa, food crops were neglected in favor of cash-export crops. When independence came, the handful of Europeans engaged in food research abandoned the effort. In most research situations, universities will find only outdated and non functional equipment, deficient manpower, lack of organization, and lack of continuity. Rule two, therefore, is that not only must universities conduct most of their research in Africa, they must do it under extreme handicaps.

Because of the many problems, commitment and consistent support from the host government and AID are absolute necessities. In almost every African country, the Ministry of Agriculture is responsible for agricutural research. The key institution is a "national research station" and, if fortunate, the country may have sub-stations to conduct field trials. Nowhere in Africa has the responsibility for agricultural extension. As agricultural research is presently organized, U.S. universities may have to function within, and find a meaningful role under, the local Ministry of Agriculture. Thus, if because of Title XII legislation U.S. universities rush to assist national universities in Africa, they may simultaneously isolate their researchers from the mainstream of agricultural development, including research.

Rather than work under a government Ministry or a local university, the government may be enticed to create a semi-independent parastatal research body to manage research. Such a body could have its own charter, board and managing director. This arrangement would relieve the Ministry of Agriculture from day-to-day administrative responsibilities while adhering to a structure already common, especially in former British colonies.

But whether agricultural research is channeled through the government, through local universities or through a parastatal body, the U.S. university should engage in research that has regional possibilities and avoid duplication among African countries. The research problem in Africa is a tremendous problem that will require far more resources and more commitment and determination than we and the African countries have given so far.

THE 1890 UNIVERSITIES

Another problem under Title XII is inter-university relations. Universities as a group are not a uniform and harmonious body. They are competitive among themselves, putting the small and poor institutions to a decided disadvantage. By comparison, the 1890 institutions are both small and poor. They cannot undertake a large research contract or even a study on farming systems that imply a multi-discipline approach. Unless there is acute vigilance, the 1890 institutions can easily be left outside looking in.

It should be recalled, however, that a small increase in food production in the countryside would feed the relatively few people in African cities. We badly need a few simple improvements among small farmers and we believe that 1890 universities can provide them. The first topic to address is: what can be found among the small farmers' available resources to increase their production and income? The following questions come to mind:

--What is needed to make better use of plant residue?
--Couldn't better use be made of animal waste?
--Why couldn't small stream and pond irrigation be expanded?
--Why not concentrate more on drought tolerant crops and crops that require simple management?
--Could better storage facilities be designed?
--Have we looked sufficiently at animal traction?
--Couldn't farmers' tools be improved?

With careful planning, 1890 universities could undertake research activities on such as these. It may also be possible for several 1890 universities to combine question resources among themselves or alternatively form a small consortium with 1862 universities in the same state, as LSU and Southern have done.

I conclude with the remark that there is indeed a place for U.S. universities in the transfer of research to developing countries in Africa. However, it will be most difficult. It must be done by posting scientists in Africa, and it must have the full support of the host country and AID. A meaningful role for 1890 universities is even more complex but can be found among the many improved practices African farmers will have to make in order to increase food production.

AGRICULTURAL RESEARCH, PROBLEMS OF TECHNOLOGY TRANSFER

Donald S. Ferguson

It is a fact that levels of productivity as measured by yields per unit area or per agricultural worker are highly variable between areas within countries. Similarly, the differences in rate of adoption of new technology and rate of growth in agricultural sector production are far from uniform between areas and countries. In this brief paper, I would like to examine some of the reasons for these differences, and from this examination, to identify major constraints to technology transfer, and to identify priority subjects for scientific research with a focus on the needs of small farm production units.

Perhaps the most important reason for variable yields are the significant differences in the productive potential of the land resources between areas and between farms. For example, soils differ in their natural fertility, structure, drainage, slope, and physical obstructions. In addition to soil characteristics, climactic factors such as rainfall, rainfall distribution, and reliability, influence the mix of crops which it is feasible to cultivate. Farms differ as to the availability of water for supplemental irrigation, sources of farm power, and the size of the farm business. These and other similar factors affect production and income opportunities.

Second, areas differ significantly as to the underlying knowledge base related to the farming system. The knowledge base includes basic scientific knowledge, the knowledge of alternatives held by farm managers, the stock of methods and technology being advocated by agents of change in the public and private sectors.

Third, areas differ in the state of human resource development. There are differences in the level of formal education in the rural population and agents of change. Also, there are marked differences between groups and individuals within groups in the receptivity to new innovations.

Fourth, areas differ in the social, political, and institutional factors which influence the feasibility of choosing alternative production possibilities where physical and natural resources can be shown to be similar. The socioeconomic and political systems determine access to and availability of inputs and markets, and determine public policy, price levels and incentives more generally.

In examining a given area or community, three alternative hypotheses are possible concerning the prospects of improving agricultural productivity.

Hypothesis A: There is a technology gap between the practices adopted and applied on production units and "improved" methods which, if adopted, would increase production and income.

Hypothesis B: No gap exists in that there are no known "packages of practices" which would significantly improve production and income available for the given region and production units.

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Hypothesis C There is a gap but the constraints are related to the quality of the human resource base, the characteristics of the social and institutional systems, and the incentives and disincentives to change.

It is obvious that there are a few pure cases of the above hypotheses. However, if it can be determined that a gap exists, then the focus of development strategy can be directed toward: defining and describing the "package of practices"; education and basic literacy programs; the development of basic infrastructure (roads, market places); modification of public policy; and in adjustments in systems which determine the access to inputs.

If no gap exists or the gap is insufficient to provide necessary incentives then two possibilities for action programs are suggested. First the historical evidence is clear that basic and applied agronomic research has provided the engine of agricultural sector growth largely responsible for the dramatic improvements in world agricultural production. In the tropical regions, the success of the "green revolution" is a well documented case in point. If agricultural production continues to expand at rates equal to or greater than population growth rates, then continued agronomic research is an absolute priority.

However, not all regions or farmers have benefitted equally from this new technology base for some of the reasons identified earlier. In the recent past, the international research network has been emphasized at the expense of national and regional research stations. There is an emerging consensus that the immediate priority is to strengthen national programs of adaptive research so that technology appropriate for small farms can be identified more quickly and disseminated to them.

It should be noted that in many instances, technological improvements cannot solve productivity and income problems. This is the case in many situations such as those noted above, where poor natural resource endowment may preclude improvement or make improvements difficult or costly. The least advantaged rural families often farm on steep slopes, in arid zones, or on soils with other severe physical limitations. Further, in order to expand total production rapidly, more low income countries may have no choice but to place emphasis on zones and situations with the highest production potential and rural incomes in the interest of meeting production goals. Thus, the only solution to the problems of the poorest may lie in creating alternative employment or immigration policies and programs for zones where the least economically advantaged persons reside.

GUIDELINES FOR FUTURE PROGRAMS/PROJECT SELECTION

I would like to propose to the Conference three guidelines which should be used to guide the selection of USAID supported food and nutrition projects and programs.

First, the level of financial resources available to finance development assistance from U.S. sources is not likely to expand and may continue to decline in real terms. This is a pessimistic assumption but reflects the realities of the present balance of payment difficulties of the U.S. and the lack of a political constituency favorable to foreign assistance. Programs which cannot be shown to have a direct impact on agricultural productivity should be avoided.

Second, the American community has the resources and possesses a "comparative advantage" in the planning and implementation of basic and applied agronomic and social science research and related teaching and extension systems. This comparative advantage was recognized in the Foreign Assistance Act of 1977, in provisions contained under Title XII of that Act. Further, the American public and Congress are generally more supportive of programs directed toward meeting the food and nutrition needs of low income countries than they are of development assistance more generally.

Third, concessional food sales and grants under PL 480 of the Foreign Assistance Act are roughly equal to funds expended for development assistance, totaling over two billion dollars in recent years. As we can no longer anticipate continued food grain surpluses in excess of that which can be marketed at fair prices for hard currencies, it is in the best interest of U.S. foreign policies and domestic interests to assist countries to become independent of the need for concessional food sales.

RESEARCH AND DEVELOPMENT ASSISTANCE PRIORITIES

Following from the need of most developing countries to improve the productivity of the agricultural sector, expand food and fiber production, and to greatly improve the management and use of natural resources, a listing of priority topics for research and development programs is outlined below. They are, for the most part, subjects which could be undertaken by the American universities, Government Departments, and the private sector in support of expanding world food and fiber production. The listing is not all inclusive but is, I believe, representative of priorities held by thoughtful specialists from a variety of disciplines. Social science and training priorities are not listed as these are enumerated by other speakers at this conference.

1. "Intensive" farming systems which make the best use of limited land, water, and energy sources:

   a) crop combinations/sequence
   b) fertilization rates/methods
   c) varietal selection, planting rates in monoculture and mixed cropping systems
   d) varieties/crop combinations to improve nutritional standards
   e) cropping systems which minimize the need for chemical weed, disease, and pest control
   f) integrated systems which include both crop and livestock enterprises.

2. Natural resource conservation and management:

   a) low cost structures and/or plant materials for use on farms and groups of farms sharing the same drainage system
   b) identification and programs for the management of commercially owned lands and natural resources
   c) planning and implementation of "larger" watershed and river basin system to improve watershed management, irrigation and drainage districts.

3. Animal and crop disease and pest control methods and delivery systems:

   a) crop rotations
   b) pesticides, herbicides
   c) vaccinations/immunizations
   d) systems/methods to control shistosomiasis, trypanosomiasis, and onchocercosis
   e) storage systems and technology to reduce post harvest food losses.

4. Energy/Fuel/Forestry:

   a) bioresource substitutes for fossil fuels
   b) appropriate equipment/sources farm energy
   c) wood as fuel and building material; trees as a conservative measure.

In conclusion, significant differences may be observed between sites with similar physical resources in levels of farm and farm family, both within countries and between countries. Several reasons as to why these observed differences occur have been identified. Where gaps exist between actual and potential productivity and incomes, then development strategy should focus upon closing the gaps. However, many rural families are found on sites with a low productive potential and where technology packages for farmers to adopt are non-existent. Thus, the only solution to the problems of the poorest rural residents may be in creating alternative employment outside of agriculture and by encouraging families to emigrate to localities with greater productive potential and employment opportunities.

SOLAR TECHNOLOGY AND WOMEN'S WORK

Grace S. Hemmings-Gapihan

Everyone agrees on the importance of solar energy systems to agricultural and rural development, especially in Sahelian countries, where there are few natural energy resources. To date, wood is the main fuel utilized by the majority of the population and in this drought-ridden land, deforestation is a growing problem. Water and grain processing are two of the main tasks incumbent upon women of the area and rising petroleum energy costs have reduced the impact of what labor-saving technology is available today. Clearly, an inexpensive source of energy is essential if the residents of the area are to have access to labor-saving devices. This paper considers the potential impact of a proposed solar energy installation upon the inhabitants of a rural area in Upper Volta.

In 1978 I conducted a baseline socio-economic study in the village of Tangaye, Upper Volta, prior to the installation of a solar unit. This unit, the first of its kind in Upper Volta, is designed to furnish power for a grain mill and a water pump. Research focused on the three issues related to the proposed technological change: 1) the need for alternative, inexpensive sources of energy; 2) the need for labor-saving devices, particularly for women; 3) the means of integrating a highly complex technology into village society. The third issue was the most significant, for I was to identify and perhaps activate, the structures within the village that might administer the solar unit in such a way as to distribute the services equitably and permanently, as well as to provide adequate maintenance. The present tense used throughout refers to the period of the study.

THE COMMUNITY OF TANGAYE

The village of Tangaye was chosen as the site of this pilot project for many reasons: among them, accessibility. Tangaye is located on a major road linking Ouagadougou, the capital of Upper Volta, to Fada N'Gourma, a semi-urban administrative center. Since most of the technical monitoring of the unit originates from Ouagadougou, ease of access was an important consideration in the selection of a site.

A large village of approximately 2,000 inhabitants, Tangaye is located in a high population density rural zone in the eastern region. There are at least 40 inhabitants per square kilometer. Residents refer to themselves as the Zaose and are genealogically linked to the Mossi people. According to their accounts, the villagers are sedentarized pastoralists and now combine subsistence agriculture with animal husbandry.

Farming is the principal activity, and major changes have occurred in the local farming system during the past thirty years as colonization effectively integrated the villages into the cash economy. This integration has also brought about major changes in the family labor force. With younger males

absent and men devoting more time to cash crops, women must reallocate their time to spend more time in the fields which produce the family's food The Sudanic Zone is characterized by two distinct seasons. These are, roughly speaking, a dry season lasting from November to May and a rainy season from June to October.

Soils are prepared in late April and May; seed is planted in June and July; the harvest extends from late September through December. During the rainy season farming is practiced to the exclusion of all other activities. Farmers cultivate the staples, millet and sorghum. Small quantities of corn, rice and peanuts are grown in addition to a variety of other products.

Activities during the dry season vary. High population density and poor soil conditions contribute to inadequate food supplies. Since the villagers do not produce the necessary quantity of food to sustain themselves for the entire year, dry season activities are crucial. Villagers must earn money during this season to supplement their meager food supply. They do this by engaging in all forms of small scale business ventures. These include migrant labour, production and sale of crafts, and marketing processed foods. Thus, food processing and water consumption are at their height in the dry season. It became quite clear that this was the season in which low-cost labor-saving devices such as those promised by the solar unit would be most useful.

Diesel-powered grain mills constitute the major labor -saving technology available in the area. Thus, the world market impact upon the area and its people has been immediate and direct, since oil must be imported at rising costs. This increase is reflected in the rising costs of milling services, since fuel accounts for 50 to 60 percent of mill operating costs. The rate increase means that significantly fewer people can afford to use the mills. A vivid example of this is provided by the case of a milling establishment in the vicinity of Tangaye. When the cost of fuel rose 33% three years ago, the miller raised his fees 25 percent: five francs, CFA, equivalent to two American cents. As a result, the miller lost so many customers that he reduced the number of operating days to two, opening only on market days, rather than every day, as in the past.

The limited monetary resources of the people limits the extent to which they may utilize available labor-saving devices, particularly in light of rising fuel costs. Interviews and observations at commercial mills revealed the degree to which the population relied on the services of the mill, two of which existed in the vicinity of Tangaye. In a village-wide survey it was reported that almost all families had used commercial mills at one time or another, although many had done so infrequently. Approximately 61% of the visits were made after 1975. This was so despite the fact that mills had been in the vicinity since 1968. The majority of these visits (55 percent) were made during the rainy season. It was stated that large quantities of millet (more than 8 liters) were usually ground on these visits, mainly by professional market vendors working in the town where the mill and market are located. The majority of the residents of Tangaye availed themselves of the services of the mill only on special occasions.

Daily observations made at mill sites in 1978, revealed that more than 90% of the customers utilizing the mill are women, for the most part residents of the village in which the mill was housed, who bring small quantities of grain to be used in the evening meal. The services of the mill are still in great demand, even for women who do not market as regularly as vendors, although their access to the mills is limited by their lack of cash.

LABOR SAVING DEVICES FOR WOMEN AND HERDERS

The solar unit consists of two components: a solar cell array designed to transform solar energy into electricity and a battery designed to store electricity. This photovoltaic system, as it is called, supplies the electric energy necessary to power a food grinding mill and a water pump. The mill has a maximum capacity of 92 kilograms of sorghum per hour. Millet and maize may also be ground, though at a reduced hourly capacity. The pump is able to pump 1,457 liters of water per hour. One of the most significant attributes of the solar unit is that it has a battery that stores energy. Although there are other solar energy units in Upper Volta, this system is unique in the country.

The two segments of the population expected to be most directly affected by the services provided by the solar unit are women and herders. Women are primarily responsible for furnishing the drinking and cooking water used in their homes. They are also responsible for processing grain for the preparation of all the food consumed in the village.

One of the questions that I set out to ascertain was the degree to which the pump and grinder would be a labor saving device. Exactly how much labor and how much time was involved? To do this, it was necessary to measure as accurately as possible the time consumed in food processing and water procuring activities. This segment of the study was divided in two sections: food processing activities among women and water procuring activities among men and women. In addition, an estimate of daily food and water consumption was made, thus establishing the extent to which the services of the solar unit would meet demands in the village.

FOOD PROCESSING

It was established that diet, food preparation and level of consumption, varied significantly from dry season to farming season. Time constraints and available food resources showed marked seasonal variations. The dry season is the social season, since it is the season immediately following the harvest and a larger variety of food is available in greater quantities than in any other period of the year. At this time, food preparation for feasts, and especially for market, takes on added importance. Grain must be ground for brewing beer and baking cakes. During the dry season, women spend at least 60 percent of their work day processing food and fetching water. In the dry season, the women's workday is shorter than in the rainy season.

In the rainy season, women must devote the greater part of their longer working day to farming. Marketing diminishes. The frequency of food consumption increased with the expenditure of energy required for farm labour. During this season, food is prepared twice daily. The burden of labor increased twofold for women at this time. They must cultivate as well as prepare meals twice as often. When they can, women employ labor saving strategies. For example, they reduce their cooking time by altering various aspects of their customary food processing methods. This includes occasionally cooking whole grains rather than making flour, and grinding to a coarser grind rather than a fine flour. To illustrate, a kilo of red sorghum may take anywhere from 20 minutes to one and a half hours to grind, depending on the quality of flour desired. Thus women may save up to an hour of grinding time if they are willing to serve coarsely ground flour. Such labour saving shortcuts, coupled with the greater availability of water in the rainy season, reduce the time women devote to processing food and obtaining water. In absolute terms, women diminished their cooking time by an average of one hour and the time spent in search of water by one hour and ten minutes.

It was established therefore, that the mill would be a great help to women in the dry season when the volume of food processing was at its height. Women had already found ways to diminish the time spent in food processing during the rainy season. Therefore, the presence of a mill might affect the quality of the food consumed rather than contribute to any great degree to the time saved in actual processing, especially when one considers the time spent to reach the mill, waiting to be served and so on.

WATER USE

The patterns of village water use also display marked variations. People depended entirely on wells for their water supply during the dry season. During the rainy season, however, the wells are almost never used. The population relies on seasonal sources of water provided by the often torrential rains. The earth in this area is not very absorbent and water slides off the soil and settles in depressions in the earth, forming pools. These pools are often more conveniently located than are the wells. In addition, the people prefer "white water," that is, water laden with a chalky deposit. In view of these consideration, it may be expected that for some time people will continue to use rainy season pools despite the availability of pumped well water.

The water pump will have its greatest use and significance in the dry season when water is scarce and people must drink, bathe, cook, wash their clothes, and water cattles from diminishing sources of water. In the dry season, the pools and many wells dry out, rendering the population dependent on the few remaining sources, and obliging women to travel long distances in search of water. This is a time of numerous conflicts over the use of water sites, particularly between women and herders. Herders, who are often the proprietors of the wells, forbid village women the use of the wells at certain times of day when they must water their cattle. Consequently, many women must go out very early in the morning, before sunrise, for a total of approximately 14 kilometers, in order to obtain enough water to meet daily needs. They averaged ten trips per day to the water sites during the dry season, while transporting

the heavy containers of water on their heads. Herders, on the other hand, are able to lead their animals to the wells.

According to the project design, the solar unit provides one pump, located on one of the major wells of the villages. Although the pump relieves the effort of drawing water from the well, it is quite limited as a labour saving device for women. Clearly, the pump will be much more attractive to herders. The main burden in this case is the necessity to draw large quantities of water. Women, however, must transport water over long distances. Thus, their main effort is in the transportation. I would venture to say that, given a choice, women will utilize the nearest source of water rather than the pump. Herders, however, will undoubtedly walk their animals over great distances in order to utilize the pump, thus saving themselves the effort of drawing water. This arrangement may nevertheless present an advantage to women, for once the herders are drawn to the pump, the wells closest to the village will be accessible to women throughout the day, due to reduced competion from the herders.

MANAGEMENT OF THE SOLAR UNIT

Technical aspects of the functioning of the mill are by no means the most important considerations. Most important is the integration of such a system in the recipient society. There are numerous examples of useful technology either being abandoned by the local population or giving rise to social abuses.

It seems to me to be out of the question to expect government agencies in Upper Volta, a country poor in administrative resources, to be solely responsible for the management of the mill and pump. Indeed, if the project is to be extended to other areas, it is imperative that the management of the mill be local. My purpose in designing the management plan was threefold: (1) to stimulate personal interest on the part of the villagers in the management of the mill; (2) to make the services of the mill accessible and beneficial to all segments of the population; and (3) to minimize the possible social abuses in the distribution of the services.

We are dealing with a complex and delicate issue requiring sensitive handling and striking at the very foundations of common procedure at the inception of development projects. I began by investigating traditional means used to manage public works within the village, beginning with the traditional political system, to see if this might offer a practical solution. In the past, the chief had the authority to tax his subjects and use tax revenues to manage public works such as public resources. He could also invest certain individuals with the power to administer public resources. However, since the advent of colonialism, the village chief has been divested of administrative and tax powers. His present resources are all personal rather than public. Thus, if the chief were to be allocated responsibility for the mill, such an arrangement would probably lead to enrichment of a minor segment of the population rather than to wide social benefits.

Another solution is to open the management to all segments of the village population, many of whom show great talent as entrepreneurs. All businesses, whether water resources or milling enterprises, are at present, privately owned despite the fact that use of the services is open to the community at large. If the villagers are to apply their management skills to the solar unit, the delicate issue of private management of public property is raised. I devised a system which the villagers would be able to invest in the mill and share in the profits from the services provided. The idea of not charging for the services of the mill was dismissed because of potential conflict and monopolization of resources by a certain segment of the population. In addition, if the services were free, it would be impossible to equalize access to the mill without excessive policing. Hence, a reasonable price for the services was to be charged.

Before the solar energy powered mill is installed, it is necessary to inform the villagers of the implications of locating such a system in the village. They should then be asked if, given the risks, they would want it to be installed. The villagers would then make a decision, based on shared knowledge of the mill's expected impact and the associated responsibilities, costs and benefits. Should a substantial number of villagers decide in favor of the installation of the mill, investment should be open to all villagers, but none should be coerced to invest. Only those who want to participate should do so. Those who have doubts should have the option to see if the system works before committing themselves to an investment.

Participating villagers should make all decisions relating to the organization of labor, the distribution of profits and so on. Essential arrangements must be made for maintenance and repair work on the mill. Permanent members of the village, particularly those most concerned by the services offered, women and herders, should be trained in the proper maintenance and reparation of the mill and pump. Those willing to invest in the mill by providing services and the money for the operating costs would have a part of the monthly profit. Another portion of the monthly profit should be put aside for future investments in development projects within the village that the villagers themselves would decide upon. In this way, private investors and the entire community may benefit from the profits gained from the milling enterprise.

In order for this system to work, it is absolutely necessary to have input from the population. This requires an intensive information program permitting villagers to criticize the system, detect possible flaws, suggest improvements, or even propose other management plans better suited to their needs. Alienation, resulting both from the inability to understand the technology on which they are depending, and from the lack of personal investment in the project, must be avoided at all costs. Too often, development efforts of this nature fail because of insensitivity to crucial elements of societal structures available for the integration of new technology in village society. Project designs fail to take into consideration the needs of the population, their resources, and their often excellent suggestions. The knowledge that the recipients are more conscious of their needs, more capable of suggesting adequate solutions than most expatriates or government officials generally divorced from the setting for which they are expected to design development projects, is crucial to the success of any project design.

THE DIAGNOSTIC ANALYSIS OF THE RURAL POOR IN AFRICA

John Van D. Lewis

My title is taken from the title of one of the more "sociological" tasks incumbent upon USAID country missions as part of their annual preparation of a Country Development Statement (CDSS): the analysis of the rural poor of that country. There is nothing in the CDSS preparation guidelines to suggest that this task is exclusively "sociological." Yet since it is a somewhat vague task, it has come to be considered by many missions, as a primarily "sociological" one. This association reflects an underlying confusion about the status of social science in project design. My purpose is to discuss, through examples, the reasons why social scientists themselves are in part to blame for this confusion.

The assumption of most social scientists working with AID is that agency planners who do not know why social science is needed in project planning are either ignorant or covertly committed to a development scenario that does not feature social benefits and economic equity for AID's target population, the rural poor. This assumption is for the most part borne out. Unfortunately, the new requirements for social soundness analysis, which exposed the planners to social scientists in at least one phase of their project development procedures, has not made them less ignorant of nor less committed to top-down planning. In fact it appears that in some cases, planners' expectations from social analysis were higher when it was first required by the new Congressional mandate in 1973 than they are now.

There are several institutional and methodological explanations for this missed opportunity. The methodological explanations are the focus of this presentation. The institutional explanations are more easily covered: to wit, social analysts are hired and chosen by non-social scientists. The only requirement is that they have a degree, preferably a graduate, in a social science---this may include folkore and linguistics (but not, apparently, economic history) from an accredited institution. This is not to say that these non-social scientist employers always seek yes-person social scientists. But the trend has been, in the absence of any substantive contribution from the first few hired, to settle for a yes-person who will at least advertise the product.

Why is a substantive contribution so rarely made? It is not so much to be blamed on those project planners who do not really want a substantive contribution. They are required to include the social analysis in their project documents. These do get rewritten, but such is the nature of bureaucratic rivalries that the social scientist can send his or her original analysis to a champion on his or her cause if the argument is sufficiently comprehensible. Social science jargon is the villain I wish to attack here. Social science may be neutralized, to a considerable extent, in the project design process by social scientists themselves. When impenetrable professional jargon is employed, few project planners, whatever their intentions, can relate what social scientists write to the realities of the job at hand.

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In addition to these institutional problems are methodological difficulties. Anthropology is an eclectic discipline; sociology even more so. Their institutionalization in academia appears to favor this. Whatever the intellectual satisfaction and/or academic aggrandizement facilitated by this diversity, it poses distinct disadvantages for incorporating social and historical sciences into the project planning and implementation process. Unlike the economic analysis of projects, social soundness analysis rarely springs from a uniform method, itself made the subject of analysis and refinement. Project planners do not know what to expect; therefore they do not count on anything. The key planning is done on the basis of technical and economic analyses, at least explicitly. Implictly,of course, an unwritten political analysis is often worked into the planning process. The expectation inevitably becomes that the social analysis should describe the social benefits of what has already been planned on technical and economic grounds. Eventually,as post-1973 habits form, if the social analysis does not conform to the planner's need for positive description of expected impact, an alternative social scientist is sought.

There are two levels to my critique: (1) a standardized methodology for social analysis should be elaborated and applied and (2) it should be the right one--that is to say it should capture the true historical reality of the project situation and present it in the clearest possible terms for the project planners to confront. Regardless of what economists do at universities, applied economists have at least attained the first of these objectives. The calculation of an economic rate of return for a project may not be wholly adequate, but at least the project designer knows that such calculations will be furnished. Innovations in the economics methodology appear to be equally as possible when a rate of return calculation is expected as they are in social analysis when nothing in particular is expected.

AFRICAN EXPERIENCES

Let me work towards these quality control criteria for social analyses of those rural African populations with which I am most familiar, by recounting some of the impressions based upon insufficient knowledge that have been offered as social analyses.

A rice farming project is proposed for the Lower Casamance. The rice farming Jola with their relatively high returns to land and labor are not interested in the new methods. The Manding however, are interested, although it is only Manding women who have historically farmed rice. The social analysis prides itself on exploring the functional correlates of the fact that all Jola grow rice while only Manding women do. The fact that Manding men are brought into rice production is listed as a positive output of the project. Jola are considered to be locked in stagnation by their highly complex inheritance system which divides the rice space up into tiny unimprovable parcels, a system which, incidentally, helps to minimize risk and maximize microecological advantages.

This ethnographic particularization of sexual division of labor adds a false rationalization to the project design. In fact, the project merely subsidizes, through preferential distribution of inputs, the rice production of the more inefficient rice producers in the Lower Casamance--the Manding--to the point at

which they can attain the yields of the Jola. Furthermore, the project brings in government cooperatives that buy both project (Manding) and non-project (Jola) rice at controlled prices. It becomes more difficult for Jola to sell rice as they formerly had done, at the generally higher prices of the open market. As a result of the project's marketing monopoly, Jola incomes go down while Jola production, which remains unimproved by the inputs of the project, in effect subsidizes Manding improvements.

The effects of the project have several ramifications. Eventually, rice production declines in response to the set government prices. Cash is sought through seasonal migrant labor. The Jola are criticized for accelerating the rural exodus which works against the long-term interest of the nation. Since migrant youths respond more favorably to a government-sponsored rice scheme than had their elders, their support is used to detach rice land from the elders, for the constitution of a single project perimeter on which the youths are hired as wage laborers.

The mistaken premise of the social analysis that failed to forestall this process is that the Jola and Manding division of labor and land is a given. A cursory look at the history of the area shows that many of these Manding were once Jola who have either been dislocated by the slave trade or drawn up from the rice bottoms to the plateaux by peanut cropping opportunities. These processes were associated with a simultaneous Mandingization and Islamization of these Jola. Their communities became more economically and socially stratified, with the more powerful families renting more youth group (kafo) labor to expand their peanut hectarage. These were the "dynamic" kulak peasants who gained land and subsidies through the project. It was implied that the Manding were equally poor peasants as were the Jola, when in fact, their economic opportunities were more diversified. They produced less rice overall, exchanged less with their neighbors, but produced more rice for export.

The analysis did not treat the Manding and Jola as separate subclasses of peasants to which different religious and marital, and therefore different linguistic and ethnic, practices adhered. These characteristics were taken as given and not as the outcome of a process of economic evolution. The Manding and Jola were assumed to be static entities; they were conceptualized as independent and equal "tribes." The social analysis perpetuated rather than criticized this static view. As a consequence, the group which occupied a more advantageous market position reaped all the benefits of the project, while the more productive, but also more domestic-oriented group of cultivators, were made to subsidize the advance of others.

A similar situation occurred to the east in Mali, where a misinterpretation of the historical rationality of a so-called ethnic boundary, led a project to favor that sector of the peasantry least in need of its benefits and least interested in the long-term management of the land area. In this middle Niger area, one segment of the population was able to benefit differentially from the project. This segment was composed primarily of entrepreneurial stranger-farmers who possessed the capital and the lack of committment to local corporate groups to be attracted to various rice irrigation schemes. At the same time, due to the pricing structure and land tenure situation, an inordinate amount of the savings of this group was invested in livestock. As stran-

gers who had been resettled for project participation, they had few relations of confidence with local herding populations (usually identified as some kind of Fula). Therefore, they could not risk (as did the more "conservative" farmers outside of the project) entrusting their animals to Fula transhumants. Their herds remained in the area throughout the year.

However, rather than lamenting this forced sedentarization of herds as a threat to the local range environment (which it was, due to its permanent grazing regime), the social analysis cast it in a positive light as an example of an enlighted and dynamic peasantry. In contrast, the attachment of the "conservative" farmers to millet production was considered undynamic even though their aggregate food production was higher than that of the project participants (discounting input subsidies on the latter's production). Furthermore, the refusal of the Fula transhumants to sedentarize was considered most unhelpful. The Fula, being Fula, it is argued, have an unusual attachment to moving and to their animals which they--irrationally—hate to sell.

In fact, when asked, Fula herders will often proudly make such claims about themselves. However, when observed, Fula pastoralists sell stock as a function of price; their transhumant herds and those entrusted to them by the conservative farmers improve more rapidly than do the sedentary herds. Likewise, the transhumant range is less easily damaged. The labor requirements of transhumance are incompatible with those of farming, and vice versa, hence the ethnic division of labor which has developed in the area over centuries is a rational adaptation to the available resource base.

Yet the millenium-old rationality of this symbiosis is not examined and the "mixed farming," or sedentary herding, of the project farmers is encouraged project inputs. Their fields are given right of way over strategic pasture and water points along the transhumance routes. Grazed every year all year, the range resources of this sedentary herd disappear. Then and only then, does the project farmer consider artificial forage production. Once again, the project comes to his support.

Meanwhile, transhumant livestock production declines because key pasture and water points on the stock routes are used too early in the season by the sedentary herds and are eventually used up. Conflicts over these dwindling resources are decided against the transhumant herders who are not included in the project. The social analysis lets this pass, and the range with it. The transhumant pastoralists are described as the most tradition-bound population and therefore, the least responsible for the conservation of a range they have been using for a millenium. The stranger-project farmer is assumed to be more readily educated to manage it properly, although a simple aerial photograph will show quite the opposite.

In summary, the examples sketched here demonstrate that for adequate social impact assessment, the historical rationality of rural occupational and subclass differences must be sought. These differences cannot be described merely as a separate social or cultural given without commercial adaptive reinforcement. In fact, adaptive success can have positive bearing on a modernized production system. Otherwise, that kulak subclass already advantageously linked to the inequitable market structure will remain the sole project beneficiary. If this

process continues, these kulaks will blend less and less easily with the peasantry at large. Then, any social scientist would be obliged to differentiate between subclasses of peasants. But, by then the less market-oriented peasantry will no longer be more productive as they once were. Having lost land resources and market alternatives, more of them will be migrating out of the rural areas and out of the country for their productive lives. A genuine development opportunity will have been forfeited.

CONCLUSION

In conclusion, social analysis requires more than a search for model farmers, more than a questionnaire survey of potential project participants, and more than a commentary on the potential effects of ethnic particularisms on project acceptability. It requires a historical materialist analysis of the class characteristics of target populations, focusing on such questions as:

1. What are the subclass polarizations developing among them?
2. How would which intervention affect that process?
3. How is each type of these peripheral peasantries linked to the national and international dependency systems?
4. What is the form of their resistance to it, if any?

The populations disfavored by the projects I have discussed here were more resistant to dependency relations, which in both of these areas have a long history, than they were economically conservative as such. The projects undermined the basis of that resistance and proletarianized more of them. This brings up the contradiction between AID's rural development mandate from Congress (now increasingly under attack) and the assumption that increasing market involvement will help the rural poor, in the short term.

SECTION IV ANIMAL HEALTH AND LIVESTOCK PRODUCTION SYSTEMS
INTRODUCTION

In the preceding session devoted to the transfer of agricultural technology, Dr. Michael Horowitz observed that interventions which seek to modify African livestock production systems have not had much success. In the main, interventions have been piecemeal and directed within the narrow professional boundaries of western culture, as these have evolved in our universities. There have been feed lots and range improvement schemes, slaughter-houses and milk factories, stock breeding and herd health programs. However, projects based upon an understanding of the ecology of pastoral systems and the complex relationships between herders and farmers have been remarkable by their absence.

While stock-raising under many conditions may represent a "calling" rather than a trade, systematic study reveals that pastoral systems are finely tuned to their environments and often represent the most efficient use that can be made of natural and human resources with the technology available to them. Still, the myths of pastoral irrationality embodied in the "cattle complex"--rendered in French as la manie pastorale-linger among scientists from other disciplines, technicians, political leaders and the general public, including among Africans who are themselves descendants of herding peoples. When a myth is so pervasive in the face of contrary scientific evidence, one is led to suspect that it serves as an ideological justification for policies which benefit some powerful group or groups. This frequently is the case with African pastoralists who, in many areas, have been "developed" out of existence: settled, pauperized, proletarianized, even starved. The paper by Franke and Chasin included in Section II examines the recent Sahelian drought from this perspective. Not only have enclosures of range land restricted traditional usage of pastures; in some countries, herd health and stock improvement programs primarily have resulted in benefits to the larger herd owners, ranchers and farmers. Here again, both technical and social considerations intrude. The general recommendation of the conference, that research, planning and implementation take place with the people directly concerned, is especially pertinent with respect to pastoralists.

Dr. Cleveland Allen, an Animal Production Consultant for the Food and Agriculture Organization (FAO), considers this agency's role in promoting food production and alleviating the poverty of small producers. He describes one project which has as its goal the improvement of milk yields through the upgrading of local stock by cross-breeding them with exotic dairy cattle. Dr. Allen attributes the success of this project, undertaken in the southern highlands of Malawi, to a relationship of confidence established between livestock extension officers and the small farmers, on the basis of research results fed back into the extension

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system. He finds that poor husbandry is the major reason for the failure of improved cattle to survive and produce at high levels in the tropics. In addition, the cool tropical highlands present ecological advantages favorable to the survival of exotic-local crosses far beyond the possibilities of arid and semi-arid or hot and humid tropics. Thus, the use of technical data in a social process of farmer education through the Malawi Milk Recording System was able to succeed because the technical basis of the innovation was sound. As several speakers pointed out, this has not always been the case.

International and national planning agencies have been slow to recognize the differential effects of development projects upon groups variously located in the social structure. Failure of the "trickle down approach" and recent interest in basic needs has occasioned interest in social soundness analysis by anthropologists to predict, or analyze in retrospect, the differential impact of project benefits. Ms. Muneera Salem-Murdock describes the impact of a large-scale capital intensive agricultural project on a rural population in Eastern Sudan. She finds that benefits of the New Halfa Agricultural Scheme have not been evenly distributed. The elite group of wealthy Shukriya pastoralists has gained most, although elite women appear not to have shared fully in the gains. Poor Shukriya, however, have lost their traditional access to grazing land and water as a result of the agricultural development scheme. While they have been allocated permanent plots, many have neither capital nor labor sufficient to fructify their holdings. With both men and women obliged to resort to low-paid wage labor, Ms. Salem-Murdock suggests that in some ways, poorer Shukriya women are becoming more equal to their husbands. Ms. Salem-Murdock joins Sutter and other students of pastoral nomadism in demonstrating the economic and ecological rationality of this adaptive strategy in arid and semi-arid lands. As in the Sahel, so too in East Africa, the sedentarization currently being promoted may decrease the subsistence security and well-being of peoples living in the area, creating poverty.

Mr. John Sutter's theoretical presentation considers the changes in pastoral economics and life-style experienced by herding peoples as they become enmeshed in the world market system by means of cash transactions. While Salem-Murdock focuses upon increasing internal social differentiation resulting from particular measures taken by a development project, Sutter explores the processes underlying this development. He emphasizes the shift from collective to individual mechanisms of social control consequent upon the erosion of the old mode of production. As the herders and cultivators become peasants subject not only to state control and tribute, but to the demands of profit-making system of capital accumulation, the entire social fabric is rent. To their ecological vulnerability is added a new vulnerability to market forces and global economic crisis. One result is the ero-

sion of subsistence security, so that a significant proportion of families can no longer secure their means of livelihood in the area, are forced into poverty and must send out members to seek work abroad.

Dr. Martin Hugh-Jones is a veterinary epidemiologist whose work has taken him to the Sudan. He notes that evaluation of the impact of veterinary services in the Third World has led to reexamination of the bases of herd health practices in both these and industrialized nations. In the past, the major effort has been directed toward providing curative services to individual animals, often in herds of relatively small size. While such practice may continue to be politically expedient in many instances, technically it is not the most cost-effective method of improving livestock health and productivity. Instead it has been found that advanced preventive and promotive services make the greatest impact on the health of the greatest number of animals. In this effort it becomes feasible and necessary to use paraprofessional workers, including both veterinary technicians and "barefoot veterinarians", to improve both technical and social aspects of service delivery. Dr. Hugh-Jones suggests that such a strategy--similar to the primary health care delivery strategy proposed for improving human health--also may be appropriate for adaptation in industrialized nations that currently make intensive use of expensive curative veterinary services.

Introductory remarks for this session on Animal Health and Livestock Production Systems Panel as delivered by Tuskegee Institute's Dr. Edward T. Braye follows:

Let me welcome all of you to this session. This afternoon we will hear our panelists address some key issues which are related to viable livestock production and they will give us the benefit of some of their experiences with programs in the developing countries where they have worked.

I am reminded of a series of statements or Truths propounded by Gautama Buddha nearly 2,500 years ago. They are:

1. There is disease and suffering in the world.
2. There is a cause for this disease and suffering.
3. There is a means of removing the cause.
4. There is the path by which this can be accomplished.

These Truths are just as relevant today as in Buddha's time, particularly as we attempt to address the problems of the third world countries and now, what are being called fourth world countries.

I submit to you that protein malnutrition is a current problem in a number of third and fourth world countries. It is also possible that large segments of the illnesses in these same areas are linked to states of poor nutrition. It is therefore important and urgent that a viable and wholesome livestock industry be developed in such areas in many of the countries alluded. There are perhaps flaws in the full understanding of the System of Livestock Production. Too often, governments conceive of livestock particularly cattle, as beasts who will survive, reproduce and develop without much assistance from man. It is necessary that we fully understand the total picture of the operations (systems) which are necessary for viable production of livestock.

I visited one country in Africa, a few years ago, which had only one veterinarian within its boundaries. What does this do for the health of livestock in the country? Another problem has been seen in the Sahel area in recent years; several hundred thousand head of cattle have perished. Was this totally and completely due to lack of rainfall? Here we have a rather classic example of failures within the system and no single factor is the cause of those losses. Overstocking of livestock was an important precipitating factor. This had been brought about by the success of key vaccination programs, especially against Rinderpest which normally would kill 6-20% of the cattle. With no large increase offtake for markets or by local consumption, the animal numbers grew and grew-- lands were overgrazed and trampled; and with the drought settling in, the top soils were blown away It can be said that the role of the range management scientist was absent from the start in the Sahel.

In some areas, undoubtedly, we should be looking at other species of protein. We might ask, "Will goats or sheep perform better than cattle?" We need to look at labor factors. I am pleased to learn that one of our panel members will address this point as it relates to women. We have found that women perform quite well in the care of goats and swine in our livestock demonstration projects in rural Alabama.

In closing, let us keep in mind that successful livestock production is dependent upon animal scientists, producers, agronomists, extension specialists, range managers, economists, veterinarians, a number of other scientists and the public who ultimately must purchase or locally consume the products.

It is my pleasure to now introduce our panel members; Mr. Cleveland Allen (Food and Agriculture Organization), Ms. Muneera Salem Murdock (State University of New York) Mr. John Sutter (Cornell University) and Dr. Martin E. Hugh-Jones (Louisiana State University

SOME BREEDING AND MANAGEMENT ASPECTS OF CATTLE PRODUCTION ON SMALL FARMS. (FAO PROJECT).

Cleveland J. Allen

Poor countries turn either to bilateral aid agencies or to multilateral aid agencies for aid in developing their agriculture. USAID happens to be the best known example of the former while FAO is the best known example of the latter. Perhaps it is because of this prominence that the two agencies have in common, that in the field people are not always able to distinguish the one from the other. But another reason is that, out there in the field, experts of the two agencies work together. They are partners, not competitors, and rightly so; our aims are identical: increasing world food supplies and alleviating poverty and suffering.

FAO: RAISING THE QUALITY OF LIFE OF RURAL PEOPLE

The FAO was created in 1945 following World War II, with the mission to promote research, improve education and provide technical assistance to governments in all aspects of agricultural production, marketing, distribution and credit. During the first decade of its life, the organization concentrated efforts on formulating strategies for tackling world agricultural problems; then between 1955 and 1960 it turned to putting together know-how that could be used. Since 1960 there has been considerable expansion of FAO's role in assisting the emerging nations which became members of the United Nations. With this vast new constituency of poor countries of Africa, Pacific and Caribbean, raising the level of living and quality of life of rural people became FAO's great preoccupation.

PRODUCTION PROBLEMS OF TROPICAL AREAS

Practically all of the organization's constituency of poor countries lie between latitudes 30 N and 30 S of the equator. Although this region contains half of the world's potentially arable land, it produces only one-third of the world's total production of cereals. It is a region of critical food shortages where malnutrition is widespread and people die from starvation every day. As far as cattle are concerned, the region has more than half the world's 1200 million head, yet extraction rate is less than 7% compared to 30-35% in the temperate areas. The average milk production and growth rate of the region's cattle is some 10 to 20% of what is considered acceptable in temperate areas.

The unfavorable physical environment is one reason for the deficiencies. In the region prevailing temperate, relative humidity and levels of solar radiation are above the range for optimum efficiency of cattle performance - ideal being a temperature of 13 -18 C, relative humidity of 60-70%, wind velocity of 5-8 kmh and solar radiation of medium level.

In addition to unfavorable physical environment there is such as ignorance. It is a region where cattle numbers are not regulated to available feed supplies, where selective breeding is not usually done and quite often, where cultural practices are a major obstacle to change. For example, in India herds

cannot be reduced. There are religious reasons for this, but in addition, if herds were to be reduced there would be less cow dung (the source of household fuel) and fewer revenues from the sale of cow dung cakes to urban areas.

ECONOMIC IMPROVEMENT OF RURAL PEOPLE

The organization continues to pursue research aimed at finding solutions to these problems. In this paper it is on the single practical end result being sought that I wish to focus. And in this connection I would like to mention a project in Malawi. FAO began assisting that country in an overall livestock development project in July, 1969. (The project was terminated in December, 1979). In the sector of dairying, work was started in the southern region (a 30 mile radius of the city of Blantyre.) The milk producers found 800 extractors of milk for their unproductive, indigenous cattle. This was used entirely for home consumption, not for sale. (The urban center of Blantyre got 10% of its milk from a few large dairy estates, on the outskirts of the city, which were owned by Europeans, and 90% from imported milk powder and condensed milk. Dairy products such as butter and cheese were all imported).

The project's plan of operation called for placing productive cattle in the hands of subsistence farmers, whose agricultural experience was limited to cultivating their small holdings in corn (the staple item of food), and herding their indigenous cattle. They were now to produce milk to be sold to a milk plant which was part of the package being laid down.

It was impossible to find productive cattle in the local stock. There was, therefore, no option but to turn to imported cattle. But the strategy used was not to be mass importation of live animals, which had miscarried in so many tropical countries. Holstein bulls and semen were imported and local Malawi zebu cows were bred which gave rise to 1/2 Holsteins. Selected farmers were given intensive training in dairy husbandry for a two-week period, loaned funds for setting themselves up in a small scale dairying operation and given advisory assistance by extension officers, who themselves were given intensive in-service training. Assistance in the project was given in the area of breeding. The breeding plans called for continuous upgrading; thus starting with 1/2 Holstein, the next generation was 3/4 Holstein, the next 5/8 Holstein, then 7/8 all the way up. Simultaneously, the level of management was raised and also the plane of nutrition. A Milk Recording Service introduced at this time, and which has now grown into a National Service, proved of immense help in getting farmers to practice the kind of husbandry desired. It is a modified DHIA service, differing in minor respects from DHIA here. For example, butter fat testing is not done -- quantity of milk at this stage being far more important than quality. Also the great emphasis is on using Milk Recording as a teaching device, and as such, recording is not done by full time recorders as is the case here, but by Livestock Extension Officers. This makes it possible for them to keep in close touch with day to day happenings on individual farms and ensure that husbandry jobs are done as and when necessary.

From the information compiled and analyzed each month, the Central Registry sends back to field (mainly to the Extension Officers) not only completed and cumulative lactations, but also advisory information such as when individual cows should be bred, watched for estrous repeats, dried off, etc. It was found

that with this kind of ammunition teaching was both meaningful and effective.

SIGNIFICANT RESULTS

A major achievement of this FAO 10-year Livestock Development project in Malawi is the movement of thousands of people from subsistence farming into the orbit of commercial farming. People to whom a cash economy was foreign at the start of the project profited from dairying and used their earnings to improve their lot. Another significant result of the project is the decision taken by the local government to develop the project input of Milk Recording into a national service. Milk Recording is now an integral part of the duties of Livestock Extension Officers assigned in areas of Malawi where dairying is encouraged.

As indicated previously, the novel approach of having recording done by Livestock Extension Officers made possible a contract between Extension Officers and farmers the product of which was the practice of good husbandry, routinely. Without this, it is unlikely that newcomers to dairying would have succeeded with the genetically-superior cattle they used. For it is well known that poor husbandry is the main reason why improved cattle fail to survive and perform well in the topics. Accordingly, FAO now recommends that "Malawi-Milk-Recording" system to countries embarking on the development of dairying and using temperate zone cattle, especially countiees where educational levels of rural people are low.

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IMPACT OF AGRICULTURAL DEVELOPMENT ON A PASTORAL SOCIETY: THE SHUKRIYA OF THE EASTERN SUDAN*

Muneera Salem-Murdock

In 1959, a new agreement on water use amending that of 1929 was signed between Egypt and the Sudan. Under the terms of the new agreement, which provided for construction of the Aswan High Dam in Egypt, and the consequent flooding of the Wadi Halfa region, the Sudan's offtake of Nile waters was increased from 4 x 10 cubic meters to 18.5 x 10 m^3. With Egyptian financial help, the Sudanese drew on this new resource by damming the highly seasonal Atbara River, a Nile tributary, and establishing the New Halfa Agricultural Scheme. The lands brought under cultivation were planted in cotton and groundnuts to increase export earnings, and in wheat and sugar to decrease dependence on imports.

As a consequence of the flooding of Wadi Halfa, some 50,000 Sudanese, most of whom were Nubians, were forcibly moved, and the New Halfa Scheme was envisaged as providing for their resettlement. Yet, as is so often the case where people are forced to relocate, the land chosen for their settlement was not without prior claimants. The western banks of the Atbara River constituted part of the traditional grazing lands of the Shukriya, an Arabic-speaking tribe of pastoral herdsmen numbering between 300,000 and 500,000 people.

Given the prevailing development ideology of the times, which viewed the sedentarization of "nomads" as a progressive act, and the obvious need to provide some compensation to people deprived of their dry season pasture, incorporation of the Shukriya and neighbouring Arab pastoralists in the Scheme was a "natural" event. As we shall see, the State showed little awareness of the internal differentiation and stratification of these herdsmen, with the result that the benefits of this modernized agricultural activity were not equally distributed among all participants.

From 1964, when it was inaugurated, to 1969, the Scheme went through five phases. During these phases a total of 460,000 feddans were brought under irrigation. Of these, 33,000 feddans were reserved for a state-owned sugar plantation, and the remaining 427,000 feddans were divided into about 28,500 tenancies of 15 feddans each. These were distributed more-or-less in thirds to Shukriya, other pastoral groups, and the displaced Halfawis.

During the 15 years of its operation, the Scheme has never achieved its production goals. The Halfa Agricultural Production Corporation, the parastatal organization which manages the Scheme, admits partial responsibility for the failure to reach targeted yields: there are repeated shortages of vehicles and fuel; both insect pests and weeds invade the fields and require tremendous labor and financial efforts to remove them; required inputs of seeds, fertilizers, and pesticides rarely arrive in a timely manner, and the poor storage facilities cause deterioration and losses; the distribution of irrigation waters is frequently misapplied, causing the waterlogging of some fields and the desiccation of others. Despite their assumption of some responsiblity for these instances of poor management, the Corporation considers the tenants themselves, the prime cause of low yields. In its view, neither the Halfawis nor the Shukriya and

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other Arab pastoralists have proved to be ideal tenants. The former are considered more attracted to wage labor than to farming; and the pastoralists are even less committed to sedentary life where that means a reduced ability to care properly for their animals. To the Scheme managers, the attachment of the herdsmen to their flocks is irrational:

> the nomadic nature of the Arab, always going after his animals, has led his non-sedentarizing (on the Scheme), his non-commitment to agricultural work, and his absenteeism (from the tenancy) at peak times (when labor is most needed) such as sowing. This has caused the appearance of the phenomenon of the negligent tenant and the unproductive hawashat, 'tenancies,' in Arab area (APC 1978:8, translated from the Arabic by MSM).

The bad press which pastoral herdsmen receive from governments and development agencies is well-known, and the Corporation is here merely echoing sentiments that have appeared, in one form or another, for many years.

The peoples of the region are not homogenous, but are segmented by ethnicity, by social class and wealth, and sex, and these segments have responded differently to the conditions of the Scheme. Since only three months were allocated to the study, I decided to focus primarily on the "host" population, the Shukriya, leaving "guest" Halfawis for secondary consideration. Host and guest are placed in quotation marks, as neither group welcomed the situation: the Halfawis resettled with great reluctance, forced out of their Wadi Halfa homelands by the rising waters of Lake Nasser; and the Shukriya viewed with resentment the advantages accorded these strangers on, what they felt to be, their own lands.

DISTRIBUTION OF BENEFITS

The Shukriya elite, particularly those lineages associated with the traditional rulers, seem to have garnered much profit from their involvement with the Scheme, and the gap between them and the poorer members of the group has in fact greatly widened in consequence. Members of the elite have been able to accumulate tenancies, and have thereby been able to maintain and even expand their livestock holdings by having access to Scheme lands after the harvest for dry season grazing. Thus, while the Scheme has contracted grazing lands available to the Shukriya in general, by removing from public access the rich lands along the west bank of the Atbara, owners of aggregated tenancies bring their animals on the land after the Butana open pastures are exhausted with the progression of the dry season. The large size of these holdings requires labor beyond that which the household can mobilize from its own resources, but the elites have been able to hire labor, especially from among those too poor to have any tenancy at all, or whose tenancies are too small to occupy them continuously throughout the growing season. Yields are higher on those holdings in which there is sufficient labor, and the profits are invested in animals and in transportation. While persons without access to good dry season grazing often have to sell off animals at disadvantageous prices, the wealthy pasture them on the cropped stubble on their irrigated fields, and can schedule livestock sales at such times as prices are more attractive. Investing in lorries for the transport of people, animals, and goods has also proved beneficial to those able to do it.

While elite Shukriya men appear to have profited from their involvement in the Scheme, it is less clear that the Scheme has produced any economic change for women. Elite women traditionally were severely restricted in their public activities, under tremendous pressure to adhere to Islamic ideals of female modesty and segregation. Household slaves relieved high status women of the need to perform domestic tasks, and even today one meets elderly women who have never even learned how to brew coffee. In the tent, slave girls cooked, cleaned and washed. While in principle women could inherit land and animals, among the elite there is a decided tenancy for them to decline these inheritances in favor of their brothers and sons. Such changes as are identifiable with the Scheme are superficial. On the Scheme people live in houses or conical huts (qutiyyas) rather than the tents which are found in the home areas (damars) on the Butana; but women are no more involved in economic activities than they were before. Men continue to be responsible for them. As women did not own land in the past, they do not possess Scheme tenancies today. Formal slavery no longer exists, and some women are more involved in domestic activity, but in general, the descendants of slaves continue to carry out the same kind of tasks in elite households as did their ancestors.

Income levels of elite Shukriya families have probably risen substantially with their involvement on the Scheme, and from their point of view the Scheme is a success. For non-elite, however, the story is less one-sidedly satisfactory, depending upon the opportunity situation of the family. A single tendency of fifteen feddans does not provide sufficient yields to support a household on its own. Combined with other activities, particularly with traditional stock raising, a tenancy can yield enough supplementary income to be attractive. But to exploit both the tenancy and raise livestock, the family must have the proper mix of labor resources. During the cultivating season animals must be kept away from the fields. A family that can provide both a herdsman and a cultivator can exploit the new opportunity without abandoning the security of the old. Two adult brothers might combine resources in this manner, with one farming and the other herding their joint estate of land and animals. It often happens, however that even where the demographic profiles appear correct, the consumptive demands on labor of this mixed enterprise exceed the family's ability to supply it, and a decision must be made. The common choice is to concentrate on the herds and give up effective control over the land; the family opts for the security of the familiar and more reliable producer of income. The tenant nominates a wakil, a "surrogate tenant," to take over the farm. Since affluent Shukriya are more likely to have the labor reserves or the ability to hire labor, the tenancies tend to accumulate among the families of the elite. A recurrent scenario has been an individual assigning over his tenancy, and finding his herds inadequate to support the family, seeks wage employment on the very lands he once farmed in his own name.

Those Shukriya who were without connections to the Native Administration when tenancies were originally allocated, or who subsequently lost their herds and could no longer sustain a pastoral life, have become an agrarian proletariat cultivating the expanding tenancies of the elite. This labor reserve is of great benefit to the elite, for it provides the additional work needed at critical points in the agricultural cycle at low cost to the employers. Some of the laborers hire out as shepherds on the same terms, caring for elite flocks on the Butana during the growing season, then bringing the animals on the fields after

the harvest. The large number of these laborers precludes their obtaining a reasonable wage for their work, and therefore makes it almost impossible for them to climb up to the ranks of the tenants and independent herders. Declining productivity on the Butana means that more animals are now required to meet a family's subsistence needs. This decline is due to the reduction in the size of the traditional grazing area and the obstacles to dry season pasture along the Atbara; both caused by the expansion of the Scheme, and to competition from other animals brought in by the State's abrogation of traditional pasture tenure arrangements. At the same time as more animals are needed to meet the same level of subsistence, the cost of obtaining these animals has risen dramatically. The poor are squeezed from both sides.

Among non elite women, impacts of the Scheme are mixed. Women whose husbands left pastoralism for a small tenancy may be the biggest losers. On the Butana, such women were economically active, and had clear rights in animals and to Wadi land for rainfed cultivation of sorghum. Women were rarely given tenancies on the Scheme. Following their husbands to these irrigated lands, these Shukriya women lost their independence they had in their rights to own and to allocate the benefits of animals and land. The complementarity of sexual roles in pastoral economics changed, and the position of men rose in relation to that of women. As the latter became economically dependent, they also suffered a decline in general social standing.

At the same time, in a sense, the poorest Shukriya women may actually have benefitted from the Scheme. Because they are so poor, they are exempted from some of the ideological rules which constrain the activities of other women. Thus, they are able to enter the wage labor market, an event which for other women would be unacceptably shameful. Selling their labor alongside that of their husbands on the tenancies, poor women are able to assess the value of their work in terms similar to men. Within these poor households, the status of laboring women relative to the men of their households may actually have risen with the advent of wage labor.

We may speculate as to whether this will lead in time to a revaluation of the working women. Perhaps, the benefits of cash income will come to outweigh the loss of esteem from such action, and therefore make the status of the women wage laborers more acceptable. Were this to happen, we would anticipate an entry into these ranks from women of somewhat higher social position. It is too early, however, for there to be sufficient data to confirm or falsify this speculation.

SHUKRIYA VIEWS

While the Shukriya view the Scheme according to their position in it--in general, elite members view it with enthusiasm and non-elite members with, at best, considerable caution--on one point the Shukriya achieve near unanimity: they resent the presence of the resettled Nubian Halfawis. Not only are these refugees from the flooded Wadi Halfa thought of as aliens, they are perceived as receiving benefits from the State which are denied to the original occupants of the region. In addition to the tenancies which Shukriya and Halfawi received alike, the latter were provided with both planned villages with a basic array of social, educational and health services, and with free-hold lands twice the size

of those which were lost in Wadi Halfa. These free-hold lands may be used according to the occupant's wishes. There are no constraints on what may be used nor on the number of animals that may be stocked. The Arabic-speaking pastoralists who were allotted tenancies are required to plant only those crops permitted by the Corporation (cotton, groundnuts, and wheat)**, and to keep only two animal units. Since the herdsmen are not wheat eaters, their grain needs are met by rainfed sorghum grown on the Butana, and by purchases, mainly of vegetables, from the Halfawis. What is especially resented is the need to purchase milk from the Halfawis, as the Shukriya herds are often pastured too far from the Scheme to provide for their nominal owners.

The planned villages and attendant social services also create a point of friction. The Halfawis have had their new villages located in close proximity to the tenancies, which facilitates movement from house to field. In contrast, the Shukriya tenancies are often so remote that a full day may be required to travel from village to field. For some owners, particularly elite Shukriya, this may simply reflect the accumulation of tenancies which are widely dispersed. What is important, however, is that the Shukriya invidiously compare their situation with that of the more nucleated Halfawis. To the Halfawis no benefits yet received can compensate for their lost homeland, but their "hosts" see only the benefits, and among these the allocation of free-hold lands is most prominent.

CONCLUSION

To the Shukriya elite, with resources to accumulate tenancies, the additional non-Scheme controlled land is less relevant. But to the non-elite, their inability to produce sorghum and milk on the Scheme forced them to the multiple exploitation of irrigated cash crop production on the Scheme, livestock herding on the Butana, and rainfed sorghum cultivation in the wadis. As noted earlier, this requires a delicate husbanding of labor, and where that labor proves inadequate, the Scheme is the first to go, with the consequent further aggregation of holdings by elite wakils.

The long-run, or perhaps not so long-run, outcome of this progress is that the Scheme, which was initially conceived of as a reasonably egalitarian one family/one tenancy arrangement will result in concentration of land ownership. If the process already begun, continues, there will come a point in which most of the tenancies are controlled by a few great landlords, and most of the labor will be provided by a landless agrarian proletariat. When this process runs its course, the rhetoric of equity will no longer serve to mask the concentration of holdings in the hands of the rich.

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*A longer version of this paper containing the theoretical and methodological considerations underlying the research as well as the empirical data is available in a report submitted to USAID.

**In 1981 the Corporation allowed the planting of either wheat or sorghum in the rotation, in an attempt to reduce absenteeism during the summer rains.

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LIVESTOCK PRODUCTION, SUBSISTENCE SECURITY AND MODES OF PRODUCTION

John W. Sutter

Over the last 20 years, there has been an intense debate in economic anthropology on the applicability and relevance of liberal economics to the processes and problems of development. The debate has been enriched in the last few years by the contributions of scholars who are concerned not so much with the economic growth of "underdeveloped" countries as with the development of capitalism in these social formations. The "modes of production debate", as it is often referred to, attempts to deal with the basic processes of change set in motion by the development advancement of capitalism, particularly the various processes through which peasants have been incorporated into the world economy as commodity producers, including the commodity labor power. In this presentation, I hope to show the relevance of some key concepts of the debate in the following necessarily summary discussion of the role of commodity and livestock production in peasant economies. The theoretical perspective is applied to village livestock production in the Hausa Yelwa area of Niger.

CAPITALIST AND PRE-CAPITALIST MODES OF PRODUCTION

The establishment of capitalism in an economic formation necessarily implies the transformation, and in some cases, the destruction of formerly existing modes of production (Bradby 1975:127). It is the articulation between a capitalist mode of production and a previously existing non-capitalist mode of production which structures the contemporary social formations of the Third World. In order to analyze the ways in which a capitalist mode of production comes to be articulated within a social formation dominated by a non-capitalist mode, and how the latter is increasingly subordinated to the former, it is necessary to abstract certain basic features of the two.

The internal dynamics of a pre-capitalist mode of production can, of course, only be specified in relation to concrete cases. Typically, a non-capitalist agricultural economy is associated with an economy in which the household is the dominant unit combining production and consumption. The household neither rented labor nor was required to market its produce to secure its conditions of existence. The independence of such a household from the commodity economy depended on a specific agricultural return and a dependable labor supply. Production was in order to satisfy direct needs of the producer, not in order to create and realize exchange value.

The pre-colonial basis of the present land tenure system in much of Africa was communal, whereby, it was recognized that members resident in the community had the right to use as much land of the community as they required for their needs, but in no sense could the land be alienated from the community. Usufructuary rights to land were held by the family while the village head maintained traditional community control of land. Land was allocated by him to strangers settling in the community and to resident families who required additional land. Land only reverted to the community in the event of migration,

fallow land left beyond a required number of years, and the death of an heirless cultivator. Normally at death, land was transferred to the heirs of the cultivator.

In contrast to the above, capitalist production, at its most basic level, can be defined as a form of production in which the capitalist, who effectively owns and controls the means of production, is able to set the workers to work on these means of production, as a result of the separation of the workers from both ownership and control over the latter. The capitalist purchases the worker's labor power in exchange for a monetary wage, with which the worker buys commodities for personal consumption, only to have to resell his labor power to ensure a further supply of the commodities essential for the reproduction of his labor power (Taylor 1979:109).

THE ARTICULATION OF MODES OF PRODUCTION

The above obviously rudimentary descriptions of noncapitalist and capitalist modes purport to show that the majority of the present economies of the Third World cannot be described completely by either mode, but are in transition from dominance by a non-capitalist to dominance by a capitalist mode of production. As a result of its being determined, in the last instance by an articulation of different modes of production, the Third World economy is characterized by a whole series of distortions within the different levels of the economic structure itself.

The peasant farmers, although lacking the basic characteristics of capitalist enterpreneurs nevertheless acquire certain features relevant to the capitalist enterprise. For example, some peasants may occasionally engage in wage labor while at the same time owning or controlling land or other factors of production. Peasants may produce commodities which are processed and circulated on the market. However, unlike wage laborers, who never own the product of their labor, peasants own or control some of the means of production and in those production spheres where this is the case, they can thereby have some control of the process of direct production itself.

The articulation between the two modes of production is based on the fact that non-capitalist forms of labor mobilization are producing commodities for the capitalist system, for example, groundnuts, livestock. handicrafts. In fine, peasants have become articulated into capitalist forms of commodity production without themselves necessarily becoming capitalist employing wage labor. What is vital, however, is that this gradual incorporation of peasant economies into a global system has imposed new stresses on the peasant production unit and considerably changed the structure of the traditional economy.

That there is indeed a shift in the nature and role of the rural economy becomes clear when one realizes that village level collective control mechanisms which formerly constituted the basis of social and economic activity, have undergone considerable erosion. These collective ties, based on reciprocal responsibilities centered on the extended family production and consumption unit, have become progressively replaced by social relationships mediated

through money. The family as an economic unit has become more isolated and responsible for his own subsistence. This individualization of social and economic relations is particularly evident among the Hausa of Niger and Northern Nigeria and translates into an ever increasing emphasis on notions such as competition and personal fortune. In fact, everything among the Hausa has become an article of trade; right down to the prepared foods that most have to buy to make up the daily quota (Raynaut 1978:20).

THE PRIMACY OF THE NEED FOR MONEY

One of the most significant ramifications of the subsumption of peasant economy into an exchange economy mediated through the price system, is the intensity of monetary pressure to which the rural world is subjected. In order to be fully functioning members of village society, peasant household today are faced with numerous responsibilities and obligations that increasingly require cash for their fulfillment, the amount of which fluctuates with market prices. Although the family eats a portion of what it grows, the family head typically has to produce cash in order to pay taxes for all members of the family. The family may also buy millet to complete granary supplies; meat, milk and condiments for daily meals, household equipment; upkeep of the family dwelling; cloth often from Europe and the Orient, services and gifts for wives and marriage expenses for children. A rural family must obtain considerable sums of money if it is seriously to entertain survival. This pressing need for money implicates the household in calculations concerning the products farmed and marketed and draws the family into a commodity economy. As the revenues from agriculture cover an increasingly smaller percentage of each family's necessary expenditures, there are increasing pressures on each person to sell his or her labor power to develop income generating activities outside of crop production, and concentrate on his or her own economic advancement.

There are, thus, two major economic currents flowing through the rural society: one is oriented towards social ends (providing for the family's food needs throughout the year) and the other oriented towards the search for money and individual gain. Inevitably a number of contradictions emerge from this opposition, and it is hardly surprising that new forms of economic inequality manifest themselves. As peasants become more and more dependent on impersonal market forces beyond their control, certain peasants inevitably stand at an advantage and others at a disadvantage, as far as their integration into that exchange economy is concerned. Certain of the economic features and relationships inherent to capitalist production thus become replicated in the peasant economy, albeit in attenuated or distorted form. As land has already begun to be bought and sold and as agricultural wage labor continues to displace collective forms of labor mobilization, it is clear that the mechanisms are already in place for the private accumulation of the two principal factors of capitalist production: land and labor.

VILLAGE LIVESTOCK PRODUCTION

A peasants' motivations in raising, keeping and selling livestock cannot be studied in isolation from the changes in the modes of production previously discussed. As the wholesale pursuit of cash is no longer just a function of the need to pay tax but of the reproduction of the peasant household itself, the role of livestock and its relationship to village economy and subsistence security is of crucial importance. A brief sketch of village level livestock production patterns is useful here in order to highlight factors of relevance to the economic choices faced by peasant households. In Yelwa villages, (Matameye, Arrondirement, Niger) goat and sheep ownership is very widespread among households with 90% of all households owning goats and 84% owning sheep. Cattle are owned by just under 50% of the households, with a heavy concentration of ownership among richer families.

As is common in Hausaland the proportion of animals owned by women is quite high. In Nigerien Hausaland, women are hesitant to make financial investments in crop agriculture as they have no permanent rights to most of the land they farm and are not sure that they will be allocated the same plot each year by their husbands. Furthermore, marriage is highly unstable; divorce has always been and is becoming more frequent. Women prefer to engage in activities that enable them to recuperate their capital in the case of divorce, as well as those that turn a quick profit. Investment in livestock is a prime example of their desire for amassing an individual form of "mobile" capital.

We have several times referred to the fact that contemporary social survival has become contingent upon participation in patterns of exchange that increasingly involve cash. Livestock, as a mobile form of wealth, circulate rapidly in this context of monetary contagion and with great rapidity. What in the past was primarily production to satisfy a direct need of the producers has, today, swung toward production in order to create and realize exchange value. The increasing commercial nature of livestock offtake patterns reflects this. The ratio of small ruminants disposed of in non-market transactions to those sold on the market was approximately 1:1.7 in Yelwa village in 1977-78 (Sutter fc). Animals have thus become one of the major instruments of exchange in the obligatory pursuits of cash, complementing such other money earnings strategies as migration, petty trade and agricultural wage labor. They become another exchange item in an economy of declining subsistence security.

As previously mentioned, the incorporation of peasants into a global system has eroded many of the family and village level mechanisms which previously served to guarantee a certain measure of subsistence security. This steady stripping away of traditional forms of social insurance and risk aversion has profound implications for food production and subsistence security. What has become increasingly clear, and most serious for the people concerned, is that a fair percentage of domestic groups persistently fail to produce their own livelihood.

In these conditions of increasingly precarious agricultural production, livestock are often used to bolster subsistence systems by buffering and offsetting the effects of environmental perturbations and oscillations in food availability. Small livestock often provide the liquidity to buy cereals during

the crucial pre-harvest period. Following the 1977 mediocre harvest in the Zinder Department, selling livestock was the principal millet procurement strategy for those numerous families whose granary supplies were not sufficient to last until the 1978 harvest.

CONCLUSION

The previous discussion of livestock production is incomplete and can hardly do justice to the complex and varied forms of live stock production in the region. Its purpose is to suggest the main lines of what should be a more elaborate empirical inquiry.

The process of colonial penetration and the situation that flowed from it necessitated profound changes in the nature of peasant economy. In this context, the increasing commercialization of livestock production is not to be seen as an isolated phenomenon, but is coeval with the diffusion of market relationships in other areas of rural production for example, land tenure and labor mobilization.

The subsumption of peasants into a wider global system has rendered the household subject to various forms of external perturbations and political insecurities over which it has no control. This integration has demanded new conditions of production and exchange for peasant producers. Quite simply, the continued existence of the peasant household has become contingent upon the continued production of commodities for exchange. Such partial incorporation by the capitalist economy has made peasants vulnerable to capitalist crises, as an increasing part of economic behavior has become mediated by the price system; at the same time, this partial incorporation has maintained the peasant's vulnerability to pre-capitalist forms of crisis, such as drought and insect scourges.

The history of the shift from more flexible and diffuse patron-client relationships and reciprocity bonds to a more straight-forward cash nexus is at the same time the history of the incorporation of peasant economies into the world capitalist economy. It is to the nature of this interaction between peasants and the expanding national and international economy that we must look for an understanding of many of the factors that will influence the future of African rural society.

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TRENDS IN THE DEVELOPMENT OF VETERINARY SERVICES IN DEVELOPING NATIONS

Martin E. Hugh-Jones

The traditional role of the veterinarian has been within the practitioner-client relationship with the animal or herd owner to provide a diagnosis and cure. This 'cure' usually being to either repair damage caused by disease or minimize loss, economic or of production. During the last decade, it has been realized through research and economic studies that preventive medicine programs are more profitable even at the individual herd level. It seems that during the past five years, there has been an exponential growth of herd health programs, by practitioners, universities and government services. The constraints on the success of these programs are being discovered largely empirically; for example, in southern California, the minimum dairy herd size for a program may be 350 cows in an area of super-large herds, while in a more traditional area, such as Ontario, Canada, it is in the region of 25 cows. Besides the constraints set by the management abilities of the herd owner are those of cash availability. It is easier for the owner to see the advantage of paying for the emergency treatment of a patently ill animal but many cannot find the money to pay a regular fee as part of a package that will prevent most disease, but not all herd, problems.

This may seem a strange way to introduce a discussion on the trends of veterinary care in developing countries which instead of being "veterinarian intensive" are "veterinarian extensive." The 'fire engine' work of the veterinarian in intensive countries is also found in extensive countries, however much it is recognized as being unproductive. The past successes in the extensive countries--this may be a more accurate description in this context than the term "developing countries", which both begs many questions and is somewhat patronizing --have covered the area-based control and eradication of trypanosomiasis, rinderpest, contagious bovine and caprine pleuropneumonia, and foot-and-mouth disease to greater and lesser extents. To succeed, these programs need time, discipline, and logistic skills of no mean size. Tick control programs which have been successful in a few countries are being expanded and improved in increasing numbers of countries. While rinderpest may have disappeared in Africa , thanks to the UN JP-15 program, and is disappearing elsewhere as the vaccination program continues, the other major and obvious livestock diseases remain to various degrees. However, in many countries they are of far less importance than they were before and the opportunity now exists to deploy a significant proportion of the veterinary manpower in other areas.

In the veterinary extensive countries there are by defintion, relatively few veterinarians. Though there may be few, this does not mean a limitation in ability, except possibly at the lowest levels. It has been my pleasure and privilege to meet and work with many extremely competent veterinarians at all levels in these countries; persons that any country would be proud to have. However, they are very expensive to train with the result that the university programs are government financed entirely and they are largely expected to join the government service subsequently. There is frequently a very limited recruitment pool from which they are drawn. Because of the prior education requirements for veterinary schools, they will be drawn from urban populations,especially in countries with weak and unevenly distributed secondary education. In some countries this is compounded by the sociocultural

expectations of the more educated young people for medical and legal careers. A frequent result is that the trained veterinarian will not wish to live in the country. Those that can, suffer socially from the isolation, especially if their wives and families resent it, and their abilities can drift downwards if they cannot regularly discuss their work and new cases with their colleagues.

Some countries have continued their colonial practice of providing, to various degrees, veterinary care to individual herds and especially small herds. While this may be politically necessary and gives very necessary field experience to new graduates, it is frequently of dubious cost-effectiveness as a permanent activity. Thus, for these and other reasons, the trained and experienced veterinarian in a veterinary extensive country soon finds him or herself in a supervisory and directive role in government services, and not in day-to-day contact with herds needing his attention.

For these reasons, accelerated in some instances by the partial collapse of the veterinary services in the immediate post-colonial period, we have seen the expansion in numbers and duties of the Veterinary Assistant. Besides acting as a direct assistant to a veterinarian, in a number of countries, they are successfully working as 'barefoot' veterinarians at the village level and occasionally at the District Office level; they can man patrols, and disease surveillance systems, and perform some disease control activites. A veterinary degree is how to inject a cow or dip sheep. They also form an experienced pool from which suitable candidates can be drawn for professional training. The author personally knows of at least three schools for veterinary assistants in Guyana, Somalia and Indonesia which effectively and cheaply train assistants for local and regional needs within two year courses. In some countries the graduate of the assistant school can be more useful than that of the national university. There are a number of veterinary assistant technician schools around the world, in West Africa, Central and South America.

As these countries are able to spend more time and manpower on the nontraditional control programs, compared to the traditional programs such as CBPP or trypanosomiasis which have evolved an accepted optimum structure, aims and objectives, the veterinary services are faced with making decisions on new possible regional animal health programs, sometimes without prior training and universally without data. Without decision-based data, the veterinary directorate is in an impossible position...what are the problems, their economic and production costs, the feasibility of actually achieving something and how much, where, why, and who or what will be affected? A program has to be designed and a pilot project initiated to identify the necessary parts and what happens. Following implementation it must be under continual review and adjustment. The program must have a target so that one knows when it has succeeded (or failed), the target achievement verified and the program wound down to whatever level of continuing surveillance is needed, and financial and political support organized. To achieve this is difficult and the training for it is not found in the normal veterinary curriculum. Program evaluation schemes and units are being set up in some countries, for example in Tanzania and Brazil, but they are infrequent.

One of the ways of collecting the necessary field data has been through the veterinary diagnostic laboratories. This has been done through the evolution of a new diagnostic laboratory. The old model, as seen in North America and Europe, serves individual practitioners and farmers who bring work and problems to the laboratory. In this way the laboratory is passive. It will run a multitude of diagnostic tests with a small to moderate throughput with only slight seasonal fluctuations. The information it collects is hard to quantify and difficult to interpret as it reflects on the true regional livestock problems. On the other hand, the new model, which is being encouraged by FAO and other international agencies, serves the directorate of the veterinary and agricultural government services. The field teams from the laboratory work outwards to provide a decision-based data on pre-identified problems. There is an active search for disease and sub-optimal production. This epidemiological approach results in a few tests being run on a large number of structured samples (instead of many diagnostic tests on a few samples); these standardized tests are usually serological and biochemical and few relate to bacteriological identification and pathology, especially in histopathology. As a result the laboratory workload is uneven. The data they collect must be quantifiable and readily analyzed; this does not mean they must have minicomputers but the staff must incude a statistician.

To use such a laboratory, which would not be out of place even in the varous states and provinces of North America, the team and the directorate must have an agreed overall plan and objectives. The primary objectives must be the 1) identification and quantification of specific disease problems in stated areas or regions in the livestock population, 2) determination of the relative (and hopefully absolute) impact of the disease or diseases on production, and 3) the establishment of production and management baseline data, such as herd structure, milk production, fertility, age specific mortality and culling rates etc. Because this is applied work and not academic research, the secondary objectives are the identification of epidemiological components of disease and the acquisition of reference material (i.e., the setting up of a Serum Bank or a reference collection of pathogens or tissue). To do this there must be adequate funding for each stage.

The veterinarians have to have been trained in epidemiology, rather working in clinic 'curing' or laboratory 'priesthood.' Unglamorously,they are government employees working preventive and community medicine. The collecting of field samples and limited opportunities for testing in the field, necessitate rugged reliable equipment with efficient sample identification. Back at the laboratory there must be an efficient cleaning facility capable of taking on dirty glassware in bulk! Because the areas in which these teams are called upon to work may be visited only once a year the maximum amount of information must be collected at each visit. This may involve collecting samples of blood, feces, or hair proper storage until they can be used at the base laboratory, It may involve test such as that requiring for tuberculosis which takes 72 hours to read; or collecting production, and census data whatever their bias. The veterinary team must also be competent in handling the stock with minimal facilities.

A number of problems have identified themselves when this epidemiological approach is used. The government directorate usually has been trained in the old school and has to be initiated into the new ways. FAO has been using international seminars for chief veterinary officers with great success. There are infrastructure constraints that prevent the system from working. For example, in some areas there are veterinarians, laboratories, and trained assistants but no transport to go out to the livestock with; also interagency confrontations. There are the methodological problems of collecting numerator and denominator data simultaneously from populations of unknown size and distribution, as well as of devising statistically proper analyses which can be understood by those using the information collected.

Some systems exist for structured random sampling where maps already exist but census data is missing. At LSU we are very actively involved in the development of disease and animal surveys using ground studies simultaneously with satellite imagery for areas without accurate maps. A fourth general problem area is the assessment of the economic impact of disease and animal health programs. Which is more important?--subsistence or survival or productivity; cattle or sheep and goats (or men versus women); large herds or small herds; specific costs or marginal costs of disease? What is the reliability of the data we collect and what is its sensitivity to interference caused by our presence? There is a need to make whole enterprise comparisons including direct, indirect and utility costs and benefits. To better interpret the field data one must carry out specific studies on experimental groups of animals in a controlled environment for example ,the study of fasicoliasis or 'liver fluke' to disease is needed to differentiate the permanent from the temporary effects of disease-induced anorexia and possible compensatory growth following treatment Similarly, it is necessary to study the response to various levels of control and the possible presence of a control threshold which must be reached before any benefit takes place for example, in tick control and East Coast Fever or S19 vaccination for brucellosis--because it is only with this information that an optimal cost-effect ratio can be found for an animal health program

In conclusion, the provision of veterinary services in veterinary extensive countries differs in practice and philosophy from that in veterinary intensive countries. In simplistic terms, the latter are based largely on a practitioner client relationship, whether in Americas, Europe, South Africa or Australia. In veterinary extensive countries the lack of trained veterinarians and infrastructure limitations have resulted in a greater emphasis on preventive care and national programs, government veterinary services and the need for applied epidemiology Where this has been ignored and the government has tried to provide a subsidized practitioner care program, progress has been slow and problems legion. This policy of preventive medicine for production related diseases, as in the past, and now, for major diseases such as trypanosomiasis, rinderpest CCPP and CBPP and ticks and tick-borne diseases, is being promoted by FAO, PAHO IICA, and other international agencies. This includes the advanced management training of middle and senior staff of government veterinary services the reorientation of diagnostic laboratories, the wider use of veterinary assistants and the increasing use of epidemiologists at all levels including the field level. The directorates of government veterinary services are increasingly demanding economic assessments of programs before they are initiated. If they do not ask for them, the international funding agencies are demanding them.

SECTION V: FARMING SYSTEMS RESEARCH
INTRODUCTION

Acceptance of farming systems research methods applied to the study of small cultivators' activities is growing in response to the need to rethink the problems of technological transfer. Drs. Elon Gilbert and David Norman, in a contribution presented by Dr. Gilbert, find that most production systems offer ground for both modification of existing practices using technology already available and for major system changes. However, they add, "major changes may, in fact, be required to bring about significant improvements in productivity and incomes, or reverse a deterioration in the resource base."

The authors describe research strategies that have evolved in international agricultural research settings with different types of institutional mandates. Some of these are better able than others to adopt the holistic approach required in the study of farming systems. Few current programs encompass the full range of variables that this work actually requires in order to provide a comprehensive view of existing systems and the effects of innovations. Drs. Norman and Gilbert explore two ways in which FSR can nonetheless complement traditional discipline and commodity oriented research programs. The first, which they call "upstream" research, occurs at research stations, where interdisciplinary teams design prototype solutions. The second, which they call "downstream" research, takes place in the farmers' fields, with farmers. Drawing insights from both commodity research and upstream FSR, the downstream workers test proposed improvements and suggest local adaptations.

Dr. Kenneth Shapiro, another leading practitioner of farming systems research, calls attention to new directions such work might fruitfully take in the coming decade. He emphasizes the need to avoid reductionism in studying small farm management, noting that livestock and forestry are often part of the farmers' productive activities, but are rarely studied. He proposes that consideration also needs to be given to marketing as well as to production in order to assess the impact of new cropping strategies. Furthermore, he notes that aggregating data to construct a profile of the "typical" farm can hide significant differences in resources, constraints and benefits among farms and among members of the same farm family. Since computer-based methodologies can now be transferred to lesser developed countries, Dr. Shapiro finds that both the new methodologies and attention to new issues will be imperatives for the research agenda of the 1980's, in order to significantly increase the value of farming systems research in development planning.

In his commentary, Dr. John O'Sullivan remarks upon some of the strengths and problems which he finds significant in the broad spectrum approach that is farming systems research. He joins those for whom the approach makes possible-indeed, requires--active collaboration on the part of the cultivators who are the declared beneficiaries of small farm development. Pointing to the difficulties inherent in interdisciplinary work, including among teams formed in university settings, Dr. O'Sullivan nevertheless advocates that we make the effort.

Not only agricultural economists and agronomists have contributed to the elaboration of FSR methods, but economic anthropologists, human geographers, cultural and biological ecologists, have been active in the field for several decades. Thus, there is need to recognize the interdisciplinary history of the

field and the various theoretical perspectives of its practitioners. During the discussion the interdisciplinarity and holistic approach of FSR were welcomed as means of avoiding the reductionistic tendencies and ethnocentrism inherent in the application of propositions derived from the study of the capitalist firm and monocrop agriculture to production systems organized to supply the needs of the producers rather than for profit.

FARMING SYSTEMS RESEARCH PROGRAMS IN WEST AFRICA SOME GENERAL CHARACTERISTICS AND POSSIBLE ROLES FOR U.S. UNIVERSITIES

Elon Gilbert

In the face of growing evidence that agricultural development efforts in the Third World have not appreciably affected the livelihoods of the majority of small farmers, increased attention has been given to ways of improving the effectiveness of research and extension activities. The term "farming systems research" (FSR) is used to encompass a group of approaches which start with a broad understanding of existing systems from the perspective of both technical and social sciences and involves the farm family directly in the process of identifying and testing improvement strategies.

The upsurge in interest in FSR is largely a product of the 1960s and 1970s. Thus of the less than twenty FSR programs currently in existence, most are fairly young, and many are still in the process of defining a research focus and developing the necessary methodologies.

The differences among existing FSR programs reflect in large part, the diversity of the institutions involved: their histories, objectives, and scope of responsibilities-national, regional, and commodity foci. In addition practical considerations, notably the need for improving the efficiency of the research process and difficulties in mounting successful multidisciplinary research efforts require modifications in methodology in many instances. While common features emerge, certain important differences remain. This paper looks at the major distinguishing features of two types of FSR programs; namely, upstream and downstream FSR as illustrated by the programs of the International Institute of Tropical Agriculture (IITA) in Nigeria and the Institut d'Economie Rurale (IER) in Mali, respectively. Secondly, the possible roles of U.S. universities in assisting the development of FSR activities are examined.

THE FARMING SYSTEMS PERSPECTIVE AND THE SCOPE OF ACTIVITIES OF FSR TYPE PROGRAMS

The concept of a farming system encompasses not only the mixture of enterprises, both farm and non-farm, which comprise the system, but also the interactions among these various components. At the center of these interactions is the farming household which is intimately linked to its means of livelihood. For achieving a specific farming system, farming families allocate certain quantities and qualities of basic types of inputs--land, labor, capital, and management--to which they have access to three processes- crop, livestock and off-farm enterprises- in a manner which, given the knowledge they possess, will maximize attainment of the goals they are striving for (Norman, Pryor and Gibbs, 1979).

Farming systems research aims at improving the productivity of farming systems in the context of the entire range of private and societal goals, given the constraints and potentials of these systems. As such, FSR is closely related to a wide variety of research and development activities extending from component research on such subjects as soil fertility to extension activities in the context of an agricultural development project. Discussions of the FSR approach

often emphasize the development of suitable strategies for small farmer development in specific locations--a phrase which encompasses such concerns as pricing policy, input delivery systems and socio-cultural institutions in addition to technological change. The ideal FSR approach involves a holistic orientation with regard to both identification of problems and the design of solutions, but few current FSR programs approximate this ideal.

To date, most programs have been confined to the development of technology for the crop subsystem. The approach has rarely been applied to the livestock subsystem except where it impinges directly on the crop subsystem. The International Livestock Center for Africa (ILCA) is now using FSR directly on the livestock subsystem while the Institute Senegalaise de Recherche Agricole (ISRA) in Senegal, is addressing the area of crop-livestock interaction (McDowell and Hildebrand, 1980).

Reasons for the limitations in the scope of investigations in the specific FSR programs related in part to the mandate of the particular institutions involved, many of which have specific commodity responsibilities as, for example, Centro Internacional de Mejoramiento de Maiz y Trigo (CIMMYT) in the case of wheat and maize and the International Rice Research Institute (IRRI) in the case of rice. In addition, the current state of the methodology and availability of researchers with FSR experience favor a sharp limitation of variables in the interest of operational feasibility.

Finally, there is a need to reach large numbers of farmers rapidly without major additional resources if FSR is to have an appreciable impact on the majority of small farmers in the Third World. Thus, while FSR research teams might start with a broad, overview of an area, they must fairly quickly focus upon a few possible improvement strategies to be tested at the farm level. The efficiency and accuracy with which FSR teams carry out the narrowing process is related in part to effective linkages with individuals and institutions (e.g., local planning agencies) as well as existing agricultural research and extension programs which collectively possess expertise on various components of the farming system under study.

FSR programs can be viewed as complementing traditional discipline and commodity-oriented agricultural research programs in two ways: first, at the research station or upstream level by designing prototype solutions which cut across traditional disciplinary and commodity lines; and second, in local settings or down stream level by more systematically designing strategies for specific locations, selectively drawing upon the results of both upstream FSR programs and commodity programs in the process.

PROGRAMS AIMED AT PRODUCING GENERAL PROTOTYPE SOLUTIONS--UPSTREAM FSR

The objective of upstream FRS programs is to produce prototype solutions for alleviating major constraints to agricultural improvement in the selected zone and may involve major changes in farming systems. Such programs are generic in nature, treating problems common to a range of farming systems extending across a broad geographic zone. The objective of upstream programs is more to contribute to the body of knowledge, rather than to develop practices specifically tailored to a local situation. In the case of IITA in Nigeria, the primary fo-

cus of the farming systems program is:

> developing methods of crop management and land use suited to the humid and subhumid tropics which will enable more efficient and sustained production of food crops to be technically and economically feasible in these zones (IITA 1979:65).

The research program is primarily concerned with the development of improved practices directly affecting food crops and interacts with the three crop improvement programs--cereals, roots/tubers, and grain legumes--in this process. The interrelationships between the food crops on the one hand, and livestock and perennial crops on the other are taken into consideration (IITA 1979).

While it has contributed significant information on each of the separate research areas, the FSR program at IITA has had difficulty in achieving an overall coherence, in part, because of the diverse nature and large number of research problems. Also, the program has had problems producing extendable results with immediate impact. Much of the research is of a rather basic nature requiring effective national research programs with downstream FSR components to refine and adapt the findings to local conditions throughout the region. In tropical Africa, however, there are few national research organizations capable of assuming this role. Consequently, the amount of site-specific work to date has been quite limited and many of IITA's results remain untested. In the future, it is understood that IITA will place more emphasis on farm-level studies and site-specific testing.

PROGRAMS FOCUSING ON IMMEDIATE SOLUTIONS FOR SPECIFIC LOCAL SITUATIONS--DOWNSTREAM FSR

The primary objective of the downstream programs is to produce recommendations rapidly which are suited to a specific local situation. Most of the work involves direct and first-hand interaction between a multidisciplinary team of researchers on the one hand, and farmers and individuals or institutions who are working with farmers on the other (Norman 1978).

Downstream FSR programs, unlike upstream programs, often follow a sequence of activities. The Institut d'Economie Rurale in Mali has recently initiated a FSR project utilizing the following four stages of activities:

1. Descriptive or Diagnostic Stage. The actual farming systems are identified and examined in the context of the "total" environment in order to understand the goals and motivation of farmers, the real constraints farmers face, the potential flexibility in the system, and the alternative strategies which address both constraints and areas of flexibility.

2. Design Stage. The range of strategies are identified which appear relevant to the constraints delineated in the descriptive stage.

3. Testing Stage. A small number of promising strategies are evaluated under farm conditions in order to ascertain their suitability for producing favorable changes in the existing farming system. This stage con-

sists of initial trials at the farm level with joint researcher and farmer participation followed by farmer tests which are totally under the control of farmers themselves.

4. Extension Stage. Strategies successfully identified and screened during the design and testing stages are implemented (IER 1976).

In practice, there are no clear boundaries between the various stages of research. For example design activities may commence prior to the termination of the descriptive or diagnostic stage and may continue on into the testing stage, since promising alternatives may only emerge as farmers and researchers interact directly in the course of actual farm level trials. Similarly, the final components of testing activities, namely farmer testing, mark the commencement of extension activities.

One of the oldest FSR-type programs in Africa is the Unites Experimentales of the Institut Senegalaise de Recherche Agricole (ISRA) which combines both upstream and downstream features. Their model for the creation of new technologies involves three stages: 1) analytical studies including traditional studies of plants, soils and the various technical factors of production along with socioeconomic studies of existing farming systems; 2) experimentation with simple combinations of factors and establishment of reference norms for fertilizer, equipment, etc., that could be used in defining simple combinations of crops, equipment and factor combinations for each zone and ecological subregion; and 3) synthesis of research on existing and possible improved systems and elaboration of proposed farming systems specifically designed for each ecological zone. Stages one and two are generally carried out by researchers of different disciplines working separately. Synthesis of existing and improved systems involves multidisciplinary teams (ISRA 1977).

POSSIBLE ROLES FOR U.S. UNIVERSITIES IN RELATION TO FSR

Agricultural research and training institutions in the developed world have had a profound effect upon the character of national, regional and international agricultural research centers serving the developing countries. The basic institutional structure is largely the product of colonial inheritance, post independence technical assistance programs, and in the case of IARC's, a donor dominated consortium. Citizens of developed countries continue to form a significant component of the scientific staff at agricultural research centers in the developing world. Third World agricultural scientists have in most cases received their training and formative experience at developed country universities Advanced degree training in various agricultural disciplines at universities in the developing countries almost invariably is closely modeled after what prevails in the industrialized world.

U.S. universities have played an important part in this process. Despite considerable accomplishments, the research and training provided by U.S. institutions has tended to be disciplines oriented and geared toward the refinement of technologies which are inappropriate for the ecological conditions and resource endowments in most of the developing world. Further, there has been a marked "top down" orientation in the design and extension of new agricultural technologies.

In view of their orientation, U.S. universities may not appear to be promising participants in the effort to develop FSR. In addition, they are even more physically removed or isolated than the IARC's from the various local situations that are the ultimate foci of FSR. With few notable exceptions, the primary clients of U.S. faculties of agriculture are the agricultural communities of the states in which the institutions are located. Assistance to Third World agriculture in many instances is barely tolerated or even actively opposed on the grounds that such involvement diverts research capacity away from "domestic" issues and may actually aid current or potential competitors in international and domestic markets.

Yet the U.S. universities possess resources and influence which can be of considerable assistance in the development of FSR. These are as follows:

1. Faculties of agriculture are likely to continue to be major sources of technical assistance and training in support of agricultural research in developing countries, particularly in the wake of the initiation of Title XII activities by the U.S. government. Incorporation of FSR perspectives in these efforts may enhance their effectiveness. Currently, a small, but growing number of agricultural and social scientists at U.S universities possess FSR experience and are among its most active proponents.

2. For universities serving areas with significant numbers of small farmers --as is true for some states--FSR offers a means of more effectively assisting "domestic" agricultural and rural development efforts. Farm management research as practiced in some U.S. small farm programs is an important antecedent of FSR.

3. Variants of FSR may provide an effective means of defining or focusing research efforts with respect to energy conservation and enhancement of environmental quality which have become important issues in the 1970's (Castle 1977). Specifically, FSR may provide a framework in which different disciplines can relate to one another and interact with farmers in the design and testing of improved practices with such issues in mind.

4. Universities may assist national, regional and international agricultural centers with the development of FSR methodology. A single faculty of agriculture often possesses a greater variety of fields of specialization and can explore prototypes of interdisciplinary interaction more easily and at a lower cost than most institutions in the developing world. Further, the analytical capacities of the universities might be of assistance in the analysis of basic data of farming systems throughout the world. Many descriptions of farming systems exist, but individual studies are often deficient in key areas and the geographic coverage of such studies is very incomplete. The collection and analysis of basic data relevant to farming systems is identified as a priority area of attention by the stripe review of upstream FSR at the IARC's (Technical Advisory Committee 1978).

As FSR activities grow in scope and geographic coverage, a great deal of data will be generated which has potential utility beyond its primary use in designing and testing the current generation of agricultural practices. Further analysis of the data can serve to refine existing classifications of farming systems and thus influence the focus of upstream FSR activities at the IARC's. Universities might assist in analyzing this data and in the process help identify the future generations of problems or constraints that will face agricultural development efforts. The resources of agricultural research institutions in the developing world are understandably focused on the current problems. Yet, a forward perspective might be of considerable value in planning future research priorities, hopefully reducing the time required to establish programs and produce results.

Despite the fact that FSR has been in existence for 10 years or more at certain IARC's, most U.S. universities have until recently taken little notice of it. It is encouraging that a few universities are in the process of initiating a series of FSR-related activities in their programs including courses relevant to students seeking FSR careers and cooperative projects with FSR programs in the developing world.

CONCLUDING OBSERVATIONS

Upstream FSR often involves basic research over several years since frequently, there are major gaps in information on the systems or component technology being designed. In this sense, upstream programs are comparable to research on improved varieties or agronomic practices such as weed control and fertility maintenance. Upstream FSR derives its uniqueness--in theory, at least--from the systems orientation of the research. The results are in the form of a comprehensive "new system" or at least components of systems where the interrelationships with the total systems have been explored. The various tools of systems analysis may be employed (Spedding and Brockington 1976). Upstream FSR requires fairly highly skilled research personnel usually with advanced graduate degrees and research experience which cuts across traditional disciplinary boundaries.

Downstream FSR, in contrast, depends primarily on existing research results drawn from the body of knowledge--for testing and incorporation directly or with relatively minor modifications into actual farming systems. On-farm testing predominates and research-station testing is adaptive rather than basic in nature. Finally, downstream programs need not involve highly trained personnel. Individuals with first degrees in agriculture-related disciplines combined with specialized training in FSR methods should suffice. The ability to interact effectively with co-workers in other disciplines as well as with farmers and extension workers are important requisites which can be best acquired through practical experience.

The relative emphasis on upstream or downstream research for a given system is thus a function of 1) adequacy of existing knowledge both technical and non-technical in nature--required to improve a system, and 2) the magnitude of the changes envisaged. The poorer the state of existing knowledge and the larger the magnitude of the proposed changes, the greater the emphasis that may have to be placed on upstream research. However, one approach need not be pursued to

the total neglect of the other. For most farming systems, there is scope both for modifications in the existing system using available technology and major system changes. Major changes may, in fact, be required to bring about significant improvements in productivity and incomes, or reverse a deterioration in the resource base (soil erosion, etc.).

The availability of resources--finances and personnel--is also of critical importance. Upstream programs require significant financial support and a continuity of highly trained research staff. Downstream programs can be sustained with much less support, although broad and continuous geographic coverage of a region can be costly and absorb significant numbers of researchers. For these reasons, national research establishments in most developing countries are possibly best advised to place emphasis on downstream programs in a relatively few selected areas in the first instance. IARCs and institutions in the developed world are better equipped to mount upstream programs in terms of having greater assurance of some degree of continuity in funding and the availability of skilled personnel.

U.S. universities or more specifically, U.S. faculties of agriculture will continue to have a major influence upon agricultural development efforts in the Third World via training, technical assistance programs and research. The FSR approach transcends the traditional discipline and commodity orientations of U.S. faculties of agriculture. Incorporation of even a limited exposure to FSR in existing advanced degree programs, possibly in the context of the thesis research which cuts across disciplinary boundaries to give individuals a multidisciplinary perspective, might enhance the effectiveness and relevance of the training.

Finally, faculties of agriculture are currently rethinking approaches to agriculture research and training for U.S. agriculture in response to growing concerns about energy, environment and equity. Such rethinking is producing more multidisciplinary systems oriented research in such areas as integrated pest management and preliminary investigations into major systems changes. Both down and upstream variants of FSR as practiced by institutions in the Third World may well provide useful conceptual frameworks and specific methodologies for addressing some of the problems now facing U.S. agriculture. Thus, FSR may give substance to the concept of domestic-international interface of agricultural research and training which is often mentioned in connection with the international programs of agriculture, but only infrequently realized.

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FARMING SYSTEMS RESEARCH: AN AGENDA FOR THE 1980'S

Kenneth H. Shapiro

Farm management research has been a basic tool in the armory of agricultural economists for a very long time, in developed and developing nations. That tool is now getting increased attention under the new name of farming systems research, with greater emphasis on system interactions as implied by that label. This brief paper offers an indicative overview of the main thrusts of that research to date, and then suggests new directions for work oriented to concerns of the 1980's.

PRIOR WORK

Over the past twenty years a sizable literature has evolved from farm management research in developing nations. The two thrusts of that research deal with the labor economy and the rationality of peasant farming. The ideal data base has been a complete set of input and output figures for all farming operations during each week, fortnight, or month of a complete crop cycle. The typical analysis relies on linear programming or production function estimation to reveal constraints and to measure the marginal products of inputs. The results generally show labor scarcity (i.e., no surplus labor), at least during short periods of peak demand for certain cropping operations. In addition, the earlier work was thought to confirm T.W. Schultz's (1964) hypothesis that although peasant farmers in LDC's were poor, they were efficient. The following paragraphs provide a brief expansion of these aspects of prior farm management research.

INITIAL OBJECTIVES

Two of the major objectives for early farm management research in LDC's stem from the work of this year's Nobel laureates in economics, W. Arthur Lewis and Theodore W. Schultz. Lewis, (1954) pioneering article, "Economic Development with Unlimited Supplies of Labour" gave rise to a whole school of theory and planning based on transfers of supposedly surplus labor from agriculture to other sectors of the economy. This in turn stimulated agricultural economists to test the underlying assumption that present farm labor was indeed in surplus. This objective blended with and has largely been replaced by efforts to identify periods in the crop cycle when labor shortages constrain greater output and impede adoption of new technologies or new crops.

Schultz's "poor but efficient" hypothesis was a counter argument to the thesis that present farmers were poor managers and that LDC agriculture, therefore, could be greatly stimulated with just some reorganization and reallocations directed by outside experts. The implication of Schultz's hypothesis is that little if any scope remains for improved management, but rather that LDC agriculture can advance only with the infusion of new technologies and more resources. Again, the potentially important impact of this theory upon development planning led many to attempt verification of the underlying hypothesis.

DATA

Investigations of both efficiency and labor use call for data from the full crop cycle on all relevant inputs and outputs. While some researchers attempted to collect such data from a few visits to each farm over the year, relying on farmer recall, most have used intensive interviewing (once, twice, or thrice per week) to maximize farmer trust and minimize failures of memory and of deliberate distortion. The intensive approach is expensive, limits the researcher to a small sample, and generates vast quantities of minute data that must be aggregated before being useful.

The small sample size tends to limit the generalizability of results to different areas and over time to different weather conditions. The large data set often led to many errors and to long delays between collection and analysis while clerks transferred and aggregated the information. However, this problem has in large part been overcome through use of questionnaires designed for immediate computer keypunching and processing (see Shapiro 1973). The advent of microcomputers usable in the field has led to further advances in this regard. Purdue is presently working with this technology in West Africa.

ANALYSIS

Linear programming and production function estimations have been the mainstay of most prior farm management research. The former is generally used to find constraints in the system, especially labor at critical times of the year. (See Delgado, 1978, for example.) The latter is used to measure marginal products of inputs under actual (rather than optimizing) conditions. (See Shapiro, 1973, for an example.)

A major shortcoming of both techniques is that they focus on the average farm. This is not inherent in the methods, but is the most common mode of analysis. Discussion below of new directions in the 1980's stresses the need to go beyond averages to look at variations within villages and localities.

RESULTS

Farm management research settled the question of surplus labor fairly definitely and early. While peasants in many areas experienced considerable periods of very little farming work, most also faced short periods when family labor resources were fully occupied in some critical operations. Thus the conclusion was that farmers could not be removed for a full year without a drop in production if no other changes occured in the farming systems. Early studies of this question are reviewed by Kao, Anschel and Eicher (1964). Cleave (1974) provides a more recent, comprehensive, and detailed review of such studies in Africa. Currently, the Institute of Development Studies at Sussex University is publishing a series of monographs reviewing a large collection of village labor studies. The recent Dasgupta volume focuses on Asia.

Farm management studies testing for peasant efficiency or rationality started appearing in the same volume in which Schultz offered his hypothesis. Most such studies used Cobb-Douglas production functions and found either that the ratio of marginal value product to marginal factor cost was equal for all inputs, or that marginal value product equaled marginal factor cost for all inputs--alternate conditions for allocative efficiency. Unfortunately, as shown

in Shapiro (1975) many of these studies are flawed by inappropriate interpretations of averages and misuse of significance tests. In fact, when these problems are considered the results do not support Schultz's hypothesis. More recent work on efficiency has been pursued with the profit function developed by Lau and Yotopoulos (1971).

A related theme of research still in its early stage is investigation of technical efficiency Using a frontier production function methodology developed by Farrell (1957), Aigner and Chu (1969) and Timmer (1970), a few early applications to LDC's have found considerable differences between the high output input ratios achieved by the best farmers and those achieved by many others, all using the same technology. (See Shapiro, 1977, and Matlon, 1980.) Thus, there seems to be scope for increased output with neither new inputs nor new technologies.

In addition to research on the above broad policy issues, farm management studies have been used as tools for devisibly improved farm plans, determining the feasibility of new inputs, techniques or tools, and for other pragmatic needs at the local level. Collinson, 1972, offers a view of such studies. Norman's work in Nigeria provides an additional example of such research. His findings on the economic merits of intercropping are particularly noteworthy. (See Norman, 1975.)

AN AGENDA FOR THE 1980'S

Farming systems research in the 1980's can expand upon the contribution of earlier farm management research in several ways. First, the boundaries of the system considered should be extended beyond cropping to include livestock and forestry on the farm and external impacts felt off the farm or by future generations. Second, marketing needs to be added to the earlier production focus. Third, the analysis must be disaggregated beyond simple averages in response to current concerns with income distribution and with the role of women and children. Fourth, the methodology of data collection and processing should be streamlined to permit prompt analysis in the developing nation and rapid feedback to the field. Each of these issues is discussed below.

BEYOND CROPPING TO LIVESTOCK, FORESTRY AND EXTERNALITIES

The recent Sahelian drought focused attention on agricultural systems in which livestock play a major and often dominant role. It also focused attention on the paucity of studies of such systems. Much earlier research largely ignored the role of livestock, perhaps because little work had been done in semi-arid areas where livestock are important. Two recent exceptions are the studies by Delgado (1978) in Upper Volta and Eddy (1979) Niger. These revealed crop/livestock conflicts of which planners were unaware because there had been no prior similar studies. There is still a dearth of knowledge of animal husbandry practices in both pastoral and crop-based systems.

In recent years there has been increasing concern with the interrelated issues of deforestation, rural energy, and environmental degradation. One possibility for dealing with all three problems is agroforestry, in which growing crops or animals is integrated with growing trees. Research on this subject could in part replicate earlier farm management work focusing on labor constraints. For example, Magrath (1980) found that crop work might seriously

conflict with possible farm-level forestry in part of Upper Volta.

But research on agroforestry must go beyond the limits of most earlier work to consider different sorts of issues. First, depending on how the activity is organized, common property problems may arise with trees. Second, the long time until harvest makes the benefit accounting somewhat more complex. Third, the benefits of agroforestry accrue to others in addition to the farmer. Future generations will benefit from decreased erosion. Residents downstream will benefit from reduced siltation of rivers and harbors. Thus there are questions about who should pay for the farmer's forestry activities. Finally, within the farm some of the major benefits may be in reduced time needed to collect firewood. However, most firewood collection is done by women whereas men may make the decision about agroforestry. Thus one needs to look into intrafarm dynamics.

BEYOND AVERAGES TO INDIVIDUALS

What marketing conditions do farmers face in selling their output and what are the different marketing patterns followed by different farmers in a village? These questions go beyond the scope of earlier farm management research and yet are critical to an understanding of farmers' production strategies and of likely changes in crops supplied to cities and for export. Most marketing studies to date have looked at the chain beyond the farmer to the retailer, but there has been little focus on the first sale by the farmer. Studies by Hays (1975) in Northern Nigeria and two studies now underway by Univeristy of Michigan students in Upper Volta and Ivory Coast attempt to start filling this gap. The probable impact of price changes and better market access, for example, could be better predicted with information on how and why the timing and percent of output marketed varied among farmers with different land holdings, family size, wealth, and so forth.

DISAGGREGATION

As noted earlier most farm management studies have focused on the average farm; not looking closely at differences among farms nor at different individuals within the farm. The average farm focus has largely elimiinated the chance to observe allocative inefficiency in peasant agriculture (See Shapiro 1977) and has meant that investigations of technical inefficiency are only now getting started. Furthermore, confining the analysis to averages precludes examination of income differentials among farmers and of different problems faced by different kinds of farmers. The marketing research discussed above is in part an effort to get at some of these issues. A recent paper by Matlon (1979) links technical efficiency and income inequality, finding that one reason some farmers are less efficient is that they are poor and have small land holdings. This forces them to work for other farmers at critical times of the crop cycle thereby not being able to work on their own fields until after the optimal time period. Thus they have lower yields per unit of input and a vicious circle is set up.

Dissaggregation is also important within the farm. There is growing concern with the role and welfare of women and children in peasant systems. As Boserup notes, women play a very important and sometimes dominant role in hoe-based agriculture, but less of a role in plow-based systems where men are needed to control the ox teams. Thus women's productive role and consequent social role is

often quite different in much of Africa, where the hoe is common, as compared to Asia where the plow is more common. This has implications for decision making within the family -(who should extension messages be aimed at, who should get credit?) --and for the welfare of women in the society--(For example, Boserup points to higher rates of female infanticide in some plow systems compared with lower rates in hoe systems which are otherwise similar).

Children are also now being studied more in peasant society. One line of work investigates the economic costs and benefits of children to gain insight into family planning decisions by farmers. Another interest is the interaction between the prevailing technology, a family's wealth, and the child's opportunity to go to school throughout the year. To what extent must children miss school in order to help on the farm, and how can this be changed?

COMPUTER BASED METHODOLOGIES

The large volume of data collected in farm management studies has in the past led to (1) long delays between field collection and analysis, (2) introduction of clerical errors during summarization, and (3) removal of the analysis to a more developed nation. Computer technology can eliminate the first two problems and use of new microcomputers can eliminate the third one.

Delays and errors often arose when processing data on land area and labor use. Typically, land was surveyed in such a manner that scale maps were drawn and area calculated by triangulation or counting scaled squares within the boundaries or with a planimeter. Constructing the maps from the survey data and then doing the calculations is very time consuming and quite prone to errors. To overcome these difficulties, I adapted a standard surveyor's area calculation algorithm to both the computer and to farm management data collection routines. (See Shapiro 1973). With the new technique a field can be surveyed quickly to get angle/distance measures which are keypunched directly from the collection sheet and fed to the computer for error-free area calculations. Results can be returned quickly to the enumerator to check for obvious surveying mistakes. This system was developed almost ten years ago and has been used successfully several times, but the old methods still abound.

Labor data are often collected at least once a week and sometimes thrice a week on up to 100 different activities with crop work cross-classified by field and crop as well as activity and all this for families or perhaps 10 members. The volume of data is staggering and obviously requires aggregation prior to analysis. This aggregation, when done by clerks, is very time consuming and is likely to lead to introduction of many serious errors. Ten years ago I developed a data collection format that provides for immediate keypunching of the field collection sheets turned in by enumerators each week. When the system worked ideally, I was sending raw data forms to Dar es Salaam for keypunching and for simple computer calculations, weekly, and within a month receiving back output which could be used to check enumerator accuracy and also to perceive aspects of the farming system that would otherwise be lost in the disaggregated detail of the raw data.

Unfortunately the system did not always work ideally. Thus while the new format avoided the time and errors of clerical aggregation, the keypunched data had to be removed to the U.S. for analysis because of problems with Tanzanian computers. However, such problems may now start to be overcome with the advent

of microcomputers. These small, relatively inexpensive ($3,000), but high capacity machines can be placed directly at the research site and can be used for keypunching and much of the desired analysis. Thus the field researcher can have rapid, continual feedback as the research progresses, and the developing nation need not lose control of much of the analysis phase of the work because of computer limitations. Purdue Univeristy has recently started to set up research programs supported by microcomputers in West Africa. (W. Morris and K. Jones of the Purdue Agricultural Economics Department are involved in this work.) Perhaps the widespread use of this technology will finally permit farm management research to play an integral role in agricultural planning.

SUMMARY

The first two or three decades of farm management research in developing nations were important in overturning some myths about peasant farming, providing a general understanding of how many systems work, and opening the door to more scientifically based planning for LDC agriculture. In the 1980's there is the opportunity and the obligation to go beyond earlier work to look at new issues and to use new methodologies that will significantly increase the value of farming systems research as a tool for development planning.

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FARMING SYSTEMS RESEARCH: SOME REMARKS

John M. O'Sullivan

One of the most important trends in recent agricultural efforts is known as Farming Systems Research. In the past fifteen years agricultural development experts have been confronted with repeated failures of techno-packages which seemed like sure successes on research stations. This is not a new situation, but rather people are finally trying to deal with the problem. Proponents of FSR have argued that the reasons for so many failures are:

1. That techno-experts have not understood the ecological contexts in which target farmers are operating.

2. They do not take into account the social dynamic of human labor, use of systems and production goals of the farm/family/village unit.

FSR has been proposed as a research method to see the dynamic of the farm system as a broad, complex whole. David Norman in northern Nigeria and Peter Hildebrand in Guatemala were early pioneers in the approach which came to be known as "farming systems research" and they continue to be strong advocates of an operational FSR. FSR can be characterized in the following terms: it is an holistic approach, encompassing all the systems relevant to any particular agricultural enterprise. These systems might range from micro-ecological to marketing or any other end use system. Hildebrand's argument for an identification of the relevant systems through the sondeo approach is particularly appealing.

A second characteristic of FSR as it has evolved is the careful collection of data about relevant systems so that meaningful analysis can be done. This is particularly crucial in regions where farmers do not keep written quantified records since Westernized science requires such data for problem solving. David Norman's work in northern Nigeria is a good example of how accurate records assist the technicians looking for ways to improve production. This characteristic has had a negative side up until now. Such research tends to be very expensive since it involves enormous efforts to collect, codify and analyze the types of data needed. The whole FSR approach seems to rely heavily on expatriate project coordinators, expatriate computers and significant lag time (several years in some cases) so that even if the analysis is accurate, it is so dated that it is no longer relevant.

Thirdly, FSR is a way to give the farmers themselves a voice in development efforts (since they are the critical actors in farming systems production). Thus FSR proposes an important bottom-up link rather than the standard top-down approach dear to the hearts of government officials and development experts. Obviously giving the farmers a voice in the development process has serious political implications which might not be entirely welcome as things now stand. Beyond that, though, lurk other problems: who is the farmer who is being heard by the FSR research? Is it the well-to-do farmer who can afford implements? Is it the cash crop oriented individual who desires to improve his cash flow to the detriment of the women and children who might well have to sacrifice increased labor and decreased area at the expense of food production? The difficulty of

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even defining a farm in many societies needs no comments.

Finally, we must ask "where are the limits on a holistic approach?" By focusing on microcosmic issues (endogenous systems to Dr. Norman), we risk missing the macrocosmic issues (exogenous systems) which impinge on, manipulate and extract surplus from the microproductive systems (cf Schoepf 1980). This is particularly relevant where the governments have not had good track records in terms of supporting and helping the farmer, but rather have been looking for new ways to siphon off surplus (and hence want to know where the surplus is). These issues cannot be swept under the rug.

FSR can provide insights if enough time and effort is allowed, and if western style crop enterprise and livestock preconceptions are dispensed with and an in-depth dynamic approach is taken. Ultimately, however agricultural experts will have to forego any expectation of an immediate "big bang" impact. It would seem that the approach proposed in FSR would be of interest from the point of view of an academic institution involved in development projects. Obviously FSR must be multidisciplinary to cover the various relevant systems and hence would seem to play to the strength of universities. Unfortunately we must all recognize the difficulty of getting narrowly-trained scholars to see beyond their own fields (and even more to cooperate).

FSR, by requiring active cooperation and understanding by technicians and social scientists, proposes a very difficult paradigm. A real problem for us as interested academicians is to address this issue. Even in the U.S. the effort to improve the lot of the small farmer has been next to nil, and what little has been done has been contributed by such schools as Tuskegee Institute. The efforts of George Washington Carver and others (while not FSR as such), might well lead us to look for ways of linking international and domestic FSR efforts. FSR is no panacea. It does offer insights and is a better approach than anything else being suggested so far.

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SECTION VI: ECOLOGY OF DISEASES, HEALTH SYSTEMS & RURAL DEVELOPMENT INTRODUCTION

Dean Walter C. Bowie of the Tuskegee Institute School of Veterinary Medicine opened the session with the following remarks:

In this panel on Ecology of Disease, Health Systems and Rural Development, we have three very important, interrelated topics. Their underlying theme requires a broader perspective, a holistic view in evaluating the problems that are under consideration. Recently I ran across a review of a book by Kenneth Dahlberg, entitled Beyond the Green Revolution. From that review in the Sigma Psi Journal, I took a sentence that I would like to use as an opening statement for our session this afternoon: "Just as seeds may flourish in one climate and not in another, so some ideas and innovations flourished more in some societies, institutions and disciplines than others." This idea should be committed to memory by all foundations, government officials and others planning technology transfers to less developed countries. It sets the intellectual stage for Dahlberg's analysis of the Green Revolution. He suggests that the beneficial effects of the new high yielding varieties of grain crops which were introduced into developing countries several decades ago have fallen far short of expectations. He says that this is due to failure to understand or to prepare adequately for local social constraints that limited technological progress. Thus, the effect of new technology has often been to make the rich richer and the poor poorer, exacerbating already painful social stratification. Dahlberg sees this not just as an isolated failure, but as part of the myopia engendered by unquestioning belief in high technology and in the benefits of Western culture. He calls for the use of contextual analysis, a process involving an attempt to get closer to the full richness and complexity of real world situations and their historical backgrounds. Thus all general theories must be understood and applied in terms of the local environment, local values and the historical context.

I am sure that, as we proceed in our discussions, we will examine the complex and dynamic interrelationships between the infectious agents and environmental determinants. Whether we are talking about climate, poverty, shelter, soil, plant communities or ecosystems, we must recognize the constraints that should take place. We must note the effects of the total ecosystem from the standpoint of its effects on both human and animal health; the former of public health or educational progress, but rather in terms of the total integrated rural development picture as it impacts on improving the quality of life with education, with social, cultural and economic issues, with political power or the lack of it, as well as ecological and environment realities. One

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cannot evaluate a health system as an entity in isolation; it is an integral component of rural development.

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EDITOR'S INTRODUCTION

The contributors to this session reflect upon some of the problems that have arisen as biomedical technology developed in the West has been transferred to the Third World. As in other areas of technological transfer, these problems have involved sociocultural processes as well as actual technical practice, including decisions about the level of resource committment and what aspects of health and disease should be addressed by development programs. Recently, attention has shifted from emphasis on categorical disease programs or hospital-based health systems to integrated community-based programs delivering primary health care. The contributors welcome this new emphasis, yet sound a note of caution lest local level health be used as the new panacea, a sort of health-on-the-cheap, rather than being integrated into a wider development strategy, which necessarily involves reshaping entire health care systems.

Dr. Donald Hopkins discusses disease eradication programs as they have operated in Third World countries, drawing upon his smallpox campaign experience in Africa and Asia. He points out that the benefits of any program should be weighed in terms of their contribution to community health improvement and suggests that this has not always been the case. Donor agencies have their own agendas; sometimes these have been elaborated more in response to the needs of western nations than to solve the most pressing health problems of the Third World nations in which they have been applied. He notes that some agricultural development programs have increased local environmental health hazards. For example, irrigated crop programs have contributed to the spread of schistosomiasis in many African countries. Thus development is necessary for health, but development involves more than mere economic growth.

Dr. Oscar Gish, who has worked for many years as a health planner in Africa, examines some of the assumptions involved in the primary health care strategies currently promoted by international agencies. He traces the roots of contemporary crisis to the colonial period and the relationships between health and underdevelopment. Primary health care cannot be cheaply acquired solely through the mobilization of local resources while the rest of the health care system continues to follow present patterns. Fee-for-service, private practice and expensive hospitals serving

only urban dwellers are part of the inequitable distribution problem. Furthermore, improved health status for the world's poorest one billion people requires transformation of economic, social and political relations which result in poverty, malnutrition and ill-health.

Dr. Eugene Adams and Dr. Tsegaye Habtemariam, of the Tuskegee Institute School of Veterinary Medicine, remind us that the problems of chronic rural poverty created by the American agricultural system have health consequences not unlike those which plague many areas of rural Africa. Malnutrition, comparatively high rates of infant mortality and medical neglect continue to characterize the Black Belt Counties of the rural South. Tuskegee Institute's response to the challenge of upgrading health and living conditions in the area surrounding the campus has been a two-pronged one, involving both action-oriented research and delivery of community health services. The authors suggest that, with adaptation, the systems approach to health care being developed here is transferable to the Third World.

Dr. Sheila Cosminsky and Dr. Brooke Schoepf contribute an anthropological perspective on an aspect of primary health care delivery. They focus on the upgrading of maternal and child health through the training and integration of one type of traditional practitioner, the village midwife, into the biomedical or western-derived, health system. While the promotion of safe, cleaner childbirth practices can reduce maternal and neonatal mortality in the Third World, this requires behavior change on the part of hundreds of thousands of midwives who will continue to attend to the vast majority of births. The knowledge and skills that they already possess must be enhanced rather than ignored and stigmatized and they must be supported by quality biomedical services equipped to deal with complicated deliveries. Training programs for the midwives must begin from culturally sensitive appraisal of current practice, rather than from uncritical transfer of Western-style obstetrics. Health considerations, rather than implicit Western values, should determine the selection of training and procedures adapted to the local sociocultural milieu.

A fourth contribution to this session was made by Dr. Wilma Jean Porter, of Howard University Medical School. Departing from the premise that good nutrition is the basic foundation of good health, Dr. Porter emphasized the role of African women in supplying food and nutrition. Noting that women have often been omitted from education and development planning, she stressed that women must be involved in all aspects of rural health programs. Unfortunately, Dr. Porter's presentation was not registered on tape; she has been on assignment abroad and was unable to be reached in time to include her contribution.

Elaborating briefly upon Dr. Porter's subject, several participants noted that the labor requirements of African agricultural systems, intensified by cash cropping, tend to fall most heavily upon women, and have serious consequences for the health of women and children. Some of these effects are well-documented as in the case of schistosomiasis, mentioned by Dr. Hopkins, yet continue to be ignored in some production-oriented projects.

The discussion highlighted the fact that primary health care is not an inexpensive proposition. The implementation of programs which actually meet the basic needs of the rural majority who are now unserved will incur sizable new recurrent costs. These outlays, as Ambassador Carrington notes, are difficult to finance from abroad. In the effort to minimize the recurrent costs, the services actually delivered at the village level may be held to a minimum, as well. This could have negative effects upon programs. Furthermore, it is important to correct the mistaken impression that instituting a PHC system will reduce the use of secondary level backup facilities. By preventing or treating many common health problems at the local level, PHC does keep some people out of the higher levels. However, as the vast number of people with complex diseases whose conditions now go undetected or untreated, gain access to the secondary level system, the result is increased, rather than reduced demand for referral services. A PHC system worthy of the name must be accompanied by adequately staffed and supplied clinics and hospitals accessible to the rural population. In this light, health care for all by the year 2000 will also require a redistribution of global resources, and not merely internal redistribution. Dean Bowie's challenge to examine the complex dynamics of interrelated systems was taken up by participants in this session.

SOME REMARKS ON THE ECOLOGY OF DISEASE AND RURAL HEALTH CARE DELIVERY SYSTEMS

Donald Hopkins

This topic has intrigued me since twelve years ago when I began my public health career working with the smallpox program in Sierra Leone. It is especially appropriate for me to start with smallpox this afternoon. First, because the focus of this session is on health problems particularly as they affect the African continent and African people. Second, because next month the World Health Assembly in Geneva will formally ratify the eradication of smallpox. It was very exciting to work with the Minister of Health and others in Sierra Leone to completely eliminate this very serious disease. We are fortunate in the U.S. not to have had smallpox here since 1949. In 1967, Sierra Leone had the highest rate of smallpox in all countries reporting to the World Health Organization (WHO). By April 1969, we had eliminated smallpox from that country.

Smallpox illustrates some of the political aspects of health policy referred to earlier, since the political and direct financial interests of Europe, North America and other countries that had no smallpox were very much intertwined with the health and development interests of the countries where the disease was still present As I said, the U.S. has had no smallpox since 1949. However, we were spending over a hundred million dollars annually in defensive measures aimed at keeping smallpox out of this country. These measures included maintenance of quarantine posts at ports of entry, the maintenance of routine vaccinations and the care of persons who have severe reactions to smallpox vaccinations after being vaccinated. When the WHO program was getting started in 1966 the U.S. then had a very large financial stake in getting rid of smallpox on a global scale. When the first formal approach was made to several West African countries however U.S. representatives were informed that--since measles vaccines had been very recently placed on the market, they would prefer to undertake a measles campaign. The measles vaccine had been placed on the market only three or four years previously. We were told that measles was a much more serious problem in West Africa than smallpox. Measles is called by the same name in Africa, it is the same disease caused by the same virus, as far as we know, yet it seems to be a much more virulent disease. In some areas of West Africa, for example it is estimated that up to 25% of all children born, die of measles before they reach their fifth birthday.

A compromise was worked out: we established a program aimed at immunizing kiddies against measles and immunizing everyone against smallpox at the same time. Thus the common health interest of the U.S. and the 20 West African countries were served at the same time. I'll come back to that because part of the problem that we are having in trying to stimulate interest in certain other health problems stem from the fact that those other health problems have no domestic importance as far as the U.S. is concerned. The mission of the CDC is control of diseases that affect the health of the American people. USAID, on the other hand, is involved in international assistance of all kinds including international health assistance.

Development is obviously an important contributor to health. The U.S. now spends almost 2 billion dollars annually on health, or more than 800 dollars per capita for health care. Compare this with many African countries, where about 1-2 dollars per capita is available for health expenditures each year. This gives some idea of the contribution of development or of the gross national product in making funds available to spend on health care. More importantly, the contribution of development to health is not really determined solely by the amount of expenditures, nor by the number of physicians per inhabitant, the number of dispensaries, the number of hospitals nor the number of any structure or service.

I had the pleasure a month ago, of traveling with Secretary Harris (former Secretary of Health and Human Services) to Liberia, Nigeria, and Egypt for nine days. It was my first trip back to West Africa since 1969. One of the most disturbing things to me was that, when you asked people what kind of impact a given program had, or what evidence did they have of program successes, you invariably got back statistics describing the number of people seen in out-patient clinics, the number of babies delivered and those kinds of figures. In one instance, when we asked why weren't people looking at the actual impact on disease we were told that that had been considered in the assumptions of the project but that the only bid for looking at the value of the system, that is for looking at its impact on the disease, would have cost half a million dollars. It had been decided, therefore, that the expected results were not worth such an expenditure. Thus the project designers decided to forego evaluations of the project's impact on health and disease. It seems to me that in health care delivery systems, particularly in situations where the amount of money available is very small, but also to this country which is spending such huge amounts on health services, the bottom line must be: what difference do these programs make on the health of the people? The fact that this is sometimes difficult to measure cannot be used to get around the responsibility for that. It is always possible to do sample surveys that can yield an estimate of a program's impact on health.

Many of us have seen very nice modern hospitals sitting on hills in capital cities in various places around the world. Some of these hospitals require 50 percent of the countries' health budget to run, despite the fact that they are able to serve only a very tiny fragment of the country's population. So the bottom line must be a critical appraisal of the relationship between health services and development. The question must be: what are these programs that are made available through technical assistance and what kind of impact do they have?

There are many other ways in which development also affects health problems, For example, increased development sometimes leads to increased hazards, and increased health problems. The best example from tropical countries might be of schistosomiasis or snail fever. The development of dams and irrigation systems change the local ecology, creating a more favorable environment for the snail, which serves as an intermediate vector of the schistosome. Irrigation results in a much larger number, and in some instances, a much larger proportion of the population in these areas being affected by a very serious disease for which treatment is usually prolonged and complicated. The prevalence of this health problem could be avoided by proper care to minimize the spread of the snail. Yet several instances are known--the Nasser Lake behind the dam of the Nile in Egypt and the Volta Dam in Ghana have become classic examples--where schis-

tosomiasis has spread as a result of dams. This is not to say that dams are not needed. The reason for building dams in the first place was because they were needed to generate electricity. But care must be taken that development--in these specific avoidable instances--does not lead to even more severe health problems.

There are other instances as well. In places where mining is important and care is not taken, we find severe health problems of workers which make the problems we see in Appalachia and other places in this country seem pale in comparison. Someone from the National Institute for Occupational Safety and Health visited a cement plant in West Africa in 1978, where they were mixing asbestos with cement to make building materials. The managers were under the mistaken impression that somehow mixing asbestos with cement eliminated the danger from the asbestos. In fact, this does not eliminate the danger; it is still dangerous to inhale asbestos. The asbestos in this cement dust was more than an inch thick and when the visitor pulled out the instrument used to measure asbestos in the air, the measurement ran off the scale. There are other instances we could point to road accidents, cigarette smoking and other aspects of occupational safety which also have tended to increase the health problems associated with development in some countries.

I am interested in health systems only as they affect disease control and prevention. Thus, I simply would point to a few ongoing debates in the health community that very much pertain to the control of diseases in tropical countries. One is the preoccupation with the use of various health care systems in curative rather than preventive medicine. We can see in this country that of the almost 2 billion dollars a year spent on health, a very small fraction is spent on prevention. We know that there is increased impetus in this country and around the world for prevention opposed to cure. This is so for two reasons. One, because it is much simpler and more effective to prevent something than to cure it in many instances, especially when we don't even have drugs to cure the problem once a person has the disease. Two, because prevention is cheaper, prevention offers a way to minimize some of the severe health cost problems we face in this country. It offers the opportunity, for countries that do not have the many resources to spend on health, to use what money they do more effectively to reach more people.

There is also the ongoing debate about whether it is more appropriate to aim for the eradication or for the control of disease. In my own experience and the experience of others who have been involved in the smallpox program, it is very depressing to hear people in health programs in this country and other places speak now so disparingly of the smallpox program which is, after all, the only program that has completely eradicated a disease. There have been attempts to eradicate other diseases, but no attempts have been successful. This is not to say that smallpox is a unique disease; nor that those characteristics which allowed it to be eradicated are not shared by other diseases. It is important to use the lessons of that campaign to apply to some of the other problems. This is related to the third debate regarding the relative merits of vertical programs which focus on a single disease, such as smallpox, and horizontal programs which provide a number of dispensaries throughout the population and thereby offer many different services to as many people as possible. Take, for example an Asian country which had a very large number of physicians and which, on paper at least, had vaccinated its population many times over. Contrast this with an East African country which had a comparatively good rural health care delive-

ry structure. Both countries still had smallpox until they decided to focus on that particular problem.

We can look at some ways that ill-health is related to environmental and social factors, for example, and manifests itself in physical handicaps, mental retardation and reduced energy. For example, an oil company in Eastern Nigeria documented a 50 percent decrease in worker absenteeism as a result of its malaria prevention program. The severe problem of anemia that affects many countries is not due merely to sickle disease, but also to inadequate nutrition and sometimes to the effects of malaria which destroys the red blood cells. Mental retardation often results from malnutrition which is exacerbated as a result of severe drought such as that in the Sahel. Ill health can retard development by leaving people with physical handicaps.

I was in Sierra Leone on a motor launch going down river to the Atlantic when we stopped just at dusk, at the last town on the mainland, before we got to an island off the coast where the entire livelihood of the village, apart from subsistence farming, revolved around selling dried fish and other things to people coming down the river. When we docked at this place, everybody came around yelling and carrying all different things they had to sell. About five minutes later, a lady hobbled along on legs crippled with polio. She brought her tray of dried fish to sell but by this time, everybody who wanted fish had already completed their purchases. One could infer that this sequence of events was repeated every day, all for want of an immunization against one disease.

Finally, allow me to cite a few more examples involving the problem of malaria. In the southern Sudan, in a large agricultural project in the Gezira, malaria became a severe hazard for people who came from other highland areas where malaria was not endemic. That area was not really able to be opened up for agricultural development until some steps had been taken against malaria. I pointed out earlier the problem of malaria and how it affected oil workers in Eastern Nigeria. In other areas around the world, less directly related to development but certainly related to people's health, removing the problem of malaria has reduced the infant mortality rate by half. In another instance, the government of Liberia, in 1966, began to try to persuade the farmers to change from growing upland rice in dry areas to growing swamp or paddy rice. The swamp land rice gives yields six times greater than the upland rice. One of the main reasons cited by the farmers for not wanting to change was because they knew if they got into those swamps to grow the rice they would get schistosomiasis.

In the case of river blindness, or onchocerciasis, a consortium of six African nations, the World Bank and several other countries, is working together to bring it under control. The disease has caused people of several generations to abandon very rich land on the banks of the rivers, because those rivers are infested with black flies. The flies are host to parasites which cause blindness in people who are bitten year after year. Once this health problem is removed, the people will be able to move back to these rich farming areas which otherwise cannot be farmed. Another disease, African sleeping sickness or trypanosomiasis, affects both cattle and people. It makes people sick or kills them, indirectly impinging on their health by creating a situation whereby it is impossible to rear livestock for food, for use as draft animals or for increased agricultural productivity, thereby affecting people's nutrition.

Another significant health problem is yaws, a disease classified with venereal syphillis, but which is not a venereal disease. Yaws is passed among children by skin to skin contact in wet, moist developing countries. It is curable with a single injection of penicillin but without penicillin, it goes on to cripple about 10% of the children who have been affected; a much higher crippling rate than certain polios. This disease used to be very widespread, especially in southeast Asia and in Africa. Now it is pretty much gone in the Americas but not completely gone. A few cases have been identified in Asia and it is resurgent in West Africa, especially in Ghana. This problem has grown from a low of about 3,900 reported cases in 1969 to over 72,000 cases reported in 1976. As noted earlier, yaws is curable with a single injection of penicillin, yet, we are having trouble getting the attention of the world community which is not at risk, of importing this disease because the climate is not right in other places and the hygiene is different. We are having trouble getting the attention of people to try to prevent this disease from coming back to the same level it was in the 1950's. Finally, let me draw attention to Guinea worm disease or dracunculiasis. This problem has been well documented in Nigeria, Ghana and several other countries of West Africa and is the best example of a link between an individual health problem and development. In some areas of Ghana and Nigeria, other areas of West Africa and India, up to 30% of people in the rural areas are incapacitated for an average period of 100 days. This incapacitation, due to pain experienced as the worms emerge from the legs, occurs during the planting season. The people affected are unable to farm or do any other kind of manual labor. Guinea worms are transmitted by drinking contaminated water. When a safe water supply is provided, the problem disappears without even treating the patients. The life cycle of the Guinea Worm is such that self-cure is effective after a year. Researchers should be able to document the beneficial results which would be expected to include increased agricultural output and perhaps even tertiary effects on people's nutrition.

While in some situations such as I have cited--smallpox, for example, it is possible to tease out an individual problem and attack that problem where you clearly can do something about it; one still has to be wary of trying to isolate individual problems because in reality, not only are many health problems related to one another but health problems are related to agricultural problems, to other development problems, to problems of education and many others. Let me close with an example from an Indian village where smallpox was not an abstract problem. People that very day were dying from smallpox in this village and many other people were ill with the disease. The two Indian health representatives and I thought that we were doing something very helpful to this village by bringing in, finally, smallpox vaccination. A middle-aged man who was very angry with us, in fact, (this was at the end of the harvest season and rice was scarce) said, in effect, "You folks are working with or from the Indian government. We don't need smallpox vaccinations, we need food." Our own perspective was that we were there to deal with smallpox. We couldn't deal with everything at once. We certainly could not take on the task of relieving quasi-famine or famine in that part of India. Yet here was a group of people who had concluded, as this man said, that they would rather die suddenly by smallpox than starve slowly to death from not having food.

A final example from that smallpox campaign will underscore the interrelationship of some of these problems. Family planning program workers had persuaded a couple with two children to have the wife surgically sterilized, but nobody had vaccinated the children. A few weeks later, smallpox entered that village and the couple lost both children.

THE POLITICAL ECONOMY OF PRIMARY CARE AND "HEALTH BY THE PEOPLE" AN HISTORICAL EXPLORATION

Oscar Gish

This paper reviews in brief and possibly oversimplified form, the development of personal health services within the Third World, as background to the current discussion of primary care and so-called 'health by the people' efforts. The health services are seen as reflections of broader societal relationships Although the discussion is generally concerned with the Third World, it concentrates primarily upon the former colonial territories; that is, almost the whole of the Third World except Latin America. Of course, the Latin American countries were also once colonies, but they achieved national independence approximately a century and one-half earlier and in a different historic context. And yet much of what follows could apply as well to long independent Latin America as to more recently independent Asia and Africa, which is not suprising given the similarity of their respective political systems. The discussion also does not apply to socialist Third World countries such as China or Vietnam unless specifically indicated.

The idea and practice of primary health care is not a new concept. What is new is that the international health care community has (belatedly) agreed on its importance. The significance of this recognition is great and reflects not only growing understanding of the technical, economic and social issues involved but, even more importantly, evolving political and economic relationships both within and between nations that have taken some sharp turns during recent years. Some of the most important of these relationships are touched on below.

To varying degrees virtually all the nations comprising the "First World" of industralized capitalist countries are suffering from only slowly growing economies relatively rapid inflation and considerable unemployment. Such economic problems inevitably carry with them certain political concerns. Most of these countries also feel the pinch of rapidly expanding and apparently uncontrollable health sector expenditures. To add insult to injury, so to speak, these expenditures are increasingly being seen as having little positive measurable impact upon even improving national health indices. Some critics have even suggested that these increased expenditures are actually contributing to ill health

Most of the "Third World" of underdeveloped capitalist countries is in a state of advanced crisis. This crisis is characterized by static or even worsening conditions for the mass of the population at the same time as a relative few appropriate the wealth of the nation to themselves. This process goes forward in the context of very rapidly growing and increasingly filthy urban environments the general impoverishment of subsistence and other small peasants and farmers, unemployment and underemployment of unprecedented proportions coupled with the importation of inappropriate capital intensive technologies, rates of illiteracy that remain constant, together with growing university enrollments even in the face of graduate unemployment, and very rapid population growth flowing out of continuing poverty and inequality All of the above has led inevitably, to increasingly militant and revolutionary reactions and

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to more and more unrepresentative and repressive regimes as the privileged struggles to protect their perceived interests.

Not surprisingly the health sector in most countries, including those of the Third World follows closely the sociopolitical characteristics of the nation. As such, the health sector in most Third World countries is characterized by services directed toward the wealthier members of the population, and conforming to the requirements of the most elite group of health care providers, the medical profession. Coverage of the population by even elementary health care services is often no greater than a quarter of the whole Coverage by effective and "caring" services is even less.

With regard to international relationships, recent years have seen not only the assertion by one group of Third World countries, the oil producers, of their right to a place in the sun, but also the defeat of the world's leading First World power the United States, by the people of a not very large Third World country, Vietnam. And partly because of the Vietnamese experience the United States and its associated allies have recognized the impossibility of dealing with world crises in the absence of Chinese participation. The "opening up of China" (from another view, the opening up of the United States) has allowed the international establishment in health as in other matters to become officially aware of the achievements of that country in eliminating the extremes of poverty and most of its associated evils within a period of only two decades, starting from a base that in 1950 was similar to the rest of the Third World.

In the context of the Third World, the current primary care discussion is often translated into one of "health by the people". To a very significant degree this is based upon recognition of Chinese accomplishments in the field of health care and the fact that much of that which is required for improved health has been shown in that country to lie within the capacity of "the people" to provide for themselves at least as part of the economic, social and political structure that prevails in People's China

In certain critical respects the "health by the people" issue in developing countries is different from the counterpart primary care one in developed countries. This stems from the fact that although in the Third World the patterns of disease and more limited availability of resources means that primary care ought to be given higher priority than in industralized countries, the allocation of resources in such countries is frequently skewed even more towards secondary and tertiary level hospital care than it is in the richer nations. This perverse situation reflects the greater inequalities of income distribution and power that exist within most Third World countries, as compared to those in the First World. It also reflects the fact that the bilateral and multilateral agencies--within which so much of the rhetoric of "health by the people" has been developed--are charged at the same time with the responsibility of assisting developmental change directed toward greater equity in conjunction with the same regimes which often are themselves the prime obstacle to such change. In such situations even the best of aid programs may wind up benefiting primarily, or possibly even only the rich.

THE COLONIAL PERIOD

In all probability, there has never been a society without its own ways of contending with illness. Most societies have also had special persons responsible for caring for the sick, as well as their own treatment products. In fact it may still be the case that more people in the world are in regular contact with "traditional" practitioners of the healing arts than with "modern"/ "western"/allopathic ones. The systems to which these traditional practitioners belong vary widely, both as to content and effectiveness. Nonetheless, it can be said with some confidence that in comparing the different systems, until this century there was relatively little more of intrinsic scientific value to be found within the Western one as compared to the others, and even less so with regard to the average levels of medical practice. This was especially the case in countries such as China and India. When examining apparently less scientifically developed systems as in, say, parts of Africa, it is not all that clear that they suffer very much from comparison with the actual practice of Western medicine in rural parts of Europe or North America in the nineteenth century. At least partly because of the tendency to compare the best practice of European medicine with the average (or even worst) practice of African or other systems, the latter always appear to come out very badly indeed.

The conquest of Asia, Africa and the Americas by Europe, and the consequent assumption of state power by Europeans, led to the virtually world-wide domination of European forms of organization and scientific systems. Western medicine, like virtually all other things European, received official support while traditional systems either receive none or were consciously suppressed. In addition, the transfer of wealth from the colonies to Europe encouraged the further rapid development of scientific and other institutions so that Western medical and other scientific systems could, in fact, come to outstrip those of other parts of the world.

The colonial powers began early to introduce their own medical care systems into their overseas territories. In many cases these early services were developed by, and were in the charge of military personnel. Typically the pattern of "modern" medical care during the colonial era had three major componenents: the urban hospital, the rural dispensary--often Christian church related, and the hygiene or public health element. In essence this remains the pattern in Africa right up to the present.

The three components: hospitals, dispensaries and hygiene, which comprised the colonial health care system, were mixed in various ways in different places, and were often augmented by some measure of private general and nursing home practice. Naturally enough the administrators and staff of colonial medical institutions saw themselves as providing a needed service, as well as helping to introduce more scientific and orderly methods into the health and health care environments of the more "backward" parts of the world. It was generally assumed that the administered peoples would prosper to the degree they became like those who administered them.

INDEPENDENCE

In a way the colonialists were right: those amongst the ruled who, in certain key respects, became most like their (now former) rulers were the very ones who prospered most. The two decades following the Second World War saw the

ones who prospered most. The two decades following the Second World War saw the national independence of most of the colonial world--Asia in the first decade and Africa in the second-and in the third one virtually all the rest. Most countries came to independence under a leadership that envisioned orderly democratic (in the conventional western sense) development tinged with a significant element of social democracy, often within the framework of particular forms of African, Arab, Indian, etc. socialism(s).

National independence, although an historic event of tremendous significance, so far at least has not succeeded in eliminating hunger, illiteracy, the extremes of ill health and other manifestations of poverty for the bulk of the population of most Third World countries. In addition, the nations of the Third World remain heavily dependent upon economic and political decisions taken in Europe and North America. Western style democracy has broken down in most places, sometimes to be replaced by other more or less democratic forms but, more often than not, only by more directly repressive regimes. In any event, with or without some semblances of "democracy", it is usual for small economic and social groups to grow rich while the majority of the population at best see no worsening of their condition.

One of the most important changes of the post-independence period has been the rapid growth of populations, mostly due to falling infant and child mortality rates. Although specific reasons for this fall are not precisely known, it is generally argued to be primarily due to public health measures such as the international smallpox and malaria campaigns, the increasing availability of supplies of clean water and improved nutritional status. Although death rates may have been affected by the smallpox, malaria, and other campaigns, the large fall that actually took place does not appear to be adequately explained by these alone. With regard to clean water, waste disposal and other aspects of sanitation, little has changed for the bulk of the population of the Third World which remains primarily rural; those who have migrated to the towns may have substantially improved their position in this respect. With regard to the nutrition factor, it may be that its important contribution to falling (especially) infant mortality rates has come about primarily through the more rapid availability of at least minimum quantities of foodstuffs at times of extreme food shortage and famine. Although famines still occur in the Third World, they are no longer as regular as they were during the colonial era. There is little evidence that average nutritional standards within much of the Third World are rising. Within the context of relatively wide variations, both the very availability of national and international food stocks and the transport systems to move them quickly, make it less possible under conditions of independent sovereignty to allow starvation to the point of immediate death. However, although fewer people may die outright from starvation, many survive only at lowered nutritional and energy levels; thus under-nutrition becomes a chronic process rather than an acute event.

HEALTH SERVICE DEVELOPMENTS

Most of the newly independent states embarked on the preparation of medium and long-term health development plans of one sort or another. These usually proposed the relatively rapid expansion of virtually all aspects of the health services, essentially in their existing forms. In addition, they sometimes introduced such new elements as "primary health centers" or "community participation" into the health services. If these plans were in their formulation

primarily only "more of the same", in application they become at best only that and at worst allocated health sector resources even more sharply towards elite and/or urban groups and populations than had been the case before national independence.

The leaders of the newly independent countries, and more particularly the medical leadership did not question the essential character of the health services they had inherited; instead, they aspired to spread these services to the whole of the population. The new services were to be "high standard", as defined by the medical elite, at the same time as they served the needs of the whole population. The very comprehensiveness of the plans almost always meant that only a fraction of them could be implemented, thus forcing (or allowing) the implementers to single out only particular projects for development. More often than not it was the prestigious hospital plan that was thus singled out, and not the health centers, rural clinics, or preventive programs. The rhetoric of the plans was-and still is-almost always at sharp variance with proposed expenditures. The rhetoric emphasized preventive and rural priorities at the same time that actual expenditures were overwhelmingly curative and urban.

The plans reflect not only the social and class views and interests of the medical doctors and their political superiors who develop them, but also the narrow initial clinical training of members of the medical profession. This is not to hold Third World doctors alone as responsible for the failure of most health planning as obviously they are part of larger structures. However health plans often have been even "worse" than they were politically "required" to be as a result of the almost total domination of health planning by physicians and the related exclusion of others. The abstract "health needs" approach to planning has clouded the need for explicit recognition of resource constraints to health development and consequent setting of specific priorities, including the almost certain downgrading of medically cherished projects such as "that new cardiac unit." To "plan is to choose," yet the system of health planning in most countries either denies the need to choose, or in some few cases, makes the planning process appear to be so complex that nothing can flow from it in any reasonable time period.

The post-independence period, then, saw a continuation of the kind of health care systems in operation during the days of colonial rule. Of course, it was an expanded system that was coming to be staffed by nationals at all levels rather than by foreigners, as well as being more readily accessible to a somewhat larger proportion of the entire population. Nonetheless the system did not differ in any basic way.

The component parts of the system had expanded at different rates. There was rapid and massive expansion of medical schools, teaching hospitals and other large hospital construction. To a significant degree these services were available only to urban populations, and the best and most expensive aspects of them only to the higher income part of that population. The output of medical schools increased rapidly and in many Asian and Latin American countries medical graduates have already become a glut on the market in urban based private practice systems. Many graduates--virtually all from middle and upper class families--have emigrated to countries such as the United States and Great Britain.

The "public health", primarily in the form of campaigns designed to eradicate specific diseases--for example, yaws smallpox and malaria--also expanded after independence. These campaigns were mostly vertically organized with their own administration and budgets and had relatively little contact with the rest of the health care structure. In many cases these special campaigns absorbed more resources than did the whole of the country's rural health services. Initiated with external funding from the World Health Organization and similar agencies, their cost raises questions about the appropriateness of their organization.

Partly because of the military background of many of the early organizers of post-independence health services (especially in Asia), which followed from the pattern of colonial administration, these eradication campaigns were organized on strict military lines (Banerji 1974). This type of organization, while offering certain advantages tends to be so costly as to raise serious doubts about the appropriateness of the entire effort. Another reason for the separate, and thus costly, organizational form of the vertical campaign had been the initial external funding for many of them. This issue will be touched upon again.

The third component of the health care system, the rural dispensary, also expanded during the post-independence period, but to a much lesser degree than the other two. Probably the most significant development in this area was that of primary or rural health center, although the idea of the polyclinic was not new and already had been well developed in practice in the Soviet Union. The Indian Bhore Committee report of 1946 set out the need for a primary health center in each "development block" (then around 60,000 people) with a group of related sub-centers. The concept was extended in East Africa on the more intensive use of "medical assistants" in place of the graduate doctor, and was later widely publicized in Maurice King's well known book. To a considerable degree this development reflected the extreme scarcity of Black medical graduates in East and Central Africa. The concept of the rural health center with a medical assistant doing much the same work as a medical graduate is practiced widely only in a half-dozen countries of East and Central Africa, and a few parts of Francophone Africa (Gish 1975). In other countries, nurses, dispensers, and other paramedical and auxiliary personnel perform certain limited activities normally reserved to medical graduates in the industrialized countries.

Independence brought with it an expansion of the health care system along the lines discussed above. However, in certain key respects the essential model was still the colonial one (at its best) of providing "health for the (dependent) people". In its more elaborated forms, say in East Africa, this was somewhat improved upon with the inclusion of related "community participation" approaches to health care. This distinction was important, in that these broader approaches gave explicit (if often primarily rhetorical) recognition to the oneness of the community--as befitted newly independent nation-states.

In some, external factors have much influenced the development of Third World health services. They were influential at least partly because they fitted well with already existing internal social and class interests. It is notable that many newer and more progressive health sector developments, say limitations on private medical practice being developed in the U.K., find few advocates within the health sector in Third World countries, in spite of their new-

ness and foreign glitter. One obvious example of external influence on the development of Third World health services is the British or American type of medical school and related teaching hospital. There is no need to elaborate here the inappropriateness (at least with regard to health care needs) of the typical Asian or African medical school. Many of these schools followed the "centers of excellence" models developed by institutions such as The Rockefeller Foundations. The centers of excellence concept spread to the "teaching health center" related to the medical school, also often developed with Rockefeller Foundation or similar funding. Many centres of "excellent teaching" also became centers of "excellent research" for American and other universities. As with the teaching, the research is always excellent, even if little positive effect upon the health care needs of Third World populations can be seen to follow.

The massive eradication campaigns have also been developed largely in response to external influences, in this case program funding made available by the industrialized countries, often through the World Health Organization. In keeping with this funding it was possible for donors to encourage, if not insist upon the creation of separate, vertical organizations for--most notably--the smallpox and malaria campaigns. Because external funding mostly comes in the form of aid to a specific project or program, as distinct from the general health services, donors feel the need for a separate more managerially efficient, and better monitored structure than is generally to be found in the national ministry of health. However, this efficiency is often bought only at great cost both in terms of absolute monetary expenditures and, more importantly, the overall balance of health care activities within the country. In effect, relatively small sums of external assistance often become the tail wagging the dog. Although recent years have seen a declining interest by donors in specific disease eradication programs, the approaches are now being liberally applied to family planning activities. The central lesson of the "vertical" campaign seems not yet to have been learned; namely, that given the underdeveloped state of national health services and their consequent inability to carry health sector programs, the only special campaigns likely to succeed would be those based upon a technology requiring only a single application--as was the case with smallpox. Of course family planning programs need not primarily depend upon the health services; however, neither should they stifle the appropriate and complementary development of those services.

The program or project approach is contributing to breakdown of one of the "relatively" better legacies of British colonialism; that is, a structured public sector responsibility, primarily through the ministry of health towards the health sector as such. The problem is almost always exacerbated when the external support/intervention comes from U.S. institutions. Because historically, American health services have primarily involved the private sector, American government intervention mainly takes the form of "special programs." Given the present incoherence of the American health delivery system the special program approach may be the best that can be accomplished at this time in the U.S. However, the imposition of such programs on countries with different and, initially at least, better structured health systems adds to the already numerous problems of appropriate health sector development.

HEALTH BY THE PEOPLE

The emergence of a new majority view of development focused upon the needs of the most impoverished including their nutritional and health requirements, has more or less swept the development boards. Primary health care for all by the year 2000 is part of the new strategy. It calls for popular participation in the creation and implementation of local health service. It includes innovations such as the use of village-level health workers and the integration of traditional healers. Opposition continues to be voiced by more traditional de velopment economists on the one hand and by those who argue that only fundamental political/structural changes can positively affect the health status of the world's poor, on the other. These critics argue that in the absence of more fundamental changes, programs justified originally by the tragedy of the poor may benefit only the rich.

As yet, the new strategy has manifested itself only in projects. that is, isolated activities carried out quite apart from the overwhelmingly hospital based delivery systems which absorb virtually the whole of health ministry budgets. Reversal of this pattern of spending priorities is an essential aspect of equitable health care. Barefoot doctors and indigenous health practitioners are unlikely to be extensively developed and properly utilized in the absence of fundamental reforms of the more conventional health care delivery systems. Local level workers cannot function effectively in isolation from the support system at other levels.

This approach as popularized in the international agencies, fail to distinguish between so-called "alternative approaches" in countries such as China, Cuba and Tanzania, which are directed toward overall changes both within the health sector and in the broader national context, and small, isolated individual projects, often externally financed, taking place in countries with governments having little or no orientation toward the overall health care needs of the population (cf. Djukanovich and Mach 1975). Although certain techniques can be applied in both "special" local situations and as part of overall national change, the substance of the matter differs in such varied contexts. To characterize and group such different situations under the one heading of "alternative approaches" is unjustified. Although many individual projects may in time have a growing positive cumulative effect, the present reality is different. In any event, historical experience is not such as to encourage optimism. In the short run, at least, the "alternatives" confusion indicated above may only contribute to letting some governments and health ministries "off the hook," diverting attention away from the inappropriateness of the existing health care system. Espousal of " health by the people" by countries with repressive governments and/or with elitist health care system will not lead to health for all.

The discussion appears to have maoved in remarkably short order from total rejection of the traditional practitioner, the village health worker, or even other types of "medical practitioners" than those with university degrees to idyllic glorification of these types of cadres. However, the argument in favor of the use of traditional practitioners does not question why even "modern" practitioners of private medicine have not been properly integrated into Third World health care services. With regard to the use of village medical helpers, the problem of financial remuneration for such groups in the absence of Chinese

type societal relationships, has not been solved. Why is it that the poor, with relatively good access to existing health services, find them so unsatisfactory in meeting their basic requirements? Problems such as these (and more fundamental ones too) must be solved if the health by the people approach is to become more than simply rhetoric built around a number of special projects.

CONCLUSION

The limitations of conventional health care sytems are obvious. The narrowly technological approach to health care serves to block the integrated utilization of health, economic, and other resources. In fact, highly professionalized and technological health service cannot be equitably distributed, as it is neither possible nor desirable to have a hospital in every village. Rather the task is to attempt to change the composition of health services--away from hospitals and toward primary care--through their more equitable distribution, and to make them part of overall economic and social development.

In many respects a false distinction has been drawn in the contrast between health "by" and health "for" the people. On a significant scale it will not be possible for there to be health "by" the people unless their governments also provide health "for" the people. Emphasis must be placed on necessary changes in existing health care systems (which all too frequently destroy the health care possibilities of the many) at the same as new ways develop to involve the community in its own health and health care systems. This combination can be termed "health with the people."

What then can "the people" do in the context of a "health with the people" approach? A few samples follow:

1. As individuals, lead healthier lives, e.g. exercise, no addictive habits, etc.

2. As a "health care" community: create health care/service resources, e.g. "barefoot doctors" organize campaigns designed to destroy disease vectors, etc.

3. As a "political" community: control the health care system and the professional "providers" of health care; control the overall socio-economic system, etc.

It appears that answers to current health and health care problems are being sought primarily outside existing health delivery systems, thus reflecting the disillusionment with them that now exists in so many quarters. But such disillusionment should not become the basis of a two-tier health care system (at best) one for the minority with access to an extensive high technology system and one (or perhaps none) for the rest of the population. The basic and legitimate concept of health by the people could be hindered if the types of special projects discussed above continue to be identified as "the primary health care strategy;" in the absence of change in the whole of health care systems (if not entire political structures), they can only lead to disappointment and frustration. It must be stressed that the major obstacles to more just and efficient health care systems (whether "by", "for," or "with" the people) are not the usually cited ones of limited resources, poor communications,

or lack of technological knowledge and data. but rather social systems that place a low value on the health care needs of the poor. This is especially the case when the satisfaction of those needs may require certain adjustments, thought to be uncomfortable in the short-run at least, in the behavior of the professionals who provide the health services and of the elite who monopolize the best of that which is provided.

The situation is not entirely without hope. The new emphasis on income redistribution and employment creation have obvious implications for the health sector, which ought not to be consciously reoriented in terms of what might be called "health income redistribution." International donor agencies already look more favorably on health sector projects, although still often of the wrong type. Nonetheless, some of these donors are trying to influence the spread of more equitable and efficient medical services in the context of improved overall health activities, particularly in areas such as nutrition and family planning. They are also more consciously working toward the integration of health services and related activities in the context of improved overall development planning. Some ministries of health and governments are also giving some consciously different thought to the problems of health sector development.

It is becoming increasingly clear that in the Third World improved health is not primarily a matter of medical systems, but rather a broader matter requiring better understanding of the nature of underdevelopment itself. As a consequence, all activities concerned with health must begin with the specifics of underdevelopment in particular circumstances. Only from this background will it be possible to come to grips with the issues of improved health status as well as more relevant health and medical services in the Third World. As long as it remains essentially impossible to deal seriously with existing social and property relations, it will remain impossible to alter significantly the health status of the world's poorest, say, one billion people.

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A SYSTEMS APPROACH TO RURAL HEALTH CARE: A TUSKEGEE MODEL

E.W. Adams and T. Habtemariam

The rural setting is characterized by small farm communities with low socio-economic status and inadequate health care services. Due to geographic, economic, cultural and political isolation, the rural populace continue to be exploited by the dominant urban-centered powers who refuse to share the wealth and benefits from social and technological advances. Significantly, little attention and less resources have been committed to solving the chronic problems of rural America; in spite of evidence which showed that the cause of the crisis of the cities in the sixties and seventies as being rooted in the migration of Blacks and economically deprived whites from the rural areas to the urban centers in search of bettering their lives (Price 1969:148).

Currently, there is an urgent need for upgrading the quality of rural life so that the constant drain on rural home resources, especially the young, can be reversed and the conditions of desperation that exist in the inner cities can be relieved. The upgrading of rural life must begin with the development of an economic structure that reverses the constant extraction of wealth from the rural poor coupled with concurrent development of a broad and sound infrastructure of education, social services and health care systems. The human and veterinary medical aspects as well as the interface between the two disciplines should be emphasized so that a holistic health care delivery could be implemented to solve the rural health needs.

The present and past health care structure focused attention on the urban population leaving the rural communities practically unattended. In cases where some services existed, these were of limited value due to the fragmented and parcel type of approach to solving the immense rural health problems, which only compounded the disenchantment in rural life and the subsequent flight to the inner cities where conditions are no better. Even the basic philosophy of health care delivery has been the "delivery of bedside treatment," an interpretation that seems to devalue the contribution of such essential elements of public health as environmental sanitation and preventive medicine. In recognition of the need for an approach somewhat different from the traditional "physician in residence" situation, a program must be designed that takes into consideration the environmental conditions, malnutrition, poverty and negative cultural factors that are responsible for the high incidences of certain diseases among rural populations.

The obstacles to implementing or improving rural health care systems are numerous. External factors, such as lack of trained manpower in the health fields financial shortages, inadequate facilities and equipment affect such a rural centered program. Internally, in the rural target population itself, the lack of practical and effective health consumer education, the weak socioeconomic and political base, vis-a-vis a highly organized political structure controlled by the wealthy has failed to attract the attention of policy and decision makers. Such complex array of problems that plague the rural areas needs a carefully planned and systematic study. Tuskegee Institute, located in the middle of one such rural community, has taken initiatives to examine closely these problems over the past several years and these results are of value that should serve as models in future endeavors: such is the objective of this paper.

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THE TUSKEGEE APPROACH

Initially, the health problems of significance around the university were delineated and specific tasks identified, so that appropriate solutions could be sought for each health issue (Hopper 1973). These included:

A. Need for reorganization and coordination of the available health expertise at TI, to address more realistically the special demands and problems of health care in the rural setting, including the interlacing of human and veterinary medical services.

B. Gathering, storing and retrieving health data and the management of such information using modern computer data base systems.

C. Health economic analysis and assessment of rural health services so that cost effective management practices and avenues with greatest social benefits could be exploited.

D. Epidemiologic data collection for surveillance and analysis to monitor and control certain diseases and improve the capabilities for health maintenance of the population at risk.

E. Development of health education programs with emphasis on problem solving techniques in rural health care systems and the application of findings to field situations.

F. Structuring a health care system for community involvement and utilization of local, national and human resources.

The unique setting of TI permits the collection and integration of truly population-based human and health information due to the fact that both human and veterinary medical facilities are the only ones providing services in Macon and nearby Black Belt counties. As a result, rural health research and better health care services could be studied and systematized in a programmed manner by including the total farm ecosystem. The recognition of this point was significant in developing the Tuskegee model.

The key to improved health care was defined as the delivery of services that were easily accessible to the mass of rural poor--available, effective, efficient, and affordable. It was thus necessary to implement a program to reach out to the rural areas via mobile health units, unlike past efforts of centralizing such activities in human and veterinary hospitals.

In the execution and design of the program, the rural dwellers and community elders were consulted in identifying the appropriate mechanism for health care delivery and establishing a feedback channel to strengthen further the outreach activities. In this way a medium for bringing together the population with health service needs and those with the expertise to provide the services was created and an environment of community involvement was encouraged.

To accomplish the goal of better rural health care as defined above, the systems approach was selected as the most appropriate. Such an approach enables the examination of health problems in a holistic manner so that the solutions

could be defined and elaborated to achieve maximal benefits in the target population (Habtemariam 1979:338). The systems approach to health problem-solving necessitated identifying the significant components of the farm ecosystem, so that the solutions provided had to be solved. Note that the rural health problems are a function of the environment which binds the population at risk, both humans and animals (Adams, 1977;1979). However, the avenues for effective directed action against rural health constraints are all within the domain of human reach; if only the required financial resources were made available along with societal commitments that elevate human welfare above all other concerns.

A FUNCTIONAL MODEL

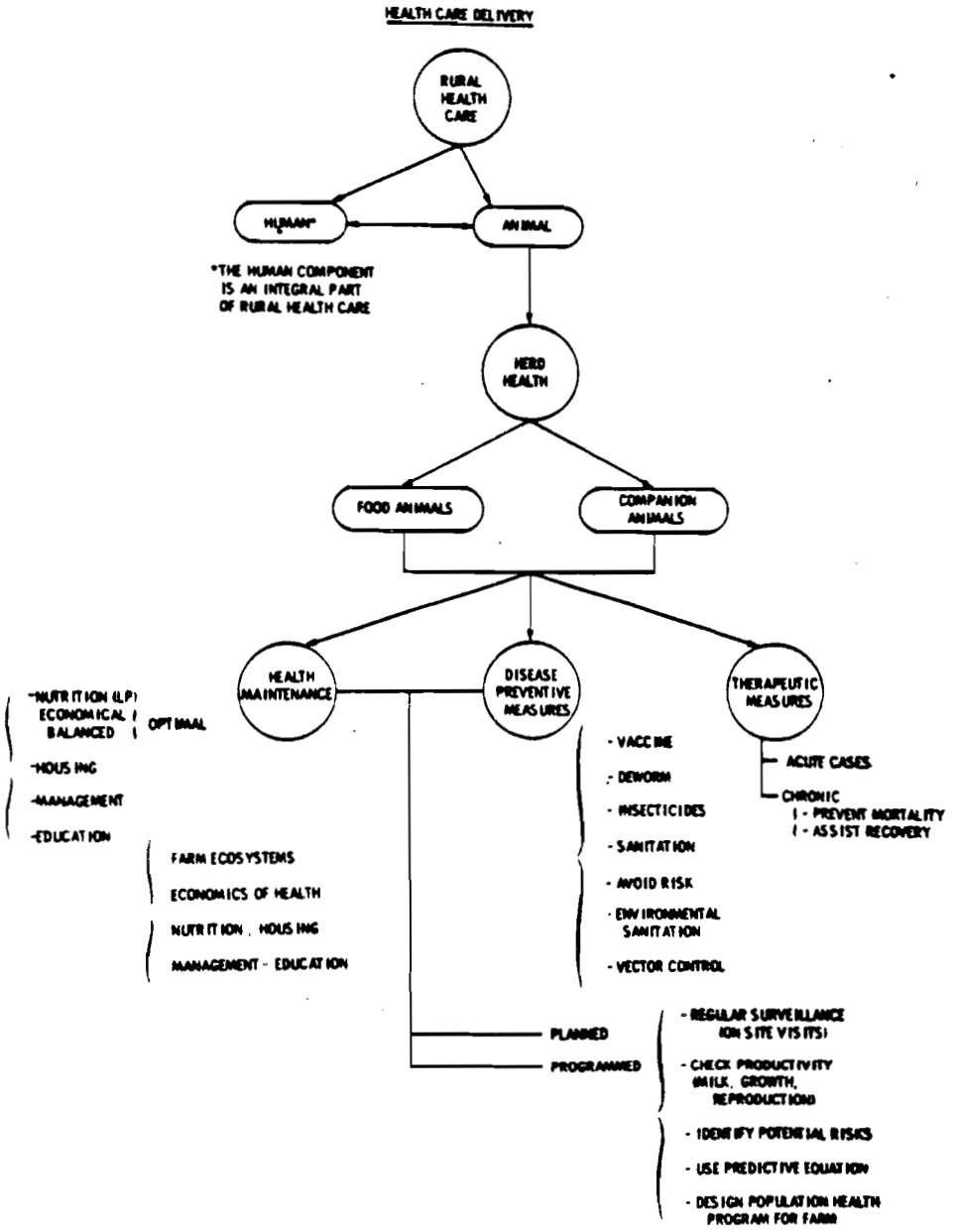
Based on a number of years of experience, Tuskegee Institute has developed a model for rural health care systems that consists of functional human and veterinary health care delivery to a target population. Both of these are operational, but in this paper, we will dwell mainly on the veterinary component. The human primary health care unit and its counterpart, the veterinary component, are indicated as an integral part of rural health care. The rural veterinary medical services involve herd health programs of Tuskegee Institute (TI), whereby health maintenance, preventive and therapeutic measures with emphasis on health education, health economics and management consultations, are programmed for target food producing and companion animals of the rural community.

A closer cross-sectional look at the livestock population provides the goals of veterinary activities to include reduction of infection, mortality and culling rates and increasing the productivity of animals to optimal levels via appropriate health maintenance programs. Depending on individual farm cases, the herd health problems are examined systematically during ambulatory visits via problem identification and solving techniques. After establishing baseline data on farm population characteristics and productivity performance as measured by such productivity parameters as milk, eggs, meat, calving, etc., a satisfactory index for providing a measure of health status in the population is recommended with appropriate follow-up to see the implementation of it.

The approach to integrating health care delivery in the human and animal populations is provided in a flow diagram that depicts the human/animal health care interface for a truly population-based health care with an interlocking and interdependent health care provision (See diagram). The final goal of implementing such a holistic rural medical service unit should be a major step in the direction of solving the health needs of rural people.

ACTIVITIES IN PROGRESS

Although the importance of interfacing and coordinating health care services for the total rural ecosystem has been recognized and is being implemented, this aspect needs further strengthening and refining. Systematizing and organizing a health data base and the quantitative and analytic study of such biomedical data via systems analysis and operations research methods is also an area that requires further improvement. A computer based health information data base and a highly advanced electronic information transmittal device are currently operational in the John A. Andrew Hospital, Tuskegee Institute. Funding of a similar proposal for implementation in the veterinary area is being sought so that in



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conjunction with the human data base, a more complete health information management center would be created. Various research proposals on health economic and mathematical programming are also pending.

To provide current and reliable epidemiologic surveillance data for Macon and nearby counties, a Serum Bank has been initiated and a Tumor Registry will be initiated soon. These would allow the monitoring of infections using serological profiles, establishing metabolic and hematologic profiles, monitoring of toxic substances in serum, and the surveillance of zoonotic diseases and patterns of cancer occurence in the rural population. Such a comprehensive surveillance system, when fully implemented, would truly be a major addition to improving health care.

One vital area that needs further development is the health education component. The TI rural health care model could be used to develop full-scale training courses on such topics as rural health care systems, the application of health information and management of rural health delivery as well as serving as a field-laboratory medium by which graduate students and other trainees can receive specialized education on rural health and developmental questions.

APPLICATION OF THE TUSKEGEE APPROACH TO RURAL HEALTH CARE IN DEVELOPING COUNTRIES

The rural conditions of Black Belt Alabama and those of a developing country have similarities and also differences; parallel examples can be found, and the following are illustrative. As a result of fragmented educational programs and other information, the young people continue to abandon the rural peasant life for the cities where only miserable slum existence with the corresponding physical and social deterioration awaits them. Due to lack of proper planning, rural developmental efforts remove the traditional land based class producing a new class based on money with its own requirements for consumer goods. Finally, health care improvements which are either shortsighted and/or faulty in conception and planning, and excluded other economic and socio-political development questions, have resulted in increasing population growth rates, adding more strain on existing resources. The unique experience of TI in providing practical and effective health care in such a situation is a valuable asset that can be translated to developing, planning, managing and evaluating other such programs wherein such a demand exists.

To meet such a demand, we have also organized and pooled the experiences of TI's indigenous African experts en masse to examine critically rural health care in the Third World. Such a body has been working on the veterinary component for the last few months and further developments in the human area are also planned. As TI reaches out to developing countries, it does recognize the principles of self-determination and the maximal utilization of indigenous host country resources in developing a rural health care system that is responsible for improving the levels of living for the peasant masses residing in rural areas making such a program independent and self-sustaining. By interrelating the diverse expertise of TI and those of its counterpart host nationals, the capabilities for planning and implementing programs of rural health care delivery could be channeled to solve specific rural health problems in developing countries.

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THE ROLE AND TRAINING OF TRADITIONAL MIDWIVES

Sheila Cosminsky and Brooke G. Schoepf

We shall address one aspect of health care delivery, even though we were cautioned against considering health care--and still less, one part of a health care system--as a separate entity. This paper focuses on maternal and child health examining traditional midwife roles and training programs. The need for research and for the application of social science concepts in designing these programs will be stressed.

A major problem in Africa, as in many other parts of the world, is the high rate of infant and maternal mortality. This has led many health care and rural development programs to focus on the role of the traditional midwives who probably deliver more than two-thirds of the world's babies. In Africa they attend over 90 per cent of all births in many rural areas, and the dearth of biomedically trained personnel means that they will continue to deliver most babies in the foreseeable future.

The training programs have two goals: to increase the traditional midwives' knowledge of western-style practice and to integrate them into the biomedical health care delivery system. This has become particularly important in light of the recent WHO guidelines and the goal to extend primary health care to everyone by the year 2000. The integration of traditional midwives has had a checkered career. Some nations have made their practice illegal and sought to replace them with officially trained and certified midwives. This is generally not feasible in countries with tremendous manpower and training shortages as well as severe financial constraints. A seond policy option, and probably the one most commonly followed in Africa, has been to ignore the traditional midwives and allow them to operate on their own, while providing training and support for a limited number of highly skilled health workers, hospitals and maternity centers. In these countries, 61 percent of those surveyed by the World Health Organization, traditional midwives continue to provide the major share of services without any biomedical training.

The third option, now becoming a trend, is to work out some type of utilization and integration of traditional midwives in the delivery of health services at the local level. Most of the training programs are in the stage of small-scale pilot projects, rather than large-scale country wide programs. They generally include some type of official recognition and licensing procedures for the traditional midwives who are trained. In some cases the programs incorporate family planning along with public health training and maternal-child health. The programs are usually subsidized by the World Health Organization, UNICEF, private foundations and voluntary organizations, US/AID or other bilateral agencies.

In an early approach to midwifery training programs, Kelly (1956) stressed that they should include an anthropological perspective based upon the fundamental reference points of the local role of the specialist or midwife. Several investigators (Jelliffe and Bennett 1962; Williams and Jelliffe 1972; Voorhoeve 1966; Chen 1973; Verderese and Turnbull 1975) concur in the need for analysis of

beliefs and practices relating to health in the local environment, many of which should be encouraged and adopted into health education. They distinguish between harmless or neutral practices; practices the effects of which are unknown. those which have possible beneficial effects and those with known harmful effects. Unfortunately so little is actually known about birth practices in many cultures that their effects are difficult to classify. Further investigation is needed in these cases, but meanwhile Williams and Jelliffe are of the opinion that practices without obvious harmful effects should not be opposed by the trainers.

These recommendations have been rarely followed in practice. Instead many American obstetrical techniques which are now being questioned and criticized (Haire 1972, Arms 1975, Mean and Newton 1967, Shaw 1974), are being introduced to other countries via the training programs. A time lag exists; the supposedly "modern" medicine taught in these programs is really sometimes old and outdated by the best standards of current western or biomedical practice. Sociocultural factors are an integral part of western or biomedical practice, education and decision-making (cf Schoepf 1975) and birthing care is no exception (Jordan 1978).

In many areas of the world, a midwife, whose social status is especially designated and recognized by the community assists the mother in pregnancy, childbirth, and postnatal care. The cultural patterning of the midwife role is related to the ways in which people conceive of and cope with life crisis events. Even where an increasing number of women are delivering in hospitals, the traditional midwife often still gives advice and performs important prenatal and postnatal functions. Although there are male midwives in some societies, for example in Ghana, the traditional midwife usually is an older woman highly respected for her skills, which may be both obstetrical and ritual. These skills are usually learned through apprenticeship with another midwife, through experience and, perhaps, through supernatural calling, dreams or visions. This type of education is quite different from that provided by formal western medical training.

Just as western birth practices are part of a larger cultural framework based on western values and organizational patterning, so the traditional midwife's knowledge and practice are integrated into her sociocultural milieu. Practitioners and clients share the same language, body concepts, and values. The midwife normally enjoys the confidence of both the client and her relatives. The midwife externally examines the position of the baby, massages the woman, assists in the delivery, may perform accompanying rituals, and gives advice and instructions. In addition to actual physical effects, the continuity of care and support through pregnancy, labor, and the postpartum period may have a positive psychological effect in helping to allay the parturient's anxieties. Training programs for village midwives should be designed and evaluated in terms of the midwives' full role.

TRAINING PROGRAMS AND OBSTETRICAL PRACTICE

Many training programs have stressed the use of the supine position, which, in contrast to the widespread traditional kneeling or squatting position, makes it easier for the midwife to view the baby. However, several authors are of the opinion that the supine position may be more difficult for the mother because it is against the force of gravity. The vertical position appears to be accompanied by more gradual stretching of the tissues and thus may promote easier delivery, reducing tearing or the need for episiotomies or chemical or instrumental interference (Caldeyro-Garcia 1975; Ampofo and Acolatso 1976; Newton 1975). The respective merits of the delivery positions have not yet been scientifically determined. Therefore, it is inadvisable to insist upon change to a Western practice which may be less effective than a traditional one with which midwives and mothers are familiar and comfortable (Ampofo et al 1977:52).

Herbs and teas---some of which produce oxytocic effects---are often administered to the pregnant woman, especially in the case of a difficult labor or afterbirth pains. The use of herbs has been condemned in many training courses, partly because of possible harmful effects of overdoses. In their place obstetricians and pharmacists prescribe the use of patent medicines, many which also have unknown or potentially harmful effects on the fetus (Haire 1972). The midwives are increasingly using patent medicines, some of which they have been taught to use in the courses. Both herbal and patent medicines may be medically effective when used in proper amounts. Instead of requiring poor nations to become dependent on chemical substitutes, however, more research on herbal remedies is indicated. Despite the difficulties involved, the active ingredients and proper amounts could be scientifically determined and used as a basis for beneficial developments rather than being condemned outright. A number of research centers in Africa and elswhere recently have instituted such programs.

In many parts of the world, traditional midwives manipulate the mother's body. Massages are given at various times during the pregnancy and , if done gently and firmly, are beneficial; if done roughly they may be harmful. The gentle physical contact of the midwife may help to relax the mother; there may be other physical effects as well, which render delivery easier. Physical manipulation which involves external version, or turning the fetus, is also widely practiced by traditional midwives. The effects of such practice are much debated. Reliable access to referral services should accompany any recommendation that midwives cease this pratice.

The value placed on modesty in many cultures is an important factor which affects the patient's anxiety level and the quality of the practitioner-patient relationship during all phases of the birth process (Scrimshaw 1976). Examination by a male practitioner may be especially embarrassing, due to the lack of privacy and nudity. Women may also feel embarassed to ask questions about their pregnancy or ask for explanations from a male physician. Medical personnel should be sensitized to the importance of this value. Some privacy and covering should be provided and wherever possible, female personnel should be used for interviews, screening and examinations.

Change in the content and style of the courses over the past 25 years has been slow. Kelly (1956) suggested that the main areas in which the indigenous midwife needs training are:

1. basic principles of hygiene and asepsis;
2. prenatal and postnatal advice and care;
3. recognition of cases beyond her capacities, which, if possible, should be referred to a doctor.

Kelly also emphasized the need for such training programs to consider the local beliefs and practices. The Guatemalan programs (reviewed in Cosminsky 1976, 1977) have incorporated the first three areas. Little consideration has been given to the local cultures or the traditional methods of training, such as apprenticeship, however. Nor have they attempted accomodations to existing local practice. Instead most programs manifest a generally negative attitude toward the traditional practices, omitting consideration of possible beneficial effects, without actually alternatively demonstrating their detrimental effects.

A few projects in other areas of the world provide a contrast to these programs. One is the Serpong project in Indonesia (Azwar 1975; Niehof and Haysin 1975), which incorporated a study of traditional midwives as a basis for developing their training program--which also included family planning. Another is the Danfa project in Ghana, which according to its objectives, stresses the need to learn the methods used by the traditional midwives in order to carry out a successful training program. "The course content is not aimed at making the TBAs change their methods of practice. Rather it is intended to make them carry out their practice in a safe and hygienic manner" (Ampofo 1976: 111). This is almost the opposite of the programs described above, and review African programs which appear to be designed with similar goals.

One further problem arising from the sociocultural interface which the trained traditional midwife is being asked to become can only be addressed briefly here. The midwife, who most often enjoys respect and high status in her own community, is brought into biomedical systems at the lowest rung of an elaborate ranking ladder. Indeed, between the village midwife and the next level there may be several rungs missing, particularly if the midwife is not literate, has not completed primary school, does not speak the national language (whether African or European) and so on. Thus the gap is likely to be permanent, for most midwives will not be able to avail themselves of opportunities to advance along the health career ladders that are being instituted in various countries. In addition, where primary health care systems function, the midwife enters a bureaucratic process of supervision and quality control. This integration constitutes a marked change from a situation in which the midwife acts as an independent practitioner, following the dictates of her professional conscience, and peer and community opinion. These constitute further reasons to employ cultural sensitivity in the process of working with the midwives in the interest of their clients' improving health.

SUMMARY AND CONCLUSIONS

Many existing training programs for traditional midwives are based on a biomedical model in which pregnancy and birth are viewed as a disease rather

than as a normal process. The traditional framework presents a sharp contrast to the western medicalization of pregnancy. An awareness of cultural differences in the patterning of the birth process needs to be incorporated into the midwifery training programs and in the training of the physicians, nurses and midwives who are the providers of these programs. Incorporation of concepts of biological and cultural adaptation, and cultural relativism into medical training might help point out some of the positive values and help to change ethnocentric attitudes that predominate in many programs. Ceasing to denigrate the traditional cultures and practitioners is a first step toward increasing the programs' effectiveness.

Beneficial traditional practices, which include cauterization of the umbilical cord, gentle massages, postpartum baths, breast feeding, certain dietary practices, such as eating chicken soup, and perhaps, the vertical delivery position, should be encouraged by medical personnel and incorporated into the programs. Neutral or harmless practices, such as ritual disposal of the placenta and cord, or prayers and rituals thought to protect against evil, should not be condemned since they have no negative medical effects. They may have psychological and social effects which reduce the mother's anxiety and thus may offer positive biological effects as well if they ease delivery or enhance the speed of recovery. Harmful practices, such as the use of dirty or contaminated cutting instruments or dressing material for the cord, and some of the prenatal and postnatal dietary restrictions should be modified through education, training, and demonstrations rather than by condemnatory opposition. Uncertain practices, such as the use of certain herbs, should be investigated further but should not be condemned until there is evidence of harmful effects.

Changes in certain aspects of midwifery practices, so as to promote asepsis and hygiene, can help to lower infant mortality and morbidity rates and improve maternal and child health. However, care must be taken not to abandon the beneficial practices and substitute more harmful ones, producing effects opposite to those desired. In areas where midwives also provide more general health care for women and children, this should be recognized and appropriate training instituted.

Aspects of earlier training programs criticized in this presentation currently are being changed in many areas. As yet, however, few evaluations have been made of either midwifery practices or of training programs. Most programs evaluated to date have had a family planning component as a central feature (cf. Ofoso-Amaha and Newmann 1979). Those that have evaluated birth practices (cf. Gordon 1964, 1965; Chen 1973) have considered only the physical effects as measured by morbidity and mortality rates. Other reports are mainly descriptive (cf. Jett 1977) or assume that traditional midwives are merely a temporary expedient rather than envisioning continual upgrading of their training. The emotional, social and economic aspects of midwifery should also be considered in evaluation of training. Social science can play a role in developing a broader set of criteria by which midwifery practices can be evaluated. Analysis of the role of the relevant beliefs and practices in alleviating or increasing the anxiety of the mother, in providing social support, and serving as measures of social control should be included. These should not be dismissed as "mere superstition," for they constitute cultural attempts to cope with the crisis of birth. In this they serve several social and psychological as well

as biological functions and are related to other aspects of the social fabric.

Developing cultural sensitivity requires examining the social aspects of Western medical practice and technology as they are transferred to Africa. Health workers trained in the biomedical system are coming to recognize the many ways in which their practice is part of a cultural complex related to medical technology and industrial development, as well as to the social organization of medical care and its associated ritual. As they do so, and as their critical reflections become part of designs for adapting biomedical technology to rural Africa settings, the goal of primary health care for all will be more rapidly approached. While stressing the need for cultural sensitivity at the interface between health systems, we add our voice to those of the previous speakers who indicate that there is no health-on-the-cheap. Successful training and integration of village midwives requires a functioning primary health care system, supported by adequate higher level care facilities, personnel and logistics, so that midwives are not left to cope with medical emergencies beyond their capacities.

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SECTION VII: EDUCATION FOR DEVELOPMENT
INTRODUCTION

Participants in this session agreed that decolonization of education necessary to make "education for self-reliance" a reality, is high on the agenda of the 1980's. New educational systems are required because many of the social and technical aspects of colonial education institutions re-socialized the colonized peoples to adopt attitudes and behavior which supported domination and dependency in myriad ways. The socialization process worked to create distance between students (the fortunate few) and their parents' way of life. It rendered successful students useful in middle-person roles necessary to the maintenance of colonial rule. Manual labor particularly in agricultural and domestic work, was frequently used as punishment for violation of the rules of schools organized on the pattern of "total institution". Training in skills and trades useful to the colonial economy was separate from and inferior to academic education for "intellectuals". Academic teaching often employed memorization rather than creativity and intellectual excitement.

These features remain in many of the education systems inherited by African governments--indeed, critics point out that they characterize most western institutions of learning as well. As education has been extended to more and more people, the need to redesign the system becomes more and more apparent. The increasing scale of education and training systems renders the effects of their negative aspects more acute. Thus, to give but a few examples, responsibility for rural exodus is attributable, in part, to the villages' primary schools; responsibility for health care inequities is attributable, in part, to transplanted medical education; responsibility for the limited impact of agricultural extension on small cultivators is attributable, in part, to methods of training extension workers. The qualifying phase, in part, is significant, because education is only one subsystem in a larger systematic whole. Emphasis on the system concept is important because it indicates that while tinkering with the parts can bring about some changes, the system is likely to reassert itself unless fundamental changes can be made in its basic elements.

Education for autonomous development, then, requires ways to make new concepts of curriculum and teaching operational in large-scale systems adapted to local norms and conditions. Active, participatory learning strategies are required, involving teachers and students in experimental approaches required to solve practical problems with peoples whom their expertise is supposed to serve. Basic research must create support for research on solutions to applied problems and yet continue on paths

of its own. A summary of the panel contributions and discussion prepared by Ms. Njeri Jackson of the Department of Political Science, Atlanta University who served as a reporter for the panel, follows.

The primary question raised in this discussion section was: How can American educational institutions help developing nations cope with development? Specific emphasis was given to the educational, training and socialization experiences to which students from the developing areas are exposed.

Dr. Emmanuel Acquah, a Ghanaian trained in the United States as an agricultural economist, addresses that question by drawing on his experience, as well as by looking at the theoretical and practical training offered in the United States and relating the relevance and impact of that theory and practice to the "reality" of developing nations. Dr. Acquah offers a positive assessment of the theoretical training given to students. However, he is critical of the fact that there is no corresponding practical training offered that shows an appreciation of the material conditions in Africa. Consequently, according to Dr. Acquah, there is a need for the development of creative thinking in the application of the theory. He offers suggestions for training models designed on the basis of African problems as opposed to those present models designed in the interest of U.S. domestic needs. Dr. Acquah emphasizes what he views as the great creative potential of American educational institutions (such as the Land Grant Colleges) to respond to the criticism identified, if they were only so inclined. However, the structure and funding sources present barriers to mobilizing that creative potential.

Monsieur Jean-Yves Gapihan spoke of his pedagogic field experience in Upper Volta and the problems associated with attempting to train and educate local people to meet their agricultural needs. He was involved with a functional literacy training program which attempted to train local agricultural extension agents (often from other indigenous groups) to speak and teach in the language of the people with whom they were working. His experience suggests that there is a need for both governmental and popular support of any program if it is to succeed. Encouraging people to identify and express their problems and to feel confident in their capacity to resolve them is also crucial to development, yet it is the aspect of literacy training which government officials tend to find most problematic.

Dr. Shelby Lewis diverged from the educational theme somewhat, to discuss women in development. Her presentation was directed at critically assessing underlying assumptions of development theories and the corresponding theoretical assumptions about the role and status of women in African society generally, and in development specifically. Dr. Lewis suggests that a more appropriate conception of theories of women in African societies and

in development must appreciate that the status of women in Africa is no better nor worse than the status of women in other societies. The sexist domination of women, Dr. Lewis argues, is the consequence of a multiplicity of factors including the legacy of capitalism and particular indigenous cultural practices. Accordingly, the emancipation of women is contingent upon the elimination of these combined factors and cannot be viewed as an isolated policy capable of resolution within the context of present, social, political or economic relations.

The presentations generated comments from the audience which tended to emphasize the historical role of education in Africa as proceeding from committed to maintenance of a world order with interests diametrically opposed to the interests of the people of developing nations. The need to criticize the theoretical assumptions upon which practical training is based as well as criticizing the efficacy of that training, were emphasized. Several people noted that the presence of skills in contemporary Africa has done nothing to reverse the declining capacity of African nations to feed their people. Further, the assumption that Land Grant Colleges in America can be viewed as useful transfer models based on their having succesfully addressed the problems of American agriculture was challenged. The role of Land Grant Colleges in America has been that of functionaries of (or at least sympathizers with) efforts to cartelize agriculture in the interest of profit. In America, where wheat grows to feed the rest of the world and to satifsy corporate appetites, hunger persists and at the same time, for many, being overweight is the paradoxical indicator of malnourishment. Thus, Dr. Lewis' opening remark that the role of American Universities and AID in development is problematic at best, was shared by many in the audience.

THE RELEVANCE OF AMERICAN EDUCATION FOR DEVELOPMENT IN LDC'S: THE MISSING LINK

Emmanuel T. Acquah

The Title XII Amendment to the Foreign Assistance Act provides American universities with definite opportunities and responsibilities to provide leadership in rural and agricultural development in less developed countries. Although some universities and colleges have actively been involved in international development, there are many more academic institutions which could contribute to the attempts to provide opportunities for improving living conditions in many LDCs. The new opportunities created by Title XII require the universities and colleges to execute their international components of their missions at levels comparable to or exceeding the good job that they have done domestically. Such a challenge calls for another facet of educational programs which needs immediate attention. This new facet which I call the missing link, is the RELEVANCY and APPLICABILITY of American training programs to development problems in the Third World countries.

There is no doubt that the training programs at American institutions are useful and relevant to the U.S. domestic problems. There is also ample evidence that participants from Third World countries respect and appreciate the quality of their theoretical training in U.S. Universities and Colleges. Their concerns are mainly in the area(s) of the application of their training in America to their local situations.

The need for training LDCs staff in the more developed countries (MDCs) has increased at the graduate and professional levels. Such a need should be expected to continue for a long period of time. The U.S. like other MDCs, utilize modern facilities that are mostly non-existent in LDCs. Training participants returning home cannot readily apply skills acquired in MDCs primarily due to unavailability of such sophisticated equipment/ tools with which they have been acquainted. The relevance of their training in solving practical problems in their home countries therefore becomes questionable.

One of the major characteristics of the American Education System is its ability to develop creativity (innovativeness, practical problem solving) in individuals. Such a feature of the American system provides it with an advantage in developing the missing link needed to produce relevant training for LDCs What do training participants from LDCs lack or want? Most training programs in LDCs, even at the vocational levels, are more theoretical than practical. I believe that most training participants hope to be more creative and be able to apply theory to real life problems after their training in MDCs.

The training needs for LDC training participants could be characterized by:

(1) Specialized action-oriented academic training.

(2) Concentration on critical and specific training exercises with potential practical application in LDC's.

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(3) Development of individual potentials for sharing skills and conducting in service training after participants return to host country.

(4) Relevance and adaptability of training to national, regional, departmental, and environmental situations that participants would operate in when they return home.

(5) Joint technical and administrative skills (since many participants return home to assume administrative positions as a form of promotion).

(6) Programs that foster or encourage creativity and innovativeness in participants.

It is clear that a training with theoretical and practical problem solving approach may be the effective tool to satisfy their needs.

SUGGESTIONS FOR PROVIDING THE MISSING LINK

Are U.S. Universities and Colleges capable and willing to develop and implement policies needed to provide relevant training to LDCs? The history of the role of American academic institutions and their performance during the agricultural development of the U.S. suggests that the capabilities are available to develop relevant programs for LDCs. The land-grant university system testifies to this. Given the present situation, the willingness of U.S. educational institutions to develop programs to solve specific country/areas agricultural problems in LDCs is questionable. The American educational institutions (be it private or public) have their own purpose and scope and it is therefore logical and rational to utilize all their resources to fulfill their domestic mission. I think their willingness to allocate resources to provide the type of programs needed by Third World nations depends heavily on governmental and/or private support to justify such programs. If necessary funds are provided for the development of the missing link, the institutions would be willing to expand or modify their domestically focused programs to serve the needs of the Third World countries.

Production methods, (no matter how efficient they might have been in MDCs) agricultural institutional development models, research methodologies, and some theories may not be transferable to LDCs without some innovative adoptations. Transformation of traditional agriculture to encompass modern and appropriate production methods in most cases does not happen in LDCs without a vivid understanding of the functions and importance of traditions, culture or customs of the indigenous (host country) people. The understanding of various cultures in LDCs by one individual or institution requires a great deal of investment and time. This may require some form of country/area specialization among universities or individuals at various universities in our attempt to improve our understanding of specified country environment and problems. The following general approach is suggested for making our U.S. Educational training relevant to Third World countries.

(1) Title XII Universities, and other universities or individuals in such universities interested in international agricultural development could be encouraged to form groups based on development problems and interest for:

(a) Country or geographic region; and/or subject matter interest (i.e., Economics, Agricultural Economics, Crop Production, Sociology, etc.) develop supplementary programs necessary to make their training relevant to defined areas in the Third World.

(b) Special Workshops, conferences, seminars, etc. could be developed periodically to meet special needs (thesis research, etc.) of training participants from a defined area of the Third World. The exercises should be based on simulated situations for such defined areas. Such programs should have the approval of interested universities to allow transfer of credit to individual schools.

(c) Universities with international development interests should collaborate on strengthening their courses syllabi, international research, development of appropriate theories for specified LDC, etc., as a means of improving or expanding their international agricultural development program.

(d) Create effective mechanisms for providing appropriate practical experience (1-1/2 years) in the actual operational setting for training participants prior to their return home. Such training should be required by both the sponsoring agencies and in LDC governments.

(e) An operative follow-up mechanism should be developed to enable participants to keep up with developments in their fields after their return home.

(f) Linkage arrangements between universities, research institutions, government agencies, etc., in the US and LDCs should be encouraged and supported.

(g) A pre-training profile of training participants should be developed to assess special training needs. In addition to the standard educational background information required for admission purposes, the profiles should include current job responsibilities, and possible/anticipated job responsibilities when an individual returns home. The profile would be useful in developing an individual's training program.

The ability of an institution to create the supply of the needed faculty and staff with the necessary experience to provide relevant international agricultural and rural development program is very crucial. The institutional policies and practices of many U.S. universities and colleges toward international programs need changes to attract qualified faculty and staff. Policies that would generate incentives and active involvement of experience staff could be in the form of financial (e.g., differential promotion and tenure policies) reward.

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The willingness of university administrators to provide the necessary improvements needed to provide relevant training in U.S. to LDCs therefore rests mainly on external support from donor agencies. The awareness of such donor agencies to long run importance and involvement of American universities and colleges in international agricultural and rural development support coupled with long term support to such educational institutions is a key to finding the missing link that could effectively provide the needed human capital for development in LDCs.

GRASSROOTS EDUCATION FOR DEVELOPMENT A FUNCTIONAL LITERACY PROGRAM IN UPPER VOLTA

Jean Yves Gapihan

Many studies of rural development projects point to the need for adults to read and write the local language as part of their participation in agricultural modernization. Another need repeatedly identified, is for village level participation in the problem-solving activities that are the motor of rural development. This paper examines some technical and social aspects of functional literacy training, drawing upon four years' work in Upper Volta. Under the terms of an agreement with the government of Upper Volta, a French based private voluntary organization, Freres des Hommes, contracted to train agricultural extension agents to conduct functional literacy programs in the rural areas. Working under the aegis of the Office Voltaique Pour l'Education des Adultes (OVEA), we offered training in pedagogy and linguistics to extension personnel who were to open village-level literacy centers.

In contrast to traditional literacy programs which teach only "the three R's", functional literacy strategy includes consciousness raising and problem solving. The first goal of functional literacy is to encourage the farmers men and women, to think about their problems and to organize themselves to find solutions to these problems. The second aim is to learn reading, writing and arithmetic. In addition to teaching the three R's the trainer conducts discussions of such topics as crop and stock raising, soil erosion and conservation health and sanitation, marketing, etc. in the local language. The informal group process is supposed to achieve consciousness-raising and spur self help efforts.

THE PROJECT PLAN

The functional literacy strategy designed by UNESCO was adapted for use in Upper Volta by OVEA and Freres des Hommes. Experimental centers were created in 1973 and several of the regional Offices de Developpement Rural (ORD) decided in 1975 to open literacy training centers using this method. Responsibility for staffing the centers was assigned to the local level agricultural extension agents working within the ODRs.

Agricultural extension agents were selected to be literacy trainers for several reasons. They were already living in the villages, knew the peasants and could be easily contacted and brought together for training sessions at the ODR headquarters. Primary school teachers were not recruited for the literacy program because they are part of the formal education system as teachers of children. The ODR strongly emphasized the fact that functional literacy is a nonformal education system for adults and that farmers must not feel that they are being sent to school like their children. For this reason, too, the literacy classes were never conducted in the school buildings, but rather in special centers designed and built by the farmers themselves. Extension agents participating in the program were all volunteers and were informed that they would not receive any extra renumeration.

Upon completion of linguistic and pedagogic training, the extension agents returned to open village centers. They had to organize meetings in the villages to explain the goals of functional literacy and to gain the cooperation of local leaders and the village-at-large. In effect, their role was expanded to include not only teaching, but community organizing as well.

The literacy classes would by taught in the local language. However some villagers wished to learn French, which would be useful in obtaining jobs at the missions or in the urban areas and which is still the language with the greatest prestige. In the view of the project planners however this was not feasible since learning to speak, read and write a foreign language would require several years of study, while literacy in their own language would require just a few months Thus the extension agents had to convince the farmers that the practical reasons for using the local language outweighed other considerations. Respect for local language as a vehicle of culture was also stressed.

If the villagers chose to hold a literacy class and agreed to participate in building the center, a committee composed of village notables was formed to select the class members. Participants had to be over twenty years old, married and permanent residents of the village in order to reduce the probability that they would leave the village once they acquired the skills.

They had to be less than forty years old, because studies made by UNESCO in Africa showed that older people had great difficulty keeping up with the pace of the classes. It was hoped that dynamic and intellectually curious people would participate in the program. The committee was also in charge of supervising the construction of the center and of monitoring class attendance.

Classes were to be conducted during the dry season, from January to June so as not to interfere with the participants' farming schedule. Three successive years were necessary to complete the program, and during the rainy season the extension agents were supposed to visit the participants regularly and help them to solve the practical problems they had discussed in the class; these problems dealt with erosion and soil conservation, cattle-raising, health, marketing, land and water problems, among others. Thus the program design included a means to ensure continuity despite the protracted period necessary to reach levels of literacy consistent with program objectives.

THE EXTENSION AGENTS' TRAINING

The pedagogic training was given by O.V.E A. and Freres des Hommes, and the linguistic training by Voltaic linguists.

The training sessions were held at the Headquarters of the Office of Regional Development at the beginning of the dry season, so that the extension agents could open a center in the village in which they were working, provided that the people demonstrated an interest. They were to try to finish the first part of the program before the beginning of the next farming season.

As part of the training sessions, concrete information was provided on the techniques of implementation; how to create literacy centers; how to encourage the participation of the villagers; the importance of local participation in designing and building the study center; the importance of follow-up with the

farmers; the manner in which demonstration meetings should be organized to show the techniques, and so forth. During these sessions, the extension agents were required to give classes much as they would in the village. In this way we were able to note the strengths and weaknesses of each person and to also benefit from their suggestions and ideas on how to proceed.

FOLLOW-UP:

Once the extension agents were back in their villages, an important part of our work was to follow-up the different centers, to attend some classes, to observe the participation of villagers, to counsel the extension agents and to provide logistic support.

We realized that there were many problems, at every level. The participants were required to pay for the materials such as pencils, notebooks and slates at the start of the program. Sometimes it was quite difficult for the extension agent to get the money This was taken as an indication of a lack of motivation on the part of the villagers. In some centers, the number of participants went from 20 at the beginning, which was the maximum group size for reasons of efficiency, to ten or twelve two months later. Some villagers said they were discouraged by the difficulties. Others who were working for wages during the day on dams or other construction projects in the area reported that they were too tired to go to the classes at night. In some areas the rains came early--in April or May--and the villagers had to prepare their fields for planting, so the schedule could not be followed.

It appeared, too, that extension agents needed additional pedagogic and linguistic training. It was difficult, however, to organize further training sessions for them, because the agents had to devote themselves to two jobs and accomplish a multiplicity of tasks. The extra work involved in meeting with the villagers and teaching them received no material or moral compensation. The directors of the Office of Regional Development stressed that extension agents were primarily agricultural agents rather than organizers of literacy programs. Therefore their primary task was to distribute improved seeds, agricultural technical material, introduce modern agricultural techniques and follow-up farmers. They were rewarded for the performance of these duties and not for the literacy training they gave.

Beginning in 1977, the influx of large international development projects led the O.R.D. to employ the most experienced extension agents in these new projects, as they were under pressure by expatriates in key positions to do. Thus many extension agents were transferred to other villages before finishing their three years' term. Sometimes, the new agents who replaced them did not speak the local language; others were not motivated to continue the program. As a result the classes were suspended. The villagers were disappointed and refused to begin again when new teachers were available.

There was also a lack of support for post-literacy programs. This is a very important issue, for people going to the classes need to be followed-up once they have finished their training. They need to obtain challenging reading materials in the local language, otherwise they may rapidly forget what they have learned. The difficulties encountered result primarily from the lack of continuing support from the official structure. Since functional literacy does not

provide short-term results, it is not as highly regarded as other programs. Accepted for implementation at a time when few projects were being proposed, its priority status declined when more far-reaching programs were available.

A very important point is that the ORD and Freres des Hommes did not share exactly the same ideas about the goals of functional literacy programs. The ORD saw the literacy classes as a means of promoting their own development goals which are: increased production of cash crops; more efficient marketing structure; introduction of new technologies. On the other hand, Freres des Hommes saw functional literacy as part of a consciousness raising process, as a means of developing the villagers' economic autonomy and their participation in decision-making rather than increasing their dependency on foreign capital and manufactured goods as has been the case in many traditional agricultural growth projects. This divergence in goals, and other reasons, created tension and Freres des Hommes had to leave the official structure and try a different approach.

CONCLUSION

Functional Literacy programs, as other non-formal education activities, need recognition and support at every administrative level in order to succeed. For such programs to be fully successful, governments must be willing to use these techniques to inform the people and encourage them to participate concretely in developing national policies, instead of excluding them from decision-making on a national level, as so often happens.

Education which offers new modes of thought is one of the most important aspects of development. It is one of the primary tools which the people can use in order to take charge of their own destiny, to inform themselves, express their needs and defend their interests in the national and international arena. As rural development specialists, we try to promote all kinds of communication tools. We need to collaborate closely with the motivated national leaders, specialists and development agents of the countries with which we are working in order to stress the importance of non-formal education programs including functional literacy, radio programs, audio-visual techniques and so on. Making participatory education available to adults is a crucial variable in the development process.

EDUCATION AND WOMEN IN DEVELOPMENT IN AFRICAN STATES

Shelby Lewis

The emancipation of women is not simply an act of charity towards females. It is, among other things, a prerequisite in the struggle of any society to achieve liberation, democracy and social progress. Thus, discussion of the role of women in development must be placed in the wider context of societal change. To speak of the oppression of women without at the same time recognizing the related oppression of other citizens based on racism and classes is to ignore an intricately interwoven fabric of exploitation that requires serious thought and comprehensive solutions. Women's emancipation is problematic, at best, unless the social and economic myths and the inequitable institutions and practices extant throughout society are transformed so that discrimination against all groups ceases. This paper explores basic assumptions about women in Africa; the role of women in development and the significance of education to the improvement of the conditions of African women.

DIFFERENTIAL PERSPECTIVES ON DEVELOPMENT

Mainstream economists equate development with economic growth. This view pits the economic and social conditions of developing areas against those of the west and measures growth by the degree of likeness to the west. The distribution of income and the relative positions of groups within the economic and social structure are not seen as important in determining whether or not a given nation is developing (or growing). This western orientation places primary emphasis on the growth of the industrial sector of society; and, such development is determined by indices of real wealth, capital growth, improved living conditions, etc. Societies themselves are not seen as developing, rather, certain leading sectors of an economy develop and in turn cause a change in societal patterns.

Many scholars find this restricted conceptualization of development unacceptable. (Frank 1969; Beckford 1972; Rodney 1972; Amin 1974). Samir for example, notes a critical error in the western conceptualization. Namely, the essential fact that the underdeveloped countries form part of a world system, and the history of their integration into that system which forged their special structure, is left out. This structure has nothing in common with what prevailed before their integration into the modern world. Amin shares with other critics of the western view the notion that the concept of development should be seen ultimately as the "development" of human resources with the real test of success being whether or not the majority of the people in a given society benefit by a particular change or advance.

The principle objective of development then, is defined as the activation of all sectors of the population and the development of the economy in the interest of the entire society. People must be involved at all levels. As Walter Rodney notes:

> The capacity for dealing with the environment is dependent on the extent to which people understand the laws of nature; on the extent to which they put that understanding into practice by devising tools (technology) and on the manner in which work is organized (Rodney 1974).

If development were viewed in this non-western manner it seems clear that the role of women in development would be perceived and recorded differently. Instead, the western use of development consistently excludes women from decision making and significant benefits from the development programs. Reasons for this hinge, in part, on the misconceptualization of development, but in fact go much deeper than this. The social formation which prevails in most African states, defines women and their contributions in a sexist and class-biased manner. Until this formation is changed or altered radically, the oppression of women will necessarily continue; for oppression and discrimination against women and other exploited groups are inherent in the social-economic formation of slavery, feudalsim, and capitalism (cf Wale n.d.).

Another reason for the exclusion of women from development benefits has to do with the fact that many development plans bypass the rural populations and it is here that the majority of African women are found. Even in cases where agricultural change is consciously designed, those individuals selected for participation in the programs are largely men. (UNESCA 1977; Johnson-Sirleah 1975, Williams 1975). We conclude that the present or western conceptualization of development reinforces and possibly expands the exclusion of women from development programs and benefits. A rethinking of the terminology and orientation of development is needed if women are to progess and if African societies are to reap the full benefits of their resources and potentialities. An exploration of the views on women in Africa indicates the extent of the problem facing women in development.

BASIC ASSUMPTIONS ABOUT THE STATUS OF WOMEN IN AFRICA

The literature is filled with negative and unsupported theories and assumptions about women in African societies. These assumptions often dictate the direction of governmental policy, educational programs, interpersonal relations, economic structures and the self-perceptions of African women. There are two basic theses about women in Africa. One is the "Relativity Thesis"; the other is the "Degradation Thesis", which is most common and has several variants. Each set of assumptions will be summarized and its implications for understanding the relationship between education, women's roles and development in Africa made explicit.

The 'Relativity Thesis' holds that African women are no better off or no worse off than women in other parts of the world. Sexism, as supporters of this thesis maintain it, is global and it is the level of technology that determines the manifestations of female oppression in differential societies. This is why African women appear to be more oppressed than women in industrialized societies. Relativists suggest that the introduction or transfer of appropriate technology earmarked for women will improve the condition of women in Africa. The fact that technological advancement does not end sexism--since women in industrialized societies are exploited, too--does not cause the relativists to question their solution to the problem of women in development. They still look to modernization, education and westernization as the best means to end the

drudgery faced by the majority of African women.

The second major thesis is the 'Degradation Thesis'. This thesis holds that women in Africa are oppressed, backward and marginal. There are three variants of this basic assumption. First, the 'Anti-traditional' or 'Modernization', which attributes female oppression in Africa to traditional customs and practices. Its proponents feel that Christianity and western influences are progressive and aid in improving the conditions of women. They further hold that constitutional guarantees for women are meaningless unless attitudes, customs, and traditional patterns of decision-making are changed, since, to change the laws without altering deeply-rooted customs, is to make a symbolic move, at best. Westernization, modern technology, and denial of the validity of traditional customs (that is,(cultural imperialism) by this group or replication of western culture is proposed for the problems of women in Africa.

The second variant of the 'Degradation Thesis' is the Anti-western Perspective. In this view, the colonization and the importation of western values and systems is the basic cause of the oppressed condition of African women. Proponents point out that they had economic power in traditional societies and this power was undermined by westernization. Which had repercussion upon women's roles and status throughout society. Furthermore, captialism and Christianity mitigate existing patriarchal systems in Africa; rather, they reinforced patriarchy while removing women from their economic and social power base. The communal way of life is attractive to the Anti-Westerners, and they would embrace a return to it if the changes wrought by capitalism and cultural imperialism could be eliminated. They urge legislative reforms in the areas of education, agriculture, employment, etc. as well as a return to some of the values, practices, beliefs and traditions of communal Africa as means of improving the status of women in Africa.

The third variant is the Socialist Perspective. Supporters of this view agree that women are indeed oppressed, backward and marginalized in African society and in all societies that have not instituted socialist systems. However, they do not limit their denunciation to the ravages of capitalism but take on traditional African customs and practices as well. In this view, both traditional and western institutions and their values have contributed to the exploitation of women. In fact, the beginning of oppression of women in Africa is attributed to pre-colonial institutions, particularly states rulers, but capitalism, through western colonialism, is seen as the instrument for extending that customary discrimination and initiating new discriminatory laws and practices. Thus, the socialists argue that the condition of women is problematic in all forms of class society. Unless revolutionary transformations are made and socialism is instituted throughout Africa, the exploitation of women and other groups will persist (Matsepe 1977).

In sum, we see that the degradation thesis is shared by reactionaries, reformists and revolutionaries alike. The significant difference is in the solutions envisaged by each group. The relativists also tend to inhabit all ranges on the ideological scale and their proposed solutions do not differ greatly from those degradationists who hold that significant change is possible under capitalism. However, before we can analyze the merits of these views we must familiarize ourselves with the realities of the conditions of African women today, some of which are summarized in the next section.

REALITIES OF AFRICAN WOMEN IN THE NATIONAL DEVELOPMENT EFFORT

The dichotomy between the lives of rural and urban women is often overlooked by women's scholars. Women are simply lumped together as a monolith. However, in the case of African women, the historic role of women in rural areas is critical to an understanding of the problems of women in development. The neglect of these rural women by development and women scholars (policy makers) has often obfuscated the nature of capitalist explortation in rural African and has caused many problems to be overlooked, understimated and oversimplified. (Matsepe 1977)

Rural women have always formed the most productive sector of African societies

> African women have always worked in the fields, in the markets and in the homes of our countries. We know this so well that we too often take for granted the enormous actual, and potential, contribution of women to the development of our continent and its people (Gardiner 1974).

Rural women are often the family food producers. In some areas where men once played a role in clearing the land for food production, male migration to urban areas and/or to other countries for employment, has shifted to women the entire responsibility for feeding the family. Many women in Africa are in fact, if not in law, household heads and have sole responsibility for all phases of family welfare. In Botswana for example, women represent 42 percent of all households (UNECA-ARTCW 1974).

Statistics have been compiled in ways that omit the work that women do in retail and wholesale trade, crafts and other work as well. The fact that the number of women in modern work force is small is taken to mean that most women do not work (La Faucheux 1972).

In both rural and urban areas women are distributors of goods. As much as 60% of the market trade in Africa is done by women and evidence points to the historical pattern of development in the market trade prior to the 20th century being predominately female. Nonetheless, the perceptions of the role and value of the female enterpreneurs are distorted. Their importance is not understood nor is it appreciated. But, as we said of the market women of Zaire... "if one day the market women decided not to go to market, Kinshasa, the capital city would close down. The economy would be paralyzed".(Mills 1978)

Paradoxically, women are expected to cope with increasing demand for food which is brought on by population growth and technological progress, yet they are denied the technical and social opportunites to meet this demand (Williams 1975).

Not only has the work that women do been defined as "domestic" and therefore, unrecognized, the introduction of technology into Africa has also often had the unanticipated and unrecognized effects of increasing women's work loads while giving them few if any monetary rewards. In addition, technological change has tended to perpetuate--even strengthen--their domination by men. Western attitudes toward male and female roles form part of the development plan which is adopted along with the technology. The technology is not sufficiently adapted to the realities of Africa and the labor distribution within African societies. Both the technology and the attitudes are detrimental to rural women

THE ROLE OF EDUCATION IN IMPROVING CONDITIONS FOR WOMEN

When education is mentioned as a variable in development, the assumption is made that the more schooling an individual has the more likely he is to aid in the development effort and the more worthy he is of development benefits. In the case of women, it is further assumed that the acquisition of education means the end of sexism. However, it seems clear that concentration on this view of education is unlikely to lead to the changes imagined. Furthermore, since women who are now educated are also victims, with their uneducated sisters, of sexism, the challenges facing women tend to cut across class and educational lines. Consciousness, organization, a non-sexist ideology and strategy for change are needed by all women. Education aids women in understanding their problems and their ramifications better, and it equips them with the skills essential to the attainment of specific economic objectives. However, education does not protect women from discriminatory hiring and promotion policies or from the power of men and women who would retain the inequitable status quo. Educated women cannot gain liberation at the expense of the majority of uneducated women in Africa. When education is viewed in elitist terms, the result is a division in the ranks of the oppressed. The selective inclusion of the educated few in decision-making positions and in formerly forbidden areas, while the majority remains outside, is but a sexist technique to continue the oppression of women. The marginality of all women is not changed when a few are co-opted.

Women who understand that education must be universalized to include opportunites for the illiterate and rural women are beginning to organize movements to end exploitation of women and all other oppressed groups in society. Class-oriented education is seen as an impediment, a liability rather than an asset, to change-oriented movements. Calling for a radical break with the sexism of the past, these women urge their governments to establish departments that address the concerns of women. The nations of Africa, they feel, would benefit from a policy aimed at upgrading the basic knowledge of the thousands of women who toil in the rural areas and live in the urban areas. Illiteracy and lack of marketable skills prevent these women from reaching their full potential and thus prevent them from making significant contributions to the development of their countries.

The point to stress is that education can be an instrument for oppression as well as for liberation. Education which supports class privilege education will hinder rather than aid African women in their fight against sexism. A broad definition of education as consciousness raising, skills acquisition, democratizing and the right of the majority is one means of offsetting co-optation that has come with education in the west.

SUMMARY AND REFLECTIONS

The move to integrate women into African society proceeds from the premise that women are not a part of the economic structure. This premise leads to the assumption that any change at all is progressive for women. However, an examination of the realities of conditions of African women indicates that the changes brought about as a result of the introduction of new technology, westerniza-

tion, etc. have retarded the progress of women in Africa. To overlook the real work that women do and begin a development thrust to integrate them into modern society, will restrict instead of enhance, harm instead of benefit African women. As one African woman stated: you can be well integrated into your economy as a slave. To avoid this enslavement women are calling for the redefinition and reassessment of the role of women and of development concepts as well.

This, along with a call to transform the structure of African society, appears to be what is suggested by a number of activitists and scholars. The myths about women's roles and the theories about women and the reasons for their oppression seem to fall short under careful analysis. The role of women in rural areas is virtually ignored by the Marxists and non-Marxists in favor of concentration on the industrial, wage earning sector of society. Thus, the theories proposed by both socialists and capitalists fail to explain the realities of African women and consequently fail to provide a guide for women's movements in Africa.

The issue that one faces in trying to identify the role of women in development is not the exclusion of women from participation in the economic sector of African society, but the character and quality of female participation and the lack of recognition and development benefits accorded these women. Institutionally, women participate in large numbers under oppressive conditions and with unequal access to education and financial resources for modification of their work environment. Economically, these women receive minimal rewards for jobs performed and even suffer the indignity of having their hard labor classified as non-work by governments, planners and scholars. In fact, as a group, women are integrated into the economic life of their countries, but under highly disadvantageous conditions.

Changes in the conventional manner of analysis is essential if total development and total participation of all sectors of the society are to take place. Education can play an important role in development, but it must be democratized education, with equalized educational opportunities. Attitudes that women have towards themselves and that men hold towards women will continue to have a negative impact on the quality of women's lives until all elements in society are involved in transforming the society. Women cannot remake Africa alone, men must help. The ideas, policies and practices of governments have historically relegated women to second class categories. Once this change, and once women make and enforce their commitment to change--not of sexism alone, but of all exploitive structures, institutions, and practices in the society--the road to development will be paved for future generations. The alternative to co-optation, tokenism, and marginality of women is the use, by women, of their collectivity as a social force for change (Larguia 1975).

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SECTION VIII: WOMEN AND DEVELOPMENT
INTRODUCTION

Although it was presented in a plenary session, Dr. Leith Mullings' contribution has been placed here because it served as background to the workshop discussion. Adopting a critical world-system perspective, she emphasizes that the needs of the majority of women are both special and similar to those of most men, and that these can be met only in transforming the world system. Dr. Mullings points to many errors of development strategies based on orthodox theory and research assumptions. With repsect to the role of African women traders, she notes that instead of prospering from expanded markets, most have suffered as a result of increases in scale. In conclusion, Dr. Mullings calls attention to the convergent and mutually reinforcing effects of struggles by the oppressed in many areas of the world and emphasizes our need to know more about them, for our own benefit as well as theirs.

Discussion on the subject of women and African development emphasized that studies published during the past decade demonstrate that women have been neglected in agricultural planning. Not only have women been "left out" in many areas their situation has worsened, usually moreso than that of men. Two contributors to the conference, Dr. Leith Mullings and Dr. Shelby Lewis, examine theoretical explanations for this situation which results in both the inclusion and marginalization of women. The perspective they employ is one which is gaining currency as part of the decolonization process, and is shared by African colleagues who have organized the Association of African Women for Research and Development (AAWORD). They point out that United Nations Mid-Decade Conference. Dr. Filomena Chioma Steady, an AAWORD member originally scheduled to appear on the program, unfortunately fell ill.

The workshop concluded that a conference on Women and Development which would explore strategies for collaborative action by Afrocentric researchers, educators and development practitioners could make a valuable contribution. Dr. Velma Blackwell, Tuskegee Institute's Vice-President for Development agreed to serve as the convenor of this second International Centennial Conference, scheduled for early in 1981. It was hoped that funds might be found to invite women from Africa and the Caribbean in order to share ideas, strengthen networks, and plan for action.

MODERNIZATION AND DEPENDENCY WHERE WOMEN FIT IN

Leith Mullings

This presentation considers two contrasting frameworks that have been used to explain development and underdevelopment and the way in which these conceptual frameworks interpret the status of women. On the one hand we have the modernization perspective and, on the other, the dependency or world systems perspective. Both have been repesented at this conference. While both frameworks acknowledge that contact between the West and Africa produced significant changes in the social structure of Africa, they differ in the way in which the quality of such change is assessed.

Scholars who employ the modernization perspective generally characterize the change produced by colonialism as progressive. They view contact between the West and Africa as having produced major advantages for Africa, such as technological advances, the development of an appropriate infrastructure, a "rational" culture, etc. While scholars who employ the world systems approach also acknowledge the importance of contact between Africa and the West in producing change, they see the main characteristic of contact as that of the domination of Africa by Europe and later the United States. They focus on analysis of such processes as the appropriation of surplus by the metropole, the exploitation of African resources by others and in general, the development of the West through the underdevelopment of Africa. Thus, it is suggested that while contact between Africa and the west resulted in certain technological advances, it also brought about a major disruption of society that explains some of the features we have discussed at this conference.

In their present form, modernization theories appear to have emerged after World War II as attempts to explain why ex-colonial countries continued to be plagued by poverty and underdevelopment- problems that were being addressed by Marxist theory. It offered a counter-explanation, regarding traditional societies as essentially stagnant with development being precluded by negative characteristics within the society itself. Such a perspective conspicuously overlooked such features of the colonial relationship as forced labor, land alienation and other effects of political, economic and social domination.

The world systems approach has become increasingly popular as social scientists in several disciplines have been forced to confront the inadequacies of explanations offered by modernization theorists. World systems theorists have generally understood development and underdevelopment as linked processes; their anlyses suggest that Europe and the United States were able to dev-

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elop themselves through underdeveloping Africa, Asia and other parts of the world. Thus development must be understood as a dialectical relationship, with the developed world continuing to underdevelop the ex-colonial countries through relationships that determine the mode of development and class structure of these societies.

Walter Rodney's (1972) volume, How Europe Underdeveloped Africa, is an early example of this perspective. It presents a clear statment of the relationship between the underdevelopment of Africa on the one hand and the development of Europe and the United States on the other. The so-called slave trade, for example, deprived Africa of much of her population and greatly disrupted the society. At the same time that this relationship de-developed Africa, the extreme exploitation of human labor produced great wealth for the United States, contributing to its industrialization and growing influence. Rodney notes that Watts, the inventor of the steam engine--an essential machine for the industrialiazation of Europe and the United States, was financed by West Indian slave owners and further, that financial institutions such as Barclay's Bank amassed their initial capital as a result of slave trade.

This approach, which examines the relationship between development and underdevelopment, has been applied to a number of areas. In the field of health, for example, it has been noted that while Africa is said to be characterized by 'tropical' diseases, there are in fact, few diseases whose main etiological feature is that they occur in a tropical climate. Many of the parasitic diseases, for example, act synergistically with malnutrition. In analyzing the occurrence of malnutrition, it becomes necessary to trace the historical relationships that may influence the prevalence of malnutrition in a given area. Meredith Turshen (1977) presents an analysis of the way in which the disease picture in Tanzania was affected by colonialism. She examines the relationship of forced cash-cropping to malnutrition, the way in which forced migration and the use of labor created conditions for the proliferation of certain diseases, and the effects of the disruption of society on illness.

The world systems approach is correctly termed a perspective rather than a theory. There are a variety of approaches that fall within this general rubric. Some have been termed dependency approaches because they focus on the dependency relationship that has been created between the West and the ex-colonial world. Critics of the dependency approaches have noted its limitations. For example, there is often a tendency to treat both the West and the ex-colonial world--or the periphery--as homogeneous blocks. Thus, the class structures of both the capitalist world and the colonies and the different roles that classes play in the development of liberation struggles are not given full attention. As we will discuss with reference to women, some of these works tend

to describe the oppressed as inert victims, not recognizing the role such people have played in struggles for their own liberation and further, neglecting the effect of these liberation struggles on the United States and Europe.

Let us now examine the ways in which these different frameworks lead us to contradictory conclusions about the status of women. As one would expect, modernization theorists generally see contact with the West as having improved the position of women. In Africa such approaches refer to the development of commerce and the rise of market women. The world systems approaches, on the other hand, focus on the advantages colonialism produced for the metropole, such as cheap labor and raw materials. Such studies suggest that the colonial relationship generally disrupted a reciprocal relationship between men and women and, in the long run, increased class stratification and deteriorated the status of women. With some exceptions, the anthropological studies of women's status have tended to support the proposition that colonialism deteriorated the position of women in Africa and increased their dependency.

In southeastern Ghana where I did research, the types of activities women engaged in were very much affected by colonial relationships. Prior to colonialism people were farmers and fishermen and had access to land through their membership in a lineage. In this sense, it was an essentially egalitarian society. The colonial experience included such features as taxation, semi-forced labor and land alienation, processes that produced increased stratification (cf Mullings 1976). The majority of men moved into wage labor and small-scale self-employment and the majority of women became market women.

At first glance, it appeared that the modernization perspective had some explanatory value. The market women appeared to have more access to cash and to be independent,leading several investigators to sugge that colonialism and the development of commerce in this part of Ghana had improved the status of women. However, upon closer observation, this conclusion proved to be erroneous. For the majority of women, petty marketing was a very precarious occupation; the well known "market princesses" were few and far between. Further, the majority of women were concentrated in this "informal" sector and did not appear to be equally represented in the other areas of the occupational structure, such as the industrial wage labor, clerical and professional sectors which might be expected to expand with industrialization. It appeared that what previously had been a fairly reciprocal division of labor between men and women was becoming more unequal.

These transformations were also reflected at the level of the family. With the development of the wage economy based on the individualization of wages and property, accompanied by the ideological input of Christianity, there was a pronounced tendency toward nuclear family residential arrangments and toward nuclear families as units of production and consumption. While my interviews indicated that most women claimed to prefer monogamous relationships and nuclear family residences it was nevertheless true that, in the absence of the provision of child care facilities and social services by the state, the freedom of women was objectively limited by the unavailability of kin upon whom they could depend for child care. Certainly, the status of women differed by class. Women who were associated with families that the differentiation of precolonial society placed in a position to become part of the elite fared much better than did the vast majority.

Recently there have been numerous studies documenting the deterioration of women's status under colonialism. Achola Pala Okeyo (1980) has demonstrated that among Kenyan women, the individualization of land tenure resulted in women losing access to land. Mona Etienne's (1980) study of Baule women in the Ivory Coast indicated a similar loss of status. The precolonial division of labor was reciprocal in that women grew the cotton and made the thread, while men did the weaving. The finshed product--cloth--was returned to the women and they had control over its distribution. As this area of the Ivory Coast became part of the international relationships of colonialism, the production-distribution relationship was disrupted. Colonization provided new opportunities to acquire factory made thread freeing weavers from dependence on the production of thread by women. thus making their control over the product appear unjustified. With the taxation introduced with colonialism, men became responsible for the head tax of their wives. This justified and reinforced men's control over cotton, which had become a cash crop. With the expansion of factory work, both men and women as factory workers became completely alienated from the product of their labor.

These studies then point to the fact that the deteriorating status of women must be seen in the context of the effect of the imposition of colonial relationships on the society. While the higher level of technology that sometimes accompanied colonialism has the potential to raise the standard of living, the context of social relationships within which it is introduced must be considered. Where colonialism has accelerated stratification and the development of private property, large numbers of people seem to have lost out, among them women. The policy implications of this type of approach suggest that any attempt to address the status of women must do so in the wider context of social relationships. the problem then is not one of men in opposition to women, nor is it that of the biological nature of women nor the congenital dis-

position of men; rather the underlying issue is that of the way in which the society is structured and its place within the world system.

In closing, I wold like to refer to, and attempt to rectify, some of the limitations of the dependency model. As I mentioned earlier,the dependency models tend to ingore the role people play in bringing about their own liberation. In the area of women, we find many examples of such activity in Africa. The women of the African National Congress, for example, have been very active in fighting for the liberation of South Africa. In several of the ex-Portuguese colonies of southern Africa that are pursing a non-capitalist or socialist path to development we find systematic attention being directed toward assessement of the status of women. In these countries both men and women seem to view the inequality of women as an aspect of a greater inequality; thus they are atttempting to transform the status of women in the context of addressing the distribution of resources in the society as a whole. Mozambique, for example, which attempted to integrate women into the struggles against colonialism and into the new political structure, has undertaken a critical analysis of women in both precolonial and colonial society. While it remains to be seen how successful these countries will be in ensuring equality for women, they have taken a major step in addressing the issue of women's status.

Earlier, I noted that dependency theories often do not consider the ways in which the underdeveloped countries untimately affect the developed countries. Since time does not allow us to discuss these issues in full, I will close by noting that the struggle of people of African descent for their rights in the United States has set model, in terms of form and tactics, for subsequent movements. Among these are organizations for the rights of the elderly--such as the Gray Panthers--and movements of women and other minorities. Such struggles will undoubtedly have a profound impact on the nature of U.S. society and its relations with the rest of the world.

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SECTION IX. FOCUS ON SOUTHERN AFRICA
INTRODUCTION

The struggle for majority rule in Southern Africa is addressed by three scholars from the area, in presentations marking Zimbabwe's Independence Day celebration. Each contributor explores historical relationships between colonial expansion, racism and class structures which resulted in the growth of enclave economies with consequent underdevelopment for the African majority. They emphasize that the primary beneficiaries of the region's economic growth have been the suppliers of capital, principally, foreign-based multinational corporations.

The authors are hopeful that in the not-too-distant future, the productive capacity of the area may be harnessed to serve the needs of African peoples. Trained in three social science disciplines--sociology, political science and history--the contributors are united by their use of a political economy approach. This approach currently is gaining wide acceptance, particularly among scholars who seek explanations for processes of sociocultural change in the interest of helping to speed the pace of transformation and determine its contours.

Dr. Bernard Magubane recounts the history of conquest and resistance in the area, particularly in relation to his native South Africa, the last remaining bastion of white supremacy. Congratulating the people of Zimbabwe upon their victory, he reviews the political distance traveled in the colonies of settlement which once extended "from the Cape to Katanga" and were crucial to profitable extraction of the area's mineral wealth. Dr. Magubane stresses that British inaction following the Unilateral Declaration of Independence by the white minority regime (UDI) delayed the inevitable for fifteen years, thereby prolonging suffering and augmenting bloodshed. He finds that British policy aided the industrial community at the expense of the African majority. As in the former Portuguese territories, the western nations supported the colonial powers. He calls on us to "face the ugly history of western involvement", and to support the peoples of South Africa and Namibia in their struggle.

Dr. Rukudzu Murapa traces changes in the political economy of Zimbabwe over the 15 years of the UDI period. During this time, economic growth forged ahead, despite imposition of trade sanctions of members of the international community. The sanctions, Dr. Murapa argues, gave impetus to agricultural and industrial diversification, as self-sufficiency was promoted to meet internal demand without draining foreign exchange. Economic success, he finds, bred political intransigenee among the rulers, who did not yet perceive African nationalism as a serious threat.

Dr. Murapa reviews colonial land policy which awarded nearly half the land to white settlers, who constitute 5 percent of the population. Like Dr. Magubane, he finds that the success of the settler farmers is based upon the impoverishment of the African peasantry. He notes that continuing control of both agriculture and industry by settlers and foreign firms, coupled with the urgent need to raise wages, redistribute land and maintain production, constitutes a tremendous challenge to the newest independent state.

Dr. Murapa and Dr. Zvobgo examine the implications of the colonial inheritance for the new Republic of Zimbabwe, stressing the relationship of control of mining and industry to the low wages and living levels, high profits and the underdevelopment of African agriculture. He notes that the racist structure of Rhodesian society manifested in the education system has left the country with a dearth of professional trained cadres. The majority party, ZANU, brought to power as a result of armed struggle and a landslide electoral victory is committed to leading Zimbabwe on a socialist path to development, which includes ending poverty, nationalizing the major productive resources and the instituting of joint worker-management committees in large enterprises.

Focusing on the pressing needs created by the war and a century of exploitation, Dr. Zvobgo underscores the need for international assistance in financing national reconstruction. He asks if Prime Minister Mugabe's apparent retreat with respect to ZANU's socialist program is not merely a tactical one designed to prevent international withdrawal and consequent worsening of the dire problems the regime must meet. That financing from the international community should be necessary, despite Zimbabwe's significant level of industrial and agricultural development, underscores the tenacity of the process of colonialism and the difficulty of decolonization.

AN UPDATE ON THE STRUGGLE FOR SOUTHERN AFRICA

Bernard Magubane

South Africa is the last frontier of white supremacy and color domination, and the current decade is very important in the history of the African people. The fact that Zimbabwe is becoming an independent state today is also very significant and I think we owe it to the people of Zimbabwe to salute them on this great occasion. If the British flag has not already been pulled down, it will be pulled down in a few minutes and the flag of the independent state of Zimbabwe will be raised. The events in Zimbabwe are of course important for the people of South Africa and indeed, for the entire world.

The topic that was selected for me is an update on the African's struggle in Southern Africa, and before I begin reading my notes, I would like to read a quotation from a British statesman, Lord Asquith, who was very influential in the drafting of the Union Constitution in 1908-1909.

> What is the use of empire if it does not breed and maintain in the fullest sense of the word, an 'empirical race'? What is the use of talking about empire here, if here, at its very center, there is always to be found, a mass of people stunted in education, afraid of intemperance, and congested beyond the possibility of realizing in any true sense either social or domestic life? (Asquith 1900).

This quotation sums up the goals of the British administration in Southern Africa: the creation of a master class to rule over Black people.

The white minority regimes in Southern Africa today are engulfed in a generalized crisis covering every facet of social life. It is a crisis for which these regimes and their friends in the West find difficult to provide either short- or long-range solutions. They are confronted by far-reaching nationalist demands and unable to respond to the demand of the exploited and politically voiceless with any real amelioration of living standards. Since the end of World War II the white minority regimes have imposed ferocious exploitation on the Black people of Southern Africa. The regimes also mobilized for economic, political and then, military confrontation with the tide of African independence that was gripping the continent. Indeed, as the ideological mystification of white supremacy became more and more unconvincing, the legitimacy of the white settler states atrophied. Apparatus of repression, from the proscription of African political organizations and trade unions to the creation of concentration camps, was instituted. These measures were taken in order to postpone the possibility of revolutionary change and in order to maintain the white capitalist domination of societies in decomposition. But all of these measures were to no avail. African resistance continued to grow and to become ever more effective. In fact, the reinforcement of oppression by the various white settler states merely proved the real historical weakness of these regimes.

The crisis of the system of white minority rule had international repercussions as well. It undermined the moral and ideological support that these regimes had received from western countries. It is in this context that we must understand the recent developments in Mozambique, in Angola, and today in Zim-

babwe, and maybe tomorrow in Namibia, and ultimately in South Africa. South Africa and its friends have failed to contain the struggle for liberation in Southern Africa. South Africa is now engaged, together with its friends in the west, in trying to work out neocolonial solutions following the failure of the various secret strategies that assumed their worst form in the now-infamous secret Kissinger memorandum.

The revolutionary struggles of the people of Southern Africa have upset some of the best laid out plans to preserve the region as a source of raw material and as a market for western monopolies. The western powers have, with increased alarm, watched the rising tide as armed revolutionary struggle triumphed in Angola, Mozambique and Zimbabwe, and advanced towards success in Namibia. They are also concerned about the stirring amongst the Black masses of the Republic of South Africa itself. Clearly, despite setbacks, the revolutionary forces of the people of Southern Africa are on the move. South Africa and its friends also recognize that the changes now occurring in Southern Africa threaten more than simply the interests of white settler minorities. In fact, these changes threaten the enormous interests of international capital, based as they are on maintaining control over the strategic mineral resources and labor power of the area.

The time distance between 1965 when Ian Smith declared unilateral independence from Britain, at the same time declaring that Black rule would not come to Rhodesia in a thousand years, and the triumph of the Zimbabwe liberation forces in recent elections seems astronomical. So also is the distance between Vorster's claim in 1963 that African resistance had been broken, following the arrest of the African National Congress and its allies at Rovonis, and the current state of his regime at the present moment.

To understand how such monstrous societies as those found in Southern Africa came into existence in the first place, we have to take a historical glance backward. In a recent book, Professor Feit observes that the European empires of the late nineteenth century and the first half of the twentieth century "were empires of race", in which the whites ruled and the non-whites obeyed. Architects of the British Empire were quite explicit about the types of society that they wanted to create in the region, and they created them with all the ingenuity they could summon. The creation of racially structured society followed one of the most bloody chapters in the history of British imperialism. The reduction of Southern Africans to fourth class human beings followed a series of wars and conquests that culminated in the region being dominated by the white majority regimes that we know today. The Simonses have compressed the process of conquest as follows:

> Responsible government, imperial expansion and industrialization followed hard on the diamond discoveries of 1867-71. British and colonial troops made war on the Hlubi in 1873, the Gcaleka and the Pedi in 1877, the Ngqika, Thembu, Pondo, Griqua and the Rolong in 1880, the Ndebele in 1893, and the Afrikaner Republic in 1889. The Cape absorbed the Transkei and its peoples in 1879-94. Britain, the annexed Basotholand in 1871, South African Republic in 1877, Zululand in 1887, Matabeland in 1894 and the Afrikaner Republic in 1900...South Africa's industrial era was baptized in blood and the subjugation of small nations (Simons and Simons 1968:30-31).

This is the foundation of the societies that are being dismantled today. The experience of the African peoples in Southern Africa since 1900 is testimony to the discrepancy between English democratic rhetoric and the reality of English tyranny. In fact, the events of Zimbabwe over the last fifteen years proved once again that that which was born of blood and violence will go down in history by blood and violence.

South Africa, Rhodesia, and Southwest Africa represent classic conquest states, in which conquerors became the ruling class or race, and the subjugated races or nations became the laborers. In the annals of human experience, South Africa and Rhodesia represent colonies in the Roman sense of settlement rather than in the modern sense of colonies of dominion. Distorted human relations in these societies are not the consequence of imperialism alone, but result from the fact of conquest. A large section of the white settler population has strong ties of kinship, language and tradition with the British people. The ruling class of South Africa and Rhodesia are the offspring of the British bourgeoisie. In contrast to the history of many other colonies of settlement, the African populations in the region could not be exterminated, for they resisted heroically. Furthermore, they were recognized as a valuable source of cheap labor power. In other places cheap labor had to be imported from other areas. The American experience, of course, is one of those in which the indigenous population was wiped out and labor had to be sought from outside. In Southern Africa, the African societies were subjugated and thereafter a political machinery was created for the purpose of fastening chains of oppression that would make the African people helpless and exploitable unto the hundredth generation.

In the last quarter of the nineteenth century and the first decade of the twentieth century, British imperialism was acutely conscious of its own nature and aims and sought to create in Canada, Australia, New Zealand, Southern Africa and Kenya, white settler regimes with which it could share the domination of the world. In 1908, just prior to the creation of the Union of South Africa, Lord Milner stated that the hope of Her Majesty's Government was to create "a self-governing white community supported by well-treated and justly governed black labor from Cape to the Zambezi". Ever since the creation of the Union of South Africa, British policy on South Africa, despite rhetorical statements to the contrary, remained steadfast and persistent. In 1923 the settlers in Rhodesia were given internal self-government. After World War I, Britain acquired South West Africa---a German colony--- under the mandate system, but the British allowed the area to be administered by South Africa. Soon afterwards, South Africa began the process of incorporating Southwest Africa as its fifth province while opening its resources to exploitation by British, South African, American, German, Canadian, and French capital. Today Namibia provides a classic case of collective imperialism, collective irresponsibility, and the individual plunder of the country's resources.

As in Zimbabwe in 1923, the passage of the Southwest Africa Construction Act in 1926 gave white settlers a measure of power in Southwest Africa. They could from then on vote for a local legislative assembly. However control over the African Affairs, the police and defense remained a direct responsibility of the South African state. In the meantime, the Portuguese colonies of Mozambique and Angola, through various treaties and conventions signed between Britain, Portugal and South Africa, had been structured so as to be nothing more than the labor reservoirs for South Africa. The former British High Commission territories of Botswana, Lesotho and Swaziland also performed the same function as sources

of cheap labor. Thus, by 1930, the political framework for the most shameful exploitation of the Black people and their resources had been firmly established over the entire region. With the passage of the Westminister Act of 1934, white settlers in South Africa, achieved full political authority in contrast to Namibia and Zimbabwe where they enjoyed only internal self-government.

When the settlers in the whole region became their own lawgivers, they steadily instituted laws which would perpetuate their rule to eternity while serving their own class interests. The settlers in Southern Africa played an indispensable part in the imperialist framework-- they facilitated and supervised the penetration of western capital and the exploitation of African labor power and their resources. The basic structural features inherited by white settlers were based on a racial division of labor, a white-only franchise and a forced labor system. Robbed of any constituted means to protect their interests, African people fell victim to deliberately imposed poverty, ignorance and cultural retardation. The settlers then disposed of African labor power to enrich themselves.

British imperialism in the early part of the twentieth century condemned the Black people's Southern Africa to political oppression and economic exploitation seldom paralleled in history. Africans from Mozambique, four hundred thousand of them each year, were forced into the South African mines. Africans in the High Commission territories, ten thousand of them each year, were forced to trek to South African mines. Allow me to emphasize the case of Namibia. Because of its status as a Mandated Territory of the United Nation, Namibia stands out as a monument to the hypocrisy of imperialism in the context of white minority rule. Namibia was and continues to be drained of everything from its raw material to the blood of its people for the enrichment of foreigners. While the western-based multinationals recklessly continue to plunder its mineral resources, western representatives to the United Nations make noble declarations about the right of the Namibian people to self-determination.

The extent to which white settlers and their western backers enrich themselves at the expense of the African people is inscribed in the economic, health educational and cultural statistics showing the wide gap between whites and blacks in Southern Africa. It is this structure of power and economic inequality that today is being dismantled in Zimbabwe. It is this structure of power and economic injustices that were dismantled in Mozambique and in Angola in 1975 after the collapse of the Portuguese regime. It is this structure that will soon be dismantled in Namibia and ultimately in South Africa itself.

Time does not permit any further elaboration of the injustices experienced by Black people. Suffice it to say that the struggle of the African people in South Africa has been hard and has produced a lot of suffering, some of it unnecessary. The suffering is solely due to policies that were pursued by the English government---policies that I described earlier as self-imposed impotence. In 1965 for instance, if the British had acted in Zimbabwe as they had done in Guyana and in other colonies, and landed their paratroopers in Salisbury, Africa could have been spared the fifteen years of suffering and bloodshed that covered the era from 1965 to the present. But the British, of course, did not care about African suffering as long as their companies continued to exploit these resources.

We saw in the cases of the struggle of the people in Mozambique, Angola and Guinea Bissau, how the western powers temperized and how they supported the Portuguese government. At the moment it became obvious that these regimes could maintain themselves no longer, President Nixon met Caetano in the Azores and provided the Portuguese government with $476,000,000 covering the entire range of expenses that the Portuguese had incurred in their colonial war effort. At the same time, in 1968, at a moment when the armed struggle had just began in Zimbabwe and had already advanced quite far in Angola and Mozambique, the Kennedy policy of distancing America from the South African regime began to be dismantled. The Kissinger memorandum was drafted in 1969. Thereafter, until 1974, closer and closer ties were established between the United States and the Southern African states. The memorandum was disclosed eventually, at the time when these regimes were collapsing.

The point here is that we have to face the ugly history of western involvement in Southern Africa. If we tried to pretend that these things never happened; if we tried to pretend that there is good will among those in power towards the African people, we are not only deceiving ourselves, but we may in fact, create situations in which we find ourselves instruments of evil, which we may regret.

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THE POLITICAL ECONOMY OF ZIMBABWE: THE ERA OF UDI (1965-1980) AND THE PROSPECTS FOR THE FUTURE

Rukudzo Murapa

It is indeed a hazardous exercise to embark on a discussion of the political economy of Zimbabwe within the context of Southern Africa at a time of such tremendous and sometimes unsettling change in both Zimbabwe itself and the continent's sub region as a whole. It is not an exaggeration to say that since unilateral declaration of independence by the Rhodesian Front Government on 11 November 1965, the sense of both anticipation and uncertainty in the country has never been more acute. Nor has the rate of change--whatever its nature--been higher. Zimbabwe and Southern Africa provide one of the most fluid situations in the world today and it is out of this fluidity that I must attempt to assess political-economic trends in Zimbabwe and how they relate to and are likely to influence development in the region.

The Federation of Rhodesia and Nyasaland created in 1953 was designed not simply to free Britain of its colonial problems and responsibilities in each of the constituent states, but more importantly, to protect and promote the interests of foreign capital. In this respect, it did achieve its objective, for indeed, foreign capital inflow formerly threatened by the rising tide of African nationalism in each of the three states was maintained at high levels. The major economic beneficiary of this foreign capital and other federal policies pursued during this period was, undoubtedly, Rhodesia. Under the Federation, Rhodesia attracted so much foreign investment that by 1965, her stock was about a third of that of South Africa, the small size of her economy notwithstanding. It was partly this privileged position that allowed Rhodesia to build the strong infrastructural base upon which her economy stands. Today, in Africa, only South Africa can claim to be a stronger industrial power. But for its political character, under white minority rule, the Zimbabwe economy is the envy of many a Third World country.

With the collapse of the Federation and the political uncertainty of what was to follow, the international capital inflow into Rhodesia slowed down. In fact, by the time the Rhodesian Front was elected to office in 1962, there was a "backward movement" of foreign capital. The assumption of power by Ian Douglass Smith and his subsequent Unilateral Declaration of Independence (UDI) was strongly opposed by representatives of foreign capital as well as by the national industrial and manufacturing class. They viewed the status of Rhodesia as a "source of international purchasing power" being seriously threatened by UDI and other policies of the Rhodesian Front. By 1965, therefore, the political economy of Rhodesia was characterized by intense apprehension and uncertainty. This did not, however, deter the Smith regime from pursuing its declared objectives of perpetuating white supremacy.

What then was the character of the Rhodesian economy during the UDI era, from 1965-1979? Broadly speaking, the Rhodesian economy during this period can be divided into three distinct phases.

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THE FIRST PHASE 1965-1968

UDI was issued at a time when the Rhodesian economy was still struggling against the negative effects of the break-up of the Federation of Rhodesia and Nyasaland. Compounding this problem was the emerging hostile international atmosphere-- sparked by UDI itself--which resulted in economic isolation as a result of sanctions imposed by the United Nations. These were indeed formidable obstacles which gave the British Prime Minister, Harold Wilson, the confidence to declare that the Smith rebellion would be quelled in a matter of weeks, not months. Wilson clearly underestimated both the robust nature of the Rhodesian economy and the cunningness of the Smith regime in manipulating forces critical to its survival In fact, in spite of what seemed to be unsurmountable odds, the economy showed signs of growth. For instance during the last three years of the Federation, the national product grew at the rate of only 2.5 percent. In 1964, following the collapse of the Federation, it grew by about 3 percent. In 1965, the year of UDI, real output increased 6.7 percent. This, it may be noted, was the first time that the Gross Domestic Product (GDP) grew faster than the population size since 1960. It may be argued that the strength of the economy as reflected in the 1965 growth rate may have animated the Rhodesian Front's determination to unilaterally declare the country independent There was full confidence that the economy was on the recovery path.

Then came UDI and the consequent imposition of sanctions; "things fell apart." Immediately, there was a marked fall in output, employment and foreign investment. Exports fell by 36% in 1966 while import prices rose ten percent in that year. The imposition of import quotas forced a sharp 27% decline in imports (Standard Bank Group 1979).

With the key agricultural product - tobacco - losing access to its traditional markets as a result of sanctions, the regime embarked on a program of agricultural diversification. It sought not simply to alleviate the problem and financial dilemma of the tobacco farmer, but also to build a new infrastructure aimed at agricultural self-sufficiency Loans were made more readily available to the farmers while the government more actively participated in the farming industry Farm land was reclassified to allow farmers to grow cotton, maize, sugar, coffee soybeans, and other agricultural products, deemed dependent on the domestic market. The period 1966-1968 also witnessed the initial steps towards import replacement industrialization, partly in response to the imposition of import controls and partly to save badly needed foreign exchange.

Thus the initial three years of the UDI period were devoted to combatting the short run adverse impact of international economic sanctions and designing appropriate measures to deal with the long-term effects. This strategy seems to have achieved its objectives since by the end of 1967 the economy had begun to show signs of recovery and GDP had risen 8%; this growth continued in 1968.

A new confidence, not unlike that felt by the early white settlers, had been created and the Smith regime grew more intransigent vis a vis the nationalist and international demands for majority rule. "We may be a small country," proclaimed Ian Smith "but we are a determined people who have been called upon to play a role of world-wide significance" (Moorcraft 1975). In this crusading vein P.K. van der Byl declared

> I am a Rhodesian. This is a breed of men the like of which has not been seen for many a long age and which may yet perhaps by virtue of the example that it sets, go some way towards redeeming the squalid and shameful times in which we live (Ibid: 5).

This spirit exhibited by proponents of white minority rule not only led Smith to declare his now-famous "not in a thousand years" dictum but also constituted the motor for the second economic phase (1969 1974) of the UDI era. The Smith regime having survived what it considered the most difficult initial stage, was still more determined to prove to the world that they could not only endure in a hostile international atmosphere, but in spite of it, could build a prosperous economy. Unfortunately for the opponents of UDI, the nationalist military wing was far from being consolidated at this time. The arrest and detention in 1964, of the bulk of the nationalist leadership including such prominent figures as Joseph Nkomo, Ndabaningi Sithole, Robert Mugabe, and others, coupled with the banning of the two African political parties ZANU and ZAPU, effectively deprived the Africans of channels of political expression. To be sure, efforts at political and other forms of resistance were made, but these were quickly silenced. In the year of UDI, some young men left the country to undergo military training in Ghana, the Soviet Union, the Peoples Republic of China, and elsewhere. On their return, perhaps equipped with more determination than military savoir-faire, ZANU guerillas engaged the Rhodesian forces in the now famous Battle of Sinoa on 29 April 1966. It was a bloody and costly encounter for the young cadres, and marked the beginning of a bitter and protracted military struggle which culminated in the Lancaster House Conference of September-December, 1979. The Battle of Sinoa marked a dramatic shift in the resistance strategy of the Zimbabwe nationalist movement - a shift that shocked the white regime but which was not taken as a serious threat.

For the nationalist movement, however, Sinoa provided courage and convincingly demystifed the invincibility of the white man; white men could die at the hands of blacks pulling the triggers. Perhaps with more training, more cadres and more triggers, a serious military struggle for liberation could be waged. Thus, between 1966 and 1972, except for a few isolated hit-and-run strikes, both ZANU and ZAPU concentrated their efforts on the recruitment and training of young people and the mobilization of international moral and material support.

Undaunted by the events of Sinoa, the Smith regime embarked on measures aimed at rebuilding the economy. The immediate adverse impact of the international economic sanctions was shortlived and the positive signs of growth noted for 1967-1968 ushered in the second economic phase of the UDI era.

THE SECOND PHASE 1969-1974

Except for brief intervals of natural disasters, this second phase was a period of sustained rapid growth for the economy. The average annual growth in Gross National Product (GNP) was 8.7 percent, a truly impressive rate. Growth rates were in some sectors, even higher. For example, manufacturing output rose at more than 10 percent per annum, while agricultural and mining output rose at more than 9 percent. To a large extent, growth in the manufacturing/industrial sector can be attributed to the import restrictions imposed to protect emerging secondary import-substitutions manufacturing. Under sanctions, the manufacturing

industry grew faster than any other sector so that, while it contributed only 18% to the GNP in 1967, by 1974, it was contributing 24.5 percent. Besides the import restrictions, it should be noted that, to a large extent, growth in the manufacturing sector was possible because international sanctions did not jeopardize vital imports and exports (cf Bailey 1979; Bingham 1978). The Smith regime was remarkably adroit in manipulating international forces to its advantage and in managing the economy under extreme pressures--both internal and external. Clearly between 1968 and 1974, the popular claim by the Zimbabwe nationalist politicians and other forces opposed to the regime that because of mounting pressures, the economy was on the brink of collapse, was not borne out by facts.

In addition to its success in manipulating critical international forces to circumvent the impact of economic sanctions, the regime reorganization of its major economic sector--agriculture--proved fruitful. Indeed, by 1974, autarky was realized in the most important foodstuffs, a development unknown elsewhere in Africa outside South Africa. This achievement was reached on the basis of a racist economic foundation--agriculture, like other sectors, was and still is dominated by the white farmers. In 1975, the gross value of marketed output from 6700 white farmers was $326 million while 680,000 Black farmers produced a value of only $32.1 million.

The 1969 Land Tenure Act divided the available land "for all time" in such a way that the Africans, constituting about 95% of the population, were allocated 45 million acres while the same amount of Land was allocated to the whites, comprising the other five percent. Of the African land, about 40 million acres were classified as so-called TTL. This land is not owned by individuals, but by chiefs and the so called "Tribal Trust Authorities." Of the remaining African land, 3.7 million acres were designated as African Purchase Areas where "qualified" individual Africans could buy land under individual tree-hold titles. The land allocated to Africans particularly that constituting the TTL was the country's least productive land. Thus the Africans were so overcrowded that they could not feed themselves even at a subsistence level. Meanwhile, population grew in the TTLs at the rate of 3.5% per annum, placing tremendous strain upon resources. As a result, per capita food production in the TTLs has decreased progressively with time. For example, in 1962, per capita production of maize the basic food in the TTLs was 174.6 kg, but by 1977, this had fallen to 104.76 kg per person. This means that the TTLs have had to import food, thereby making them increasingly dependent on the commercial white farmers for their basic food requirements (Chitsike 1979). This represents an extreme form of marginalization of a very large segment of the population.

The African farmer who was able to acquire land in the African purchase Areas suffered a number of major disabilities vis-a-vis his white counterparts. The quality of the soil in the Purchase areas was remarkably inferior to that in the white farms; about twice as much of the land suited for crop production was found in the white areas. Furthermore, the average European farmer had about 100 times as much land as the average African farmer. To compound all this, African farmers suffered from lack of adequate credit facilities and from discriminatory arrangements in the marketing of their products. In 1977, only 1 percent of all African farmers could be found in the African Purchase Areas and about 35% of the area remained vacant.

Clearly, while the Smith regime sought a land policy that would increase the productivity of the white farmers, it concurrently pursued a policy of impoverishment of the Africans, thereby intensifying the dependency of the latter upon the former. The consequences of this policy are reflected in the unemployment crisis that developed. Government claims to the contrary, African unemployment mounted during this period. The growth in the economy failed to create sufficient new jobs for new entrants to the labor market, rather it had a labor-replacing effect for the thousands who lost their jobs due to the economic sanctions.

It is true that the excessively large and yet largely under-utilized white farms allowed for African farm labourers to bring their families on these farms thereby, providing a means of livelihood for some landless and jobless families. It is equally true, however, that this situation also created conditions for heightened exploitation of African family labor, for all ablebodied members of the family were required to work on the farms on which they settled, receiving little or no compensation. At times, the labor was compensated in kind in the form of ufu (maize flour), shelter and/or a small plot of land on which to grow some maize and vegetables. Often the proletarianized family was responsible for assuring its own production. This form of disguised employment may have led the Rhodesian Front Government to consistently deny the existence of unemployment in its official policy declarations. As late as 1974, the Ministry of Labor unequivocally dismissed suggestions that the country was witnessing rampant unemployment, the political consequences of which would become unmanageable. The Government argued, instead, that the Africans essentially reside outside the money economy the basis upon which employment and unemployment are defined, and that Africans exist within a kinship system rooted in the idea of access to, not ownership of, traditional land.

This specious reasoning was used to justify the policy of expelling unemployed Africans from centres and confining them into the Tribal Trust Lands (TTLs). It is not surprising therefore, that the 1969 Population Census showed only 30,230 Africans as unemployed according to the Government definition (Rhodesia 1976:26).

Furthermore, government figures gave no indication of the extent of proletarianization that had occured: some 70-75% of African households were found to derive their primary subsistence income from wage. Nor did the figures account for 'secondary' dependence upon wages as articulated through kinship links and other obligations (Clarke 1977:19).

The economic status of Africans was further aggravated by the extreme inequality in incomes between Whites and Blacks. In 1978, for instance, the average white income was Rh. $5,583 while the average African wage earner barely got Rh. $517. The majority of Africans could hardly eke out a living.

Under sanctions, therefore, the country was characterized by acute contradictions. On the one hand, there was rapid development in the modern economic sector, which achieved self-sufficiency in food production and startling growth in mining output as well as diversification of the manufacturing industry. On the other hand, there was accelerated deterioration in the economic status of the vast majority of the Africans.

This condition could not remain constant for long; increasingly the African misery found expression in political activism and ultimately in intensified military confrontation. As educational opportunities for Africans became more and more restricted and unemployment rose to unprecedented levels, tens of thousands of young men and women chose to steal into Mozambique to join guerilla movement fighting the Smith regime. This was particularly true as of 1972. Ironically, in the same year, Rhodesia exports regained their pre-UDI levels, standing at Rh $350 million compared to Rh $322 million in 1965 (Standard Bank Group 1979).

THE THIRD PHASE: 1974-1977

With the intensification of the guerilla war and increasingly organized international hostility toward the Salisbury regime, the economy began to show signs of vulnerability. It is at this period that the 3rd economic phase began. As long as Portuguese colonialism continued, Rhodesia was relatively shielded from the severe impact of sanctions imposed by the international community. Not only did a Portuguese-controlled Mozambique prove a reliable entrepot for goods headed to or from Rhodesia, but she also denied anti-Smith guerillas desperately needed bases from which to operate. The fall of the Caetano regime in Portugal, therefore, was a shattering blow to the architects of UDI.

The ascension to power in Mozambique of a decidedly anti-Smith regime put Rhodesia on a war footing the like of which had never been experienced before. Rising defense costs proved corrosive to the national economy and created a mood of uncertainty about the future among current and prospective investors. The military claimed the lion's share of the national budget. While lack of investments, both from within and from without Rhodesia dwindled, stagnation exacerbated the unemployment situation among Africans. The 1973-74 worldwide oil crisis and recession, the closure of the Mozambique border, and the subsequent rise in the cost of transport and insurance as well as the escalation of the war itself, all combined to cause a sharp deterioration in the terms of trade and in the country's earning capacity. By 1977, real income had fallen 24% from its 1974 peak. In 1978, per capita income fell to its lowest point since 1968. Economic crisis resulted in negative growth; the Gross Domestic Product fell by 3.6 percent in 1978.

REGIONAL CONTEXT OF ECONOMIC PHASES

Under UDI, Rhodesia was a destabilizing force in the region. Outside the Republic of South Africa, the Salisbury regime had no allies in the region. Even the small and weak states of Botswana, Lesotho and Swaziland rejected any association with the minority regime. On the contrary, they explicitly declared their sympathy for the liberation movement and gave it moral, diplomatic and, whenever possible, material support. Other states, notably Zambia, Angola, and Mozambique actively participated in the struggle to unseat the Smith government by providing vital rear bases for the Zimbabwe guerillas and serving as conduits for war and humanitarian material. They considered themselves to be at war with Salisbury and minced no words about it. As Frontline states along with Tanzania, they became the voice and conscience of Africa on the issues of Zimbabwe and southern Africa.

Precisely because of the role they played, the Black southern African states suffered the wrath of both South Africa and Rhodesia. The two white-ruled countries fostered activities aimed at destabilizing the political and economic bases of the Black states. Such activities ranged from sabotage and propaganda to outright bombing of villages, bridges, roads, and other such infrastructures. Groups such as the "Mozambique Resistance Movement" were organized, trained, armed, and given logistical support to fight against the Machel government. Pretoria and Salisbury saw their survival in a common front directed against the forces of liberation and the front lines states.

In sum, Rhodesia's strong economy developed during the greater period of the UDI era, had a negative impact on regional cooperation and development. In fact, the strength of her economy can, to a large extent, be explained on the basis of reinforced historical, genealogical, political and economic ties with South Africa. It is a relationship that stretches back to the very beginning of white presence in Rhodesia and has grown stronger with time; so much so that throughout the UDI period, the Salisbury-Pretoria axis had developed to a point that no fundamental changes could be made in the former without the consent of the latter (Murapa 1978).

THE INTERNAL SETTLEMENT: 1979

Economic crisis and liberation movement activities combined with international pressures obliged Ian Smith to declare his acceptance of the principle of majority rule. In fact, Smith had no intention of abdicating power to the Black majority. Rather, he sought to disguise the political reality of power in the country, in the hope that the appearance of change would be accepted as effective change by the majority of Africans and that this would cause guerillas to give up the war.

Leaders acceptable to Smith were summoned to "constitutional tasks" while the ZANU-ZAPU leadership was excluded. The document that emerged not only failed to transfer power in any substantive way; it ensured that no such transfer would occur in the foreseeable future. It perpetuated the white monopoly of the civil service and the judiciary. The effective powers of cabinet ministers were transferred to permanent secretaries and specially created commissions, thereby, rendering ministerial authority meaningless. This was especially true of the Prime Minister's power.

Inheriting the Smith government, Bishop Muzorewa also inherited Smith's friends and foes. His policy toward South Africa endorsed the status quo of dependency. He released bitter invectives against neighboring African countries, particularly Zambia and Mozambique, which he labeled "Banana Republics," singling out Zambia as a "perfect example" of African countries that had abused their newly acquired freedom "to the detriment of everyone." At the time of independence, said the Bishop, Zambia had a sound economy left behind by its colonial masters, but had subsequently chosen the "path that led to self destruction" (the Herald 1979).

Choosing to look south rather than north for friends, the Muzorewa government was unashamedly candid about it's relationship with South Africa. "We will trade with South Africa by day and not by night," declared Prime Minister Muzorewa. Less than a month after his assumption of power, Muzorewa

went on a secret trip to South Africa where he held talks with Prime Minister P.W. Botha and Foreign Minister "Pit" Botha, from which emerged a mutual defense and non-aggression pact, emphasized the extent to which the Muzorewa regime had alienated itself from majority ruled Africa. Depending heavily upon South Africa as their sole ally for economic, political, military and financial support, neither the government of Muzorewa nor that of Smith could make itself acceptable to African states.

POST-ELECTION TRENDS

The election results of February 1980 are of profound significance for the future of the country and of the region. The overwhelming victory of ZANU signalled the emergence of a new era, beginning with a dramatic revision and perhaps reversal of the national and regional policies pursued by both Smith and Muzorewa.

During and immediately following the election of his party to power, Robert Mugabe made it clear that a major priority for his Government would be to reclassify and reallocate land so as to provide the poor people with land and other basic means of subsistence. Not restricting his concern to growth in agricultural production, Mugabe aims at revising the existing land structure in a way that would at once ensure continued growth in agricultural productivity while fulfilling the high hopes for social and economic justice for the povo (masses). It can therefore, be expected that a land strategy will emerge which aims at resettling the rural population from the over-crowded, non-productive areas to the sparsely-populated, under-utilized, rich soil areas. Accompanying such a policy would be the introduction of collective farming designed in such a way as to better organize the rural poor and make them self-sufficient. As noted earlier, agricultural productivity in the TTLs has fallen so low, that food must be imported from the largely white commercial sector.

This exercise will not be easy. It will entail a delicate balancing of forces. There will be need on the one hand to adequately address the wave of rising expectations from the povo--which means taking over a substantial part of what has been hitherto white farms or white lands--while on the other hand providing sufficient political and material incentives to encourage commercial farmers to maintain and achieve higher levels of production. Indeed, the land issue is likely to provide the new government with its biggest test. Success or failure here, will to a large extent, determine the government's policies towards other sectors, particularly mining and industry.

Beyond meeting national needs, there is yet a regional imperative for the success of Zimbabwe land and agricultural policies. The summit meeting of the region's Heads of State (and Government) in Lusaka, April 1-2, 1980, assigned to Zimbabwe, the heavy responsibility of developing the policies and strategies that would make the region, South Africa excepted, self-reliant in food. Zimbabwe must design and implement the Region's Food Security Plan, to protect the region against crises like that occuring at present.

The prospect of Zimbabwe becoming the "regional granary" presents both an opportunity and a challenge for the country. It is an opportunity in that it will provide a source of badly needed foreign exchange and an avenue for providing employment to the unemployed, a large percentage of whom are former guerillas and returning displaced people.

The challenge is immense. First, the present demographic data vis-a-vis food provision in the region is disturbing. As the population growth rate rises at 3.39% per annum, there is no corresponding rise in available food. Estimated present per capita consumption in the region is estimated to be 10% below actual requirements; this in spite of the fact that South Africa continues to export food to several of the states in the region. Hence, if food dependency on South Africa is to be reduced in accordance with the Lusaka summit declaration, there is a need not only to increase productivity per hectare, but also to increase the amount of land planted to food crops. The race between population growth and food production is likely to grow tougher with time. The region's present population of 57.5 million is expected to be about 79 million by the end of the century. Yet, as already noted, in six of the nine countries in the region, undernourishment is rampant. Only Zimbabwe, Malawi and Lesotho now provide the required kilocalories per person per day.

In the field of mining and industry, Zimbabwe, because of its level of development relative to other majority-ruled southern African states, is also likely to play a dominant role in the region's economic development. In spite of international sanctions during the UDI era, the mining industry in Zimbabwe has flourished. Between 1964 and 1976, mining output doubled, while in market value, it quadrupled. The advent of independence and the subsequent end of sanctions is likely to accelerate this trend. Contributing to this is the discovery of new mineral deposits such as platinum, the opening of new mines and increasing world market demand.

While the developed world will continue to be the major, if not the exclusive, consumer of Zimbabwe's mineral production, the country's major outlet for industry and consumer goods will be her neighbors. Demand from African markets will inevitably lead to strenghthening Zimbabwe's already relatively viable industrial base, much as occured during the period of the Federation of Rhodesia and Nyasaland. The situation can be expected to resemble somewhat the East African Community in which Kenya emerged as the regional economic center, while Uganda and Tanzania constituted the periphery. An official of the Ministry of Commerce and Industry predicted that even in the absence of a formal regional economic community, Zimbabwe, like Kenya, will be accused of harbouring neo-colonialist tendencies. This is particularly so if Zimbabwe is accorded "most favored nation" status, as she will become the regional "supermarket" for both agricultural commodities and development-orientated technology. Indeed, her market will extend beyond the Southern Africa region to countries further north.

Given Zimbabwe's past performance in the production of food, her relatively developed transport system and industrial infrastructure and her declared political will to be a stabilizing force in the region, there is little doubt that the country is poised to meet the challenge of social transformation. The present agricultural and industrial bases are likely to expand even further should the struggle in South Africa intensify to a point of threatening the viability of international investments in that country. Should such an eventuality come to pass, international capital is likely to turn to Zimbabwe as an alternative in which to invest, rather than departing altogether.

In sum, the present regional and international indicators suggest that Zimbabwe is about to enter a period of economic expansion distinctly different in character from that of the UDI era in that it will be seasoned by a deliberate desire and effort to see social justice achieved concurrently. Much will depend

on the development strategy finally employed by the ZANU (PF) government, political stability and of course, the absence of major natural disasters, such as drought and floods.

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RECONSTRUCTION IN ZIMBABWE

Chengetai J. Zvobgo

The collapse of white-settler rule in Zimbabwe, in the wake of seven years of guerilla war and the February 1980 election, has brought the African majority to power in Zimbabwe after ninety years of colonial rule. The election was won overwhelmingly by the Zimbabwe African National Union (ZANU-PF) under Robert Mugabe's leadership. This has made ZANU the ruling party in Zimbabwe. Any reconstruction program in Zimbabwe must, therefore, take into account ZANU's ideological position on this question. It must take into account the colonial inheritance of the new state.

In this paper, I propose to examine, first, the colonial inheritance of the new state; second, ZANU's program for a socialist transformation of Zimbabwe; and third, to what extent this program will be implemented in full or modified in the light of the devastation of much of the country after seven years of war.

THE COLONIAL INHERITANCE OF THE NEW STATE

Before the February 1980 election which brought the African majority to power in Zimbabwe after ninety years of colonial rule, the white settlers' domination of the state machinery was reflected in every major aspect of Rhodesian society: the economy, landholding and distribution, employment and the wage structure and education.

A salient feature of Rhodesia's economy is that it was dominated by foreign capital. Before the Unilateral Declaration of Independence (UDI) in 1965, foreign capital was dominant in beverages, tobacco, chemicals and financial companies and more important than domestic capital in mining (non-gold), basic metal and metal products and even building construction with the net result that by 1963, about two-thirds of the productive investment was foreign-controlled (Stoneman 1978).

In mining, the Anglo-American coporation dominated coal (Nkrumah 1965:127) and iron pyrites mining, the ferro-chrome and cement industries and together Rhodesian Selection Trust, controlled iron and steel production. Production of asbestos was dominated by a British company, Turner and Newall, which controlled approximately 90 percent of the country's output and also dominated the asbestos cement industry. The London-Rhodesia corporation (Lonrho) was important in mining (Arrighi 1973:356). Two American corporations, Union Carbide and Foote Minerals were active in chrome mining. In the banking sector, two British banks, Barclays and Standford Bank, were dominant. In the agriculture and forestry sector, South African companies were dominant (Stoneman 1978:77).

Foreign control of Rhodesia's economy remained unimpaired after UDI. In the non-metallic mineral products sector, most of the activity reportedly centered around British and South African firms: Salisbury Portland Cement (UK), Rhodesia Cement (SA) and Plate Glass (SA) made substantial investments in diversification or expansion. In the food manufacturing industry, the dominance of South African (Anglo-American, Huletts, Barlow Rand and South African Breweries) and British capital (Tate and Lyle, Brooke Bond, Unilever, Cadbury-Schweppes) increased by major investments (Stoneman 1978:70). In the finance and banking sector, four commercial banks were dominant: Barclays and Standard Bank (UK), Rhobank (South African/Dutch) and National Grindlays Bank (UK/US).

In the wake of the enactment of the Land Apportionment Act in 1930, land was divided into African and European areas, with the Europeans taking the lion s share of the land (Report of the Land Commission 1925). This inequitable distribution of the land was consolidated under the Land Tenure Act of 1969 which assigned 45 million acres to the 4 percent white minority and 45 million acres to the 96 percent African majority out of Rhodesia's total land area of 96.4 million acres.

The African areas were divided into 165 Tribal Trust Lands where communal tenure was permitted and 71 African Purchase Areas where land was available on individual freehold basis. The TTLs accomodate approximately 60 percent of African population, the APAs, 2.7 percent The most striking characteristics of both areas, but particularly TTLs are overpopulation and underdevelopment.

Riddell argues that wages for urban blacks are kept at low levels because of the accomodating mechanism of the Reserves or Tribal Trust Lands

> Workers are not paid anything like the full amount necessary income for the basic minimum needs of their families. The shortfall in necessary income is largely made up through the continued support from the Reserves. The development of the modern sector is therefore, built upon the underdevelopment of the reserve economy (Riddell 1977 13-14).

On "modern sector" commercial white farms where 40% of the African population is employed the average wage in 1977 was $300 in contrast with an estimated poverty line for a family of six , of not less than $900.(Riddel 1978: 52). The picture is even more bleak in Tribal Trust Lands where 60% of Africans live where the average income from agriculture is about $10 a month (Riddel 1977 14).

EDUCATION

The racist structure of Rhodesian society was also manifested in the educational domain. Not only was education racially segregated, under the Compulsory Education Act of 1930, it was made free and compulsory for all European children between the ages of six and fifteen (Riddell 1980 9). Under the new education plan introduced in 1966 state expenditure on African education was limited to 2% of the Gross Domestic Product

Thus not only was the white regime unwilling to spend more money on African education for political reasons, in 1966 it introduced a new education plan which shifted the burden of financing African education from the state to African parents by making Local African Councils responsible for African primary education. The objective of African education in Rhodesia was to ensure continued white political domination and economic exploitation of the African majority. The central objective of African education in Rhodesia was to produce "adequate and cheap labor power for the plantations, the mines and the growing manufacturing industries" (Shamuyarira 1978:63).

ZANU'S PROGRAM FOR A SOCIALIST TRANSFORMATION OF ZIMBABWE.

During the struggle for national liberation ZANU announced its socialist program for a free, independent, democratic Zimbabwe based on broad principles of Marxism - Leninism. The party committed itself to the abolution of nomic system, which benefited a few settlers in Rhodesia and the capitalists in South Africa, Britian and America (Mwenje 1972:29).

More specifically, ZANU proclaims that all natural resources of Zimbabwe belong to the citizens and therefore, there can be no private ownership of land or natural resources. Private estates will be abolished and resources administered by the state as the state holds the land as trustee for the present and future generations. Landlords and estate farms owned by capitalists would be abolished; peasants would be alloted enough land to meet their food requirements and where possible land would be made available to them for farming. Joint worker-management committees will be created in large enterprises so as to end worker alienation. All workers and peasants will be given "every opportunity to acquire education commensurate with their capacity and desire to learn when it is consistent with manpower needs and capacity of the nation." The aim is to educate the citizen for responsibility and participation in the economic, political, cultural and social life of the country (ibid.: 36-37)..

Between 1978 and 1979 Robert Mugabe, ZANU's president, elaborated further (Mugabe 1978:3-4 ;Time 1979). Since land had been the main source of African grievance in Zimbabwe, it should be nationalized; the very vital banking sector should be placed under government control as quickly as possible; industry and the role of the private sector would more gradually be placed under a genuine policy of socialization. The elections and independence mark the beginning of a new stage in Zimbabwe's history and in the development of ZANU's program for reconstruction. The beginning of this stage will be considered in the next section.

IMPLEMENTATION AND/OR MODIFICATION OF ZANU'S PROGRAM

In the wake of ZANU's landslide election in February, Prime Minister Mugabe began to modify ZANU's position on a socialist transformation. He pointed to the colonial inheritance of the new state and hence, the need for moderation. He recognized, that the economic structure was based on capitalism and must be built on that. Interference with private property, whether in farming, mining or the industrial sector, could only take place in a gradual way (New York Times 1980). On the land question, Mugabe said he is committed to a redistribution of unused white farmland but that such land would not be seized. "We will acquire it and pay compensation" (Business Week 1980). These statments have aroused speculation as to whether Mugabe's 'moderation' is tactical or fundamental. If Mugabe's 'retreat' is tactical, it can be explained in terms, inter alia, of three factors.

1) The new Government emerged from the February election with powerful enemies. The white-led army was suspected of planning a coup against the black regime which seriously threatened the vital interests of the whites. South Africa repeatedly threatened that it would intervene and crush the infant state if chaos developed. Under the circumstances, it was absolutely vital for the new Government to consolidate its power over the country and to neutralize its ene-

mies. This is being done by the creation of a new army out of the two guerilla forces and the Rhodesian army; the disarming of Selous Scouts and auxiliary to Muzorewa and Sithole; and the repatriation of South African army units which had been serving with the Rhodesian army.

2) The problems facing the country in the aftermath of seven years of war, are staggering. About 850,000 people lost their homes. Some 10,000 people were disabled and 250,000 fled the country, while 750,000 took refuge in peri-urban shanty towns. Another 500,000 were forced into "protected villages" under the Smith government policy. The infrastructure for resettling this estimated million and a half people is lacking. Half the mission hospitals closed down and a third of the rural health facilities and cattle dips were destroyed unleashing a flood of human and animal disease. Not only the standing crops but 300,000 cattle--used as draught animals as well as for food--were destroyed. An estimated 100,000 lost their jobs as a result of the fighting. Nearly half a million children are out of school and 1600 school building were destroyed. Rural bus systems were shut down and most rural shops were closed (Kronholz 1980; Thatcher 1980). The reconstruction of Zimbabwe requires massive effort and vast amounts of capital.

3) Mugabe believes that Zimbabwe needs to retain white skills. The appointment of two whites to the Cabinet and of Gen. Peter Walls to organize the new army, was part of a concerted effort to calm white fears of nationalization and loss of priviledge. The government is anxious to prevent economic sabotage and exodus by whites similar to the sort which took place following independence in Mozambique. The European community in Mozambique shrank from 250,000 to 20,000 during the first two years as a result of nationalization of the legal profession, medicine, education and rental property, and the transformation of FRELIMO from a liberation movement to a Marxist-Leninist party. Their departure created an acute shortage of technicians and professionals because only Europeans had access to higher education during the colonial period. The departing Europeans included engineers, mechanics and agronomists who had managed mining and the rural economy. It was almost certainly with the experience of Mozambique in mind that Mugabe made his 'retreat.' Spokesmen for the multinational corporations in Zimbabwe believe Mugabe's 'retreat' is fundamental. Some key mining projects which were announced after Britain lifted sanctions against Rhodesia towards the end of 1979, are going ahead. Rio Tinto Rhodesia for example, has started a platinum pilot plant with an eventual price tag of $75 million; it also has a $15 million gold mine expansion project under way. After the election, Rio Tinto decided not to change its plans, because Mugabe was adamant against nationalization.

If Mugabe's 'retreat' is tactical, an economic transformation of Zimbabwe requires, at the very minimum, the resettlement of large numbers of peasants on unused and underutilized white land and the creation of a system of communally-owned farming units throughout the rural areas. Among the urgent steps Mugabe outlined on March 14, 1980 was a start on acquiring vacant and underutilized land in the formerly white areas of the country. This will be distributed to black families on condition that it be farmed collectively. Initially, the new collective farms and programs designed to encourage communal farming will exist side-by-side with the white-owned farms. At first, the beneficiaries will be drawn from the one million blacks who were displaced by the war.

Many other problems remain; unemployment, unequal wage distribution and educational equity among them. There is evidence to support the fact that ZANU has been forced to a 'tactical' retreat from its initial socialist goals for economic transformation. This can be seen, however, as necessary in light of Zimbabwe's colonial inheritance.

One of the most pressing problems facing the new Government is unemployment. Clarke suggests that employment can be increased by measures such as Africanization in both the state and private sectors; establishment of labour intensive public works programs especially in the rural areas; controls on tax revenues to reduce leakage of monies which should accrue to the State; controls to reduce income and capital outflows which 'could raise local employment growth' (op. cit.:32).

With respect to wages, Riddel suggests that steps need to be taken to call a halt to the growing gap in income distribution and then to narrow the gap. Higher incomes for the poorer people "will alter levels of demand in favour of production to basic goods industries and also help to prevent the drain on the economy that low wages entail" (op. cit.:19).

With respect to education, while the state will undoubtedly want to take over the administration of all education, it is unlikely to be able to finance all education in the short run. Presently, most African education is run by various Christian denominations. In light of the problems facing the country, the state is unlikely to have the necessary funds to finance all education in the immediate future. Hence, it is likely to permit the Christian denominations to continue to operate the primary and secondary schools they run at present. However, the orientation in education will of necessity be changed towards self-reliance. The bridging of the gap "between town and country in terms of the provisions of educational facilities" and undertaking " a massive national literacy campaign to wipe out illiteracy" of which Mutubuka spoke, will be important pillars of education policy in the new Zimbabwe.

CONCLUSION

The new black Government of Zimbabwe is only a few months old. In the short term, the stability of the new regime will depend on how successfully it tackles the most pressing problems of reconstruction: the resettlement of refugees; rebuilding and reopening of rural schools; restoration of rural healthcare facilities and rural transport systems which were disrupted by the war; and unemployment. This, in turn, will depend on the level of economic assistance the international community will provide. So far, very little economic assistance has been forthcoming from the West in spite of Mugabe's 'moderation'. How long Mugabe's 'moderation' will last, is hard to determine.

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SECTION X: ZAIRE
INTRODUCTION

The contributors to the session on Zaire also adopt a political economy approach. Although their treatment is somewhat more cultural than that of the preceding session, they explicitly reject the culturalist formulations of the modernization approach which attributed underdevelopment to the values and customs of Third World peoples. Both papers begin by considering the socioeconomic legacy of colonial rule. Similarities between Belgian colonial policy and apartheid in South Africa, are not accidental, and Professor Skinner has remarked upon the fascination that the latter country held for administrators in the Belgian Congo. The colonial legacy contained institutions of grave portent for the post-colonial state, some of which are explored here.

Discussion of recent events in Zaire was stimulated by the fact that a dozen participants have worked or visited extensively in this strategically located country, the third largest in Africa. The concern shown for Zaire's present predicament was matched by expressions of appreciation for its people and cultures. Misunderstanding of Zaire's situation of "unending crisis," widespread among not only the general public, but in scholarly and diplomatic circles, as well, prompted the inclusion of this session in the post-conference agenda.

Dr. Tshilemalema Mukenge traces some early transformations that occured as a result of Belgian rule and the expansion of the colonial capitalist mode of production. He notes that expropriation took place not only in the realm of productive resources but in cultural and ideological domains as well. He stresses the impact of forced labor in its various forms which transformed independent, self-actualizing cultivators into peasants subjected to poverty and proletarianization. The paysannat development scheme which was the purported a creator of an independent peasantry, was in fact, one more form of coerced labor. Dr. Mukenge concludes that "exploitation generates deprivation and retrogradation; hence underdevelopment." His paper was presented in the session on Farming Systems Research.

Problems created by the failure to reverse the pattern of colonial underdevelopment or uneven and unequal development are explored in the next paper. Like Dr. Mukenge, Brooke and Claude Schoepf emphasize that Zaire's present situation must be understood in historical perspective and particularly interms of its place in the capitalist world-system. Their presentation which summarized the data and approach of the paper included here, gave rise to ardent discussion. A number of significant questions were raised, among them:

> How much wealth actually leaves the country?
> What proportion is this of total marketed production?
> Where does the profit extracted go and in what amounts?
> What does this indicate about the process of class formation and the role of the state as a mediating institution?
> What type of development strategy might work given the present world-system constraints?
> Under what conditions could Zaire's development be made to benefit the majority of its people?

Questions such as these will continue to be debated by students of Zaire.

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COLONIAL AGRICULTURAL POLICIES AND RURAL UNDERDEVELOPMENT IN ZAIRE (1885-1960)

Tshilemalema Mukenge

Before the Belgian rule, officially instituted in 1885, the populations of what was to become the Congo were primarily engaged in agriculture and related activities such as gathering, hunting and fishing. The products were consumed by the producers themselves or reinvested in these activities in the form of seeds or tools; or else exchanged for other products. The latter, in turn, were either consumed or invested in agriculture, livestock (mainly farm-yard animals), but also cattle in the East and Northeast regions. Arable land, hunting and fishing grounds, gathering reserves, mineral deposits and trade networks, all were potential sources of primitive accumulation that is, resources that enterprising men or women, could develop in order to improve their own condition or that of their communities. Colonial occupation curtailed all of these potentialities by applying a policy of resource allocation consisting more in taking away from the producers than in giving them the resources that would have allowed them to develop. This policy I call expropriation of the peasants.

EXPROPRIATION OF THE PEASANTS

Among the first mechanisms of exploitation applied by the Europeans in the Congo was seizure of natural resources, notably land and associated resources. Land seizure started in 1885 following the decree that affected all of the lands that the colonizer defined as vacant (Wahis 1903:19). This notion of vacant land was nothing more than a colonial fiction, since there existed no land that did not belong to any community at all. Moreover, most of the lands that the colonizer defined as vacant or not effectively occupied, were old fields returned to fallow, hunting or gathering territories, or reserves for future cultivation. Expropriated lands became domanial possessions of the colonial state. By means of contracts obtained through coercion or by outright seizure large tracts of territories rapidly were transferred from the indigenous communities to the colonial state. As the owner, the state could sell or concede domanial lands at will to private organizations or parastatal agencies. Once an area was declared a state property, or when it was conceded to a particular agency or firm, cultivation, gathering or hunting by the members of the expropriated community could be prohibited. Sometimes even simple trespassing was prohibited (Merlier 1962:6-62).

Movable property was subject to expropriation measures, too. For example, foodstuffs were claimed by the colonial government as income tax. These goods served to feed the personnel (Black as well as white) of the colonial administration and companies. The Black personnel included men serving in the colonial army, or Force Publique, as well as civilians. Their departure deprived the villages of their most productive members, as the selection was made in favor of the most vigorous young men. The greater the number of people who left the villages, the larger the quantities of food required to feed them, the smaller the number of producers left in the villages, and the harsher the task of producing it (Casement 1903:13).

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The kinds of food to be supplied differed according to regions. For example, a village in the Kinshasa region was required to provide 350 loaves of cassava bread or chikwangue weighing about a kilo each. This quota required about 100 working hours to produce. The chikwangue is usually eaten with fish, preferably smoked, for better preservation. So the populations of certain areas found themselves forced to pay taxes in fish. Such was the the case in Upper Congo, especially in the area of Nouvelle Anvers. What made this provision of food so intolerable was not only the harrassing labor and the long distances to be walked, but the continuing nature of this obligation and the uncompromising attitudes of the officials. The latter insisted on the required quantities even when depletion of the reserve made it impossible for the population to attain them (cf Etat Independent du Congo 1905:174-181).

Of important value among the products of social labor subject to expropriation measures were art products. From all the corners of the colony, the Europeans expropriated all kinds of artistic works under a variety of pretexts, including the fight against "paganism." The Tervuren Museum in Belgium, one of the largest and the most impressive in the world, contains many outstanding Congolese art pieces.

USE OF THE LABOR FORCE

Let us now move to the second policy, the use of the labor force. To a great extent, the participation of the Congolese in the colonial economy was obtained by force. I call such a method 'extortion of labor.' Two forms of extortion of labor will be briefly discussed here: forced labor and compulsory cultivation.

Throughout the eighty years of colonial domination, two types of forced labor prevailed in the Congo: gathering and portage. As early as 1885, when King Leopold II of Belgium was recognized at the Berlin Conference as the sovereign of the Congo Free State, the Congolese populations were forced to provide such products as copal, palm oil, palm nuts and rubber (Guebels 1952; Lemaire 1894:13). More is known about rubber gathering than any other product, probably because there were so many flagrant abuses in this activity.

As the demand for rubber increased, naturally the supply diminished. Consequently, rubber had to be sought in remote forests. Therefore the gatherers had to walk increasingly greater distances. The over-exploitation of the forest resulted in the reduction of rubber for export. Within the ten years from 1911 to 1921, export quantities fell from 3,402 tons to 729 tons annually (Lemarchand 1964). The mandatory quantity of rubber varied from region to region (cf Bailleul 1959:836). Generally, in addition to being fixed in a dictatorial manner by the District Commissioner, the required quantity was often increased by officials eager to obtain premiums (Joye and Lewin 1961).

Along with gathering went portage, which has always existed in the Congo. Whenever our fathers or mothers wanted to transport the products of their farming, hunting or fishing activities, from the bush to the village or the market place, they only had a choice between their heads, backs or shoulders. Canoes could somewhat ease the burden in places where nature had been

more generous. Portage, then, was enforced by the need to survive. As such, it was practiced within short distances which generally took less than half a day to travel. Only occasionally was an entire day required--the exception being long distance trade which was seasonal and not carried out by the majority of the inhabitants of the village.

Under Belgian rule, portage became a form of servitude imposed on the conquered population for the profit of the conqueror. At the beginning, this servitude was hardly avoidable. The Congo is well-known for having a vast network of rivers; the latter however, only permit access to a fraction of the country. In addition, most of them are intersected with rapids. The Congo River itself is a good example: major trading centers such as Matadi and Kinshasa, Kisangani and Ubundi, and Kindu and Kongolo are all separated by rapids. Under these conditions, the colonizer could not rely exclusively on the waterways to transport all the materials and personnel to explore the colony, occupy it, and make it productive. Since the country not only lacked roads and railways, but also camels and horses, the conquerors used the recently conquered people as beasts of burden for their own transportation and that of their luggage.

Three portage routes have remained famous in the history of Belgian exploitatition in the Congo; Matadi-Kinshasa; Kasongo-Kabambare-Kvu; Lusambo-Kabinda-Kasenga. Portage as the other forms of prestations, lasted even longer after the system of taxation in kind was officially abolished in 1910 (Bibliotheque Congo 1924:162-163; Jewsiewicki 1977).

A second form of labor extortion consisted of forcing the African rural communities to grow without wages, crops that would benefit the European companies and the colonial government. Compulsory cultivation, as this form came to be known, first started during the Leopoldian regime, but became institutionalized and genrealized only after the colony's annexation by Belgium.

Under the Leplae Program, the peasants were obliged to cultivate crops destined to supply expatriate companies and the colonial government with foodstuffs for their labor force as well as to produce export crops destined to provide the necessary raw materials, imposed on the rural communities as "educational crops." Beginning in the 1930's, the system was developed in a manner which involved still greater tutelage over the peasants. Earlier, the location of fields and the rotation of crops were left to the decision of the cultivator, himself. After 1936, and during World War II, the Institut National Pour les Etudes Agronomiques au Congo (INEAC) undertook experiments with different crop rotations in several regions: Gandajika, Yangambi, Bambesa, and North Sankuru. Those rotation cycles which proved most efficient were imposed on the populations starting in 1943. Also imposed were the regrouping of fields, worked by the members of the same village community and a standardized system of fallow fields. Both the space occupied by the fields so regrouped and the fallowing systems were given the name 'paysannat' meaning "peasantry" (Peguin 1960).

Compulsory cultivation, devised and applied by the Europeans for the benefit of European interest groups and the colonial government, kept the Congolese peasants from carrying out other productive activities that would have been profitable to them. It was nothing but the extortion of labor, and therefore a mechanism of underdevelopment.

These are some of the colonial policies generally referred to (ironically) as agricultural development policies. It is clear, however, that they were actually policies of underdevelopment. Dispossessing the peasants of their lands and movable property, forcing them to work for the European masters, and imposing upon them crops that would benefit the latter, constitute exploitation. Exploitation generates deprivation and retrogradation; hence underdevelopment.

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ZAIRE'S RURAL DEVELOPMENT IN PERSPECTIVE*

Brooke G. Schoepf and Claude Schoepf

Until the year 2000, agriculture will remain the principal occupation of the majority of Zairians, some 75 percent of whom now live in rural areas. As in many other African nations with vast resources, conditions in the rural areas are dismal, agricultural production is in decline and the country's potential has not yet been harnessed for the benefit of its citizens. Malnutrition, hunger, parasitic and infectious diseases are rampant and social inequality is glaring. Rural infrastructure has collapsed in many areas and inflation is now estimated at more than 100 percent annually. The minimum wage apparently buys less now than it did in 1911. Since few published statistics have any empirical basis, it is pointless to continue the litany. Zaire is regarded by many as the "sick man of Africa", for its growing foreign debt service payments cannot be met, manufacturing plants are operating below capacity; shortages of industrial and consumer goods are frequent, and a climate of uncertainty and insecurity prevails.

How has this situation come about? A fairly healthy rate of economic growth (albeit without development) occurred between 1968 and 1973. Estimated at about 7 percent annually, it offered promise to foreign investors. Subsequently however, following the decline of copper prices and the increasing price of petroleum, this growth slowed and toward the end of the decade neither growth nor development was occurring. A similar situation is expected to prevail in many other African and other Third World nations in the 1980's (Wallerstein 1979); already expatriate development experts elsewhere refer to "Zairianization" of the countries in which they work. Too readily explained away simply as the result of price reversals, Zaire's difficulties must be examined in the light of its historical position at the periphery of the capitalist world economy (cf Gran 1980).

Major changes in agricultural production and the quality of rural life will require clearly defined policy goals and implementation strategies that are related to a context far broader than Zaire itself. The reformulation of policy, however, encounters a number of major obstacles perduring from the colonial period, albeit in new forms, as well as some new elements as yet insufficiently explored. This paper will identify and analyze some of these obstacles in an effort to provide a critical perspective useful for research and planning.

A GLANCE AT HISTORY

Since Zaire is perhaps a harbinger of transnationally controlled economic growth in Africa, its history is instructive. The area's insertion into the modern European world system began in the late fifteenth century. Conflict soon developed between Portuguese merchants and indigenous rulers who sought technical cooperation and equal terms of trade (Balandier 1966; Cuvelier 1946). There

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followed nearly five centuries of one of the most devastating drains of human resources ever known, and still not fully documented. This necessarily brief review begins with the colonial period.

By Independence in 1960, colonial economic policy in the Congo had resulted in the creation of a capitalist enclave economy that was one of the most highly developed in sub-Saharan Africa, surpassed only in South Africa and Zimbabwe (Hance 1964). Around the vast Katanga mining and smelting complex controlled by an interlocking network of large transnational firms and financial groups (cf Wolfe 1961), a network of supporting industries sprang up. These included cement, coal, chemicals, hydroelectric power, construction and light industries producing textiles, clothing, processed foods, dry goods, beverages and plastics.

The area was plagued by severe shortage of low-cost migratory labor from the earliest beginnings of mine and infrastructure construction in 1910. In the 1920's, competition from mine construction taking place on the Zambian copper-belt to the south forced planners in Katanga to contemplate labor stabilization measures and more intensive capital investment. While full implementation was delayed by the Great Depression and competition from Zambian copper, the policy took effect in the late 1930's. The processes by which the colonial apparatus--a "trinity" of State, Church and monopoly firms--took concrete steps to harness the labor of village cultivators have been analyzed by many writers (cf Casement 1903; Johnston 1910; Morel 1969; Joye and Lewin 1961; Merlier 1962; Mulambu 1974; Demunter 1975; Peemans 1975a; Schoepf 1975; Stenghers 1967; Jewsiewicki 1977, 1979.) The steps include military control; appropriation of vast tracts of land speciously labeled vacant; monopoly concessions in agriculture, trade and mining; forced labor backed by state and company violence; and taxation. The result was destruction of the precolonial societies, many of which had already undergone severe dislocation as a result of slave and ivory trade.

The new social structure was based on strict principles of apartheid in which relatively few Africans were given western-style education to fill mediating roles. Africans, however, were firmly barred from reaching the levers of command and even excluded from small-scale commerce (Mukenge 1974). From the outset, profits were expatriated to Belgium, Britain and other European nations (Johnston 1910), and Belgian firms operating in the Congo declared profits at two to three times the level of those in the metropole (Mandel 1970). When Stenghers (1967) inquired into how much the colony had cost the Belgian treasury, he found that in fact, the flow had gone in the opposite direction: the colony had helped the metropole to develop. This situation was common to many colonial areas; in others, public funds from the metropole were used to develop the infrastructure, while private firms repatriated their profits. This was the case in colonial Algeria, for example. In the case of the Congo, the Belgian State profited directly from the colony through its association with the private firms.

TRADITIONAL VERSUS MARKET-ORIENTED PEASANTRY

Colonial development theory in the Congo conceived of village cultivators as anti-market traditionalists whom social structure and values prevented from adopting rational production methods. This version of substantivist economic theory contrasted the stagnant, traditional sector of African agriculture with the dynamic modern sector of European-owned agriculture and mining. In practical policy decisions, links between the two sectors were recognized. Agricultural prices were held down in order to assure a cheap labor supply for mines, plantations and settler farms. In dualist theory, however, the sectors were viewed as distinct and unrelated. Thus it was maintained that compulsory quotas and forced labor were necessary to educate African cultivators to produce for market --or even to feed themselves. When African cultivators preferred to sell their crops rather than work on the mines and railroads, they were barred from price-making markets. Instead, Africans were required to sell to companies holding monopsonist rights over large areas or to foreign small traders; fixed by decree, the minimum commodity prices became the de facto maxima.

The effect of the grossly confiscatory prices was rural impoverishment and accumulation of capital in the hands of the monopoly firms (Dehoux 1946; Peemans 1975a). Zaire's economic history lends support to the view of dualist theory as an ideological justification of the transfer of resources from the "traditional, stagnant" sector in support of the "modern, dynamic" sector represented by the capitalist firm. In this mythical construct, cultivators were said to be producing only for their families' subsistence. The vigorous trade of the 19th and early 20th centuries was ignored, as was the extent to which village cultivators had become dependent upon cash for taxes and marketed products, including salt, cloth and agricultural implements.

Zaire's history also offers evidence concerning the nature of transformations wrought by the incorporation of peripheral economies within the vortex of the capitalist world system. Several writers propose that the colonial apparatus reinforced precapitalist social relations -- for example, chiefly authority-- in the areas it could not exploit directly by means of enterprises employing wage labor (cf Rey 1973:15-17; Demunter 1975.300). Others follow Meillassoux (1975:148), for whom the precolonial domestic mode of production is subordinated to the dominant capitalist mode and, in the process, is at once both preserved and destroyed. In Zaire, a more thorough transformation than is expressed in either of these two models was instituted. A sizeable proletariat was created and a system of coerced cash crop production instituted in its support. The hinterland constituted a labor reserve producing workers for wage employment: one million workers, an estimated one-third of the adult male population, worked for wages in 1959. But it was more than this, for it also supplied 60 percent of all marketed produce, and often did so at confiscatory prices. "Free" and forced labor, both, constituted aspects of the same system; they were not the sign of two different coexisting modes of production.

Neither theoretical formulation regarding the changes in African modes of production adumbrated above is adequate as a model of Zaire's internal transformations consequent upon its incorporation in the modern world system. Reasoning theoretically, we should assume a priori that this incorporation into a system of commodity production in a colonial context on the periphery of the world system would shatter the pre-existing mode(s) of production. This often occurred despite attempts by rural communities to "sterilize" accumulating

wealth by erecting barriers between subsistence and prestige spheres and by reinforcing existing leveling-mechanisms, or by instituting new ones (such as give-away feasts, for example). Many aspects of social relations were drastically altered, so that even where the forms persisted, as with chiefs and councils, secret societies, bridewealth or the extended family, the actual content of those relations was often transformed. It appears more accurate to conclude that a truly capitalist economy developed in Zaire, bringing it first into the periphery, then, following World War II, into the semiperiphery of the world-system. Similar conclusions are reached by Magubane(1971) reasoning from the South African experience.

Planting obligations were extended during World War II; crop acreages more than doubled and official labor exactions were raised by one-third (Fetter 1973:286). Real wages fell to 80 percent of the 1911-1915 level and both people and soil were exhausted (Van Wing 1959). Following the war, the cotton brokerage firms became concerned about declining production and population in some of their prime areas (Van der Straaten 1945). They sought to institute erosion control and increase labor productivity, while at the same time shifting the costs onto the cultivators. They pressed the colonial administration to include research and development financing for the paysannats adapted from Dutch colonial agriculture in Indonesia as part of the Ten Year Development Plan instituted in 1950 (Malengreau 1949). In this plan, agriculture was to receive 5 percent of the investment funds.

Some positive outcomes in terms of increased productivity and rural community development were obtained in those pilot projects which actually acquired labor-saving technology and other inputs. These pilot projects constituted belated efforts to create an African rural middle class favorable to continued colonial rule. They also served to deflect international attention from the forced labor system which continued to dominate village agriculture until Independence in 1960 (Mulambu 1974). Strategic concerns were expressed in this report:

> In the face of international opinion which condemns coercion in agriculture and in the face of an urgent national need to create differentiated elites capable of furnishing leaders and at the same time controlling their action...it is imperative to offer opportunities for advancement...property acquisition must become the primordial objective of the rural elites (CEPSI 1957: 187-8).

The great majority of rural families were left untouched by this elite development. European farmers and small entrepreneurs lobbied to hold down African farm prices and wages, and the majority of cultivators remained too poor to constitute an internal mass market for the new industries (Jewsiewicki 1977).

Exasperation with compulsory cultivation and the pull of urban wages brought people to town despite pass laws and police surveillance. The population of Elizabethville (now Lubumbashi), for example, tripled between 1941 and 1948; by 1956, it had tripled again to over 100,000 persons (Minon 1957:51). Industrial development was capital intensive and did not generate enough jobs to absorb the young men seeking work. Yet settler farmers and small entrepreneurs continued to press the government to hold down African produce prices in order

to obtain cheap labor (CEPSI 1957; Peemans 1968: 388). Profits were high during the period and continued to be expatriated rather than reinvested. The colonial state contracted heavy debts to finance the infrastructure for industrial expansion. At Independence, the debt burden was shifted to the new African government, which at the same time, was divested of shares held in the Shaba copper mines, the Union Miniere (UMHK).

From this brief review, it is evident that most of the present problems were already pre-figured in the colonial era and took form during the first development decade of the 1950's. A few capitalist small farmers had emerged in areas well served by transport routes, especially near Kinshasa. But following Independence, precipitous withdrawal of European capital and technical and managerial personnel, political crisis exacerbated by foreign intervention and an expanding public payroll, disrupted the economy and led to rampant inflation. Real incomes for those who did not move into speculation declined.

Thus, instead of the millennium they had wished for, with an end to the oppressions of colonial rule (Young 1965:184), most village cultivators and plantation workers found themselves in still more dire straits than before. The emerging administrative commercial and military elite were the sole beneficiaries of a struggle which the masses had helped to wage (Weiss 1967: 298). In several regions, rural people began to reduce their production and eventually sought redress in armed rebellion, in quest of a "second independence" (ibid, Fox et al 1965: Verhagen 1967, 1968, 1969).

Following a coup d'etat in 1965, the Mobutu government began to extend its control into the countryside and by 1967 pacification had been virtually accomplished in most of the hamlets and villages that spread over an area of 940,000 square miles. Currency devaluation and reduction of real wages through inflation, restored international confidence, stimulating a new wave of investment in import substitution manufacturing in the early 1970's. The government absorbed its increased revenues in a redistribution system aimed at consolidating its political support among the elite. The surplus generated by village agriculture, which during the colonial era had been directed, at least in part toward building the commercial infrastructure, flowed out entirely. Production in the village sector declined further and plantation production remained at 80 percent of 1959 levels while the income disparities between rural and urban workers increased. The government moved to reinstitute planting quotas under the supervision of the agricultural bureaucracy. Cultivators were obliged to plant specified acreages in crops such as manioc, maize and cotton.

The notion that only coercion could shake traditional subsistence cultivators from their centuries' old lethargy was again used to justify the use of administrative measures. The older, colonial-trained agricultural officers we interviewed were not alone in expressing this view. Many university students, most of them from the middle and upper ranks of Zairian society, also thought that "peasant traditionalism" was the basis of their resistance to cash crop production. However, they were divided in their ideas about solutions to the problem of increasing peasant production. Some thought that coercion was necessary; others--influenced by missionary rural animation philosophy--wanted

to try to convince cultivators to "change their mentality" and "work for the good of the nation". Classes in rural sociology presented a tremendous challenge to teachers attempting to change these notions, for they had become part of the official ideology vehicled in the mass media. Support for this ideology comes not only from colonial social scientists but from some contemporary writers, as well (cf Bezy 1975; Ciparisse 1978).

The preceding section emphasizes the economic distortions inherited from the colonial pattern of development and under-development and from the effects of policy and conjunctures of the past two decades. It does so in response to comments voiced during the conference to the effect that Zaire's present difficulties are due to the incompetence and corruption of its leaders. If true, this would suggest that simple replacement of the present regime would be sufficient to remove the obstacles to growth and development. Whether they support the regime or not, many serious students of Zaire reject this notion, since fundamental policy change is required.

Not only are many intelligent and highly trained Zairians incorporated in the political apparatus--indeed the ability to incorporate them is one source of the regime's political durability—they are also advised by experts from western development agencies. The experts' advice has veered from one to another, stressing first import-substitution, then mining, now export manufacturing and agro-industrial production, as the primary motor of economic growth. The results of the first two strategies were to increase import dependency, accentuate sectoral distortions and deepen financial and political dependency. There is no indication that the second two strategies would produce results any more favorable to national development. None of the economists interviewed held out hope for development involving the rural and urban poor as beneficiaries of the proposed increases in production.

Support for large-scale agriculture is preferred to small farm development, ostensibly because it is more modern, more rational and more efficient-unsupported claims that echo the colonial period--and because plantations can employ large numbers of men. In fact, many large scale holdings belong to influential supporters of the regime, including the President and his family, while the foreign concessions contribute to political patronage of various sorts. Export production constitutes a potential source of foreign exchange--except when the profits do not return to the national economy, as has been the case with one major crop, coffee. Not surprisingly then, fiscal and other policy measures benefit the large farms. Rural development and village agriculture are left mainly to projects undertaken by foreign donors. As noted earlier, production in both sectors of agricultural activity has declined in recent years.

Export manufacturing is a strategy recommended by the international advisory community and increasingly sought after by African governments including the government of Zaire. Some of the problems this route entails are similar to those of import-substitution manufacturing. The latter uses imported capital, machinery, supplies, technological processes and often expatriate expertise to produce goods for the internal market. Profits are high because labor is cheap and competition is restricted by high import duties on foreign-made products, while energy and transport infrastructure are provided by the host country government. While a host government may demand co-participation and impose curren-

cy and other restrictions, the major share of profits is repatriated. The principal difference is that in export-platform manufacturing the products do not enter the national economy, but are exported directly to other areas in the world, so that linkages to other aspects of the economy are even more limited than in the case of import substitution. In some areas the manufacturing enclaves operate entirely outside the rules of national sovereignty, resembling oil drilling platforms set out at sea. However, they require national resources for their operating infrastructure and labor supply.

The major economic problem of all African nations, with the possible exception of Nigeria, is how to create a dynamic equilibrium between various sectors. Establishment of internal linkages so that the sectors support one another, rather than draining resources away, is crucial. Otherwise national development is rendered impossible. In many nations, the problem of gaining control of the national economy is complicated by the class structures that the international economy supports. [A section analyzing the class structure in the process of emerging in contemporary Zaire is omitted].

In 1966 President Mobutu attempted to free Zaire's most important economic resource from international control when he decreed nationalization of UHMK copper mines in Katanga, now Shaba region. Nationalization resulted in the creation of the Gecamines which operates under technical, management and marketing contracts with the Societe Generale des Mines (SGM), the holding company for UMHK. Many Zairian university graduates occupy important positions, but expatriates still control key decision-making roles and draw high salaries paid in foreign currency (Tshifunda 1976). Furthermore the copper market remains under metropolitan control and above all, mining production processes, technology and research remain the preserve of Euro-American, South African and Japanese MNC's. Understandably, then, Mobutu's attempt to gain full control of the "commanding heights" of the national economy failed.

Concomitantly, the World Bank continued to advise expansion of the mining sector and Zaire became heavily obligated to foreign investors in a sharply declining market. The monumental policy failure was alluded to in the Bank's 1975 report. Interviews in Kinshasa in April 1975 indicated widespread awareness among development planners that past economic policy had fostered external dependency. In fact, it had led to capital intensive industrialization with minimal job creation and discouraged the growth of industries using local materials. Government investment in agriculture ranged between one and 2.1 percent of the national budget.

The informal sector became the economist's new panacea, following release of the ILO study in 1972. Leys (1973) pointed out however, that the informal sector represents a redistribution out of the already inadequate wages of formal sector workers. By providing cheap goods and services, work performed in the informal sector allows employers to hold down wages, thus increasing profits, a large percentage of which are repatriated--or expatriated by nationals--to the developed countries. This critique was not considered pertinent; indeed, the purpose of the exercise appears to have been to demonstrate that Third World unemployment levels were not as high as previously feared.

It was widely repeated that few truly unemployed persons existed in Zaire, since most were employed in the magendo, or unofficial trading system. Planners repeated the comforting phrase, "tout le monde se debrouille" (everyone has a hustle), which Zairians used to emphasize their ability to survive by means of kin and other personal relations. However, everyone does not make out. This myopia occured at a time when data were appearing showing malnutrition-related diseases to be the leading cause of death and physicians reported that at birth, a child had only a 50 percent chance of reaching the age of five.

Complacency about the ability of the urban "informal sector" to provide poor people with the means of subsistence is especially pernicious for women and children. Large numbers of women and girls are leaving the rural areas where drudge labor is made more onerous by multiple forms of oppression stemming from the transformations taking place in the countryside over the past 100-150 years. Areas in which women were formerly highly-esteemed for their contributions to domestic and public life are now subordinated to a pseudo-traditionalism which justifies ideologically their special exploitation and loss of status. Since most women are uneducated in the formal system and thus are barred from most formal sector employment, they are relegated to informal sector occupations. The vast majority are forced to eke out an insecure existence in petty trade and/or prostitution. The outstanding success of a few women in these occupations should not be allowed to obscure the misery that is the lot of most. Furthermore, as many desperately poor women are heads of families, the effects upon their children must be examined.

THE MIDDLE CLASS STRATEGY

In 1975 expatriate economists working in Zaire appeared to focus their sharpest criticism on Zairianization measures which led to the takeover of small and medium sized firms by Zairian nationals, following a presidential decree in 1973. The policy attempted to increase the share of resources circulating within the nation and to redistribute these resources to the national bourgeoisie. The creation of a substantial middle class of political supporters was part of the late Belgian colonial strategy and has loomed large in classic western advice to Third World governments (cf. Wagley 1961). The Zairianization measures instituted could not end Zaire's dependency. Instead they heightened the internal disarray and, in conjunction with the world crisis, contributed to the deepening misery for the poor, particularly in rural areas , as a result of price increases and supply problems. That is, the means employed by the regime to ensure its survival actually sharpened the economic crisis. The obvious failures of many of those who had not run their businesses properly led to investigation and reassociation of the former owners in many firms. Yet members of small inner circles of powerful men are reputed to have retained their holdings.

A number of participants in our discussions cited widespread corruption as a significant cause of poverty. Undeniably, corruption plays a role in Zaire's deepening economic disorder, as it does in bolstering political support for the regime among the beneficiaries. However, neither corruption nor the economic disorder are irrational externalities to the present world system. Rather, both result from the international system of resource mobilization and transfer developed during the colonial period and continuing in the present. Without a

firm base in the economy, which remains dominated by the MNC's, enterprising Zairians have recourse to the state machinery and speculative commerce to advance their accumulation of wealth. The number of truly wealthy owners of capital and productive resources remains quite small; most of the elite are "faux bourgeois"; politician-traders or salaried technocrats who owe their continued middle-class status to the good will of the regime, which both gives and takes away the perquisites of support.

Zairians are just as willing to turn a fast profit as people in other market economies. Yet even when cheap credit and expert advice are available, as they were in the UNDP's small business development program in Kinshasa, favorable opportunities for investment in actual production are limited. According to a United Nations expert interviewed in June 1978, virtually every imaginable production niche is already filled. Thus, speculative activities involving goods with fast turnover and high margins are over-determined. At the same time the numerous regulations, which if applied in combination would seriously restrict trade, offer a fertile field for corruption. Incentive to circumvent regulatory codes-- many of them inherited from the colonial era--is provided by the high profits to be made from unregulated commerce due to shortages of almost everything. Both expatriates and Zairian nationals engage in such practices, which have been a part of doing business since colonial labor recruiters paid the chiefs to dragoon their subjects.

A VIEW FROM THE VILLAGES

What has happened to the rural cultivators in this round of implementation of the middle- class strategy? Once again, they have lost ground, both economically and politically, and in some areas have opposed the regime with silent but stubborn resistance. By conservative estimates, a poor cultivator household today must produce four times as much marketable produce as it did in 1960 to pay taxes and to obtain salt, soap and clothing.

In many areas, the villagers say that they were better off before Independence. Cultivators in many regions are opting out, refusing to be further exploited. At one meeting between researchers and the town council, an elder declared:

> We've been developed and developed so many times that we don't believe any of the promises (nods). We're tired of being developed! (laughter) Even you (pointing to the Maize Program extension supervisor), we don't believe you'll stay...We think it's all a show! (others nod).

Researchers learned of the continuing use of coercion to enforce planting obligations, as in these excerpts from field reports:

> In Matawi, a small village, the chief was out hoeing his cornfield. He told us he and the elders (notables) had been fined the equivalent of $120 because they had ordered the constable to whip an "insubordinate" villager. Several ribs were broken and the victim had his injury certified by a physician. He brought suit against the Chief in the district court and his claim was upheld. The Chief said it does not often happen that the people bring suit because they fear his power.

The discussion made clear that the chief, the extension supervisor and the expatriate agricultural scientist all thought the court unreasonable.

> In Makando, a large rural community, an elderly cultivator told the researcher that he had been fined by the agricultural officer, or moniteur, for refusing to sell his maize at the minimum price set by the government. Two other men standing by warned him to be silent because "you never know who can be listening".
>
> In Miti, another large community, the government-appointed town clerk convened the citizens in an open-air meeting to inform them that they would be fined and jailed if they persisted in selling their maize at prices higher than the decreed minimum. Silence greeted his remarks. Then a woman asked if she was permitted to barter her maize for fish in the traditional way. "Yes, but make sure you stick to the right proportions." Laughter followed.

Cultivators are aware that the prices at which they are often obliged to sell will be multiplied ten or twenty fold by the traders in town.

Perishable products must be marketed within a limited time. Sometimes the cultivators cannot wait for buyers to appear in the village and travel to the city or to the railway line with their produce. Cultivators report that the entire proceeds from their sales are sometimes confiscated at military check points along the route.

> The chief and elders of Magendo complain that at each visit of the Zone Commissioner and other officials, they are obliged to offer a meal and collect presents such as chickens and goats for the visitors to take with them.

Were not such prestations and tribute required before colonization? We received replies to the effect that before the slave and ivory trade period, tribute had been more symbolic and its recipients were holders of religious, more than strictly political, office. The legitimacy of tribute in kind and in labor rendered it less onerous and in any case, the actual burdens were lighter. Informants explained that peoples in the area are descended from ancestors who moved away from the Lunda empire during the eighteenth century to escape domination. Fundamentally democratic in their pre-colonial social systems, although recognizing status differences based upon rank, the villagers today reject authoritarian decision-making and forced tribute. They liken their present burdens to those imposed by the colonial state and employ many of the same tactics to avoid exactions. For example, a student working in yet another village discovered that:

> The planters consider the agricultural agent as an agent of the Police Judiciaire. His passage through the village implies surveillance of agricultural work resulting in fines (often arbitrarily imposed)... Certain farmers desert their homes on the day that the agricultural agent is expected (Malikidogo 1974:78).

Although many cultivators express the desire to learn new farming methods which will yield higher incomes, they are also highly dubious about the intentions of the developers and of their promised results. Hence, it is evident that agricultural extension, even when carried out by well-intentioned workers trained in special programs, labors under unfavorable conditions as a result of colonial policies still in operation today.

CONCLUSION

Zaire has followed a policy of export-led growth over the past twenty years, supplemented by efforts to promote import substitution industries, while neglecting support for agricultural and rural development directed toward improving the productivity and well-being of the rural majority. Rather than trickling down to the rural cultivators, the benefits of economic growth have been redistributed upwards, out from the villages and especially from the mines, to the world economy.

Large-scale agriculture is offered as solution to several pressing problems. Export crops would provide foreign exchange to meet payments on the estimated eight billion dollar external debt. Plantations and large farms require a large labor force and would provide a source of cash income that might slow the rural exodus, thus helping to reduce the political danger inherent in massive urban unemployment. While the dominance of this sector continues it is unlikely that village farming systems will receive serious support.

In the climate of nationalism, the spread of formal education and rising expectations, a large middle layer (the bureaucracy) has grown. Its task in the world division of labor is to facilitate the outward flow of resources, of which it arrogates to itself an increasing share through government salaries, commerce and corruption. Expansion of the middle layer in government, commerce and industry has contributed to the political stability of a regime, the upper echelons of which claim entry to the international circle of movers of the world economy. Thus buffered and primed by technical assistance, it is hardly surprising that the thrust of policy has been to continue the pattern of subsidizing the state machinery and the activities of the large firms in mining, industry, commerce and agriculture by capital accumulated from below. Zaire has become the "complicit victim" in the systematic exploitation of the periphery, due to the acquiescence of its leaders, themselves held in place by the world system (Sfia 1971). What is less clear is how the pattern of resource allocation could be changed in order to shift from extraversion to national development, given the present interests of the world economy and the emerging international class structure.

In four years of work in Zaire, we have observed and interviewed many expatriate professionals in the fields of agricultural and rural development, as well as in education for development. We have observed them interacting with host country nationals and listened to many perspectives, as people expressed and acted upon their multiple frustrations. We have been participants in several attempts initiated by host country nationals "to get things moving", to decolonialize university education and research, and to increase the involvement of Zairian professionals in development agencies' activities. We have watched

some people turn away in hopelessness; watched others redirect their goals to "making it" within the system, acting as do the actors at the top.

The failures of the professionals and of development projects are not a matter of individual responsibility, whatever the strengths and shortcomings of specific people or projects may have been. They are the cumulative result of patterns that emerged during the colonial period and that have been compounded over the past two decades. Development projects instituted in this context seem destined to fail, however optimistic their design. No mere change of personnel can improve the projects, just as no mere change of personnel at the internal levels of command can ensure the reallocation of resources toward vastly improving the lot of the estimated eighty to eighty-five percent of Zaire's population who suffer from poverty, inadequate nutrition and medical neglect.

It would be utopian to look to Zaire's "national bourgeoisie" or educated elites, as a class, for leadership in the process of societal transformation (cf. Wallerstein 1979:104). Yet it also would be incorrect to dismiss the potential of members of this group for constructive contributions to national development. Nor should the group as a whole, however designated, serve as a scapegoat for the frustrations engendered by the dynamics of structures and processes inherent in the world system (cf. Dumont 1980 who has reversed his earlier position of this). The most significant division continues to lie "between the interests organized in the core countries and their allies on the one hand, and the majority of the population on the other" (Wallerstein 1979:200). As in the colonial period, so in the present, the state plays a major role in class formation. With the contributors to the recent volume, Zaire: The Political Economy of Underdevelopment (Gran, 1979), we conclude that Zaire's problems are structural in nature deriving from its role in the world economy.

If these conclusions are correct, then Zaire's "unending crisis" (Young 1978) is unlikely to respond to attempts to alleviate the symptoms of poverty without transforming the structures underlying the processes of decision-making and resource allocation. The international community has subsidized the state machinery and activities of the MNC's, led in development planning and contributed to the status quo even more directly through military asssistance. This, rather than the competence or the moral fiber of Zaire's professionals should be the starting point for critical analysis.

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SECTION XI: COLLABORATION IN DEVELOPMENT PLANNING
INTRODUCTION

The process of planning, implementing and evaluating development projects, training programs and research inevitably encounters problems, many of which derive from or are magnified by the fact that the experts involved have been socialized in different cultures and respond to different institutional contexts and social expectations. Too often expatriate technicians expect that host country nationals adapt to western ways of thinking and acting in order to adopt the skills and technology they have to offer. In this framework host country counterparts are conceived of more as conduits than as actors. Increasingly, however, the failure of such an approach is becoming evident. Several contributors emphasize that not only the technology itself, but the technologists must be adapted to the sociocultural environment of the host country.

Technical experts, whatever their field, need the elusive qualities that make for resourcefulness, and allow them to tolerate high levels of ambiguity and frustration, as well as to entertain genuine, unpatronizing respect for the host country cultures. While these homilies form part of the standard recommendations for Americans overseas, they continue to be honored more in the breach than in the observance. The quest for technical collaboration, rather than assistance, is based upon the recognition that the transfer of technology necessarily includes a social aspect and that most often, new technology gives rise to, even serves as a pretext for the introduction of new social relations. Collaboration requires more than just a change of name; it requires that dialogue and some degree of trust be established in working together toward shared goals. Sometimes it requires accepting leadership from and even deferring to the judgement of people who hold lesser degrees, have published less extensively and who are less well remunerated.

A number of objections to this principle have been raised, including doubts about the social outlook of some host country professionals. For example: Are they in touch with village realities? Do they consider the needs of the poor? Are they committed to broad participation in the development process? In African nations, just as in the West, the degree of individuals' sensitivity on such vital issues varies. Nowhere are all professionals equipped with the goals, outlook and style of work that serve to facilitate change. However, several contributors suggest that in most situations, it is possible to identify professional counterparts who share the same development goals. They emphasize that the main problem still resides in many expatriates' approach and in the institutional supports which condition the interaction process.

From his vantage point at the U.S. Agency for International Development, Mr. Quincy Benbow describes the project planning process as it is formally constituted within the agency. He emphasizes that at every stage, collaboration with development experts from the host country facilitates the tasks of AID planners. He notes that such involvement can help to avoid serious errors in the selection and design of projects and in the choice of appropriate administrative and managerial agencies for project implementation. He emphasizes that the process constitutes an opportunity for a two-way exchange, in which Americans can become sensitized to host country needs, constraints and perceptions, while host country counterparts become aware of the needs and constraints within which the AID operates. Furthermore, Mr. Benbow stresses that collaboration is an essential of the transfer of development technology.

Dr. Nancie Fairley explores an implicit parallel between the dependency of African nations and that of researchers within the metropolitan nations from which emanates global control of the economy. In her view, applied research on project design and evaluation within the development agencies is an exercise in futility for Afro-American scholars, since their advice is rarely incorporated in design and implementation. She also finds that reliance upon such applied research as a source of funds may distract both African and Afro-American scholars from the crucial task of theoretical research which contributes to the challenge existing paradigms. Thus she proposes that Black researchers need to draw upon many varied funding sources with a view toward freeing themselves of financial--and intellectual dependency. As a means to this she advocates collaborations of Afro-Americans with African scholars, universities and governments; strengthening ties to the Black churches which have played an historic role in supporting students; forming research teams which build research and training opportunities for young scholars and building networks of solidarity and mutual support.

Mr. Tshibanda is a Zairian political scientist with experience working in both national and international planning agencies. He offers some reflections upon the ways in which development planning customarily takes place. In his view, much project activity is actually an international form of welfarism, and as much, perpetuates dependency. Emphasizing a theme addressed in earlier sessions, he notes that the key to the project process resides in international resource allocation and calls attention to the present stalemate of negotiations on the New International Economic Order.

Mr. Tshibanda also draws attention to the problems faced by majority-ruled governments in Africa when they attempt to take control of national resources and eliminate the dependency upon the multinational firms controlling the global economy. He emphasizes that without a reallocation of global resources, malnutrition, epidemics and starvation will continue to spread; industrialization and education will continue their lopsided effects; inflation will continue to run rampant and social inequalities will sharpen. Thus cooperation for

economic and social development for the majority of the world's people requires a restructuring which few metropolitan development experts are as yet willing to concede, for it requires a global vision difficult to achieve. Experts from the West need to understand the overarching framework that constrains the process of development planning and implementation in order to work in collaboration with their host country counterparts.

PROJECT PLANNING AND IMPLEMENTATION WITH HOST COUNTRY NATIONALS

Quincy Benbow

Project planning and implementation in collaboration with host country nationals is a must. If the project is to be a successful venture, donor agencies must involve host countries. To illustrate the importance of this strategy, I would like to tell a story. An extension agent found an area that he thought suitable for rice production. He went out and began a demonstration rice field without first discussing it with the chief. While the rice was growing, the chief bought some pigs and had them eat the crop. As this was a predominantly Muslim area where pork was not eaten, this was a supreme insult. The extension agent belatedly realized his mistake and went back to consult with the chief. Eventually, they had a successful demonstration rice project.

The following is a brief overview of the USAID project development sequence which indicates those areas in need of strong collaboration with host country nationals:

PROJECT IDENTIFICATION

The project identification document, commonly called the PID, is the initial documentation in the project planning process. At the PID stage the goal (overall sector or program development objective) should be fully articulated by the host government and USAID. This process establishes confidence in the goal of the project. Host country involvement, even at this stage, reduces the probability of major problems. It is necessary that the probable project purpose (solution to problem or related groups of problems) be identified and discussed fully with host country officials. If the host country is not involved at this stage, it will cause some uncertainty to exist in the exact area size, timing or purpose. The possible outputs (means for achieving the purpose) may still be tentative at this stage, subject to change or verification when additional information is available, and alternative outputs may well still be under active consideration. The potential inputs (resources needed for actuating the project) should be tentatively projected. The inputs and implementation strategy should be well understood by the host government

THE PROJECT PAPER

The second stage of project development where host country nationals should be highly involved is at the project paper stage.

Purpose The purpose of the project paper (PP) is to provide both Mission and AID/W management with: a self sufficient basis for action and a record of the project's history; a detailed description of the project as it has finally emerged from the project development process; discussions and conclusions of all the appropriate analyses which were carried out to judge the soundness of the project; a realistic assessment of the expected stream of costs and benefits; and finally a clear definition of the responsibilities of AID and the other project participants including a plan of implementation. In addition, the PP contains the Record of Feasibility and other studies undertaken to review eco-

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nomic environmental, and social concerns including the human environment, as well as an exposition regarding the role to be played by women in the development process.

Since approval of the PP will lead to obligation of U.S. funds, full collaboration with the borrower/grantee and the implementing agency must have transpired as to relevant portions of the PP, particularly with regard to implementation planning. In particular, such collaboration should reflect complete agreement as to the scope of the project including project goals, purposes, outputs and required inputs (U.S. and all others). If special clauses or conditions precedent to disbursement are involved, these should be noted. Since the next step in the project will be its implementation, the PP should reflect considerable joint preplanning by the project's participants in the development of a detailed plan of implementation.

Implementation. Host country nationals should be involved in the planning for implementation and evaluation. Provision for periodic evaluation and review of progress toward planned targets should be made and indicated on the implementation schedule. The actual timing of evaluations is based on managerial judgment as to the needs of the project. Project managers and sponsoring offices will want evaluation findings to be available to assist budget decisions, as well as project management decisions. It is highly desirable for the host government to participate in all project evaluations. If the tasks cannot be performed within the current capabilities of the counterparts parties (recipient and AID) provision should be made in the implementation plan and basic project budget for training in evaluation, for workforce, for baseline or regular data collection, or for contract services for special evaluations. (Such evaluation training can also take place prior to authorization). Orientation and training in evaluation concepts and methods are provided by AID.

Conditions, Covenants and Negotiating Status. When host country officials are involved in the project development process, it makes total negotiation easy. The AID official should identify and discuss any host country actions which must be taken prior to execution of the project agreement. Identify and discuss as appropriate, proposed conditions precedent to disbursement, and covenants proposed for inclusion in the project agreement. A concise statement should be included as to the status of discussions of such special covenants and conditions, as well as on the status of agreement on other key parts of the project agreement. In general, agreement should not be presented for authorization unless these matters are very far advanced. If any other parties financing the project have established conditions affecting the project, particularly the portion AID is to assist, these conditions must be discussed.

Managerial/Administrative Analysis of Proposed Projects. A critical element in development projects is the organization(s) which will be responsible for implementing project activities. Host country nationals involvement in the project planning exercises reduces the elements of error in choosing organizations without capacities to implement projects. Host country involvement could avoid the initiation of projects where the managerial capability is inadequate

Getting host country officials to know our regulations makes it easy to meet USAID regulations. For instance, the United States Government recognizing the need for integration of women into the development process is recognized by the Percy Amendment to insure that AID sponsored projects develop strategies in

which women are involved to the fullest possible extent. This participation does not just involve women oriented programs in health, family care and nutrition but also programs involving education credit for small businesses and farm investment and improved technology, seeds and fertilizer for increased production to meet basic food needs.

Of course, this task involves difficult and complex sociocultural and economic processes. Some men in foreign countries, as here in the U.S., see women as homemakers and bearers of children. But in most African countries, at least 60% of basic food needs are met from women's farms. In some countries women almost exclusively market the farm produce. Where men predominantly migrate to other countries to work women are the de facto decision makers in agriculture as in the home.

Often, because the decision makers in the countries do not fully realize how productive their women are, they must be nudged gently to see the problems faced by women in a world where access to scarce resources of land, money, and technology is becoming ever more complicated. When they become aware of these problems and their significance, they are often eager and responsive to solving them. Enlisting their help affords a much more realistic idea of the existing constraints to including women in development projects. Furthermore, when the host country planners struggle with these problems allies are gained in devising and implementing the solutions to these problems. Then a personal pride in the achievement of greater opportunities for women and increased productivity is gained by the people themselves, so that a self perpetuating cycle begins to more equitably include women in the development process.

Working with host country nationals throughout project development makes AID's task easier. The involvement of host country nationals may seem a hard and difficult process, but until we can successfully accomplish this task, we will not be in a position to effect the results that we have targeted. Informing a community about a project's intent, and attempting to gain acceptance of the project by the people and by the village elders, can prove to be a frustrating experience. However, when we examine many project implementation problems, their source can usually be traced back to lack of total involvement of host country nationals in project development, design and implementation.

In the past, both U.S. universities and donors, such as USAID, have been found wanting in their ability to elicit participation. Projects have been submitted for USAID/Washington approval which have not even been seen by the host country governments. It has happened that projects have been in the final stages of implementation without any evidence of necessary collaboration. During every step of project development, counterpart participation must become a reality, rather than a pro forma strategem.

Sometimes we make mistakes because we think we are doing the right thing. A typical case in point is the woman who married the drunkard and attempted to get him to stop drinking--or at least to reduce his level of consumption. She placed before him a glass of water a glass of whisky and a worm. She picked the worm up and put it in the glass of water. The worm wiggled around. She took the worm out and put it in the glass of whisky. The worm became motionless and died. She then turned to her husband and asked him what this had proven to him. He said, "it proves to me that if you drink liquor, you won't have worms."

Often the role of U.S. universities in international and agricultural development has not included the responsibility of identifying project counterparts. Whether required or not, this identification should be a prerequisite for any activity. The Chinese model of development is very impressive in that it anticipates and integrates a way to exercise the developmental process successfully. Even the Chinese, however, in many of their international development efforts have not been able to put their theory into practice. They, too, are guilty of taking the technology with them when they board the plane. We should not go into a community and attempt to initiate something for the people that live in the community without first having the people involved.

It is my belief that USAID should design a development project in the same way NASA designs rockets to go to the moon. Any time that a project is into reaching the target, a retro rocket should be fired to correct the course. We cannot accomplish this without properly involving the host country nationals.

THE CONTINUING DILEMMA OF THE BLACK SCHOLAR

Nancie Fairley

The mid sixties represent the most recent period in American history which her people of African descent revitalized their interest in discovering their roots and establishing concrete social and cultural ties with their brethren on the African continent. In this period more emphasis was placed on intellectual and scholarly activity than in earlier periods, such as during the Garvey movement of the twenties, and increasing numbers of Afro-American scholars began to conduct research in Africa.

For the first time many Afro-American scholars began to seek financial assistance from America's several thousand tax exempt foundations in support of their research interests. The position of Black scholars with respect to the foundation was analyzed by Stone (1973) who found that racial discrimination permeated these foundations. Black people were excluded from these organizations as employees, executives, consultants and as the subjects of research. Stone suggested seven measures which these white-controlled foundations could take to correct this unjust situation in academia. These measures included such steps as the hiring of Blacks in executive positions, the setting up of special grants for Black scholars including more Black related subjects among the topics considered as fundable research, and so forth (ibid:294).

Recognition of these discriminating patterns forced some funding agencies to solicit Afro-American participation in African research projects. Other agencies, such as Ford Foundation began to make financial resources available specifically for the support of Afro-American research interests. Most importantly, some federal and private agencies began to request the assistance of various Afro-American scholars and organizations in the dispensing of funds for research projects which these agencies considered fundable. Efforts were also made to hire a few Blacks in executive positions within these organizations, especially in the large foundations. As of June 1979, Franklin A. Thomas became president of the Ford Foundation; the first Black in history to hold such an eminent position within a major white foundation.

Thus the increase of Afro-American participation in African research is the result of funds solicited from major private and federal funding agencies in this country In light of the society's history of racism and discrimination many individuals interpret this development as being indicative of the overall progress Afro-Americans have made in the American academic system. However, this increased participation funded by white controlled agencies may also be viewed as detrimental to the Afro-American intellectual community. That is, the other consequence of this apparent social reform is the creation of a negative dependency relationship between Afro-American and white controlled granting agencies. The detrimental aspects of this dependency are just beginning to be perceived by Afro-American scholars.

This is not the first time in history that a dependency relationship has developed between Black intellectuals and the white society In The Crisis of Negro Intellectual, Harold Cruse discusses a similar dependency role which emerged during the Harlem Renaissance According to Cruse, the leading sponsorship role during our first great intellectual and creative movement, was played by white liberals and intellectuals. He believes that Blacks lost far more than they gained from this dependency on whites: "The price was that, in exchange for the patronage gained from Carl Van Vechten and others among the downtown white creative intellectual movement, the Negro's spiritual and aesthetic materials were taken over by many white artists, who used them allegedly to advance the Negro artistically but actually more for their own self glorification" (Cruse 1967 35). As a result of this dependency and white cultural paternalism, competition developed between Black and white intellectuals. Of course, the superior social and economic advantages of the white intellectuals enabled them to win.

Stone refers indirectly to dependency in his discussion of the role of white controlled foundation in Black oppression. He writes, "... finally these foundations by an enormous dispensation of funds became a controlling influence on the intellectual development of scholars and the formulations research programs within the American educational community..." (Stone 1973 291). The Black scholar considered an "invisible man" from the perspective of white foundations, finds that his intellectual growth and research interest cannot advance because he is denied access to the financial resources of white foundations. Yet Stone holds that the mere inclusion of Blacks in "meaningful" positions within these foundations could alleviate this problem. According to Stone, Blacks working in white foundations could safeguard and protect the interest of Black scholars and the funds made available to Black scholars (Ibid - 292).

The Black intellectual community basically followed Stone's plan. In spite of these changes, Black scholars continue to bemoan the lack of funds to support their research; this is especially true of scholars in African Studies. Currently the world is more interested in the Middle East. Consequently, more of the research funds from both private and public agencies will be directed toward research in these regions. However, most importantly, the amount of funds available for the research conducted by Black scholars will depend on the overall economic state of the Nation.

Revitalization of Afro-American interest in African Studies coincided with growth in the national economy in the sixties. During such periods of growth money is more plentiful and dispensation rules are more liberal. During the initial phase of Afro-American interest in Africa, foundations made more money available than there were scholars to accept these funds. After a decade of trying to create departments of African Studies and to encourage more scholarly participation from Blacks, the situation is just the reverse. That is, now we have more scholars than there are available funds.

As mentioned above, Afro American scholars have attempted to guarantee financial support for African research by obtaining a few positions on the boards of granting agencies, working for the State Department, and forming interest groups which voiced their academic needs to funding agencies. Unfortu-

nately, such efforts do not protect these scholars during times of economic hardship.

The nation is currently experiencing another recession. During such times money becomes tight and the job market is virtually inaccessible to the lower classes of the society. Unemployment rates soar, especially among the Black population, and Black scholars are not exempt from the general patterns. The government sets the trend by cutting back on many social programs and agencies which were initially set-up to advance the group during an earlier period of economic growth, causing the overall social positions of Blacks and other poor people to decline.

How do such negative economic conditions affect the Black scholar? It is necessary to point out that the Black intellectual and the worker receive similar treatment from the larger society due to patterns of institutional racism. Education in itself has never guaranteed Black Americans equality with similarly educated whites. Because of the status of most Afro-Americans as a reserve labor force, they suffer most severely during an economic recession. Yet they are virtually abandoned at this time by the larger society. New social programs created by the government to counter recession and provide relief to many affected groups do not emphasize the greater needs of Blacks. On the contrary, during periods of recession, institutionalized racism reaches its peak and furthermore, whites demand that their needs are met prior to those of Blacks and other similarly oppressed groups.

In the past, for example, the efforts of Labor Secretary Frances Perkins to provide equal employment opportunities for both whites and Blacks during the thirties, were blocked by Southern politicians voicing the concerns of their supporters. They demanded that white citizens be given priority treatment in hiring, as well as higher wages than Blacks. Northern white politicians may not have agreed with their Southern counter-parts but they did not contest such actions beyond a congressional hearing and even President Roosevelt conceded (Guzda 1980:33). Thus the American government and businesses disregard the needs of Blacks, rendering them politically and economically powerless.

At present, the rather liberal attitudes which prevailed in the late sixties and early seventies have given way to more conservative attitudes. As a result of recession, there is a loss of public endorsement of Black demands, and Blacks are no longer believed to need special compensatory programs which exclude whites (Tabb 1979:401).

A recession affects the amount of money which is dispensed by charity organizations and foundations which are operating on smaller budgets than during earlier periods of economic boom. Consequently, Blacks receive fewer funds from these foundations whose allocation of monies reflects the dominant patterns in the society. After a brief interlude of innovation in the dispensing of monies, the major funding agencies are no longer willing to fund controversial research projects. For instance, in 1975 Hamilton, coauthor of "Black Power: A Strategy for Liberation," became director of MARC, a "Black think tank," created and funded by Ford Foundation in the late sixties. Once Hamilton entered office, Ford began to decrease the amount of funds previously donated to MARC, probably linked to Hamilton's radical views on the Black ghetto.

His beliefs that the Black ghetto is a dependent of corporate power led him to create new research interests in MARC, such as "Alternatives to Welfare", which Ford Foundation considered to be controversial. Therefore, many of Hamilton's ideas for research were not considered fundable (Henry 1979:185).

It appears that during a recession, limited resources are allocated to subjects other than those to which community-sensitive Black scholars assign high priority. In light of this, Black scholars must ask themselves if it is reasonable to expect those who oppress us to fully support research projects which have the express goal of liberating Black people. It is more reasonable to assume that most white-controlled foundations have a vested interest in maintaining the status-quo in America.

Afro-American scholars must attempt to minimize their dependency on white controlled funding agencies. It is necessary to sever the ties between the Liberalism of white-controlled funding agencies, and the research potential of Afro-American scholars. If not, we shall never witness a time when large numbers of our scholars will be able to conduct empirical research.

It is mainly through research that Afro-American scholars will grasp an understanding of African societies and develop an academic tradition in African Studies. Because no scientific research is devoid of the biases and values of the researchers' cultural group we cannot afford to form our conceptions of Africa based on the research and writings of white scholars. Consequently, we cannot develop research interest which reflects an African tradition and the needs of African people if we do not conduct research ourselves, and only financial independence will give us the freedom to direct our research interest towards the goals we deem necessary.

Today too, many of our young Black scholars are a part of research teams which evaluate the effectiveness of African development projects sponsored by such agencies as AID, while many others are part of research teams formed by white scholars. Currently, the energy and time of Black scholars are consumed by research projects in which they are only able to point out the shortcomings of development agencies which rarely incorporate scholarly advice on improvement; such research activities only serve to create a brain drain in an area in which productive research is a must. These limited research opportunities may also create an abundance of practitioners and not enough theoreticians among Afro-Americans. That is, Black scholars are involved mainly in applied research, continuing to work within the theoretical frameworks created by white scholars.

In pointing out some of the pitfalls of depending on the funds of private foundations and government agencies controlled by whites, I am not discouraging the Black intellectual community from obtaining funds which are rightfully theirs. For surely as members of an ethnic group which has probably expended more effort in the building of this country than any other group, we should also be given a rightful share of this money. On this issue, Henry writes, "Why should only the rich have the opportunity to dictate the ways in which what would be tax dollars (without charity exemptions) should be spent? All of us who pay taxes should have the same opportunity to have a voice in spending these funds if equal opportunity is applied to philanthropy..."(1979:188).

However, there is another reality, we are still an oppressed ethnic group and we do not control America's wealth or the decision making bodies within the concerned foundations. I do suggest we divide our efforts between obtaining that which is rightfully ours and creating independent means of conducting research in Africa.

What can Black scholars do to minimize dependency? In light of the lack of wealth among Blacks our difficulties appear to be immense. However, through the concerned efforts of many segments of the Black community, it is indeed possible to initiate change. Some of the following measures may help Black scholars liberate themselves from the negative dependency relationship which has developed between themselves and funding agencies:

1. Seek collaboration with African universities and scholars. For instance, Howard University has been the recipient of grant money from several African countries.

2. Establish concrete relationships within the Black community so that churches may begin to assist scholars. Historically, Black churches have funded the education of many of our young people.

3. Establish work-study programs with African governments so that our graduate students could do research after having donated their services for a one-year period.

4. Organizations receiving large grants should attempt to establish endowment funds for research.

5. Experienced scholars should publish articles and other materials outlining the ways in which research can be conducted on small grants.

6. Encourage team research which would include junior and senior scholars.

7. Maintain contact with African scholars so that our students may have the opportunity to work on research directed by Africans.

The measures suggested above are modest, yet they are within our means and are quite feasible. The implementation of such measures will create options for securing research funds. At the same time, they will allow us to maintain some degree of continuity in our research interests. When white-controlled foundations refuse to fund controversial research or to fund more than a token number of Black scholars, it would then be possible to seek funds from sources independent of their control.

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FROM ASSISTANCE TO COOPERATION: PLEADING FOR A CHANGE

N'Tungamulongo M. Tshibanda

For more than a quarter of a century, industrialized countries, both capitalist and socialist, have been providing the newly independent countries with substantial amounts of various kinds of assistance. According to public statements of both donors and receivers, this aid is provided to help receiver countries in their development battle.

Over the past decade or two, efforts have been made to demystify the proclaimed humanitarian motivations of this aid, and by the same token, to disclose explain and document the hidden meaning of "development aid" (Jalee 1968, 1969; Rodney 1972; Chirot 1977). However, despite both the theoretical and empirical soundness of these attempts, an impassioned debate still opposes censors and apologists of foreign assistance. Using numbers, graphs, and other supporting data, each party seeks to establish the failure or success of the aid experience The advocates of foreign aid argue that it has substantially contributed to change in receiver countries, thereby improving the standing of some of these countries in various international ratings. The critics hold that these changes are negligible in regard to both the volume of expanded resources and the proportion of the population actually affected.

It is unlikely that this debate will soon yield agreement, and there are good reasons to fear it is a dialogue of the deaf, dumb and blind, because the basic questions which first of all have to be answered, whichever the position one takes, reveal themselves to be extremely controversial: What is development? Whose development is at stake and what is (are) the avenue(s) leading to development?

These essential questions need to be answered clearly and unequivocally! Success and failure are relative notions without operational meaning, but which can be measured only in reference to clearly and unequivocally stated objectives. This does not mean that the answer has to be universally agreed upon, since there is no realistic hope of a consensus about issues involving many stakeholders such as those of development and related aid; it simply suggests that, at least, all debaters specify what they stand for, and with all due deference to advocates of scientific instrumentalism, courageously ackowledge their biases.

This paper is based on such an understanding. It does not claim to fully answer the above critical questions; however, it does not ignore them either. So, it articulates in these main sections respectively related to the concept of development, the anti-development version of cooperation, and finally, the conditions and content of an eventual positive cooperation policy.

DEVELOPMENT: A CREED

As a concept as well as a word, "development" is certainly one of the most mystifying categories of our time. It is both widely and wildly used. Since Rostow (1960), general understanding has substantially evolved; the advocate of "stages of growth" has less and less orthodox followers and reality has more than demonstrated the futility of his attempted extrapolation from Euro-American models. Still, unfortunately, for many the West remains, at least implicitly, the model to be followed. "Western theories of development, Marxist and non-Marxist, rest on the assumption that underdeveloped societies do not possess the capacity for indigenously generated change" (Dunn n.d.:63). All are, to some degree, value laden and ethnocentric, and accordingly, need to be done away with.

Real development is not measured by comparison with others, but rather in reference to one's own previous state; its ultimate criteria are not to be found outside, but rather within, the social formation. Development implies deliverance from all types of alienation, through a dialectical process of social destructuring and restructuring. It follows that it is not and cannot be inoculated from outside; neither is it given or granted. Like its quasi-synonyms, liberty and independence, it is uprooted and built through the struggle for the reproduction of society; and depending upon who wins this struggle, the forces of change or those of status quo, it either will take place or it will not. Therefore, for anyone or anything to contribute to the development of a system means at once, to stimulate the destruction of its present coherence, and to contribute to the birth of a new one, antithetical to the former. It is from this standpoint, that cooperation is assessed below.

THE ONGOING PRACTICE: A WELFARE SYSTEM

A quick review of literature, especially in the English language shows that, outside of the environment of the United Nations and related organizations, the expressions technical assistance and development aid are more used than the word cooperation. The latter is so little used, that even euphonically, it sounds odd and tends to at least suggests, on the part of the user, a lack of familiarity with the appropriate field's vocabulary.

The etymology of the word, cooperation, states that by its very definition, it means: "operation or action with." Likewise, defining the words "to cooperate" and "cooperation," Webster's New Collegiate Dictionary states: "to cooperate--to act together, to associate with another or others for mutual benefit" and "cooperation--association of persons for common benefit" (1977:250). Is it then, that the actual practice of relations between industrialized and non-industrialized countries fit these definitions--in which case, words such as "assistance" and "aid" would stand as synonyms of cooperation? Or, is it that the actual practice does not correspond to the spirit of the above definitions?--which would mean that the issue involved here is more than a simple euphonical one, and that the choice of "assistance" or "aid" over cooperation is deliberate, and consistent with the world view underlying industrialized countries' policies?

The system of international aid originated in the late forties with the Marshall Plan set up to help Western Europe to recover from war disasters. This was both a humanistic and strategic move and it was so acknowledged by both the donor and the receiver countries. The Marshall Plan, diversified in its use, but limited in scope and in time, really helped the Europeans to rebuild their economies and to regain a significant role in international exchange. Indeed, very soon, France, Belgium, West Germany and Great Britain surmounted the crisis. They resumed their partnership and competition with U.S. business. The U.S.-Europe relationships evolved from a one-way flow of resources to a two-way relationship; "aid" yielded to "cooperation."

Foreign aid as applied to Third World countries is totally different. In this case, years go by but there is no substantial change, either in the nature of relations between donors and receivers, or in the socio-economic framework of the receiver countries. In general, the situation in developing countries has been worsening throughout the years, and despite billions of international assistance, in most instances, life today, is more dramatically impoverished than it was following **independence**. In Asia, Africa, and even South America, malnutrition persists, starvation spreads, epidemics multiply, industries regress, inflation runs rampant, education turns upside down and inequalities sharpen. The vicious circle of an assistance insuring the upkeep and reproduction of relations of production that create a need for more aid is closing.

One example of this progressive "miring down" of the Third World in alienating aid and misleading advice - one among thousands - can be found in the area of planning, and the title of this panel serves as evidence of it. On the one hand, at a time when the nation-state and even moreso regional gatherings, increasingly becomes the international unit of measurement, development planning policies remain mainly dominated by a piecemeal approach that labels as an inadvisable luxury any meaningful attempt at comprehensive analysis of required socio-structural transformations. On the other hand, on the eve of the third United Nations Development Decade, development planning and implementation is done not by, but only with host country nationals, so "charitably raised" to the rank of anonymous auxilliaries, whereas they should have been--and so acknowledged--the masterminds of the whole process. In such a climate, it is not surprising to see how limited are the achievements of more than 20 years of "planning" under "expert" advice, the outcomes generally are one of the following: either there are projects without real planning; or there is tentative planning but no implementation at all; or, where both attempts at planning and implementation are present, host-country nationals are totally left out.

This marginalization of nationals in a process of primary concern to them is typical of the current reality in an assymetrical world of "haves" and "have nots" and in which the former "generously and freely" help the latter, considered both as solely responsible for their inferior status and incapable of any endogenous breakthrough (Dunn op. cit.). The international aid system is therefore, nothing more than an international welfare system, strikingly similar to the one presently functioning within the national boundaries of the United States and some other industrialized countries. In both types of welfare systems, one finds:

-the same specious and patronizing compassion for the "poorest of the poor";

-the same paternalistic policies that prescribe to the receiver, judged immature, strict-use conditions of the assistance provided;

-the same waste of resources due to mismanagement, unjustified expenditures and poor control of implementation;

-the same corollary of bureaucratic proliferation, inducing top-heaviness and lack of responsiveness;

-the same commitment to helping the "patient" to support his pain rather than teaching him how to fight its germs or prevent its illnesses;

-the same disapprobation of receivers, now and then noisy, often silent, but at all events and thus far powerless.

This structural similarity is readily understandable, for the international aid system and the welfare system are in fact Siamese twins, congenitally united and sharing most essential organs. Among many other things, they have in common:

--the brain, represented by "the advanced segment of the capitalist class" that, whether or not it melts formally as in the Trilateral Commission in 1975, makes decisions affecting the whole world's trend of life;

--the heart, represented by the financial system that, thanks to the combined action of its international, national and local ramifications enables the reproduction and circulation of capital and regulates the vitality of economies all over the world;

--the blood, represented by the dollar (and lately, the IMF Special Drawing Rights) that provides both systems with energy in flux, enabling them to stay alive and active.

International relations are not governed by charity; consequently, "development aid" is not interest-free. To the industrialized countries, the Third World is interesting only in so far as it is able to perform its share of tasks within the international division of labor. Such an aptitude implies a minimum of vitality; a sort of circular dynamic that contributes to the upkeep and reproduction of its principal functions without challenging the system's continued operation. This imperialism has an interest in keeping the Third World--or certain components of it at least, in good economic, social and political health. It is in order to secure that fairly healthy condition, that the "development aid" system has been established. From this it follows that, despite some positive secondary effects, the ultimate purpose of the on-going practice is not Third World development, but rather to contribute to status quo and to regulate the socio-political order, within and among nations.

COOPERATION: A RESHAPING

Rhetoric aside, no one seriously believes any longer that there is satisfactory "cooperation" going on between industrialized and non-industrialized countries. Yet, no sooner established than broken, this consensus on the need for change does not outlive the transitional stage of designing a new strategy for development cooperation. In this climate of contradictory expectations, the idea of a New International Economic Order (NIEO) has grown. However, like a child born near the Love Canal, its growth is necessarily stunted. So too must other attempts made in the same environmental context emerge as poor dwarfs. A number of examples stand ready to hand: first, the western-inspired substitute to the NIEO drive, namely the North-South Dialogue; second, there are the proceedings related to the General Agreement on Tariffs and Trade (GATT) and those related to the behavior of multinational corporations, both indefinitely deadlocked and fruitless; third, there are the United Nations Conferences on Technical Cooperation among Developing Countries (TCDC: Buenos Aires 1978) and on Science and Technology for Development (UNCSTD: Vienna 1979). All these negotiations have failed. Significantly, all share one important feature: they are essentially attempts to reform wayward family members without critically airing the dirty linen.

In itself, this poor record constitutes proof of the inanity of current approaches to designing real cooperation. Having grown numerically since the 1940's, the Third World wants to change the present state of affairs using the existing channels. The very willingness of the West to "cooperate" in that process is itself suspect. Since the industrialized countries still have the final word in all the principal international organizations, they are able to veto proposals they view as undesirable. Thus protected from restructuring actions proposed by their non-industrialized counterparts, the industrialized nations are willing to allow the former to enjoy an exercise in decompression and fruitless tumult. For the Third World, however, it is more than time to face the fact that the preferential use of "assistance" and "aid" instead of "cooperation" in most western literature is not accidental, but significant. It expresses a deeply rooted relationship; at present there is no room for genuine cooperation between industrialized countries. Consequently, it would be inappro- to simply substitute the term "cooperation." That is the very message: it follows that the sole remaining alternative to the outcasts of the present system, the Third World, is a genuine rupture, a revolution.

This idea is not new; it not only has been suggested, but attempted in some areas, although as yet without great success. Yet, it must be recognized that,

> the historical experience of developed capitalist countries shows that industrialization and construction of the national economy have always been realized through negation of the existing international division of labor. That is, by ending the nation's passive involvement in response to momentary comparative advantage (Amin 1978:140-141).

Thus, the suggested rupture is necessarily both painful and fruitful. The critical point in producing one effect or the other will reside in the complementary actions taken along with it.

This question certainly demands more thought. But some basic conditions seem to be real prerequisites for a promising rupture:

- the rupture has to be consciously wanted, positively brought on; and actively taken upon;

- the prospect of temporarily leading a life of privation has to be courageously envisioned and fully explained to all nationals;

- the heterogeneity of both international and national communities and accordingly, the variety of their interests, as well as the possibility of more or less open attempts of recuperation have to be acknowledged;

- the rupture itself has to be conceived as a period of hibernation turned to account of provoking overturnings within internal social relations of production.

All things considered, it is much easier to stick with the present system; the suggested rupture appears no more than a difficult choice. Undoubtedly, but moreover, it is the only change-oriented choice. Given the present world balance of power, actual cooperation between the Third World and industrialized countries seems meaningless except as the result of a dialectical process of negation of "cooperation."

If real cooperation is to occur, a symmetrical type of relationship has to be established between the two blocs, and like mature partners, the two have to be able to freely decide, not only on what is their respective best interest, but also on how to match, through bargaining, interests which are often different, and sometimes conflicting. There is good reason to hope that, like an animal awakening from hibernation, the Third World will emerge from its den revigorated and ready "to associate with others for mutual benefit." Only under that condition can development planning and development materialize. Development requires involving all nationals, not only at the implementation stage as labor force or suppliers of so called "human resources," but at the very beginning stage of conception and target society design.

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MR. N.T. TSHIBANDA has worked in the Ministry of Planning of Zaire where he was Deputy Director of the Division of Counterpart Funds and Technical Assistance Coordination from 1977 to 1979. He has also been involved in training public officials in Zaire and Morocco. While a student at the National University of Zaire in Lubumbashi, he worked as a journalist for the regional newspaper. His scholarly publications include articles on public administration and technical cooperation. He is now working toward a graduate degree at the School of International Affairs of the University of Pittsburgh. Mr. Tshibanda has traveled widely on missions to Africa, Europe and the Americas. He serves on several committees on Science and Technology, including the preparatory commission for the United Nations Conference on Science and Technology for Development.

DR. JOHN L. WITHERS is an economist with extensive experience in international development work, and a distinguished career in the Foreign Service. A graduate of North Carolina AT&T, he got an MA from the University of Wisconsin, then obtained a second MA and his Ph.D from the University of Chicago. Dr. Withers then taught at his Alma Mater and at the University of Detroit. In 1958, Dr. Withers joined USAID and worked first in Asia, serving in Laos, Thailand, Burma and Korea. He then went to Africa, to Kenya and to Ethiopia, where he was Mission Director. He returned once more to Asia, to serve as Mission Director in India. Upon his mandatory retirement from the Foreign Service in 1979, Dr. Withers joined the University of D.C., where he is Director of the Institute for International Affairs.

DR. CHENGETAI ZVOBGO was born in Zimbabwe. He obtained his BA in history from the University of California at Los Angeles, his MA in African History from UCLA also. He received a diploma in Education from Makere University in Uganda, and his Ph.D in African History from the University of Edinburgh in Scotland. He has been a Visiting Assistant Professor of African and Afro-American History at the University of Notre Dame, the University of Iowa in Iowa City, and at Tuskegee Institute. Currently, he is a Visiting Assistant Professor of African and Afro-American History at the University of Tennessee at Knoxville. Following the expiration of this commitment, Dr. Zvobgo plans to return to Zimbabwe.

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b. Tuskegee Institute Participants 292

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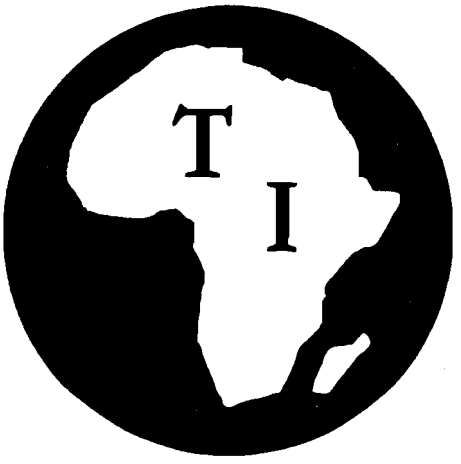
The Role of U. S. Universities in International Rural and Agricultural Development



CONFERENCE

TUSKEGEE INSTITUTE

April 16 - 18, 1980

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Program

TUSKEGEE INSTITUTE CONFERENCE
APRIL 16-18, 1980

THE ROLE OF U.S. UNIVERSITIES IN INTERNATIONAL RURAL AND AGRICULTURAL DEVELOPMENT

Sponsored by the Center for Rural Development, the Health Research and Demonstration Center and the Center for Food and Nutrition Studies

Wednesday, April 16

8:45 a.m.

TUSKEGEE INSTITUTE WELCOME -- Dr. George Cooper, Dean
(Tuskegee Institute Chapel) School of Applied Sciences
Tuskegee Institute

9:00 a.m.

I. KEYNOTE ADDRESS: "Making the Vision Come True"
(Tuskegee Institute Chapel)

Dr. John L. Withers
University of the District of Columbia
Washington, D.C.

10:00 a.m.

II. DEVELOPMENT POLICY: RESOURCE ALLOCATION AND OUTCOMES
(Tuskegee Institute Chapel)

Dr. Willard Johnson
Mass. Institute of Technology
Cambridge, Massachusetts

Dr. Pearl Robinson
Center for International Studies
Princeton University
Princeton, New Jersey

Dr. Robert H. Bates
Cal. Institute of Technology
Pasadena, California

Moderators: Ms. Anita R. Goodman, School of Business,
Mr. Cheickna Singare, Center for Rural Development
Tuskegee Institute

1:15 p.m.

III. FARMING SYSTEMS IN SMALL FARMER AGRICULTURE
(School of Veterinary Medicine Learning Center)

Dr. Kenneth Shapiro
CRED
Univ. of Michigan
Ann Arbor, Michigan

Dr. Richard Robbins
North Carolina A&T
Greensboro, North Carolina

Dr. T.L. Mukenge
Morris Brown College
Atlanta, Georgia

Dr. Michael Horowitz
State University of New York
Binghamton, New York

Ms. Diana Putman
Bryn Mawr College
Bryn Mawr, Pennsylvania

Dr. Elon Gilbert
University of Florida
Gainesville, Florida

Moderator: Dr. John O'Sullivan, Center for Rural Development
Tuskegee Institute

IV. ECOLOGY OF DISEASE, HEALTH SYSTEMS AND RURAL DEVELOPMENT
(John A. Andrews Health Center Auditorium)

Donald Hopkins, M.D.
Center for Communicable Diseases
Atlanta, Georgia

Dr. Oscar Gish
School of Public Health
University of Michigan
Ann Arbor, Michigan

Dr. Philomena Steady
Wesleyan University
Middletown, Connecticut

Dr. Wilma Porter
Howard University School of Medicine
Washington, D.C.

Moderators: Dean Walter T. Bowie, School of Veterinary Medicine
Dr. Christopher Kirya, John A. Andrews Health Center
Tuskegee Institute

3:45 p.m.

V. AGRICULTURAL RESEARCH: PROBLEMS OF TECHNOLOGY TRANSFER
(School of Veterinary Medicine Learning Center)

Dr. Vernon Johnson
Former Dept. Asst. Sec. of State for Africa

Dr. Donald Ferguson
USDA
Washington D.C.

Dr. Michael Joshua
BERD
Virginia State University
Petersburg, Virginia

Ms. Gayla Cook
African American Institute
New York, New York

Ms. Grace Hemmings
Yale University
New Haven, Connecticut

Dr. Peter B. Hammond
World Bank
Washington, D.C.

Moderator: Dr. Booker T. Whatley, Department of Agriculture
Tuskegee Institute

Wednesday, April 16

VI. EDUCATION FOR DEVELOPMENT: TECHNICAL AND SOCIAL ASPECTS OF PARTICIPANT TRAINING
(John A. Andrew Health Center Auditorium)

Dr. Emmanuel Acquah
Virginia State Univ.
Petersburg, Virginia

Prof. Ida Rousseau-Mukenge
Morehouse College
Atlanta, Georgia

Dr. William LeVine
SECID
Washington, D.C.

Dr. Shelby Lewis
Atlanta University
Atlanta, Georgia

M. Jean-Yves Gapihan
New Haven, Connecticut

Moderators: Dr. Arthur Henry, Human Resources Development Center
Dr. Alva Bailey, School of Education
Tuskegee Institute

7:30 p.m.

VII. DINNER (Holiday Inn)
Address: "Challenges of the 1980's"

Mr. Walter Carrington
African American Institute
New York, New York

Hostess: Dr. Velma Blackwell, Vice President for Development
Tuskegee Institute

Thursday, April 17

8:45 a.m.

VIII. SOCIAL STRUCTURE, PROJECT DEVELOPMENT AND IMPLEMENTATION
(Tuskegee Institute Chapel)

Dr. Leith Mullings
Hastings Center and
Columbia University

Dr. John Lewis
Howard University
Washington, D.C.

Dr. Simeon Chilungu
State University of New York
Buffalo, New York

Dr. Chengetai Zvobgo
University of Tennessee
Knoxville, Tennessee

Moderator: Dr. Willie L. Baber, Assistant Director, Center for Rural Development, Tuskegee Institute

Thursday, April 17
11:00 a.m.

IX. ADDRESS: "An Update on the Struggle for Southern Africa"
(Tuskegee Institute Chapel)
Dr. Bernard Magubane
University of Connecticut
Storrs, Connecticut

Moderator: Mr. Frank Toland, Head, History Department and Director, Black Studies Program, Tuskegee Institute

1:15 p.m.

X. ANIMAL HEALTH AND LIVESTOCK PRODUCTION SYSTEMS
(School of Veterinary Medicine Learning Center)

Dr. Cleveland J. Allen
FAO, Rome
Rome, Italy

Dr. Martin E. Hugh-Jones
Louisiana State University
Baton Rouge, Louisiana

Mr. John Sutter
Cornell University
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Ms. Muneera Salem-Murdock
State University of New York
Binghamton, New York

Moderators: Dr. Edward T. Braye, Cooperative Extension Service
Dr. Doris Oliviera, Director, Small Ruminant Program
Tuskegee Institute

XI. PROJECT PLANNING AND IMPLEMENTATION WITH HOST COUNTRY NATIONALS (Tuskegee Institute Chapel)

Dr. Joseph Kennedy
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Mr. Quincy Benbow
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Mr. Ntungamulongo Tshibanda
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Dr. Nancie Fairley
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Moderators: Ms. Elizabeth Woods, Behavioral Sciences Research
Dr. Linus C. Okere, Department of Sociology
Tuskegee Institute

3:15 p.m.

Centennial Era Coffee Break (Dorothy Hall)

Thursday, April 17

3:45 p.m.

XII. SUMMARY OF ISSUES (Tuskegee Institute Chapel)

Dr. Brooke G. Schoepf
Center for Rural Development
Tuskegee Institute, Alabama

Moderator: Dean George Cooper, School of Applied Sciences, Tuskegee Institute

5:00 p.m.

XIII. CLOSING ADDRESS (Tuskegee Institute Chapel)

"The Global Economic Order and the Poor Villages: The Issue of Mediating Structures"

Dr. Elliott Skinner
Franz Boas Professor of Anthropology
Columbia University
New York, N.Y.

Moderator: Dr. William L. Lester, Assistant Provost
Tuskegee Institute

7:30 p.m.

XIV. DINNER (Holiday Inn)

Address: Dr. Marie Gadsen, Vice President and Director for International Programs
Phelps-Stokes Fund
Washington, D.C.

Host: Dr. B.D. Mayberry, Director of International Programs
Tuskegee Institute

POST CONFERENCE SESSION

FRIDAY, APRIL 18

8:45 a.m.

XV. ROUND TABLE: WOMEN AND DEVELOPMENT IN THE 1980'S
(Tuskegee Institute Chapel)

XVI. WORKSHOP: SMALL FARM AGRICULTURAL RESEARCH
(School of Veterinary Medicine Learning Center)
Coordinators: Dr. James Allen and Dr. Kingston Mendisodza
Department of Agricultural Sciences, Tuskegee Institute

XVII. WORKSHOP: RURAL HEALTH CARE SYSTEMS
(John A. Andrews Health Center Auditorium)
Coordinators: Dr. Eugene W. Adams and Dr. Tsegaye Habtemariam
School of Veterinary Medicine, Tuskegee Institute

11:00 a.m.

XVIII. DROUGHT, FAMINE AND DEVELOPMENT IN THE SAHEL
(Slide-illustrated presentation)
(John A. Andrews Health Center Auditorium)
Dr. Richard W. Franke and Dr. Barbara H. Chassin
Department of Sociology
Montclair State College
Upper Montclair, New Jersey

Moderators: Dr. Eloise Carter, Head, Department of Home Economics
Dr. Eliezer Molokwu, School of Veterinary Medicine
Tuskegee Institute

1:15 p.m.

XIX. Round Table: AFRICAN MODES OF PRODUCTION: PRE-COLONIAL BASE-LINES AND THEIR TRANSFORMATIONS (Tuskegee Institute Chapel)

4:00 p.m.

XX. Round Table: THE RELATIONSHIP OF DEVELOPMENT PROJECTS TO DEVELOPMENT AND UNDERDEVELOPMENT (Tuskegee Institute Chapel)

7:30 p.m.

XXI. POT-LUCK SUPPER AND DANCING (Center for Rural Development)
Hosts: Sociology Department, Tuskegee Institute, Mr. Avery Webber, Head

Saturday, April 19

9:30 a.m.

XXII. Round Table: ZAIRE'S ECONOMY: HARBINGER, EPIPHENOMENON OR MODEL (Center for Rural Development)