

AGENCY FOR INTERNATIONAL DEVELOPMENT WASHINGTON, D. C. 20523 <b>BIBLIOGRAPHIC INPUT SHEET</b>	FOR AID USE ONLY <i>Bottle 39</i>
-----------------------------------------------------------------------------------------------------	--------------------------------------

1. SUBJECT CLASSIFICATION	A. PRIMARY	TEMPORARY
	B. SECONDARY	

2. TITLE AND SUBTITLE  
 Systems approaches to technical cooperation, the role of development administration

3. AUTHOR(S)  
 Esman, M.J.; Montgomery, J.D.

4. DOCUMENT DATE 1969	5. NUMBER OF PAGES 91p.	6. ARC NUMBER ARC
--------------------------	----------------------------	----------------------

7. REFERENCE ORGANIZATION NAME AND ADDRESS  
 GAI

8. SUPPLEMENTARY NOTES (*Sponsoring Organization, Publishers, Availability*)

9. ABSTRACT

(Development Assistance R&D)

10. CONTROL NUMBER PN-AAC-526	11. PRICE OF DOCUMENT
12. DESCRIPTORS	13. PROJECT NUMBER
	14. CONTRACT NUMBER CSD-2229 GTS
	15. TYPE OF DOCUMENT

CSD-2229 Gi  
PN-AAC-52



---

---

**SYSTEMS APPROACHES TO TECHNICAL COOPERATION:  
THE ROLE OF DEVELOPMENT ADMINISTRATION**

MILTON J. ESMAN

JOHN D. MONTGOMERY

*for the*

*Agency for International Development*

---

---

***The Governmental Affairs Institute***

1619 Massachusetts Ave., N.W.

Washington, D. C. 20036

CSD-2229



GOVERNMENTAL  
AFFAIRS  
INSTITUTE

BOARD OF DIRECTORS: RALPH J. BUNCHF • R. TAYLOR COLE • LUTHER H. GULICK • MALCOLM C. MOOS •  
ALAN C. RANKIN • B. MICHAEL RAUH • JOHN H. ROMANI • WENDELL G. SCHAEFFER  
• ELVIS J. STAHR • RICHARD V. WOODRUFF

OFFICERS: WENDELL G. SCHAEFFER, *President and Chairman of the Board* • JOHN GEISE, DEAN B. MAHIN,  
HIRAM S. PHILLIPS, SEYMOUR J. RUBIN, RICHARD M. SCAMMON, RICHARD V. WOODRUFF, *Vice Presidents*  
• B. MICHAEL RAUH, *Secretary*

1619 Massachusetts Ave ue, N.W., Washington, D. C. 20036  
Telephone (202) 265-8306 • Cable: GAI Washington, D. C.

April, 1969

Governmental Affairs Institute is pleased to transmit the report, Systems Approaches to Technical Cooperation: The Role of Development Administration, in fulfillment of the requirements of contract number AID/csd 2229.

This report was written by Professors Milton J. Esman and John D. Montgomery, men who are recognized for their major contributions to Development Administration through their work experience in the developing countries and their writings.

Dr. Esman of the University of Pittsburgh has recently returned from a year in Malaysia where, as a member of the Harvard Advisory Group, he served as an advisor to the Prime Minister's Department. He was the organizer and the first research director of the Inter-University Research Program in Institution Building, a consortium of Pittsburgh, Michigan State, Syracuse and Indiana. Previously, he had served with the Department of State in Washington and with AID in South East Asia. Dr. Esman is a graduate of Cornell University and received his doctorate in 1942 from Princeton University. Among his many writings on development and institution building, he is the co-author of a book, The Common Aid Effort.

Dr. Montgomery of Harvard has worked and written in depth concerning development problems. He was the Dean of Academic Instruction of the National Institute of Administration, Saigon, 1957-1959 and subsequently has conferred extensively with AID missions in all regions. Among the many groups with which he is associated, he is a member of AID's Southeast Asia Development Advisory Group as well as the Research Advisory Group. He was formerly the Associate Director of the African Studies program of Boston University. He is a graduate of Kalamazoo College and received his masters degree and doctorate from Harvard University in Public Administration. He has written extensively on problems of development and public administration. One of his most significant works is Approaches to Development: Politics, Administration and Change, which is co-edited with William J. Siffin.

This report was written in close cooperation with Mr. Jack Koteen and the staff of the Development Administration Division (TA/DAD) of the Office of Program and Policy Coordination, which sought the guidance of these experts in searching for an approach that would make Development Administration more responsive to the needs of AID and the developing countries. The authors were able to couple their academic research with their broad experience. In addition, they had access to AID files and opportunity to confer at length with senior AID officers who have had extensive overseas and Washington experience in the development process. In this process, an informal seminar based on an earlier draft provided an opportunity for a full exchange of views. The authors have given full consideration to comments and criticisms of AID officers in the preparation of their final report. Responsibility for the final product, however,

rests solely with the authors.

We believe that the Agency for International Development will find this a thoughtful and stimulating work as they examine new directions for the foreign assistance program.

  
WENDELL G. SCHAEFFER  
President

TABLE OF CONTENTS

	<u>Page</u>
Letter of Transmittal	
Summary	
Introduction	1
II. The Evolution of American Technical Cooperation	3
III. The Emerging Technical Cooperation Needs of Less Developed Countries	7
IV. The U.S. "Comparative Advantage" in Technical Assistance	9
V. The Emerging Doctrine of Developing Administration	11
VI. Programming Principles for the Next Decade of American Technical Cooperation	17
Appendix A Two Illustrative Cases	56
Appendix B A Bibliographic Note on Systems Approaches to Technical Cooperation	63

## SUMMARY

In the 1970s American foreign aid must face an old challenge in new form -- helping developing countries organize and administer large-scale action programs to deliver the fruits of new technologies to mass consumers. It will require new, creative, and experimental approaches to technological adaptation, development administration, and the concepts and methods used by AID in designing and conducting technical cooperation activities.

Fortunately, as more and more developing countries shift from accepting known technologies to organizing large-scale action programs, American foreign aid can draw on a pronounced national comparative advantage: long-standing experience in organizing pragmatic, unorthodox mixtures of private, voluntary, and governmental instruments to convert new technologies rapidly to beneficial social uses.

As technical cooperation in these new forms gains a higher priority in American foreign assistance, it will encounter complex social and political as well as technical and administrative problems. New doctrine -- new sets of ideas and tested operational practices -- will be needed to guide these efforts. To develop and test these ideas and methods will require a substantial and continuing investment by AID in applied research and experimentation which must mobilize the best talents in the physical and social sciences available in the United States and in the developing countries as well.

This report suggests the dimensions of these new opportunities for American foreign aid, the components of a new approach to development administration, and the elements of increased flexibility required to enable the United States to meet the technical challenge of the 1970s.

## SYSTEMS APPROACHES TO TECHNICAL COOPERATION:

### THE ROLE OF DEVELOPMENT ADMINISTRATION

#### Introduction

The immediate purpose of this inquiry was to examine the future role of development administration in the changing context of American aid. Our examination of this problem led us inescapably to a number of larger issues, and in drawing upon recent experiences of the Agency, we also began to explore their general implications for a new technical assistance doctrine. This exercise has led us, in turn, to think about organizational and operational possibilities and requirements for the aid program as a whole. The strands we have tried to weave together here seem to belong together.

All of the elements we have chosen to highlight are drawn either from recent AID experience or from current research on development administration and social change. We think our contribution has been to extrapolate from this experience and to place the separate elements together in a new context. For example, we propose experimenting with technical assistance projects on a larger scale in order to achieve greater impact; we also suggest multi-disciplinary approaches to whole social systems as they are affected by technological modernization. To be sure, temporary combinations of economists and development administrators working in full collegial cooperation with professional specialists are not unknown in foreign aid operations; but they have been rare. Admittedly they are hard to staff and manage, and their extensive use will require significant departures from professional and organizational conventions.

We propose wherever possible organizing joint teams of host national and American professionals to administer innovative and experimental development activities -- again, a device which has been used before, but usually by accident. We believe that such an approach is becoming increasingly important as highly skilled manpower become available in many LDCs and the traditional tutorial role of technical assistance becomes obsolete.

We also propose new experimental concepts of programming and project design consistent with the emerging and more sophisticated needs of many developing countries. These concepts also reflect the special capacity of the American people to deliver new technologies through innovative combinations of methods to mass consumers. But the flexibility required to put these concepts into practice implies new approaches to staffing, organization, and resource allocation within AID.

Finally, we have suggested a radical new definition of the interrelationships between technological change (with its implications for the material quality of life) and development administration (with its institutional consequences for the quality for civic life); again we are reflecting an insight already suggested by the Congressional mandate of Title IX, but it is one which the Agency is just beginning to conceptualize.

The approaches suggested here assume a continuing and substantial commitment to technical cooperation. We do not suggest that its dimensions need to be vast; and certainly it should not be treated as a substitute for financial assistance. But it seems clear that technical cooperation ought to enjoy a larger measure of operational autonomy than it now does.

We believe that America's comparative advantage as a pragmatic, problem-solving people will be more faithfully reflected in its foreign

aid programs if this new package, or something like it, becomes a major component in the aid thrusts and rationales of the 1970s.

## II - The Evolution of American Technical Cooperation

Technical cooperation as a large-scale government enterprise began with "Point Four" two decades ago. The idea of making advanced American technology available to the less developed countries as weapons in their struggle against poverty, ignorance, and disease has stirred the imagination of men of good will throughout the world. The Point Four doctrine of technological transfer succeeded in applying a rather simple concept to what proved to be a very complex set of conditions. It called for the development of modern skills through training and for the transfer of "know-how" from an American "technician" (or a U.N. "expert") to "counterparts" in a less developed country. It put Americans in the position of givers and the cooperating nationals in that of receivers. It is fair to say that this doctrine still represents the basic conception of technical cooperation in the minds of most Americans (including members of Congress) and many leaders of the less developed countries.

Experience with simple technical cooperation in the Point Four model soon produced a number of unexpected problems. Much American know-how is ill-suited to the needs of many less developed countries. While Americans learned to economize on labor, these countries have labor surpluses and acute scarcity of capital. Many of our techniques, if they were to be useful, depend upon other complementary skills and organizations which are assumed in America, but do not exist in other countries. Western technology has also encountered unexpected cultural barriers. For example, it presupposed

attitudes towards time, the manipulation of the physical world, and the proper relationships among men and between men and government which simply do not prevail in many societies. Many innovations which an American considers purely technical were seen as deeply threatening to men in other cultures. In some cases they were even considered morally wrong (or at least politically dangerous) because they reduced the power or status of some men in relations with others.

Technological innovation sometimes brings drastic changes in the social, political, and personal behavior of many individuals. In many instances, our overseas partners in technical cooperation accepted American practices in a literal or formal way, but applied them with quite unexpected results. Thus, for example, adopting the merit system for public employment sometimes produced results as much self-reinforcing as reforming: the cultural values of loyalty to family and friends, for example, often continued to determine the allocation of jobs despite formal acceptance of techniques intended to change these practices.

Experience with such problems led to a new theme, "adapt not adopt." Americans fully recognize the need to accommodate United States know-how to local conditions while introducing change. But "adapt not adopt" is more a slogan than a set of tested practices. AID can still do little more than leave the American advisor to his own devices in this difficult area of guided social change. In turn, he has been tempted to apply American practices (whether in agricultural extension, office management, land grant education, or tax administration) to vastly different societies, adapting them pragmatically at the margins as taught by painful experience. Until the 1960s there was no government-financed research in technical cooperation and the AID agency itself had until very

recently no "memory" that could capture and diffuse successful experiences and use them to build a more effective operating doctrine and practices. It is abundantly clear to all students of foreign aid and international development that "technical cooperation" has lagged far behind "economic assistance" in the development of a guiding doctrine or rationale. After twenty years of experience, it has no doctrine comparable in power or sophistication to the post-Keynesian analytical methods that can be used to rationalize and discipline the flow of capital to less developed countries.

In recent years there has been a search for more adequate technical cooperation doctrine. Among the most significant of these efforts has been research into institution-building experiences in development administration. Institution-building doctrine recognizes that the innovations required for modernizing less developed countries transcend purely technical considerations and involve far-reaching changes in attitudes and behavior. It finds that innovations are usually embodied in organizations which attempt to introduce and protect such changes in their societies. It concludes that in addition to building a sound and viable organization, it is necessary to establish linkages with other organizations and groups so that they too will make compatible changes in their procedures and behavior. In setting up a modern budgeting agency, for example, the doctrine calls not only for building a competent organization but also for insuring that linkages to the legislature, the operating departments, and the cabinet transmit the new concepts and methods. This process of extending innovation involves learning and accommodation (and even conflict) among the parties involved. When the innovations have become institutionalized, they become an accepted function of their societies. The problem facing the next generation of innovators

is to see that these successful institutions do not become frozen, but maintain their capacity to innovate and adapt to changes. Institution building is among the most sophisticated concepts of technical assistance yet developed, and its lessons are only beginning to be diffused and incorporated into AID's practices.

Yet despite the inadequacy of technical cooperation doctrine and the enormous and unexpected complexities it has encountered, the programs themselves have had a highly beneficial and sometimes tremendous impact on many less developed countries. American efforts have been substantially augmented by United Nations and other bilateral commitments to technical cooperation. The American contribution alone has amounted to more than 3 billion dollars in the past twenty years. It has equipped many thousands of professionals, administrators, and sub-professionals in every field of modern science and technology with modern skills. Individual specialists have begun to adapt these technologies to conditions in their own countries. In every professional field, educational centers have been established with the help of foreign advisors and participant training opportunities provided through various forms of cooperation. As these centers are multiplying the supply of trained personnel and are beginning to do their own research, other new institutions, governmental and private, are functioning in agriculture, industry, health, education, and other sectors, to provide improved services to their societies. Although the picture varies from country to country and from sector to sector in individual countries, it is clear that many countries are passing beyond the stage where skills training, the transfer of basic technologies, and the building of essential organizations any longer require extensive foreign assistance. While there is continuing

need for these orthodox forms of technical cooperation, many countries no longer require them on a large scale. They still need technical cooperation, but their needs are of a different kind.

### III - The Emerging Technical Cooperation Needs of Less Developed Countries

Many of the developing countries are approaching (and indeed some have already achieved) a stage of human and institutional development where Point Four types of technical cooperation are no longer appropriate. Their needs are becoming more sophisticated. They are increasingly concerned with new problems. They must find effective ways of "delivering" essentially foreign-technical improvements to large numbers of people. The problem is how to develop and administer "delivery systems" for new applied technologies such as educational TV, miracle seeds and fertilizers, and birth control devices. They must also find ways of organizing large-scale action programs which will increase economic efficiency or enhance social welfare through the application of new knowledge. Often these programs involve many organizations and groups in simultaneous and complementary activities under conditions of uncertainty. Their problem is no longer how to transfer or even adapt known technologies, but rather how to find the combinations of incentives, methods, and institutions that will work in specific situations. This problem must be solved largely through experimentation. How can a nation improve and expand its secondary school system so that it will produce the kinds of graduates it will need? How can it organize and operate a progressive income tax system where prosperous people have never felt an obligation to pay income taxes? How can it design, organize, and administer

an incentive system that will induce and assist manufacturers to enter the export business?

There are three common denominators to this emerging set of needs -- experimentation, administration, and collegiality. These elements must be closely associated to cope with these complex problems. Experimentation can determine what combinations of measures can be expected to produce the desired results under conditions of initial uncertainty; administration is indispensable to organizing, coordinating, and managing complex programs of action; and collegiality implies equal status between Americans and the fully qualified local professionals available in increasing numbers in these developing countries. Genuine professional equality can now begin to replace the tutelary relationship which has been implicit in previous forms of technical assistance where the American technician was transferring American know-how to local counterparts. The development of basic skills and the transfer of known technologies will inevitably be less relevant to the future than to the past. The emerging problem is how to combine skills which now exist in these countries and bring them to bear more effectively in action programs which will accelerate economic growth, expand social well being, and improve public services. This problem is the essence of development administration.

Already American aid has begun, without the benefit of a suitable doctrine, to respond to these emerging more sophisticated requirements. (See the examples summarized in Appendix II.) We believe that without abandoning the more conventional forms of technical assistance, the United States should begin to emphasize these large-scale experimental and action

programs in its choice of technical cooperation projects. In this process it will not only be catering to the most significant needs of the developing countries, but also drawing on a very pronounced American comparative advantage.

#### IV - The U.S. "Comparative Advantage" in Technical Assistance

One explanation for the justly celebrated American standard of living is the extensive use of technology to improve the lives of ordinary men. From the beginning of the Republic, Americans have experimented with different means of converting scientific knowledge to such social purposes. They have adopted a manipulative attitude toward science that has generated technological innovations directly designed to improve living standards. Moreover, once such discoveries are made, the American society has pragmatically used a variety of public and private instruments to deliver to a maximum number of private citizens the fruits of technology. It has used the market place, volunteer and non-profit instruments, and governmental institutions with remarkably little regard for ideological considerations.

These two features of American life -- the human use of scientific knowledge and an experimental approach to social institutions -- suggest to us a possible basis for re-examining the potentials of the American society in terms of its comparative advantage in foreign aid.

This conception of American technology and development administration must be carefully distinguished from a glorification of either the specific content of the technology or of the specific forms of the institutions developed in the United States. In some ways American technology is too advanced, too specialized, and too capital-intensive to be immediately

relevant to the needs of underdeveloped countries, just as the American corporation, the party system, and the federal and judicial processes are distinctively appropriate to our own society but not necessarily to others. The comparative advantage of which we speak refers to the innovative, pragmatic, experimental spirit of American technology and development administration, and not to their specific manifestations.

The Point Four approach through technical assistance and public administration programs does not really capture the essence of this American comparative advantage. Over the years, much of technical assistance has become routinized. By accepting the "gap thesis" of development -- the proposition that existing American know-how can be supplied at will to overcome a skills gap -- technical assistance has tried to find ways of applying American models to problems overseas, without at the same time applying the American problem-solving genius of research and experimentation to them. Thus most aid missions have been organized according to a fairly uniform pattern, the staffing of its divisions or sections following traditional professional lines rather than (for example) exploring the use of "task force" teams to analyze and respond to distinctive local needs. This uniformity of approach implies that all development problems are fundamentally similar, and that contemporary American practice can be efficiently applied to their resolution. We now know that this is not necessarily the case. Difficulties are mounting year by year as technicians (UN, AID, foundation, and other national) seek to apply the conventional wisdom of their professions to unconventional problems. Some Western technology is actually harmful to underdeveloped countries. Professional practice in many countries is so different from that in the United States that, quite apart from problems

of incentive and motivation, many nationals from these countries who have been trained abroad have decided to abandon their homeland for the United States or Europe because conditions here are more congenial to their Western training. To cite only a few special problems of mismatching, the absence of medium-level technicians and commercial delivery systems in Asia and Africa has made the requirements for the successful practice of medicine, public health, agriculture, industry, and even education quite different from those in the United States. Industrial and commercial enterprises developed following American requirements to economize on scarce labor have sometimes been socially disruptive abroad. Occasionally technologies have even widened the gap between the rich and the poor in countries where small groups have been able to control output for their own benefit and against the public interest. It is not, of course, Western technology that is at fault, or even the technical assistants who are attempting to apply their professional knowledge and skill to a new situation. It is rather the basic assumption that the experience and knowledge needed in these situations already exist in transferable form. The alternative assumption is the one we adopt here: that the greatest contribution American technical cooperation can offer is an experimental approach exploring appropriate social technologies to put new physical technologies to good use.

#### V - The Emerging Doctrine of Developing Administration

Public administration has been a distinct "sector" in American technical assistance programs. Like other fields of technical cooperation it has limited its activities principally to transferring established American know-how and developing teaching institutions. The skills it has

transferred have seldom penetrated or significantly influenced the major action programs of government. The know-how that has been transferred has faithfully reflected the limited professional public administration doctrine of the 1930s, which emphasized "economy and efficiency" and was concerned almost exclusively with auxiliary services like personnel, budgeting, accounting, organization and methods as practiced in the United States. Faithful to the doctrine that policy and administration were separate spheres and that administrators were not to concern themselves with substantive policy, technical cooperation programs in public administration have avoided, and therefore had little influence on, the organization and management of the major substantive development programs in education, health, public works, industry, and agriculture, which are the main concerns of cooperating governments and of America's foreign assistance activities.

This narrow conception of public administration gradually became frozen in American technical assistance practice. Each country aid mission developed its small public administration section whose task was to introduce American budget, personnel, or management practices into the central agencies of the host government, or to strengthen public administration teaching programs and institutions. A few otherwise unclassified activities were later added to the "public administration" function, such as census taking, customs management, and business administration; but the implementation of the main technical assistance action programs in education, agriculture, transportation, and health were considered outside the scope of public administration. Thus public administration sections became doubly isolated: first from the substantive concerns of the aid missions abroad, and also from the rapid growth and change in the public administration discipline in the United States.

For nearly a generation, scholars of public administration in the United States have been reacting vigorously against the simplistic "economy and efficiency" models of the 1930s. At least four influential schools of thought have emerged to reinvigorate the discipline. The first, concerned with substantive programs, defines administration to include public policies as well as the instruments used to direct and carry them out. Because these activities touch the interests of individuals and groups outside government, they become inevitably involved in politics. Scholars concerned with these issues no longer look upon policy and administration as separate spheres, and the evidence multiplies that economy and efficiency must often yield to other values such as equal opportunity, fair distribution of benefits, and responsiveness to political control. The body of literature dealing with such problems has already moved public administration from the sidelines to the center of governmental concern. But these perceptions have not yet been strongly felt in U.S. foreign aid programs, where the concerns of the 1930s have remained dominant. The "public administration" sections overseas are almost completely divorced from the sections concerned with the management of programs in substantive areas, and the latter are manned almost exclusively by professionals trained in other disciplines.

A second new influence in public administration is the behavioral approach. Scholars applying social science knowledge to the understanding of large and complex organizations found that organizations do not behave like the machines conceived in terms of the engineering models of the 1930s, but rather like groups of interacting and interdependent individuals possessing their own interests and demonstrating some ability to force

management to take these interests into account. In approaching these relationships, administration becomes concerned with governing complex human systems, with built-in conflicts that limit the real discretion of those exercising formal authority. In this model, the single-minded pursuit of efficiency in any abstract sense all but disappears as an organizational goal. Behavioral sciences attempt to describe how individuals and groups really act in complex organizations, how decisions are actually made and carried out, and how this knowledge can be used to improve performance. The importance of communications and of information flows in maintaining large organizations, the creative potentials of regulated conflict, and the possibilities of "participative management" as a means of enhancing incentives to perform, are three of many discoveries derived from the application of behavioral and social sciences to administration. Little effort has been made in the aid programs to apply this knowledge to administration of development programs in cooperating countries.

A third approach that challenges the conventional definition of public administration applies quantitative and analytical techniques, following models suggested by engineering and economics. It is a form of decision theory which applies mathematical logic to optimizing the performance of an organization, usually in cost-effectiveness terms. In its recent emergence as operations research, as program and performance budgeting, and in the aero-space management technologies relying heavily on computer applications, it is an updated and sophisticated version of the rationalistic engineering models of the 1930s.

A fourth approach, stimulated by America's expanded international activities and by the foreign aid program itself, is the comparative

study of administration, with its emphasis on social and cultural ecology. It is concerned with the interdependence of administrative behavior and institutions with culture, and it seeks to explain how a great variety of non-American forms, institutions, and practices work in other countries. The comparative perspective has greatly broadened the field of public administration, demonstrating among other things that the familiar line between public and private administration is often very thin; that the motives for accepting administrative reform, and its consequences, vary greatly; that there are numerous alternative ways of using public and private resources to secure public objectives; and that administration need not rely on bureaucratic forms of activity alone. The related interest in development administration explores the process of building administrative institutions and capabilities in less developed countries and the use of administrative instruments to facilitate social and economic development. A principal concern of students of development administration is the process by which changes in the attitudes and behavior needed to modernize agriculture, industry, education, family planning and other aspects of national life can be fostered and guided by administrative action. Writers in development administration explore the role of the administrator as an institution builder and an agent of social change, not merely enforcing laws, but working with clients as farmers, manufacturers, school teachers, or users of family planning services. AID itself has been aware of this interest and has sponsored important research in development administration, but the fruits of this research have not had a prominent place either in AID's operating doctrine or in its practices.

American technical cooperation in public administration (even in its conventional forms) has served many useful purposes. It has helped develop essential skills in modern administrative technologies, improved management systems, and useful training institutions which are now producing a more competent and sophisticated generation of administrators. Yet these efforts have not required an extensive outlay of resources. Projects designated as "public administration" have represented only about 7% of technical cooperation expenditures in recent years. It is impossible to estimate the undesignated public administration component of projects listed in education, public works, health and similar substantive fields. Such "hidden" public administration assistance may be even larger than what is formally so classified; but the public administration groups in AID have had only minor influence on the important administrative component of these substantive projects.

In short, public administration offered through American technical cooperation has not kept pace with recent thinking and practice in the field in the United States, and it has not exerted a strong influence on the main lines of governmental action in the less developed countries. Since administration is vital to effective government performance, especially of those development action programs which are now the central concerns of more and more cooperating governments, we believe that American assistance in public administration should be strengthened by (1) deemphasizing projects which aim solely at transferring auxiliary administrative techniques, (2) linking administration and applying modern management concepts and methods directly to the planning, organizing, and management of substantive action programs, and (3) drawing more liberally on the expanding

body of knowledge and research now available in development administration.

VI - Programming Principles for the Next Decade of  
American Technical Cooperation

The new departures we propose in American aid practice derive from a generation of active scholarship. They attempt to apply the product of new knowledge and methods of analysis to the problems of fostering developmental change through technical cooperation. Our proposals also seek to extend some imaginative and successful experiments that have already been proved fruitful in the foreign aid programs themselves. Based on these experiences, we propose that future United States ventures in technical cooperation (1) define projects in broad sectoral terms that link them directly to major systems of action; (2) encourage the use by host governments of mixtures of public, market, and voluntary instrumentalities as defined by specific local capabilities; (3) concentrate on experimental activities for which there are no readily available standard solutions, in which the United States and local participants can engage in solving important developmental problems through a cooperative learning process; (4) make full collegial use of local human resources in jointly directed experimental programming; (5) sustain our participation long enough to build indigenous institutions that represent real additions to the capacity of the host country to deal with increasingly complex problems; (6) make use of the most advanced management technologies in selected projects for pilot and demonstration purposes; (7) select activities as targets of opportunity on pragmatic judgments of their

importance, the strength of domestic support, and the capacity of the United States to deliver assistance effectively; and (8) make use of technical cooperation activities to improve the quality of civic life of those affected.

1. Programming major systems of action. Traditional technical assistance projects have identified a single narrowly defined activity or organization as the basis of analysis and action. This approach has often succeeded in transferring technologies, or in training people, or in developing organizations; but in many cases the environment has not been able to receive or use their improved capabilities or outputs. Evidence drawn from all sectors of technology confirms the proposition that effective use of new approaches requires collateral changes outside the immediate source of innovation. A new science curriculum, for example, is no real innovation unless the teacher training system is prepared to incorporate it in its own institutions and the education ministry is able to provide the required text books. The new seed varieties which have become available to farmers are useful only as credit is provided for fertilizer and the prices offered for their crops warrant the additional effort or risk. Concentrating on major systems of action implies that the planning of technical cooperation projects must incorporate all the complementary and linked activities needed to produce the desired end product. The attention that AID and the IBRD have devoted in recent years to "sector loans" recognizes these problems. In their most successful prototypes, these loans incorporate a range of related activities needed to produce a satisfactory end product, such as technical education, rice production and marketing, or the development of forest products industries. They

attempt to identify all of the significant complementary elements in a system of action that determine the success of a major undertaking. The boundaries of a system are flexible -- an economic sector or major program, a geographical area, a large institution, or an urban complex. This approach broadens the definition and the scope of foreign aid projects so that they are looked upon as systems of action rather than as isolated endeavours.

Any such complex activity requires the assembling of a variety of technical and administrative skills in interprofessional task forces. It also requires a management structure which (1) facilitates the mobilization, the timely availability, and the efficient deployment of the essential factors of production, (2) sets, maintains and where necessary revises operating schedules, (3) establishes and maintains information flows among the component elements in the project and between the project and its environment, and (4) insures the integration of the several interrelated elements that constitute these systems of action. Many of the more traditional elements of technical assistance in public administration-- budgeting and accounting, personnel management, organization and methods--should be incorporated into the management control structures of these large systems of action so that--instead of being ends in themselves--they can contribute directly to the achievement of developmental objectives.

Fortunately technical assistance from Americans and other donors has by now helped to equip many countries with enough basic technical and organizational skills so that they can venture into more complex and sophisticated programming in which several interrelated analytical

and action components are involved. Their needs and interests now call for new programs of action which will help them adapt and deliver technologies on behalf of major governmental objectives. It is a happy coincidence that the emerging needs of more and more developing countries call for kinds of assistance that draw on elements of America's comparative advantage.

2. Administrative Mixtures. Much of America's economic success can be explained in terms of its flexibility and resourcefulness in converting technologies quickly and efficiently to social uses and in organizing large-scale action programs for "delivering" them. By avoiding any consistent dogmatic or ideological bias, the U.S. has declined to rely exclusively on central government or local agencies, or on market mechanisms, or on voluntary organizations, or on public corporations, or on any other specific policy instruments for these purposes. Regardless of party affiliations, national leaders in public and private life have experimented pragmatically with combinations that attempt to make maximum use of existing capabilities to produce the desired results. Even the effort to serve long-term public interests beyond immediate purposes has not depended exclusively on public instruments. In practice, then, the U.S. has not always followed even its own traditional public administration doctrine of being concerned only with formal bureaucratic organizations.

Such experimental mixtures of means can be applied in many societies, both to ease the very great burden that development places on public bureaucracies, and also to mobilize other, under-utilized, forms of organization. Many developmental programs present opportunities to mix bureaucratic with other forms of organization and instruments of action.

A dramatic example of the successful mixture of instruments is cited in the Philippines rice case (see Appendix II). There the national government's semi-autonomous central bank and rural private banks joined forces with provincial governments, with a special agency in the President's office, with commercial fertilizer companies, and with the national Agricultural Extension Service, the Church and the 4-H groups to develop a successful delivery system for the "miracle" rice. Although the identical pattern could not be replicated in other countries, the pragmatic, experimental, and resourceful approach to administration certainly can be. The comparative knowledge the U.S. can bring to these problems, and the national experience in using a variety of administrative means for accomplishing social objectives, constitute an important resource for technical cooperation in the 1970s.

3. Experimental programming. It sounds almost trite to reiterate the fact that foreign assistance is more than the simple transfer of resources or knowledge or the cross-cultural "installation" of technologies. But not enough attention has been devoted to the implications of the alternative approach of starting with a promising hypothesis and testing it in action, absorbing failures, learning and improving from one step to the next. Many of the most significant aid activities in agriculture, family planning, education, urban development, and other sectors, especially those which must attempt to introduce innovations or to modify the attitudes and behavior of masses of people, must be conceived in experimental terms.

It is no accident that some of the dramatic successes of American foreign aid in recent years have been associated both with a combination of technological "break-throughs" and with imaginative new uses of public

and private institutions to organize and administer "delivery systems" and thus relate them to pressing needs in the underdeveloped countries. Most of these technological discoveries -- Mexican wheat, created after many years of developmental research under Rockefeller support, for example, or the new rice strain developed by the Ford-Rockefeller-supported International Rice Institute of the Philippines -- required conscious experimentation in production techniques, and thereafter called for new forms of programmed public and private activity to service the users effectively.

This experimenting must be done primarily by local officials and researchers with advice and assistance from Americans. Aid projects designed to employ technologies for social purposes must be regarded as a learning experience for all parties concerned because there are so many uncertainties involved. For example, what combinations of incentives, institutions, and services are required to induce farmers to use fertilizer efficiently; what administrative arrangements are most appropriate for delivering family planning services to the urban -- and which to the rural -- populations; and by what organizations and communications methods can operating departments be associated with a central planning agency and Ministry of Finance in planning sectoral investment programs and relating them to recurrent costs? Because there are no standard solutions to these problems in different countries, the answers can best be found by experimentation.

America's pioneering experience with applied social science, with survey methods, and with action research, is an area of substantial comparative advantage which can be extremely useful to developing countries in shaping and monitoring action programs where the problems are hard to define, or when the response of various publics cannot be predicted, or a

variety of administrative arrangements may be suitable. We believe the United States should gradually reduce its support to aid projects which represent the transfer of known technologies and should give preference to activities which have an important experimental component that draws on our comparative advantage. The organization of foreign aid must provide means of tapping the appropriate skills in American society.

4. Joint responsibility. One way of reducing the tutorial relationship in technical assistance where politically feasible, is to make full use of local talent in a joint search for solutions to common problems. Large-scale experimental programming in other countries cannot be carried out by Americans alone. What Americans can contribute to such activities -- a fresh point of view, comparative experience, and familiarity with a variety of technical, administrative, and social innovations, for example -- can only augment the intellectual resources available in countries receiving U.S. aid. Local specialists possessing a high degree of technical skills will tend to be more familiar with relevant local needs and capabilities than outsiders can be; their professional skills may rank as high in the world market of trained manpower as those of their American counterparts. Where possible, these technicians should enjoy a fully coordinate professional relationship to Americans.

Ideally, such joint technical cooperation projects would follow these organizational principles: (1) assigning comparable levels of authority to qualified native and guest specialists; (2) establishing joint structures for decision-making and operational activities; (3) where possible, creating mechanisms for releasing and using funds jointly as necessary to support developmental research and experimental action,

rather than following conventional administrative procedures; (4) devising multidisciplinary staffing patterns without regard to nationality, thus avoiding bi-national duplication of function or other practices that might threaten the collegial relationship; (5) planning for long-term institutional phasing of responsibilities and activities in order to reduce the danger of bureaucratic self-perpetuation or prolongation of experimental activities beyond the time-span of their innovative thrust; (6) placing the task force within the jurisdiction of existing public or private agencies in the host country in order to reduce friction, avoid duplication of function, and provide for maximum dissemination of new knowledge to responsible authorities and organizations. (These principles will be explored further in Section VII.)

The joint approach may be especially useful in countries that are emerging from dependence on U.S. economic aid, but where technological and other considerations suggest continued relationships.

5. Maintaining the innovative thrust. We must not lose sight of the major aid objective of developing capabilities in other societies for self-sustaining and continually adaptive innovation. The capacity to innovate and to sustain innovation on a large scale is usually embodied in organizations which aggregate complex substantive skills and whose personnel are committed to innovation. Such organizations must also gain and maintain a firm position in their societies, in order to have access to resources and the opportunity to continue to innovate. The U.S. presence should help prevent an innovating organization from embracing a given set of new practices without adapting them to changing conditions. And even adaptation is not enough; the semi-political task of influencing the institution's environment to accommodate innovations must be undertaken by its leadership if the innovations are to take hold and the innovative thrust is to endure. U.S. technical

cooperation can often assist local administrators and other change agents in these tasks. Building such institutions is not the work of one or two years. We must be prepared to sustain our participation in any project or program until the necessary institutions are securely established. For this purpose, we must be prepared to think in blocks of time which may extend from 5 to 20 years, not in annual appropriation cycles. We must resist also the temptation to rearrange technical activities in order to demonstrate each year how many projects have been terminated.

6. Sophisticated management technologies. American management in the past two decades has developed powerful methods of planning, scheduling, and operations control. These methods include the following elements: detailed identification of the interrelated factors in a complex system of action; precise time phasing of related activities; and control of operations through the use of modern high-speed communications and reporting instruments. These methods often make use of the information storage, retrieval, and processing capacities of electronic computers. Although they are identified most dramatically with aerospace and defense-related activities, these program management methods are now commonplace in American industry and government and they are evolving rapidly. They are clearly an element of American comparative advantage, contributing to the management gap about which so much has been written. Eventually the logic, as well as the specific technologies, of the new management science may have great utility in many developing countries for the planning, scheduling, and control of complex action programs. Pilot efforts to apply these technologies are now under way in rice production and marketing in Vietnam and in a few other missions. United States technical assistance should

experiment further with the application of these powerful technologies to carefully selected action programs in developing countries. These experiments must be conducted with great care, for (like other technologies, and contrary to the claims of many zealots and enthusiasts) they cannot be "installed" full-blown in any developing country with which we are familiar. Implicit in these technologies are attitudes toward the value of time, the integrity of objective data, the quality of interpersonal and intergroup relationships, and the definition of costs and benefits: differential cultural factors about which we have already commented. Even a single application of these new technologies will require far-reaching changes in the behavior of large numbers of managers and workers, who are likely to regard the new methods, at least initially, as deeply threatening, and who may put them to quite different uses than an American specialist might anticipate. For these reasons, even more than because of the shortage of the necessary technical skills, such technologies will have to be adapted by skillful experimentation. They are sufficiently promising, however, to warrant a considerable investment on the part of American technical assistance programming.

7. Criteria and priorities. No systematic doctrine has yet been developed for identifying priorities in technical assistance. The general practice at present is to use technical assistance either to identify projects that are suitable for capital investment or to direct the allocation of resources already made available under economic or diplomatic criteria. Such uses of technical knowledge provide a basis for predicting the feasibility and profitability of alternative capital investments.

Where profitability or benefit-cost dimensions are hard to measure, and where social and political values are important, the economic rationale becomes somewhat insecure. Estimates have been made of the economic value of a secondary education investment in terms of increased earning power of its immediate beneficiaries, for example; but the still greater social value is not identified at all by this process. Malaria eradication has been justified in terms of increased productive potential; but no one considers such evidence the entire rationale for these programs. Tse-tse fly elimination has been costed out and the benefits measured in acres of land opened for cultivation; but programs have been undertaken even when better investments were available. In short, the application of economic criteria to technological development programs provides better guidance to investors than it does to governments.

We believe that when major systematic problems of a technical order are perceived as such by a friendly government; when the problems appear to be susceptible to "breakthrough" upon the development and application of the relevant technical and administrative knowledge; when human resources for a joint experimental effort exist in the host country in conjunction with the United States; when appropriate officials and political leaders are committed to such a venture; and when the diplomatic relationships between the two countries suggest the prospect of a fruitful long-term mutual commitment, the economic criteria become secondary. A program with so much going for it ought to be undertaken. There are not so many candidates for the kind of technical cooperation we propose that we are concerned about the immediate need for developing systematic choice criteria. Previous experience, perhaps interpreted in terms of local

needs after a survey on the site, ought to be enough to permit sound judgments to be made as opportunities arise in the next few years, at least; and as further experience is considered, it should be possible to improve the basis for such judgments.

Past experience supports the insight of political leaders in all parts of the world in the attempt to combine welfare and qualitative with economic considerations in the exercise of governmental power for developmental purposes.

8. The Programming of technical cooperation for civic development.

Our basic proposition is that technological innovation affects all phases of life in a modernizing society, and that foreign aid can facilitate the use of scientific knowledge to improve mass living standards qualitatively as well as quantitatively. Officially, American concern with mass participation in the fruits of development did not appear in the foreign aid legislation until 1966, when Congress suggested that development assistance should be administered with regard to the general quality of civic life as well as for economic and technical development. But this concern is not a new one for AID or its predecessors: many aid programs have been addressed to public participation and community development, to improving the institutions and processes of public and private administration, to enlarging educational opportunities and facilities, and to using aid to benefit the interests of farmers and workers even when they were unable to represent themselves effectively through political channels. The more traditional concerns of political scientists with "macro-concepts" of "political development" have also been registered in the Agency's

selective efforts to develop "responsive" administrative institutions, to explore various avenues for aiding legislatures and parties, to train potential leaders, to improve mass communications, to assist in legal and constitutional change, and to press for various political and social reforms. All of these efforts deserve continued support and encouragement.

These approaches to civic and political development do not, however, exhaust the range of possibilities open to technical cooperation in the form proposed here. For if our proposition is sound that the United States has special competence in designing technological innovation for social purposes, and in creating administrative institutions to deliver their benefits to the public market place, then it follows that U.S. foreign aid programs can make special contributions to the quality of civic life through its activities in development administration.

The administration of development programs constitutes some of the most powerful influences a government exerts on the lives of its citizens. The relationships generated by a government's developmental activities are profoundly important in determining the quality of the national civic life: they affect the citizen's willingness to change his behavior in accordance with law and administrative regulation; they influence his commitment to the developmental goals to which he is expected to devote his labor and capital; and they condition his acceptance of the government's role in mediating the conflicts arising out of his changed economic role and his productive activities. These three dimensions of civic life are affected, in turn, by three corresponding postures a government takes in its development administration activities. We shall designate these three postures, respectively, as "regulative,"

"initiative," and "mediative." Each is intended to describe a distinctive set of relationships that is affected by the character and focus of external aid, especially when substantial resources or fundamental changes are involved. All represent a government's recognition that development requires action by citizens as well as civil servants.

1. Regulative activities. Underlying progress in every sector of development -- agriculture, public health, education, industry, and public works -- is the expectation that citizens are willing to accept essential governmental decisions when legitimately made. Such decisions range from using common weights and measures and accepting quality standards to recognizing licenses for teachers or physicians or importers. Governmental officials carrying out such regulative activities do not necessarily have to exercise coercion upon citizens, but their efforts are presumably backed by latent police power, sufficient in force to assure citizen compliance or performance. The presence of foreign aid speeds the processes of development or permits the exercise of new functions; therefore it often requires greater exercise of regulative functions than would be necessary without it.

Because of the unsettling nature of development itself, foreign aid is sometimes directly involved in assisting government programs in public safety, inspection procedures, tax collection, compulsory audits, and information gathering. Essential as these functions are to public order and civic discipline, however, they are not often associated in the public mind with improved living standards. They are rarely seen by citizens as part of the government's effort to enrich civic life. In so far as the regulative-coercive posture of government is indirectly

enhanced by American aid, the objective of improving popular participation in development may actually be jeopardized. When American aid to technological innovation focuses exclusively on the processes of regulation and coercion, it ignores the broader purposes for which the government involves itself in development. For in addition to -- and, indeed, as part of -- the purpose of securing compliance, a government seeks continuing acceptance of its legitimate authority with a minimum of force. The machinery it needs for insuring acceptance of its authority includes instruments of equity as well as enforcement.

Equity in developmental programs applies to establishing fair procedures both to assure access to government services and facilities, and to guarantee impartial enforcement of regulations and standards.

Procedures for introducing equity and official responsiveness are as important as enforcement procedures because they help governments gain citizen self-restraint and thus provide an additional guarantee of compliance. At the same time they make a much more positive contribution to the quality of civic life than more obvious methods of enforcement. But these equity aspects of government regulation have seldom been addressed in the design of new development programs. We propose, therefore, that equity considerations be treated as a legitimate object for constructive experimentation in American technical cooperation. It is an essential element in stabilizing citizen response to development; it is not a public safety issue only. Comparative studies of the sense of civic responsibility in many cultures suggest that the United States has something to contribute to the design of positive experimental programming for regulative purposes; and in so far as foreign aid contributes to the regulative functions of development administration at all, its efforts should be

addressed to these dual issues of "equity" as much as to those of regulation in the sense of compliance enforcement.

2. Initiative activities. Foreign aid is often used to supply (or supplement) the resources needed to initiate new development activities on the part of citizens. Initiative activities are those designed to encourage citizens to invest their own capital or labor or otherwise to change their behavior so as to provide a "multiplier effect" for the original outlay. Public investments serve this initiative function whenever they depend upon responsive actions by private sources for their effect: a dam does not produce wealth until its waters are channeled by the farmer onto his fields, or until electricity generated at its spill is used to turn machinery. The incentives used to encourage citizen response include capital and credit, price supports and controls, tax and tariff policies, research sponsorship, and the provision of various services. They are a vital element in creative development administration. But development programs designed to encourage desirable forms of citizen behavior must assure fair access to opportunities and benefits, and they must be continually reviewed to prevent abuse.

Governmental initiative activities run two risks: first, that a few enterprisers may capture the immediate proceeds of the public investment and convert them to their own private benefit at the expense of other beneficiaries; and second, that government initiatives thus begun (especially when they take the form of special subsidies and other financial protections) may perpetuate themselves as routines instead of being self-liquidating. Protection against both of these risks requires experimental and carefully monitored forms of programming. One means

of protection is to involve the intended client groups in the process of assigning the benefits of the new activity among the population, and in overseeing the behavior of their members to assure that it continues to produce the desired developmental consequences. Policies designed to encourage citizens to join government-initiated projects receiving foreign aid may actually detract from the quality of civic life if the citizens find that the projects themselves result in a drain upon the public treasure for the benefit of those already rich and powerful. Such risks can be reduced by the policy of sharing decision-making responsibilities among citizens affected by these government developmental programs.

American efforts to introduce democratic social reforms at the national level through "leverage" and "incentive programming" of aid are not likely to produce the desired consequences unless these efforts are attached to specific investments on the spot. The best contribution of development administration to these reform purposes lies in designing appropriate arrangements at the point where citizens are actually participating in the benefits of the investment. It is easier to approach social justice through the distribution of new benefits than through the redistribution of existing sources and forms of wealth. American concern over issues of social equity is therefore more appropriately addressed to the distribution of benefits it has helped provide through aid programs than as an abstract principle.

3. Mediative activities. The most subtle and sensitive instruments of development administration are those designed to accommodate conflicts arising out of developmental changes. Technological change in any sector may affect different interest groups in vastly different ways.

The owners of the resources affected by a government program; the workers and technicians involved in it; the commercial enterprises subsidiary to its manufacture, distribution, or supply; and the public generally as consumers or as affected bystanders: all have interests that may require mediation through some politically acceptable process. Where the interests of existing (or emergent) groups are vitally affected by technological change that is supported by external aid, the donor has some responsibility in the matter. Only recently, however, has foreign aid been directed toward institutions designed to accommodate such conflicts; and this aid has not been associated with development programs as such. Most such efforts have involved legal codes and procedures, administrative processes, or, occasionally, even political institutions. The first two, at least, are increasingly recognized as appropriate concerns of foreign aid, while the third, although a much more dubious target of direct aid action, has recently been urged upon AID. But designing such mediative programs as part of technical development has very rarely taken place.

Experimentation in this field should aim at improving public acceptance of the role of government as mediator among the interests affected by development programs. Interest groups -- labor-management, tenant-landlord, manufacturer-distributor, producer-consumer, rural-urban, regional and ethnic groups -- are not symmetrical, either in their stake in development or in their ability to influence governmental decisions. But they do share a concern for finding suitable means for resolving conflicts among themselves. Courts, administrative law, and quasi-judicial tribunals of various kinds all provide instruments of last resort before violence, but conflict prevention and interest mediation are subtler processes that ought to be

identified as part of the development administration function in the areas in which foreign assistance is provided. They should be considered in the original system programming and should be contrived as an element in the experimental use of mixed means that deliver the benefits of development to various groups of citizens.

We note that American aid doctrine has devoted only passing attention to these relationships between administrative delivery systems for technological development and the quality of civic life. What few examples there are of efforts to use development programs for civic development came about as the result of accident, rather than of programming. In those rare cases where the American involvement has been sector-wide or system-oriented, however, experience seems to support the proposition implied here: that developmental programs administered so as to encourage popular participation have favorable effects on the quality of the national civic life.

The broadly-based intersectoral program of the Joint Sino-American Commission on Rural Reconstruction on Taiwan illustrates the potential of this approach. Although the JCRR programmers were not really concerned with political participation as an end in itself, their experience supported their conviction that local involvement in the planning and execution of development programs would enhance their economic and social impact. Rural programs in agriculture, health, and education were conducted by a pooling of resources, skills, and manpower from local and central sources, including both Chinese and American funds and personnel. Gradually the predominant role of the Nationalist Government shifted from its "regulative" emphasis in the late 1940s to an "initiative" phase in the

1950s, and the central authorities also began to create "mediative" instruments to recognize the legitimate processes of interest-group activity produced by technological changes in rural life.

Not many examples of such comprehensive development administration are to be found among the disjointed sectoral programming efforts usually encountered in the underdeveloped world. But among foreign aid officials in the U.S. and overseas, we have observed increasing enthusiasm for sector-wide, systematic efforts to integrate American and host national approaches, experimenting where knowledge does not reach, and taking into consideration the civic as well as the economic and technological consequences of their activities. Development administration programming for these purposes is not amenable to purely technical or economic standards. There is almost unanimous opinion among the observers we have approached that these qualitative factors have a powerful effect on productivity, however. The fact that these issues are not subject to precise measurement does not warrant their neglect. Indeed, the more difficult these objectives are to measure, the more attention they require to avoid serious oversights and errors of judgment.

#### VII - Problems of Organization and Implementation

In the course of our discussions, many members of AID's senior staff expressed support for these shifts of emphasis in American technical cooperation and in its public administration component. There is much less agreement, however, as to how to institutionalize this new doctrine in American foreign aid operations. While we cannot presume to redesign AID, we believe we should explore the organizational and procedural implications of our recommendations.

1. Upgrading the Organizational Status of Technical Cooperation.

Knowledgeable observers of American aid during the 1960s agree that technical cooperation has been underemphasized, not so much in a financial as in an intellectual sense. Lacking a doctrine more compelling than that of Point 4, it has been unable to compete on equal terms with economic gap theories and other capital-based approaches for the attention of the Agency's top staff members and of cooperating governments. Despite continuous and often repeated acknowledgement of the importance of technical cooperation, most of the Agency's key decision-makers in Washington and in the field have been primarily concerned with capital flows. Technical cooperation has become a residual set of useful but more or less routine activities, and the morale of staff members concerned with technological transfer, institutional and human resources development, and administrative improvement has suffered accordingly. We believe that this development in the 1960s was due partly to an intellectual fascination with macro-economic concepts, and partly to the failure of the Agency to engender more creative thinking about the noneconomic dimensions of development. This imbalance is now recognized. Most professionals agree that economic and banking approaches cannot alone produce the changes required for development, that on at least some issues they are irrelevant, and that a vigorous body of knowledge is now available from the social sciences and professions to provide more creative and relevant contributions to the development process.

If American aid is to give greater weight to technical cooperation, its organization should give it some measure of autonomy from decisions affecting capital flows. It is not enough to look upon technical dimensions

of development merely as a means of identifying good investment projects or of insuring more efficient use of capital. Nor can innovative thinking flourish in an environment in which senior decision-makers in Washington and the field are preoccupied with the details of legal, accounting, engineering, reporting controls and "conditions precedent" which inevitably accompany large international flows of funds. If an important objective of American assistance is to help cooperating governments to adapt and deliver technologies and to organize and carry out large-scale action programs, large capital flows may not be instrumental in all cases; and in others the capital required may or may not originate from the U.S. Improvements in technology and administration require changes in mass behavior and social institutions. While capital may be a useful and in many cases a necessary auxiliary to these purposes, the most important U.S. input is certainly skilled advisory personnel.

As aid administrators begin to devote more of their time, attention, and decisional priorities to technical assistance, it will be necessary to develop a doctrine for technical cooperation that they will find intellectually exciting and operationally relevant. This task is already underway in the Agency, and we have hopes that its new leadership will be receptive to the emerging approaches outlined here.

2. Research, Development and Experimentation. Recently AID has sponsored important research activities and has begun to build links with scholars and researchers in universities, research organizations and industry. This trend should be intensified. The Universities are the natural partners of government in generating and testing new ideas and practices, but if the academic community is to contribute importantly

to American technical cooperation, there must be a continuous cross flow of ideas, experiences and problems, and research findings. The relationships must be close and continuous.

AID is itself the world's leading source of on-going empirical experience in testing new approaches to the administration of development programs and the application of management science to development problems. In addition it has or could readily gain access to similar data from the experience of international agencies, foundations, and foreign governments. The Agency, perhaps with the assistance of an appropriate university center or professional society might consider a systematic program for gathering, analyzing, publishing and disseminating such information so that it might be readily available not only to AID's own worldwide staff, but also to administrators in developing countries and interested students of development administration. With these data and with the assistance of members of the academic community, AID should sponsor conferences and seminars in which officials of cooperating governments and foreign scholars, as well as AID officials would review and analyze these experiences and discuss their implications for the design and management of development projects. Specific experiments of the kind recommended in this report would be especially suitable for inclusion in these publications and seminars.

A development assistance program which is concerned not merely with capital flows but also with technological and administrative innovations in action programs where there are no standard answers inevitably will encounter heavy overhead expenses representing investment in human talent and experimental costs. The administrative overhead costs involved

in lending money are relatively small; but in technical cooperation the costs of investigation and logistical support must be relatively large or the effort is likely to be unproductive. The research, development, monitoring, and evaluation activities required to support teams working overseas on difficult development problems can be formidable, as can the training and re-training of personnel in the new approaches to technical cooperation.

3. Flexible Time Dimension. The program should have the flexibility to function in variable (and, if necessary, extended) time perspectives. The administrators of this program should be able to take what time is necessary to plan joint enterprises with cooperating countries, free of the need to "obligate" funds by a fixed date, and therefore to risk unwise and premature commitments. Moreover, they must also have the power to conclude agreements promptly and to begin operations when the time is ripe. They should not be under pressure to terminate projects at pre-determined dates. They must be prepared to stay with promising activities, when necessary, riding the waves of initial frustration and disappointment until the experiments begin to yield success and the capacities to sustain the activity and to adapt to changing conditions have been firmly established in the cooperating country. The pace of progress in developmental projects of this scale is never fully predictable. Meaningful time frames for technical assistance operations do not correspond to present conceptions of tours of duty, fiscal authorizations, or even presidential terms. While continuing appraisal is, of course, essential, we should not shrink from staying with good projects for as many years as are required to see them through successfully.

We recognize that this idea has been propounded many times with little success. We nevertheless repeat it earnestly because it is especially important for the proposed new thrust of American technical cooperation.

4. Implications for Headquarters Management. We anticipate that the shift in American technical cooperation activities involved in implementing these proposals may require careful planning and negotiations with host governments. Such projects would be continuing, if they were initiated at the rate of 10 a year, world-wide, after five years probably all 50 would still be in operation. Meanwhile, the more conventional technical cooperation projects should continue to run their course; new ones should be instituted, though perhaps at a diminishing rate; and some may be re-designed and incorporated as component elements of the larger projects we propose. Thus a project concerned with teaching methods might be incorporated into a larger program for modernizing secondary education. Or a project dealing with management methods could be brought into a larger system of action concerned with developing a major region or urban complex. This development, however, should not be looked upon as the mere redesignation of small projects and their inclusion in larger ones, but as a new concept appropriate to an enlarged horizon in technical cooperation activities. The purpose of such projects transcends skills training and instead focuses on delivering modern technologies and organizing major development programs.

A gradual transition from conventional Point 4 to developmental forms of technical cooperation will provide the government with time to adapt its organizational, staffing, and operational patterns to new

requirements. While we suggest a number of measures that will help to accomplish this transition, to do so adequately will require for AID's own organization and procedures some of the same experimentation and innovation that we have proposed for substantive field operation. We shall mention three types of administrative adjustments: staffing, programming and evaluation, and strengthening links with sources of professional expertise.

a) Staffing

Perhaps the most fundamental change will involve the staffing of new technical cooperation projects. Some of AID's present officers, both in Washington and in the missions, could, with a minimum of exposure to the new doctrine, participate fully in the inter-professional and inter-disciplinary task forces which will manage these projects in the field. A larger group of officers could, with appropriate re-training, convert to the newer form of technical cooperation. This training could be conducted by the aid agency itself or in cooperation with one or more university centers or other institutions. We believe that training incorporating the most recent thinking and relevant operational experience in technological adaptation, in induced social change, and in development administration can be organized and that such training can convert a number of AID's current technicians to the demands of the new form of technical cooperation. Other AID officers should be permitted to fulfill their careers in the more conventional technical cooperation projects that will continue to be a part of the USAID program.

New recruitment to AID should draw from practitioners, from research organizations, and from university staff members who can fit readily into this broader approach to the role of technical cooperation. Though it may be resisted by some of them, it is important that they participate in training programs similar to those designed for AID officials. A few of the new recruits may wish to commit themselves to the permanent headquarters or field staffs of the aid agency. The great majority, however, will doubtless wish to maintain employment contacts with other government agencies, or with business organizations or universities. The terms of their service will have to be flexible to accommodate requirements of the project.

Three factors should determine the appropriate terms of employment for each such specialist: (1) the needs of the project, which are likely to be highly variable and thus incompatible with the concept of a standard tour of duty extending over a range from two weeks to several years; (2) the preferences of the individual and of his employing organization, negotiated in each case so that the project will be continuously served, yet the individual will not suffer a career loss in his organization and in his profession; (3) the use of unorthodox task forces to staff experimental programs, involving the simultaneous participation of specialists from several disciplines and professions. (Agricultural economists, rural sociologists, public administration specialists, survey researchers, engineers, and agronomists may be required on a single agricultural development project, for example.)

b) Programming and Evaluation

How to make the right decisions on choice of programs, how to give them the necessary support, and how to appraise on-going programs: these are important headquarters functions. We believe that Washington will have to innovate ad hoc combinations similar to the inter-disciplinary and inter-professional task force in the field. Some members of each headquarters task force will be full-time AID staff members. Others may be co-opted from other government agencies, private organizations or universities to participate in programming decisions, follow the project carefully, and engage in periodic appraisals of its effectiveness. By such ad hoc task force the government can draw a variety of talents to contribute to decisions affecting these large scale projects which will be close enough to the margins of knowledge, and to emerging technological, social and administrative innovations to sustain the interest and the participation of leading specialists from all walks of life. This form of project back-up would be not unlike the system used by the National Institutes of Health, the National Academy of Sciences, and other agencies to provide outstanding professional surveillance of research projects beyond the resources available to government through direct hire.

The environment of the organization supervising the new technical cooperation projects should be informal and collegial in style, so that scientists from outside government will find it compatible and the free and open communication

and discussion of unorthodox ideas will be encouraged. Its structure and style should resemble a research and development agency more than a conventional government department.

c) Strengthening Links with Sources of Professional Expertise

We have previously indicated that innovative programs in development assistance should draw on the best professional talents available. The government, in turn, should help qualified and interested individuals and organizations to develop their expertise further, so that their relationships may be mutually beneficial. Institutional centers of strength should be identified and selected in each major professional area on which technical assistance programs are likely to draw. After consultation with the appropriate professional bodies, these university centers should be selected with the expectation that they will maintain a continuing commitment to the international and developmental dimensions of their professional field. Centers such as those already authorized in the Foreign Assistance Act should have operational, educational, training, and research responsibilities in the new program. Much of the burden of training and retraining personnel to participate in overseas development programs, of evaluating operational experience, and of diffusing information within their profession should be undertaken by these Centers. At least one should be established in the field of public administration; centers in other professional fields should also be encouraged to equip themselves in the administrative aspects of their professions, including

organization of large programs of activity for the delivery of technologies to mass consumers in countries experiencing rapid social change.

Not all qualified and interested scholars are associated with an institution which desires to maintain an institutional connection with technical cooperation, or which the government can select as a center of excellence. To supplement the centers of excellence, government should organize professional panels of scientists and specialists interested in certain broad areas of development assistance such as secondary education, family planning, and livestock development, drawing on them for advice, keeping them informed of the problems the Agency is encountering in its world-wide operations, and inviting their members to join task forces overseeing particular projects. The National Academy of Sciences has found this method effective in maintaining communication with distinguished scientists and associating them with their projects. Similar patterns should be employed by the government to draw the nation's expertise to innovative activities in the next stage of our technical cooperation programs. We specifically recommend that such a panel of distinguished scholars and practitioners be formed in the field of development administration.

5. Implications for Field Management. Given the innovational and experimental nature of our proposed new thrusts in technical cooperation, any suggestion that we should standardize organizational and operational patterns in the field would be self-defeating. The disadvantages

of premature standardization of experimental forms of technical cooperation would be especially apparent in the more advanced of the developing countries, where great flexibility will be necessary in order to take advantage of special resources or opportunities that may be available. But we believe that even the humblest of small-scale programs, working in relative isolation from other developmental activities, and located in countries whose technical resources are comparatively meager, should still be treated as unique challenges in development administration.

Obviously such specialized approaches will pose problems in Washington, where administrative convenience demands as much standardization in field operations as is feasible; but the advantages of using flexible field-oriented organizations outweigh the costs of a somewhat reduced Washington control in technical cooperation. Just as capital assistance based on macro-economic analysis seems to strengthen the hand of headquarters in decision-making, so the new forms of technical cooperation oriented toward local problem-solving enterprises will tend to emphasize autonomy in the field. Many implications flow from this premise: the need for separate procedures for initiating and implementing new experimental or pilot ventures; the greatly reduced dependence on manual orders in analyzing appropriate courses of action in the field; more streamlined methods of allocating and releasing funds for timely action; and new emphasis on continuing evaluation and review of results as opposed to the complicated clearance procedures now in effect.

Although we doubt the value of proposing a standard organizational chart for field missions engaged in the new forms of technical cooperation, we can identify some of the major issues to be considered in establishing

the proposed task force units, and we can also propose certain organizational models that might serve as a useful point of departure in different circumstances.

a) Issues to be resolved in establishing new field organizations for experimental technical cooperation

The two major organizational problems to be considered here are the tensions between the proposed new ventures and the existing functions discharged by other Americans and by other external assistance agencies; and those between a task force or new agency and the existing institutions in the host country. A third, somewhat less difficult, range of issues involves the relationships between any new unit or agency that might be created, and its Washington support elements.

The advantages of creating a special unit to engage in new experimental ventures in technical operation must be weighed against possible losses of morale and momentum in existing technical assistance elements in the aid missions. Any new approach, runs the risk of arousing jealousy and resentment from those committed to more "conventional" activities. We do not believe this issue can be evaded: studies of certain joint efforts in Latin America and in Taiwan confirm the difficulty of conducting an innovative, separate, prestigious technical cooperation venture in an aid mission whose other activities feel threatened by the new. These experiences are supported by a widespread conviction, now documented by independent studies of the opinions of American technicians in all fields, that organizational and administrative

structures and procedures in AID itself pose important obstacles to effective performance.

A second range of issues revolves about the host government, which must also consider the administrative location of proposed new ventures in technical cooperation. Technicians in existing ministries are at least as jealous of their respective jurisdictions as are their American advisors, if not more so (since a lifetime career, rather than a tour of duty, is involved). There is the added danger that a successful new venture in development administration, insofar as it becomes institutionalized, will seek to perpetuate itself as a separate identity, even at the cost of its own innovative capacity. Whether experimental activities in technical cooperation are to take place under separate organizations, as joint task forces, or as part of the existing development agencies, is as much a political as a managerial problem for both host nationals and Americans.

The relationship of each such venture to the aid agency in Washington calls for greater decentralization of authority on the one hand, and a larger advisory role for Washington-based technical task forces on the other. Normally, all field activities of AID should be expected to report to the mission director's office; funding should also require the usual programming processes of central office review and approval; and technical decisions and those regarding staffing, logistical support, and other functions have to be made according to prescribed procedures

in each overseas mission. But deviations from these conventions may sometimes be essential to the innovative thrust of technological change. The essence of innovative programming may be escape from these particular conventions and routines, and task force teams in the field cannot achieve the desired degree of operating autonomy without access to exceptional procedures. We believe this problem is amenable to solution by making use of special funding procedures for pilot ventures. There is more flexibility permitted in the legislation than AID now observes, and while caution is a good safeguard against subsequent criticism, it is also an effective impediment to innovation.

b) Some models for field experimentation in technical cooperation

Three models of field organization may be envisaged for resolving these issues.

The first is the interdisciplinary American task force working in an advisory relationship with representatives of cooperating host government institutions. This is the established pattern of technical cooperation and we are confident that it can be effectively adapted to more experimental work with developmental systems of action as it has been, for example, in the two cases cited in Appendix A. A majority of the type of projects we propose will probably be fielded in this way.

The second model is a separate joint, independent task force working on a large system of interconnected technical problems, following the JCRR pattern; and the third is an ad hoc working committee seeking to find ways of attacking common

problems that lie athwart two or more developmental agencies. In the second and third models, Americans and host nationals would be assigned, either on full-time or temporary duty, without discrimination as to their functions on a national basis. The leader or director of the team would be a host national; and administrative procedures of all kinds would be designed to accommodate the minimum legal requirements of the donor and recipient governments, and more especially to permit the flexibility of action needed by the unit itself. Presumably, as well, they would permit the use of both "contract" and "direct hire" or "PASA" personnel, and every effort would be made to equalize the treatment of members of the task force in accordance with their rank and duties, with due regard to the special requirements of foreign personnel (housing, leave provisions, and the like).

The unique features of the second and third models are equally important, conceptually, since they reflect differences in the degree of commitment to the project on the part of the governments involved, as well as special political, administrative, or technical considerations surrounding the activity itself. Presumably the joint semi-independent task force would have an expected life span of two to ten years, would be engaged in a problem of large-scale or uncertain technical dimensions, and would enjoy a high degree of mutual commitment on the part of the two governments. It would perceive its functions as exploratory and experimental first of all; as operational only in the pilot

project sense; and as receding as more and more of its activities could be absorbed by operating agencies. Presumably most of its administrative and logistical supports would be supplied through the host government.

The ad hoc working committee describes conditions appropriately served by shorter-lived groups to resolve problems amenable to existing technologies, or perhaps where various known alternatives have to be tested and appraised. This approach might be appropriate to experimental regional development problems, where a variety of public and private organizations were already operating with limited or conflicting jurisdictions; or to special problems involving the introduction or marketing of new products or technologies whose social and economic infrastructure prerequisites were unknown or absent. It would also be suitable to the early stages of technical cooperation, where long-term commitments were not immediately envisaged, or where exploratory surveys by visiting teams would be inappropriate. Such committees would have an even more open-ended assignment than those given a task force of the first model, since conceivably they might either recommend action by existing agencies, the creation of new permanent institutions, or the appointment of a task force. Presumably its duration would be conceived in months rather than years.

Any of the proposed new ventures in technical cooperation imply personnel procedures that vary from those presently observed in most AID operations. Conventional and rotating tours

of duty and administrative attachment to geographical "bureaus," for example, might have to be abandoned in order to accommodate more important field requirements, including assignments of various short- and long-term periods, and in order to permit access to scarce or especially qualified personnel. It would also be desirable to consider the possibility of using new mixtures of contract and direct-hire personnel on the same project, or of adding contractual services (both individual and institutional) from the host country. The more attention is devoted to the optimum use of individual human skills and the less to various institutional preferences in structuring these activities the greater the prospect for developing mutually reinforcing relationships appropriate to experimental and innovational attitudes.

#### Summary

In some respects these recommendations are prolongations and elaborations of present trends in technical assistance. Experimental attitudes, systems-wide programming, joint staffing and planning, mixtures of means and interdisciplinary experiences are not novelties, although the forms in which we think their advantages can be maximized have not yet appeared anywhere in the world. We urge conscious experimentation with these approaches as part of the developing doctrine of foreign aid through technical cooperation. We believe these approaches can more fully express an American comparative advantage than present doctrines of capital and technical assistance alone can; we are convinced also that American domestic experience in making new technologies

available to large numbers of people, and in organizing and managing large-scale action programs under conditions of uncertainty, has much to offer the developing countries despite dissimilarities of scale, available capital and human resources, and cultural and institutional preferences. It is clear that a growing number of developing countries have achieved the stage in the human resources development that no longer requires skills training or simple technological transfer. They are vitally concerned, however, with organizing and carrying out large-scale development programs, which can capitalize on a pronounced American comparative advantage. As the U.S. continues to search for its special role in foreign aid, and as the developing countries themselves gain increasing access to other sources of capital and technical skill (including their own), these considerations become all the more significant and, we believe, compelling.

It is also clear that we conceive development administration to include the whole range of activities, public and private, organized and individual, professional and political, involved in organizing and applying scientific knowledge to improve the quality of human life. It includes management methods and systems but is far broader in scope. We have noted with regret that the growing knowledge of public administration has been seriously neglected in the organizing and "delivery" of professional knowledge for development purposes. Repeated studies of organizational behavior in the United States and abroad have confirmed the hypothesis that attempts to separate "administration" from "substance," whether in hospitals, research organizations, or service programs, have resulted in sterilization of both elements. Yet in most missions this

separation persists. Recent studies of modern management reinforce our perception of the need for integrating the rapidly increasing knowledge of human behavior with professional knowledge as applied in specific developmental fields such as agriculture, education, and health. Schools of medicine, engineering, education, and agriculture throughout the United States are increasingly introducing the study of social sciences (especially economics and administration) into their professional curricula. No doubt, as a series of recent studies has shown, this acknowledgement of the interdependence between administrative sciences and physical and biological sciences is not taking place rapidly enough to accommodate the need; but even so, it is occurring much more rapidly in the U.S. itself than it is in the American foreign aid program.

The present climate of reassessment in AID is more encouraging to such innovative ventures than that of any period in recent years. We see in the present turn toward technical assistance a challenge to develop and program new doctrines and instruments of international cooperation. We are convinced that the new thrust in technical assistance will have to take account of these innovations in development administration.

## APPENDIX A

### TWO ILLUSTRATIVE CASES

The concepts presented in this paper are already influencing a few important U. S. aid operations, sometimes with spectacular impact.

#### Rice Production in the Philippines

One example that embodies many elements of technological innovation through systems programming, targets of opportunity, and mixtures of administrative means is the rice production experiment in the Philippines. The Philippines has been a chronic rice deficit country, traditionally importing about 40% of its consumption. In the 50 years before 1965, per acre yields had not increased at all; but in the meantime the population was growing more than 3% a year and the country was exhausting its supply of land fit for rice cultivation. In 1961 the Ford and Rockefeller Foundations established the International Rice Research Institute (IRRI) in the Philippines. By 1965, IRRI had developed and tested a strain (IR-8 or "miracle rice") which, properly cultivated, could produce yields 6 to 8 times greater than the national average. IR-8 did, however, require additional inputs, including pesticides and costly fertilizers, as well as more disciplined and sophisticated cultivation practices. Individual farmers could not profit by the new technology until they developed additional skills and invested greater labor in field and seedbed preparation, weeding, water management, and the application of pesticides and fertilizers in the right quantities at the right times. The promise of the new seed variety was a conditional one, to be realized when this additional knowledge and these additional inputs (usually requiring new

forms of credit) were made available to the Philippine farmers and put into effective use.

By 1965, AID and the National Economic Council of the Philippines agreed to sponsor an experiment in two provinces whose governors had demonstrated a special interest in rural development. Farmers' interest was aroused by well-publicized field tests which demonstrated the superior qualities of the new strain. Credit was provided through existing private rural banks which received additional loan resources from the Central Bank, along with a guarantee of 10% against non-repayment. Agricultural agents trained under a previous U.S. AID-supported project were assigned to each rural bank to supervise every loan. Each borrower was helped in preparing a farm plan, a budget, and a production schedule. If a farmer agreed to follow all the elements of this plan, he was recommended for a loan.

In addition to supervised credit, the commercial farm supply companies, including the major fertilizer dealers, were encouraged to strengthen their local distribution facilities so that their agents would be prepared to meet the additional demand. The more enterprising dealers have begun to develop local service centers, providing a variety of supply, maintenance, processing, demonstration, and marketing services to their increasingly affluent farmclients. As the first two provincial experiments yielded favorable results, AID and the Philippine government's national Rice and Corn Production Coordinating Council (RCPPC) sponsored the widespread sale of "do-it-yourself kits" for individual small farmers, which contained simple instructions as well as the seeds, pesticides and fertilizer needed to grow IR-8 rice on 1/5 of a hectare. These kits were distributed through 4-H clubs and church groups, and they were sold (on credit) through private

rural banks. Finally, commercial agricultural supply companies began to market them and later versions of them on a large scale.

As interest in the "miracle rice" gathered momentum, the pilot effort was expanded to 12 priority rice-growing provinces, to be served by a new national institution, the Agricultural Guarantee and Loan Fund (AGLF). This fund provided the Central Bank with substantial sums of money to advance to private rural banks for supervised commodity and production loans to small farmers. The expanded program is now operating on a national basis. In 1967 -- only two years after the pilot program began -- the Philippines, for the first time in recent history, was a net exporter of rice.

Plans are under way to develop parallel experiments for producing corn and other major crops. Many Philippine farmers can look forward to transformation from a subsistence peasant to a modern commercial agriculturalist with the resources that can provide their families with a much higher living standard than they have ever enjoyed. Many problems remain to be worked out as the experiment continues: the increased supply of rice is creating drying, storage, transportation, and marketing problems, and the government's price supports do not provide optimal incentives to the farmer. There is a danger that the larger and wealthier farmers will receive a disproportionate share of the benefits of the new technologies and that the harsh land tenancy system will be a continuing drain on the farmer's willingness to accept risks. These political, social and physical problems are being attacked by Philippine officials with AID encouragement and assistance. Efforts are being made to achieve improved field coordination among the government departments which serve farmers to avoid conflict

between national and provincial government agencies. Despite the many problems which remain, the Philippine rice case is an outstanding example of the imaginative development of "a delivery system" for a powerful technological innovation.

#### Secondary Education in Brazil

A second example of systems programming is the recently executed educational sector loan for Brazil. This large (\$32 million) loan was preceded by an intensive joint Brazil -- US planning effort. Their investigation and analysis of the Brazilian educational system identified secondary education as its most critical problem both in quantitative and qualitative terms. They further determined that a particular pattern embodied in the "multi-purpose ginasio" should be the starting point for further experimentation and development in secondary education. Because of Brazil's vast size and the fact that secondary education is the responsibility of State governments, four states were selected for intensive concentration. Each participating state was required to create a full-time educational planning team which would establish linkages with the Secondary Education Planning Unit in the national Ministry of Education and Culture, to accept technical assistance from the latter, to develop comprehensive four year plans for expansion and improvement of secondary education focusing on multi-purpose ginasios, and to agree to a financial formula calling for increased funding from state sources.

An "implementation advisory team" is to be established at the national ministry level consisting of six Brazilians and two or more U.S. advisors.

Its functions are "to help the Ministry of Education and Culture and the state planning reams to anticipate education development problems in the implementation of state plans and global programs and once a problem is identified to help the responsible authorities to analyze its causes and to work out and implement a practical solution. The team will be primarily concerned with assuring that the quantitative and qualitative educational goals established under this program are in fact achieved. It will help Brazilian educators to solve the key problem of educational planning--how to move steadily and effectively from paper plans to actual improvements in the educational system".

The philosophy of this program, particularly its concern with systems programming and institution building is set forth clearly in the following language:

"The complex and interrelated nature of educational development problems creates an inherent difficulty in picking out one or two critical problems for development concentration. Enrollment usually cannot be rapidly increased without building more schools. Schools usually should not be built if they cannot be staffed with trained teachers and qualified administrators. Teachers and administrators should not be trained merely to perpetuate an outmoded curriculum, antiquated methods, and inefficient educational practices. Curriculum and teaching methods generally cannot be effectively changed unless there are related changes in text books, teaching materials, school facilities and equipment and teacher training. And none of these changes can be regarded as lasting unless there is a reasonably stable overall structure of government education policies and personnel and a reasonably assured source of continued financing to support

the educational system and carry its improvements forward.

"In other words selecting one important educational problem and trying to solve it in isolation from all the related educational problems will not work. Educational development to be effective must of necessity embrace a wide range of interrelated problems and try to solve them simultaneously and complementarily.

"With this requirement in mind what are the most critical problems to be solved at the public ginasio level and in each of the interrelated educational areas as identified in the sector analysis?" The project statement then identifies and analyzes the main problems in enrollment, facilities, staffing, curriculum, educational organization, leadership, and other aspects of the basic educational problem.

"Another factor in determining suitable elements for a development project is the opportunity and necessity for institution building so that the educational results and the problem solving experience gained through the development investment can be established in a form permanent enough to yield education benefits long after the project itself has run its course. The construction and equipment of school facilities offers this long range benefit kind of investment opportunity which is enhanced when the facilities can be used for demonstration purposes. Development investment in the training and upgrading of teachers, school administrators, educational planners, and other professional advisor and education officials, especially when located at key decision or demonstration points in the education structure, creates the kind of built in capability for analysis, training, and decision-making that Brazil needs so desperately if it is to surmount its educational problem of the future. Finally, investment in

the production of lasting qualitative changes in educational organization, curriculum, policies and procedures can also have important long run pay-offs in the quantity and the quality of Ginasio graduates produced."

In order to lay the ground work for the replication of successful experiments conducted in the four participating states, provisions are made for siting one multi-purpose ginasio in every one of Brazil's state capitals. The project analysis specifically identifies "untested methods of operation" concerned both with the administration of education programs at the federal and state levels and with professional practices as major problems that will require experimentation, monitoring, learning and adaptation on a large scale-- to prevent the program from degenerating into a mere school building program which perpetuates the existing disfunctions in secondary education.

For this program there is as yet no body of experience to report or evaluate. We cite it as a major example of the recognition of the development administration approach to technical assistance in a critical policy sector, incorporating systems programming, institution building, joint staffing, and experimentation as explicit features of the project design.

## APPENDIX B

### A BIBLIOGRAPHIC NOTE ON SYSTEMS APPROACHES TO TECHNICAL COOPERATION\*

#### Introduction

The literature on the aspects of foreign aid and public administration discussed within the context of the preceding report is vast and varied. Particularly during the period from 1955 to the present, the amount of material available has expanded at such a rapid rate and in such prodigious quantities that bibliographic essayists have with increasing frequency noted the impossibility of keeping pace with all the related research published in their particular fields. Most bibliographies that have appeared in the 1960s are limited to a particular topic, specific geographic region, or obsolete time span. Thus, while the body of literature available has grown tremendously, bibliographic work on development and administration has been characterized for its selectivity rather than for its comprehensiveness, as the accompanying table suggests. To support the many arguments set forth in the text of this report would require a comprehensive effort and constitute a major research effort.

This appendix lists approximately 200 books, reports, and articles to suggest the kind of evidence drawn upon in the text of the report. It includes the germinal and stimulating classics of the literature on which much of the applied work in the particular field has been based. These

---

\*The authors wish to express their appreciation to Mr. Allan E. Goodman for his participation in preparing this bibliographic note.

Table 1

**A Sample of the English-Language Bibliographic Resources Available  
for the Study of Development Administration**

<u>Author(s)</u>	<u>Title</u>	<u>Publishing Information</u>	<u>Contents</u>
M.W. Hald	Selected Bibliography on Economic Development and Foreign Aid	Santa Monica, Calif.:RAND Corp. DM-2096-1, 1958	1533 annotated entries covering the 1950s
S.M. Katz & F. McGowan	A Selected List of U.S. Readings on Development	Washington, D.C.: AID, ca. 1963	1000+ annotated entries on aid & administration
R.W. Gable	Development Administration & Assistance: An Annotated Bibliography	Washington, D.C.: AID, 1962	1115 entries covering period from 1950-1961
A.A. Spitz & E.W. Weidner	Development Administration: An Annotated Bibliography	Honolulu: East-West Center Press, 1963	340 entries covering period from 1945-1960
Arthur Hazlewood	The Economics of Development: An Annotated List of Books and Articles Published, 1958-62	London: Oxford Univ. Press, 1964	732 entries
John R. Irish	Economic Development-- Latin America	New York: Praeger Special Studies in International Economics & Development, 1965	Approx. 500 entries for 1955-64 period, covering development concepts & specific Latin American experience
Wm. W. Biddle & Loureido J. Biddle	The Community Development Process: The Rediscovery of Local Initiatives	New York: Holt, Rinehart & Winston, 1965	329 annotations
Everett M. Rogers	Bibliography on the Diffusion of Innovations	Michigan State Univ. Dept. of Communications Research Rept. No. 6, July 1967	
Center for Comparative Analysis	Bibliography on Planned Social Change, 3 vols.	Univ. of Wisconsin Project Headquarters	Approx. 3000 detailed annotations covering period 1955-65. Considered by the compilers as a selective rather than comprehensive listing.

major works, of course, are well-documented in themselves and can open to the interested reader almost endless vistas for inquiry. It also includes a selection of the more obscure, but nonetheless relevant, applications of particular theories touching upon the direction of policymaking suggested in the report.

The Evolution of American Technical Cooperation

Literature dealing directly with the conception and evolution of the doctrine of technical cooperation is usually contained within the scope of books dealing with the policy and processes of post-World War II American foreign assistance programs in general. But Philip M. Glick, Technical Assistance in Latin America (Chicago: University of Chicago Press, 1957), and Arthur T. Mosher, Technical Cooperation in Latin American Agriculture (Chicago: University of Chicago Press, 1957), deal specifically with technical assistance. Max F. Millikan and Donald L. M. Blackmer, eds., The Emerging Nations: Their Growth and U.S. Policy (Boston: Little, Brown, 1961); Jacob J. Kaplan, The Challenge of Foreign Aid (New York: Praeger, 1967); and Sidney C. Sufrin, Technical Assistance: Theory and Guidelines (Syracuse, N.Y.: Syracuse University Press, 1966) document the various stages in the development of the concept in relation to American policies toward the problems of development. Fred Tickner's Technical Cooperation (New York: Praeger, 1966) discusses the general lessons of the UN experience in the field and the contribution that technical cooperation can make to the future of the Development Decade now in progress. Other studies of technical assistance experiences include: Francis C. Byrnes, Americans in Technical Assistance (New York: Praeger, 1965), Angus Maddison, Foreign Skills and Technical Assistance in Economic Development (Paris: Development

Centre of the Organization for Economic Co-operation and Development, 1965); Angus Maddison, Alexander Stavrianopoulos, and Benjamin Higgins, Foreign Skills and Technical Assistance in Greek Development (Paris: Development Centre of the Organization for Economic Co-operation and Development, 1966); the series of studies issued in 1964 and 1965 by the Technical Assistance Research Project at Syracuse University under the direction of John Lindeman and Richard L. Duncan; Irwin T. Sanders, at Education and World Affairs, both wrote and sponsored a series of studies on technical assistance experience and training. Special studies of university experience include: William B. Storm and Jason L. Finkle, American Professionals in Technical Assistance (Los Angeles: School of Public Administration, University of Southern California, 1965; reprinted 1966); and George M. Guthrie and Richard E. Spencer, American Professions and Overseas Technical Assistance (University Park, Pa.: The Pennsylvania State University, 1965); c.f. also, Hollis W. Peter and Edwin R. Henry, "Measuring Successful Performance Overseas," International Development Review, III (October 1961), 8-12.

One striking feature of the intensive debate that has taken place over the various forms of aid and technical cooperation has been its association with alterations in the rationale rather than in the doctrines and practice of development assistance. Seymour Rubin's The Conscience of the Rich Nations: The Development Assistance Committee and the Common Aid Effort (New York: Harper and Row, 1966) notes this effect as the outcome of what could be called the "decade of dissatisfaction" in domestic politics with the results of assistance. Variants of the theme that it has been the rationale rather than the doctrine of foreign assistance that has changed as the result of foreign policy debates and

setbacks are presented in Edward Banfield, "American Foreign Aid Doctrines," Public Policy, Vol. X, (Cambridge, Mass.: Harvard Graduate School of Public Administration, 1961), pp. 44-94; John D. Montgomery, The Politics of Foreign Aid (New York: Praeger, for the Council on Foreign Relations, 1962), chs. 4 and 5; Robert E. Asher, "How to Succeed in Foreign Aid Without Really Trying," Public Policy, Vol. XIII (Cambridge, Mass.: Harvard Graduate School of Public Administration, 1964), pp. 109-132; Edward S. Mason, Foreign Aid and Foreign Policy (New York: Harper and Row, 1964); Lloyd D. Black, The Strategy of Foreign Aid (Princeton, N. J.: Van Nostrand, 1968); Chapter 1 of Samuel Huntington's Political Order and Changing Societies (New Haven, Conn., and London: Yale University Press, 1968); Milton J. Esman and Daniel Cheever, The Common Aid Effort (Columbus: The Ohio State University Press, 1967); and Andrew F. Westwood, Foreign Aid in a Foreign Policy Framework (Washington, D.C.: The Brookings Institution, April 1966).

The notion that the application of technical cooperation seems to be governed by a "law of unintended consequences" has been summarized in the discussion in Herbert Feis, Foreign Aid and Foreign Policy (New York: St. Martin's, 1964) and is also related there to the author's perception in 1963 of a growing frustration on the part of policymakers with the effective role that foreign assistance could play in promoting American foreign policies. The complexity of the assistance process, the impact that attempts at technological transfer have had upon developing societies, and the seeming impossibility of controlling and directing all the effects of aid have provoked a lively debate over its utility. Couched in terms of efficiency, the most extreme statement that government cannot contribute effectively to economic growth in developing areas occurs in Milton

Friedman's "Foreign Economic Aid: Means and Objectives," Yale Review, XLVII (June 1958), 500-516, and the rebuttal by Charles Wolf, "Economic Aid Reconsidered," Yale Review, L (Summer, 1961), 518-532. Cf. also Edward Mason's Economic Planning in Underdeveloped Areas: Government and Business (New York: Fordham University Press, 1958), which makes the more moderate suggestion that the optimal role of government in the development process varies according to time and place (a concept which he later develops into an important insight on the issue of the changing requisites of development assistance). Although development and technical assistance have profound impacts on recipient countries, an assistance budget cannot effectively control or direct development. See Sushil K. Dey on the British experience in his "The Role of Foreign Aid in Development," Political Quarterly, XXX (July-September 1959), 283-292.

Perhaps technical cooperation faces its biggest challenge and government its most uncertain role over the question of technological transfer. On the relationships between the state, its institutions, and technological innovation see John Jewkes, David Sawers, and Richard Stillerman, The Sources of Invention (New York: St. Martin's, 1958); Nan Lin, D. J. Leu, Everett M. Rogers, and Donald F. Schwartz, The Diffusion of an Innovation in Three Michigan High Schools: Institution Building through Political Change, (Research Report No. 1, Institute for International Studies in Education, Michigan State University, December 1966); Everett M. Rogers, The Diffusion of Innovations (New York: Free Press, 1962); Ingvar Svennilson, "Technical Assistance: The Transfer of Industrialized Know-How to Non-Industrialized Countries," in Kenneth Berrill, ed., Economic Development with Special Reference to East Asia (New York

St. Martin's, 1966); W. Paul Strassmann, Technological Change and Economic Development: The Manufacturing Experience of Mexico and Puerto Rico (Ithaca, N. Y.: Cornell University Press, 1968); and Martin Rosner, "Economic Determinants of Organizational Innovation," Administrative Science Quarterly, XII (March 1968), 614-625. For more coherence in analytical methods in studying the ways in which the state has been related to technological development in America, see the Harvard University Press series, Studies in Economic History, including the following: Oscar and Mary Handlin, Commonwealth: A Study of the Role of Government in the American Economy, Massachusetts 1774-1861 (reprinted 1969); Louis Hartz, Economic Policy and Democratic Thought, Pennsylvania 1776-1960 (pub. 1948); Louis C. Hunter, Steamboats on the Western Rivers: An Economic and Technological History (pub. 1949); Milton S. Heath, Constructive Liberalism: The Role of the State in Economic Development in Georgia to 1860 (pub. 1954); James N. Primm, Economic Policy in the Development of the Western States: Missouri 1920-1860 (pub. 1954); Henry Pierce, Railroads of New York: A Study of Government Aid 1826-1875 (pub. 1953); see also Carter Goodrich, "The Virginia System of Mixed Enterprise," Political Science Quarterly (1949); and Nathan Miller, The Enterprise of the Free People: Aspects of Economic Development in New York State during the Canal Period 1792-1838 (Ithaca, N. Y.: Cornell University Press, 1962).

A substantial body of literature exists on the development of technology and on the state's relation to it, but it remains a controversial topic. The issue of technological transference has led to two major controversies, one over the optimal transferral strategy and the other over the problem of cultural resistance to change. Daniel L. Spencer's

and Alexander Woroniak's editing of The Transfer of Technology to Developing Countries (New York: Praeger Special Studies in International Economics and Development, 1967) presents a series of eight articles and discussion reports on questions of transferral strategies. The notion that transference of technology and development experience is determined by the predominant cultural patterns of developing societies is discussed in David Apter, The Politics of Modernization (Chicago: University of Chicago Press, 1965); Daniel Lerner, The Passing of Traditional Society: Modernizing the Middle East (New York: Free Press, 1958); Margaret Mead, ed., Cultural Patterns and Technical Change (New York: Mentor, 1955); Carl F. Stover, ed., The Technological Order (Detroit: Wayne State University Press, 1963) and especially the six articles on "Technology in Focus: The Emerging Nations"; Alvin W. Gouldner and R.A. Petersson, Notes on Technology and the Moral Order (New York: Bobbs-Merrill, 1962); Kusum Nair, Blossoms in the Dust: The Human Factor in Indian Development (New York: Praeger, 1962); Sripati Chandrasekhar, American Aid and India's Development (New York: Praeger, 1965); and chapter on "International Aid" in the National Planning Association's Goals, Priorities, and Dollars: The Next Decade (compiled by Leonard Lecht; New York: Free Press, 1966).

The recent work on the relationship between development assistance and institution building in modernizing societies has also contributed to the evolution of American technical cooperation concepts. While the study of the institution-building side effects of economic assistance and technical cooperation has not yet emerged as a complete or a coherent body of literature reflecting systematic investigations of the phenomenon, the relationship between the development of the economy and social and political

change has been consistently stressed in both studies of what has been called the modernization process as well as in the more traditional studies of economic reforms. See, for example, the variety of hypotheses advanced in such works as Joseph A. Schumpeter, Capitalism, Socialism and Democracy (3rd ed.; New York, 1950); Zbigniew Brzezinski, "The Politics of Underdevelopment," World Politics, IX (October 1956), 55-75; David Wurfel, "Foreign Aid and Social Reform in Political Development: A Philippine Case Study," American Political Science Review, LIII (June 1959), 456-482; Fred Riggs, "Modernization and Political Problems: Some Developmental Prerequisites" (paper prepared for the International Conference on the Problem of Modernization in Asia, Asiatic Research Center, Korea University, July 1965); Alex Inkeles, "The Modernization of Man", in Myron Weiner, ed., Modernization (New York: Basic Books, 1966); Joan M. Nelson, Aid, Influence and Foreign Policy (New York: Macmillan, 1968); the treatment of both topics in Samuel Huntington's Political Order and Changing Societies (New Haven, Conn.: Yale University Press, 1968), passim; Harlan Cleveland, Gerald J. Mangone, and John C. Adams, The Overseas Americans (New York: Macmillan, 1960); and David A. Baldwin, "Foreign Aid, Intervention, and Influence," World Politics, XXI (April 1969). The foregoing citations should suggest that the concern with the phenomenon of institution building has been treated in two ways. Some studies have emphasized on a general theoretical level that aid influences the process often regardless of intent or the development program's goals (i.e., institution building is at least initially a result of aid's unintended consequences), whereas other studies have approached the issue via examples using the case study method. See also the functional definition of invention and innovation found in A. P. Usher's A History of Mechanical

Invention (Cambridge, Mass.: Harvard University Press, 1954), p. 21; and Roger Burlingame, Engines of Democracy (New York: Scribner's, 1940). Yet institution building is crucial to the transfer of technology and technical assistance in modernizing societies, as Arthur Goldschmidt points out in his "Technology in Emerging Countries," Technology and Culture, III (Fall 1962); see also W. W. Rostow's The Stages of Economic Growth (New York: Cambridge University Press, 1960), especially pp. 70 and 71; and Sidney C. Sufrin, "Administration as Institution Building," Punjab Economic Review, II (Fall 1960). The nature of the process by which the problems of transference and modernization in general is linked to the development of institutions is thoughtfully explored in the second part of Albert O. Hirschman's Journeys through Progress (New York: Greenwood Press, 1968).

The above citations should not only suggest the complexity of the phenomenon of institution building, but also the scarcity of systematic research done on the problem of creating and sustaining effective institutions in modernizing societies. The work of the Inter-University Research Program in Institution Building, centered at the University of Pittsburgh's Graduate School of Public and International Affairs, therefore, represents a pioneering effort to develop the bases for the systematic analysis of institution building. See especially Milton J. Esman and Hans C. Blaise, "Institution Building Research: The Guiding Concepts" (February 1966); Milton J. Esman and Fred C. Bruhns, "Institution Building in National Development: An Approach to Induced Social Change in Transitional Societies" (December 1965); Milton J. Esman, "The Institution-Building Concepts: An Interim Appraisal" (1967);

and the Comparative Administration Group Subcommittee on Comparative Education Administration and the Pittsburgh Group, "Institution Building and Education: Papers and Comments" for a series of case studies of experiences in institution building and innovation in Thailand and Nigeria. While most of the field studies conducted under the auspices of the inter-university program have not yet been published, AID has distributed internally the first four case studies written by William Siffin, Guthrie Birkhead, Hans Blaise, and John Hanson. Hanson's study has been separately published by Michigan State University.

The Emerging Technical Cooperation Needs of Less Developed Countries:  
Changing Requisites of Development Administration

The notion that the foreign assistance needs of the modernizing societies have been changing over the past decade is beginning to be documented both by reference to experience and by use of new methods of analysis such as econometrics. This purview for the direction of change is reflected in the Development Assistance Committee's 1967 Review of Development Assistance Efforts and Policies (Paris: Organization for Economic Cooperation and Development, 1967), particularly in the chapter on "The Changing Structure of Aid"; Hollis B. Chenery and Alan M. Strout, "Foreign Assistance and Economic Development," American Economic Review, LVI (September 1966), 679-733; Irma Adelman and Hollis B. Chenery, "Foreign Aid and Economic Development: The Case of Greece," Review of Economic and Statistics, XLVIII (February 1966), 1-19. and John D. Montgomery, "The Challenge of Change," International Development Review, IX (March 1967), 2-8. While the implications for policy planning purposes of the changing needs and environment of foreign assistance are discussed

within the text of the Report in terms of programming principles for the next decade of American technical cooperation, for a discussion of the impact that changing needs and priorities have had upon institution building and public administration in modernizing societies, see the collection of articles edited by Berton H. Kaplan in the special issue of Administrative Science Quarterly on "Organizations and Social Development" (December 1968).

The U.S. "Comparative Advantage" in Technical Assistance

The notion that there is an American comparative advantage has been developed by and draws support from a variety of intellectual quarters. An early statement of this thesis in terms of its impact and potential on the modernization process is found in Woodrow Wilson's article on "The Study of Administration," Political Science Quarterly, II (1887), 197-222; see also Louis Hartz, The Liberal Tradition in America (New York: Harcourt, Brace and World, 1955); Peter F. Drucker, The Concept of the Corporation (Boston: Beacon Press, 1960); Daniel Boorstin, The Americans: National Experience (New York: Random House, 1965); Robert Presthus, The Organizational Society (New York: Knopf, 1962); Peter F. Drucker, The New Society (New York: Harper and Row, 1962); S. M. Lipset, The First New Nation: The United States in Historical and Comparative Perspective (New York: Basic Books, 1963); Robert Gilpin and C. Wright, eds., Scientists and National Policy-Making (New York: Columbia University Press, 1964); David Potter, People of Plenty: Economic Abundance and the American Character (Chicago: University of Chicago Press, 1954); J. K. Galbraith, The New Industrial State (Boston: Houghton Mifflin, 1967); and J. J. Servan-Schreiber, The American

Challenge (translated by Ronald Steel; New York: Atheneum, 1968).

When translated into the language of diplomacy and foreign policy, the issue of the efficacy of the American ethos and its application abroad has sparked a lively debate and a number of classical statements, including Elting E. Morrison, The American Style (New York: Harper, 1958); Eugene Black, The Diplomacy of Development (Cambridge, Mass.: Harvard University Press, 1960); W. W. Rostow, The U.S. in the World Arena (New York: Harper, 1960); Robert B. Textor, ed., Cultural Frontiers of the Peace Corps (Cambridge, Mass.: M.I.T. Press, 1966); James C. Charlesworth, ed., "Special Issue: American Civilization, Its Influence on our Foreign Policy," Annals of the American Academy of Political and Social Science, CCCLXVI (July 1966); Raymond Vernon, "The Role of U.S. Enterprise Abroad," Daedalus, XCVIII (Winter 1969), 113-133, and his "Conflict and Resolution between Foreign Direct Investors and Less Developed Countries," Public Policy, Vol. XVII (Cambridge, Mass.: John Fitzgerald Kennedy School of Government, Harvard University, 1968).

#### The Emerging Doctrine of Development Administration

The literature on public and development administration during the period from 1955 to 1965 has grown rapidly as scholars and practitioners reacted to the models of administration advanced in the 1930s. The report suggests that four schools of thought have emerged and each represents not only an advance in the vitality of the corpus of the literature available on administration but also important intellectual contributions to the understanding of both development and the administrative process. As such, the major movements outlined here are not

mutually exclusive, but have drawn insights from each other in order to advance theory building throughout both fields. The classical statement of issues on the relationship between policy and political factors and public administration is perhaps best expressed in James Madison's Federalist Papers (Roy Fairfield, ed.; Garden City, N. Y.: Doubleday, 1961), Nos. 47 and 48; see also Frank J. Goodnow, Politics and Administration (New York, 1900) and John M. Gaus et al., Frontiers of Public Administration (Chicago, 1936). The "modernization" of conceptions of public administration and its relationship with politics, however, actually began its "take-off" in the late 1940s and has been growing ever since; see, for example, the trend of thought represented in the following: Robert A. Dahl, "The Science of Public Administration: Three Problems", Public Administration Review, VII (1947), 1-11; Dwight Waldo, The Administrative State (New York: Ronald Press, 1948); Philip Selznick, "Foundations of a Theory of Organization," American Sociological Review (February 1948); Charles S. Hyneman, Bureaucracy in a Democracy (New York: Harper, 1950); Harold Stein, ed., Public Administration and Policy Development: A Case Book (New York: Harcourt, Brace and World, 1952); Joseph C. Palamountain, Jr., The Politics of Distribution (Cambridge, Mass.: Harvard University Press, 1955); Aaron Wildavsky, The Politics of the Budgetary Process (Boston: Little, Brown, 1964); Gordon Tullock, The Politics of the Bureaucracy (Washington, D. C.: Public Affairs Press, 1965); Richard B. Flathman, The Public Interest (New York: John Wiley, 1966); Peter Woll, ed., Public Administration and Policy (New York: Harper and Row, 1966).

Recognition of the interrelationship between politics and administration reached its clearest form in the study of bureaucratic politics in large organizations. Representative literature on this second major school of thought includes Chester Barnard, The Functions of the Executive (Cambridge, Mass.: Harvard University Press, 1936); Herbert A. Simon, Administrative Behavior: A Study of Decision-Making Processes in Administrative Organizations (New York: Macmillan, 1947); Amitai Etzioni, A Comparative Analysis of Complex Organizations (New York: Free Press of Glencoe, 1950); C. H. Coombs, R. M. Thrall, and R. L. Davis, eds., Decision Processes (New York: John Wiley, 1954); Peter Blau, The Dynamics of Democracy (Chicago: University of Chicago Press, 1955); Peter Blau, Bureaucracy in Modern Society (New York: Random House, 1956); Philip Selznick, Leadership in Administration (Evanston, Ill.: Row, Peterson, 1957); James G. March, "The Business Firm as a Political Coalition," Journal of Politics, XIV (October 1962), 662-678; E. H. Van Ness, Concepts and Issues in Administrative Behavior (Englewood Cliffs, N. J.: Prentice-Hall, 1963); W. W. Cooper, H. J. Leavitt, and M. W. Shelly II, eds., New Perspectives in Organizational Research (New York: Wiley, 1964); Michel Crozier, The Bureaucratic Phenomenon (Chicago: University of Chicago Press, 1964); and Anthony Downs, Inside Bureaucracy (Boston: Little, Brown, 1967).

The third major school of thought on development and public administration has had a great impact in the current decade. The application of quantitative and analytical techniques based upon sophisticated engineering and econometric models has opened up a new range of prospects

and problems of efficiency and economy in governmental operations. The literature on the advanced managerial techniques of this approach is vast and in most cases specialized in terms of the model or theory presented. A number of "classics," however, stand out, including Herbert Simon, Models of Man: Mathematical Essays on Rational Human Behavior in a Social Setting (New York: John Wiley, 1957); Roland N. McKean, Efficiency in Government through Systems Analysis (New York: John Wiley, 1958); Robert Schlaifer, Probability and Statistics for Business Decisions: An Introduction to Managerial Economics under Uncertainty (New York: McGraw-Hill, 1959); Herbert Simon, "Theories of Decision-Making in Economics and the Behavioral Sciences," American Economic Review, XLIX (June 1959), 253-283; Herman Chernoff and Lincoln Moses, Elementary Decision Theory (New York: John Wiley, 1959); and Herbert Simon, The New Science of Management Decision (New York: Harper, 1960). For greater detail on the mushrooming of the literature on quantitative techniques in management, the Katz and McGowan bibliography cited earlier lists 95 additional entries covering the 1955-1962 period on such topics as econometrics, mathematical modeling, operations research, etc., while the Library Division of the Bureau of the Budget maintains and periodically updates a selected bibliography on Program Analysis Techniques. The great revolution in the application of advanced managerial techniques came, of course, with the introduction of programming in the Department of Defense. The fundamentals of the PPBS approach are described in Alain Enthoven, "Economic Analysis in the Department of Defense," American Economic Review, LIII (May 1963); Arthur Smithies, "A Conceptual Framework for the Program Budget," RAND Corporation Research Memorandum 4271-RC (September 1964); D. Nevick, ed.,

Program Budgeting: Program Analysis and the Federal Budget (Cambridge, Mass.: Harvard University Press, 1965); Robert Dorfman, ed., Measuring the Benefits of Government Investments (Washington, D. C.: The Brookings Institution, 1965); Arthur Maass, "Benefit Cost Analysis: Its Relevance to Public Expenditure Decisions," Quarterly Journal of Economics, LXXX (May 1966), 208-226; Aaron Wildavsky, "The Political Economy of Efficiency: Cost-Benefit Analysis, Systems Analysis, and Program Budgeting," Public Administration Review, XXVI (December 1966); U. S. Congress, Joint Economic Committee, Subcommittee on Economy in Government, Hearings on the Planning-Programming-Budgeting System: Progress and Potentials (90th Congress, 1st Session, 1967); F. Lyden and E. Miller, eds., Planning-Programming-Budgeting: A Systems Approach to Management (Chicago: Markham, 1967); Harold A. Hovey, The Planning-Programming-Budgeting Approach to Government Decision Making (New York: Praeger, 1968); E. S. Quade and W. I. Boucher, eds., Systems Analysis and Policy Planning (New York: Elsevier, 1968); and the symposium on "PPBS Re-examined," Public Administration Review, XXIX (March-April 1969).

Elements of programming and systems analysis have also been applied as part of other major managerial techniques, and representations of this literature would include the theories developed in the following: Christopher A. Alexander, Notes on the Synthesis of Form (Cambridge, Mass.: Harvard University Press, 1964); Wm. J. Gore, Administrative Decision-Making (New York: John Wiley, 1964); U. S. National Commission on Technology, Automation, and Economic Progress, Technology and the American Economy, I (Washington, D. C., 1966); Irma Adelman and Hollis B. Chenery, "Foreign Aid and Economic Development," Review of Economics

and Statistics, XLVIII(February 1966); Ronald L. Gue and Michael E. Thomas, Mathematical Methods in Operations Research (New York: Macmillan, 1968); Howard Raiffa, Decision Analysis: Introductory Lectures on Choices under Uncertainty (Reading, Mass.: Addison-Wesley, 1968); Rodolpho C. Salazar and Subrata K. Sen, "A Simulation Model of Capital Budgeting under Uncertainty," Management Science (Applications Series), XV (December 1968), B-161-179; and William A. Chance, Statistical Methods for Decision Making (Homewood, Ill.: Irwin, 1969).

The comparative study of public administration, emphasizing the impact of the social and cultural milieu, represents the fourth major influence on the emerging doctrine of development administration. The fruits of this research, however, grow on a variety of trees and at a rapid rate. One has only to refer to the more than 3,000 studies cited on rural development research alone in the Bibliography on Planned Social Change cited at the beginning of these Notes for some notion of the diversity, expansion, and magnitude of the research available in this area. Important attempts at the development of theories of development administration and the synthesis of its literature include Ferrel Heady and Sibly Stokes, eds., Papers in Comparative Public Administration (Ann Arbor, Mich.: University of Michigan Press, 1962); Fred Riggs, "Trends in the Comparative Study of Public Administration," International Review of Administrative Sciences, XXVIII (1962); Joseph LaPalombara, ed., Bureaucracy and Political Development (Princeton, N. J.: Princeton University Press, 1963); Irving Swerdlow, ed., Development Administration: Concepts and Problems (Syracuse, N. Y.: Syracuse University Press, 1963); Aryeh Attir, "Administration and Development," International Review of

Administrative Sciences, XXX (1964); 335-344; Mario D. Zamora, "Tradition, Social Control, and Village Administration: An Indian Case," Thai Journal of Public Administration, VI (October 1965), 303-313; Richard W. Gable, ed., Papers in Comparative Administration (University of Southern California International Public Administration Center, 1965); K. N. Singh, "Analysis of the Community Development Administration at Village, Block, and District Level," Journal of Local Administration Overseas, IV (April 1965), 99-108; Bernard S. Silberman, Ministers of Modernization (Tucson: University of Arizona Press, 1965); J. D. Montgomery and Wm. J. Siffin, eds., Approaches to Development (New York: McGraw-Hill, 1966); James Heaphey and Philip Kronenberg, Toward Theory Building in Comparative Public Administration: A Functional Approach (Comparative Administration Group Occasional Paper, 1966); Ferrel Heady, Public Administration: A Comparative Perspective (Englewood Cliffs, N. J.: Prentice-Hall, 1966); Nghiem Dang, Vietnam: Politics and Public Administration (Honolulu: East-West Center Press, 1966); William J. Siffin, The Thai Bureaucracy: Institutional Change and Development (Honolulu: East-West Center Press, 1966); Harold F. Alderfer, Public Administration in Newer Nations (New York: Praeger, 1967); Ralph Braibanti, ed., Asian Bureaucratic Systems (Durham, N. C.: Duke University Press, 1966); Robert Daland, Brazilian Planning: Development, Politics, and Administration (Chapel Hill, N. C.: University of North Carolina Press, 1967); Hahn-Been Lee, Korea: Time, Change, and Administration (Honolulu: East-West Center Press, 1967); Fred Riggs, The Ecology of Public Administration (Bombay: Asia Publishing House, 1966) and his Administration in Developing Countries (Boston: Houghton Mifflin, 1964) or Thailand: The Modernization of a Bureaucratic

Polity (Honolulu: East-West Center Press, 1966).

Programming Principles for the Next Decade: "New Departures"

The support for this section of the report is markedly different in nature from that for the other major areas discussed above. The new departures proposed in the text cannot be said to be based as much on case studies of a large number of successes with the current bases of American foreign assistance and technical cooperation; rather, they represent reactions to the large number of disappointments and difficulties encountered, as well as to the changing requirements and environment of development assistance. "Country programming" represents an early form of systems analysis, as applied in other areas. The intellectual roots of comprehensive country programming are in the early literature of macroeconomics and development economics, including such classics as J. M. Keynes, The General Theory of Employment, Interest, and Money (New York: Harcourt, Brace, 1936); the writings of A. H. Hanson; the big-push concepts of P. N. Rosenstein-Rodan, "Notes on the Theory of the Big Push," in Theodore Morgan, ed., Readings in Economic Development (Belmont, Calif.: Wadsworth, 1963) and Harvey Leibenstein, Economic Backwardness and Economic Growth: Studies in the Theory of Economic Development (New York: John Wiley, 1957); the balanced growth models of Ragnar Nurske, Problems of Capital Formation in Underdeveloped Countries (Oxford, Eng.: Blackwell, 1953) and Equilibrium and Growth in the World Economy (Gottfried Haberler and Robert M. Stein, eds.; Cambridge, Mass.: Harvard University Press, 1961) and P. C. Mahalonobis, Talks on Planning (New York: Asia Publishing House, 1961), the latter reflected in the economic model of the Indian

Second Five Year Plan; the wartime planning experience of the U. S. reflected in Bela Gold's Wartime Economic Planning in Agriculture (New York: Columbia University Press, 1949); and especially the European post-war planning experience expressed by Jan Tinbergen, The Design of Development (Baltimore, Md.: Johns Hopkins Press, 1958) and Central Planning (New Haven, Conn.: Yale University Press, 1964); Petter Jacob Bjerve, Planning in Norway, 1947-1956 (Amsterdam: North-Holland Publishing Company, 1959); Pierre Massé, "Les Principes de la Planification Française," Weltwirtschaftliches Archiv, XCII (1964), 113-140, and other writers on French planning; and the various economic analyses of the OEEC. Marxian planning critiques of Western concepts of indicative planning are summarized in Oskar Lange, Essays in Economic Planning (New York: Asia Publishing House, 1960). For a critique of excessive economic emphasis in development planning, see the work of Bertram Gross and his colleagues, Bertram Gross, ed., Action under Planning: The Guidance of Economic Development (New York: McGraw-Hill, 1967). Cf. Charles Hitch and Roland McKean, The Economics of Defense in the Nuclear Age (Cambridge, Mass.: Harvard University Press, 1960); Alvin Mayne, Designing and Administering A Regional Economic Development Plan with Specific Reference to Puerto Rico (Paris: OECD, 1961); Charles Hitch, Decision Making for Defense (Berkeley: University of California Press, 1965); Saul M. Katz, A Systems Approach to Development Administration: A Framework for Analyzing Capability of Action for National Development (Washington, D. C.: Comparative Administration Group, American Society for Public Administration, 1965); Ronald Conley, The Economics of Vocational Rehabilitation (Baltimore, Md.: Johns Hopkins University

Press, 1965); Ladislav Cerych, Problems of Aid to Education in Developing Countries (New York: Praeger, 1965); Roland McKean, ed., Issues in Defense Economics (New York: Columbia University Press, 1967); Arthur T. Mosher, Getting Agriculture Moving: Essentials for Development and Modernization (New York: Praeger, for the Agricultural Development Council, 1966); Stephen Enke, ed., Defense Management (Englewood Cliffs, N. J.: Prentice-Hall, 1967); Thomas Goldman, ed., Cost-Effectiveness Analysis (New York: Praeger, 1967); Philip Morse, ed., Operations Research for Public Systems (Cambridge, Mass.: M.I.T. Press, 1967); Jerome Rothenberg, Economic Evaluation of Urban Renewal (Washington, D. C.: The Brookings Institution, 1967); OECD, Budgeting, Programme Analysis, and Cost-Effectiveness in Educational Planning (Paris: OECD, 1968); and Michael B. Teitz, "Cost Effectiveness: A Systems Approach to Analysis of Urban Services," Journal of the American Institute of Planners, XXXIV (September 1968), 303-311.

Programming for technical cooperation is discussed in Edward S. Mason, "On the Appropriate Size of a Development Program," Occasional Papers in International Affairs, Vol. VIII (Cambridge, Mass.: Harvard University Center for International Affairs, August 1964); Gerhard Colin and Theodore Geiger, "Country Programming as a Guide to Development," Development of the Emerging Countries: An Agenda for Research (Washington, D. C.: The Brookings Institution, 1962); George F. Gant, "A Note on Applications of Development Administration," Public Policy, Vol. XV (Cambridge, Mass.: Harvard Graduate School of Public Administration, 1966), pp. 199-211; J. Price Gittinger, "Planning and Agricultural Policy in Iran: Program Effects and Indirect Effects," Economic Development and

Cultural Change, XVI (October 1967), 107-117; Edward Grasberg, "Development Project Formats: A Design for Maximum Information," Development Digest, V (July 1967), 1-30; the relevant chapters in Raymond A. Bauer and Kenneth Gergen, eds., The Study of Policy Formation (New York: Free Press, 1968); and John Friedmann, Venezuela: From Doctrine to Dialogue (Syracuse, N. Y.: Syracuse University Press, 1965). Finally, it is also assumed that future technical cooperation efforts would reflect the insights gained in field organization as reported in the following works by J. D. Montgomery: "Field Organization, Administrative Relationships and Foreign Aid Policies," Public Policy, Vol. X (Cambridge, Mass.: Harvard Graduate School of Public Administration, 1960), 297-331; Part IV on "Proliferation in the Field" in his The Politics of Foreign Aid: American Experience in Southeast Asia (New York: Praeger, 1962); the work of the Joint Sino-American Commission on Rural Reconstruction on Taiwan as reported in "Rural Improvement and Political Development: The JCRR Model" (15 June 1964); and his chapter, "The Infrastructure of Technological Innovation: American Experiences in Africa" in the forthcoming volume edited by Mark Karp, African Dimensions: Essays in Honor of William O. Brown (Boston: Boston University Press); the insights provided by the work on participant organization and management in Chris Argyris, "The Individual and Organization: Some Problems of Mutual Adjustment," Administrative Science Quarterly, II (June 1957), 1-24, and his Understanding Organizational Behavior (Homewood, Ill.: Richard Irwin, 1960); Judith Tendler's Electric Power in Brazil: Entrepreneurship in the Public Sector (Cambridge, Mass.: Harvard University Press, 1968); Committee on Foreign Affairs Personnel, Christian A. Herter, Chairman, Personnel for the New Diplomacy (Washington, D.C.:

Carnegie Endowment for International Peace on behalf of the Committee on Foreign Affairs Personnel, 1962); and, of the work done on the problems of training for development service as stated in J. W. Doig and Robert Gilpin, "Personnel for Foreign Affairs," Special Report, Woodrow Wilson School of Public and International Affairs, 1963, and Irwin T. Sanders' monograph The Professional School and World Affairs (New York: Education and World Affairs, 1967).