The Importance of Bypassed Areas in Asian Economic Development

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Although the notion of the *bypassed area* is not new no precise definition of this concept has as yet appeared in the literature of economics, and few organized attempts have been made to analyze the subject. Nevertheless, the reality is that the rewards of economic growth are often inequitably distributed. And in development efforts some geographical areas have been favored disproportionately, whereas others appear to have been completely passed over.

Poverty in bypassed areas is a pressing social and moral issue. Moreoever, bypassed areas present national governments with an array of actual or potential economic problems. At the very least, the bypassed area's isolation from the national society and economy represents an opportunity cost. More seriously, the bypassed area can be the breeding ground for discontent and insurrection, diverting the scarce resources of developing countries into costly efforts to deal with such phenomena. In addition, bypassed areas are often the source of increased migration to capital cities, which can create additional social disruption during a period of stressful social and economic change. For all these reasons, those interested in the problems of development cannot afford to neglect the issue of the bypassed area.

Concern for the large number of deprived people in bypassed areas—which, in Asia, are primarily in the agricultural sector—provided the impetus for the seminar on *The Importance of Bypassed Areas in Asian Economic Development* held June 15–19, 1981, in Okinawa, Japan. The second in a series of annual seminars designed to explore the resources and constraints of the rural poor and the policies necessary to improve the quality of life of rural populations in Asia, the Okinawa seminar focused on identifying the steps necessary to incorporate bypassed areas into the development process.[1]

The seminar series, which was established as a tripartite effort among the United States, Japan, and other Asian countries, aims also to bring together young Asian professionals and thereby to foster communication among policymakers and professionals in all three areas, building a network of persons concerned with the problems of rural development in Asia. For the present seminar, thirty-three scholars, administrators, and officials of governments and international institutions, representing the United States, Japan, and seven other Asian countries, assembled in Okinawa. Several Japanese government officials in charge of foreign assistance also attended as observers.

Okinawa, a cluster of small islands located at the southwestern edge of the Japanese archipelago, offers in many ways a classic example of a bypassed area. Until about 120 years ago, Okinawa was an important gateway to Japan, but with the development of modern marine transportation, passengers and commodities began to bypass the islands. Although the socioeconomic gap between Okinawa and mainland Japan is now narrowing, Okinawa faces many of the same energy, food, and environmental conservation problems that the poorer regions of other Asian countries face. The Governor of Okinawa Prefecture, Junji Nishime, greeted the seminar participants by expressing the hope that some of the development experience of Okinawa, the only subtropical region of Japan, could be shared with other Asian countries.

In opening the seminiar discussions, Atsushi Shimokobe outlined some issues he hoped the conference would address. He pointed out that although during the 1970s noteworthy efforts have been made to improve agricultural output in Asia, many disadvantaged people have not yet been freed from poverty. He suggested that seminar participants might profitably include in their considerations a number of topics that are particularly important in Asia: the increasing need for food that accompanies population increase; the limited amount of arable land; the frequent constraints on natural resources, fiscal and monetary facilities, and technological innovation; the need for stability in rural life; and the task of institution building.

As will be seen, the foregoing issues were repeatedly raised throughout the discussions, which are reported here in four major sections. The first section offers a definition of the *bypassed area;* the second reviews the discussions of the origins and nature of bypassed areas; the third looks at several recurring themes in the consideration of case studies presented by seminar participants; and the fourth reviews specific strategies for dealing with bypassed areas. A concluding section summarizes the discussions and offers recommendations for continuing efforts to meet the needs of bypassed areas.

DEFINING THE BYPASSED AREA

Seminar participants were essentially more concerned with the disadvantaged groups of persons who

The authors are grateful for the valuable advice and assistance of James T. Bonnen of Michigan State University and Irving G. Latz of Tokyo University.

[1]The first seminar in this series, *Mechanization of Small-Scale Peasant Farming*, was held in Sapporo, Japan, July 7–10, 1980.

inhabit bypassed areas than with the areas themselves as specific geographic regions. However, after four days of discussion it was the consensus that the concept of the *bypassed area* should be considered to have a geographical basis and a relative nature, and that such areas are real, historical entities.

Economic inequality in Asia has a distinct geographical character. As William James suggested, bypassed areas may be described as geographic regions where per capital income is substantially below the national average and the incidence of poverty is significantly greater than in other regions in terms of the proportion of the population below some government-defined poverty line. In addition, James Bonnen pointed out, to be bypassed an area must exhibit either absolute economic decline or rates of growth and average measure of welfare so significantly lower than the rest of the society that the area and its population are not sharing in the growth of the society.

Clearing these definitions imply that being bypassed is relative, since the incidence of poverty varies greatly among countries of differing degrees of economic development. Also, different countries display quite different economic and institutional characteristics. Life in bypassed areas in the United States or in Okinawa cannot be directly compared with life in bypassed areas of India, Indonesia, or Bangladesh. Being deprived, depressed, or bypassed, Dr. Bonnen suggested, is relative in time, in geographical and social space, and in level of development of the nation. Nevertheless, the concept is real. According to V. S. Vyas, the bypassed area is not a figment of the imagination. There are several indicators that show that some regions in practically all the countries in Asia behave in a different way from what the national aggregate or national average will suggest.

CAUSES AND CHARACTERISTICS OF THE BYPASSED AREA

In the industrialized countries, being bypassed tends to occur in a variety of settings; in developing countries, however, it usually occurs in an agrarian context. Bryant Kearl outlined several features that are common to bypassed areas in Asia:

- Remote location, in terms of ease of access to market and to centers of political and economic power
- Poor endowment of agricultural land or natural resources
- Weak production base and very low investment in human resources

Areas that have these massive handicaps, Dr. Kearl added, often suffer from other burdens:

- Limited transportation and communication facilities (poor roads, inadequate transportation networks, costly means of moving goods and people
- Unsatisfactory living conditions (poor housing, unsafe water, inadequate waste disposal systems)
- Insufficient health care
- Lack of human capital, with limited access to education
- Little ability to deal with distant bureaucracies and market forces, and poor representation at centers of political power.

The task is to understand the origins and nature of bypassed areas and, if possible, to take steps to bring these areas into the mainstream of economic development. Seminar participants stressed repeatedly that the problem is not one of inherently poor or submarginal resources, there being no such thing as inherently submarginal land. The problem, rather, is one of failure to achieve the appropriate social organization of resources, however limited or poor they may appear to be. It was pointed out that the factors that bring about such failure are often interrelated and caused by still other factors. In a similar vein, Dr. Hemmi added that another frequent characteristic of bypassed areas is the second-generation syndrome wherein the conditions of being bypassed set a vicious circle in motion that locks an area out of development effort indefinitely.

In general, James Bonnen and David Dunn suggested, the initial cause of a bypassed area is some form of isolation from the social and economic mainstream of the country concerned. Commonly, such isolation derives originally from physical, topographic, and climatic factors. A second cause of isolation can be found in major social and economic events, such as civil or international conflict or particular patterns of settlement over time. Specific practices or policies of nations or of majority groups within nations comprise a third cause of isolation.

Differential access to any publicly or privately provided limiting input that is critical to the growth of the area's economy may lead to relative isolation and eventually to relative "backwardness." David Dunn, Kenzo Hemmi, and several others agreed that some of the factors contributing to differential access are:

- A poor resource base
- Lack of relevant technologies
- Sociocultural differences
- Lack of infrastructure
- Weak local administrative capabilities
- Political neglect
- Inappropriate investment strategy
- Small scale of activities
- Lack of institutional or group policy
- Absence of channels for seeking information and other needs from the central government

Explicating the term *poor resource base*, Girja Sharan suggested that it means, among other things, lack of

minerals and significant groundwater, poor rainfall, and an ill-educated and scattered population that results, in large part, from the absence of relevant technologies. David Dunn, William James, and Arnold von Rümker pointed out that a poor resource base reduces an area's absorptive capacity for productive investment and that, as a result, development solutions are both extremely costly and administratively intensive. Financial institutions thus are reluctant to invest in these areas. A weak production base, V. S. Vyas and A. M. Weisblat noted, can be attributed to the inability of a local community to organize an effective institutional infrastructure with which to identify and resolve local problems. Yujiro Hayami added that this organizational weakness is reflected in the absence of agencies that combine grass roots support with scientific and technological expertise at the national government level and that can cope with the problems and handicaps pointed out earlier.

In formulating policies and strategies to integrate bypassed areas into the national economy it is important to understand both these internal institutional weaknesses and the poorly articulated communication system between these areas and the centers of national power. Unfortunately, research has not yet determined how government policy can most effectively overcome the problems of bypassed areas. Indeed, as Saburo Okita observed, the case can even be made that some government policies have indirectly aggravated the problems of these areas, through such devices as import substitution.

Summing up the foregoing arguments, Dr. Vyas remarked that it is important to examine the problem of the bypassed area very carefully, for recent experience has shown that although the benefits of economic growth may not be shared equitably, knowledge about these benefits is common to all. Thus sooner or later the conditions under which people in bypassed areas live will become a political consideration; the plight of these people is already a humanistic concern.

CASE STUDIES OF BYPASSED AREAS: RECURRING THEMES

The seminar papers represented a broad collection of case studies from countries of great physical and cultural diversity. This section of the report will focus on four topics that surfaced repeatedly in the discussions following the presentations of the papers: the agrarian nature of bypassed areas in Asia; bypassed issues in the development process; the representative case of Okinawa; and the need for institutional infrastructures.

Agrarian Nature of Asian Bypassed Areas

All papers stressed the fact that a substantial portion of the population living in Asia's bypassed areas is heavily dependent on the primary sector of the economy. Thus the existence of physical obstacles to development intensifies the plight of this group of people. Vijaya Shrestha, in surveying agricultural conditions in Nepal, and Marian Segura-de los Angeles, reporting on agroforestry projects in the Philippines, examined agricultural regions where specific constraints hinder agricultural development. Dr. Sharan described the problems resulting from poor management of natural resources in the drought-prone Panchmahal District in India and discussed the ways scientific research and technology could help. In a similar vein, Preeda Prapertchob described the salinity and poor water-holding capacity of soils in Thailand's northeastern region, and the several reports on Okinawa also described a relatively poor soil base for agricultural production.

A number of papers described land-use activities in bypassed areas that run contrary to the principles of proper natural resource management. In Nepal, Thailand, and the Philippines, for example, either the search for fuel or the need for new land for shifting cultivation caused serious deforestation. In Nepal this phenomenon was particularly striking: estimates indicated that total forest resources declined by about 33 percent between 1964 and 1980. This kind of rapid resource conversion has widespread repercussions, not only in Nepal, where 90 percent of the population depend on agriculture, but on the entire Indian subcontinent. The relation between such upland deforestation and problems of flooding and siltation, for example, in Bangladesh and India underlines the need for integrated management of natural resources in Asia.

The United States case studies, quite different from the Asian ones, exemplify the point that "there is no such thing as inherently submarginal land." In that country, the application of science and technology, in part through the land grant university system, has helped to resolve resource management problems in a number of areas. Although the findings we have reviewed of poor and fragile resource bases in Asian bypassed areas might seem to belie the aforementioned point that no land is inherently submarginal, it is interesting to note that Dr. Sharan's paper points to as yet untapped potential for solving some of the Panchmahal District's drought problems; needed are strategies for resource management based on local application of scientific techniques.

The application of science and technology to overcoming relative limitations of a given site is illustrated by the paper presented by the Chinese participants, which also includes a number of interesting recommendations for management programs at the local level. In their paper, Yang Hanxi and Shanguan Changju describe the stabilization of a portion of the loess highlands in Youyu County in Shanxi Province. This project

is an impressive example of the successful management of a fragile though extremely fertile area by means of a combination of biological and engineering techniques, including extensive reforestation. Statistics indicate that recent increases in agricultural productivity based on comprehensive watershed management planning have been quite substantial; these statistics offer an interesting counterpoint to the data on Nepal's deforestation problems.

Bypassed Issues in Bypassed Areas

Several participants pointed out that in bypassed areas, many issues that are crucial in the development process are also bypassed. Some of these issues are self-reliant growth strategy, land reform, education, and the role and status of women. Even peace—admittedly a topic outside the scope of the seminar—was mentioned.

Noting that a self-reliant growth strategy should be based on expectations of conformity with the resource base and long-term capability of a developing country, M. A. Jabbar pointed out that the neglect of such a strategy has resulted in excessive reliance on foreign assistance and high vulnerability in the event of a world economic crisis.

It was agreed that several Asian countries need to place more emphasis on achieving mass literacy and general vocational education. There are also imbalances in education in general: the humanities receive more attention than do science and technology.

According to Dr. Shrestha, Nepal's development planning has ignored the role of women as agents of change. Rural women, as compared with men, contribute more time and generate more income for the total household economy. Decision-making power, however, is in the hands of men; development programs have been directed to their concerns and rarely reach women. As a result, agricultural production has suffered a great deal, and these discriminatory patterns have prevented women from contributing fully to development.

In Guam the bypassed issue is the importance of the agricultural sector itself. Although there is a need, Wilfred Guerrero suggested, to expand the agricultural sector to the point of self-sufficiency in food, a generally passive acceptance of the status quo acts as a constraint to greater agricultural activity on the island.

The Case of Okinawa

Okinawa exhibits many of the characteristics of other bypassed areas in Asia, including distance from markets, poor natural resource endowment, and a fragile resource base that depends on carefui management. Okinawa is being integrated into the Japanese national economy, however, at a much faster rate than other areas discussed at the seminar are being integrated into their respective larger economies. The papers on Okinawa tell an important story about how the area came to be bypassed and how the impressive efforts now being undertaken by the national and local governments are helping to resolve this problem.

As noted earlier, Okinawa is not well endowed with natural resources. As Kenryo Onaga, Kishin Oshiro, and Kazuhiro Oya pointed out, the soil in the 40 or so inhabited islands is relatively impermeable and easily susceptible to overland movement; in some cases it exhibits poor capacity for water retention. Moreover, the islands are located in an area of high rainfall, high annual temperatures, and potentially heavy winds due to typhoon activity.

In addition to these natural hazards, in the past half-century Okinawa has undergone a number of dramatic changes that have placed great stress on its economy. These changes include a shift from subsistence to cash agriculture, notably from rice and sweet potato production to sugarcane and pineapple farming. Accompanying this shift, according to Ken Fukunaka and Kishin Oshiro, has been a dramatic drop in the number of farm households—from 73 percent of the labor force prior to World War II to approximately 14 percent today.

Another factor in Okinawa's present state has been the remarkable increase in soil erosion in the islands. Research indicates that pineapple development (since 1950) has been a major cause of runoff problems, particularly because this development has exploited previously forested slope areas for planting. The recent construction boom in the recreation industry has also contributed to the erosion problem.

Okinawa remained under United States control from the end of World War II until 1972. According to Keiki Owada, little investment was made in agriculture during that period, but when Japan resumed control of the islands investment in the agricultural infrastructure increased several fold—from ¥2.7 billion in 1972 to ¥19.6 billion in 1980, a shift from 0.98 to 2.18 percent of the national budget for this category of expenditure. In addition, the Japanese government has promulgated a series of national and local laws that seek to promote environmental planning. Prior to 1972, Reiji Fumoto noted, there were no legal restrictions on private land development, a factor that contributed to pineapple plantation expansion and subsequent problems with deforestation and erosion. Now, Dr. Onaga remarked, the prefecture has a comprehensive land planning system that includes recommended standards for soil conservation in building construction and agricultural production.

Perhaps the most tangible result of the national government's investment in Okinawa is the change in household income. Okinawa's pre-World War II per

capita income, according to Dr. Fukunaka, was only 50 percent of such income elsewhere in Japan; in 1978 the Okinawa figure jumped to 70 percent of the national average. Equally important, however, is the kind of infrastructure now being established in Okinawa for the development of the industrial sector in general and agriculture in particular. Through a combination of subsidies, Mr. Owada observed, in some cases as high as 90 percent, land management projects, water control works, and cattle breeding cooperatives have been formed. In short, the prefecture is creating a service-oriented institutional structure that is staffed by local scientists familiar with the area and its problems and that focuses on smallscale production, encourages agricultural mechanization, and provides instruction in the latest techniques for husbanding natural resources and achieving high crop yields.

The Okinawa story is not completely positive. Labor productivity remains lower than it is in other parts of Japan. The prefecture needs greater crop diversification, and it continues to be plagued by severe soil erosion. But through a combination of long range planning, local ordinances, and the creation of an institutional framework that involves research, land management, and land improvement, Okinawa appears to be moving toward resolution of many of the problems that until recently have marked it as a bypassed area.

The Need for Institutional Infrastructure

It is clear that the lack of infrastructure in the development of an area often reflects the failure of a nation to invest in either the physical or human capital crucial to overcoming the limitations of basic resource endowment. There is a need to develop strategies for more effective institutional structures through which resources in bypassed areas might be organized. This broad-based problem draws attention to the fact that although land is not inherently submarginal, local management of resources may vary widely among areas. As several participants pointed out, ineffective resource management and development programs reflect differential access to the inputs necessary to establish a production system that can compete with other regions in the national economy. In many cases, Dr. Sharan observed, even scarcity of financial resources is not a problem; the problem, as already noted, is the inability to mobilize available resources. Dr. von Rümker pointed out that it often happens that external donor agencies compete to support the same projects; thus a given program may actually have an abundance of resources.

The seminar papers provide a comprehensive out line for future study of the reasons certain local communities have been unable to organize the institutional infrastructure they need to identify and resolve local problems. The answer, Dr. Bonnen and Mr. Dunn suggested, may be a lack of representation in the national political power structure. Or, Dr. Sharan observed, there may be cultural or religious traditions in the area that create resistance to integration into the national economy. Dr. Jabbar and Dr. Prapertchob noted that conscious political neglect by the national power structure because of an area's failure to support government policies may also be a factor leading to bypassing. Clearly, Dr. Hemmi said, more detailed case studies are needed of the apparently vicious circle whereby low rates of growth lead inevitably to low rates of income change, thus promoting further isolation.

Many papers point out two areas in which careful research is needed. First, at the more general level, studies should be undertaken of some of the economic models that explain the divergence and convergence of economic regions. For example, Mohammad Nazir's application of Gini's coefficients in Indonesia has important theoretical implications. And Dr. Bonnen underlined the relevance to bypassed areas of the literature on induced institutional innovation.

Second, there is a need to study how institutions develop at the local level. Again, Dr. Bonnen observed, such theoretical notions as induced institutional change should be considered. The development, Dr. Weisblat added, of a *delivery system* of services, scientific and otherwise, to meet local development needs also appears to be crucial. As Dr. Bonnen noted, the water and forestry problems described in, respectively, the Indian and Philippine case studies reflect the need for institutional networks that can bring scientific techniques for efficient resource management to the attention of local farmers. A key to overcoming many of the bypassed area's problems is the combination, within a given agency, of both national and local concerns.

STRATEGIES FOR OVERCOMING THE BYPASSED AREA'S PROBLEMS

The seminar papers and discussions revealed no conclusive evidence to suggest that national economic growth by itself will resolve the problems of stagnating regions. At best, the evidence is conflicting. For example, with respect to Thailand, there was a divergence of views, Dr. James arguing that regional discrepancies were converging and Dr. Prapertchob holding that they were diverging. In Malaysia, although growth has been remarkable, it clearly has not led to greater equalization of work opportunities, either across the country or within certain areas. It also seems clear that these economic disequilibria are not self-correcting by market forces alone. For equalization to occur, some form of intervention in the func-

tioning of the market economy, public or political, must take place.

As Dr. Hayami pointed out, the significance of bypassed areas and the potential for dealing with them vary greatly depending on the level of national development. Countries that are highly developed, such as Japan and the United States, have many resources and usually a number of alternatives in designing a strategy for overcoming the constraints on a bypassed area. Under some conditions a large bypassed area in a wealthy country offers the potential for social disruption; in any event it remains an ever-present moral reproach. In these circumstances, solutions can be viewed as matters of equity rather than elements of development policy.

In a very poor country at a low level of development there are many areas that, in the initial stages of growth, do not share fully in the country's development. In many ways this is unavoidable. Decisions about national capital investment, physical or human, must be made in terms of potential contribution to the national rate of growth. Thus, in the short run, bypassed areas in low-income developing countries tend to offer the poorest resource base for meeting national development policy needs. Because such areas may be neglected in the short run, their development is often substantially limited.

Any strategy for overcoming a bypassed condition must be a long-run, multidimensional development strategy. In very general terms, such a strategy will involve the compilation of information about both the endowments and the constraints on the target area. This information will probably include data and expertise from the biological and physiological sciences that eventually will have to be adapted to the unique aspects of the area and disseminated to all the actors in the development process. This kind of pragmatic and problem-solving strategy involves changing general economic and social incentives as well as the motivations of many different groups by modifying both technologies and institutions. And, Dr. Bonnen observed, changing technologies and institutions ultimately leads to changing landholding patterns, which remedies the disequilibrium.

In attempting to solve the problem of the bypassed area it is important to provide equitable access to physical and social infrastructure and thus to break down isolation—isolation that may be physical (e.g., caused by poor transportation or communication links), cultural, or political. But merely breaking down isolation is not enough. Measures must also be taken to strengthen the production base, which is the key to development. Previously the object of neglect, the bypassed area has not been accorded the minimum desirable standard of living. There is a tendency to focus on the agricultural production base in Asia, but it is illogical and sometimes damaging to concentrate on agriculture in attempting to rectify regional imbalances. As Dr. Vyas pointed out, for most countries in Asia, solutions for agricultural problems lie outside agriculture, and it is necessary to think in terms of nonagricultural opportunities—that is, nonfarm occupations in rural areas. Nonfarm work need not necessarily be in large industries; indeed, it should be thought of in terms of a nonindustrial paradigm. It is necessary to think in terms of a different framework for nonfarm occupations, while at the same time giving as much attention to agriculture as possible within the known technology and institutional base.

Implementing any strategy for escape from a bypassed state requires continued investment in education and research, as well as public and private action. In order to be successful such a strategy must be sustained over time and should be institutionalized. That is, there must be a social system of groups and institutions that focuses on solving the problems of a bypassed area and that is, in some part legitimized and supported by the national political leadership and other interested parties.

The seminar participants spelled out a number of prerequisites for initiating any process or strategy designed to lead to a more egalitarian regional distribution of income:

- *Adaptability:* Regions must have the capacity to adapt science and technology to local requirements and to a limited geographical area. Equally important is the adaptability of social and economic features. It is necessary to decide what forms of organization can be recommended to suit local requirements.
- *Accountability:* The persons initiating changes must be accountable to the beneficiaries—that is, to the local people with whom such persons are working.
- *Macro-organizational input:* Often it is necessary to understand the characteristics of the national mainstream of development before approaching the problems of a bypassed region. The basic trends in a country's development strategy will be reflected—even if in a distorted form—at the grass roots level.
- *Institutionalization:* To initiate the process of growth local capabilities must be institutionalized. The character institutions take will depend on local circumstances but it must allow a large number of people access to the social and physical infrastructure, once that infrastructure is in place.
- *Group action:* An understanding of the formation, functioning, and dynamics of groups is of critical importance in learning how people at the grass roots level can organize themselves so as to make optimal use of delivery systems.
- *Educational investment:* Educational institutions (at the university level) contribute to the creation of new knowledge. Just as important, they make a substantial contribution to the ability of individuals (and thus groups) to adapt their behavior, their technolo-

gies, and their institutions to the disequilibria in society so as to reallocate resources most efficiently. It is important in the educational process to emphasize the linkage of national and regional institutions to conditions and institutions at the local level as well as the adaptation of the former to the latter. In the absence of such emphasis there will be no institutionalized capability to understand and adapt the tools at the nation's disposal to the problem of the local area.

SUMMARY AND AGENDA FOR THE FUTURE

Areas that have been bypassed in Asian economic development are characterized by their agrarian nature and weak production base. In resolving the problem of the bypassed area, the access of local and regional people and institutions to the national policymaking process appears to be critical. In order to integrate these areas more effectively into the national economy, it is important first to understand the weaknesses in local organizational structures and in communication links between these areas and the nation at large and then to formulate strategies to overcome the weaknesses. The latter are often reflected in the absence of agencies that combine local grass roots support with scientific and technological expertise from outside the area to cope with the resource management problems. Local institutional structures are needed both to articulate the needs of the bypassed areas to national governments and outside donor agencies and to make effective use of the assistance such sources provide.

What are the needs in future research and policymaking? Unfortunately, no study has yet determined how government policy can best overcome the problems of bypassed areas. Nations with severe financial constraints—that is, most nations in Asia—have only limited resources to invest in selected bypassed areas. Given the complexity of the problem, a research plan is needed to identify local requirements through case studies and to develop appropriate theoretical models and investment strategies to guide regional and national planners. The seminar papers represent an important first step in articulating some of the problems and possible solutions for bypassed areas.

The form that local institutions should take needs further definition. These institutions might best be described as organizations of people who can assist local people in overcoming resource constraints. Since resource endowments and local skills vary, it is doubtful that a single model institution can be devised.

Clarification of the basic services government agencies and international organizations can provide would be extremely useful. For example, what kinds of investment are needed to strengthen an area's production system? Timing appears to be a crucial element in the development of organizations to assist local farmers in terms of the most appropriate and efficient investment from the viewpoint of both government and land cultivator.

Research is needed on the issue of rate of return on investment. The Asian Development Bank, for example, normally expects a 10 percent rate on its investments, which may be difficult for some areas to realize. The World Bank has found that some areas lack the expertise or facilities to absorb investment properly; thus the Bank needs to know which projects have high rates of return.

Aside from institutional structures, the basic human, financial, and technological resources to support development of bypassed areas must be mobilized on both the local and national levels. In seeking both to mobilize more resources for bypassed areas and to develop new institutional mechanisms to deliver those resources, certain forms of political pressure can be helpful. Bypassed areas are often neglected simply because they have little political importance to national governments. Participants emphasized that winning an appreciation of the needs of these areas requires that local people begin to articulate their problems more effectively and that a way be found to achieve a broader awareness of local needs in the society at large. Intellectuals and the media can play an important role in developing public awareness of the problems of bypassed areas and in arousing sympathy for programs designed to overcome those problems.

Many of these recommendations for future action fall under the heading of integrated rural development. Development in this sense is a process guided by five key questions:

1. What technology is appropriate to an area?
2. How well is the area oriented to the market, in terms both of trade and supporting policies?
3. Is capital available to assist in the development of the production system?
4. How are local people incorporated in the development process?
5. How is a sense of shared accountability instilled at the local and national levels?

It is through response to these questions that science can be "tied to the people" and the potential of a given area to overcome its problems can be identified and acted on.

The case of Okinawa seems to offer a particularly good illustration of the potential of the bypassed area. More research is needed on the strategies employed over the past ten years to integrate the area into the Japanese economy. It is true that huge government subsidies have played an important part in the modernization of Okinawa, and many of the poorer countries of Asia lack the fiscal resources to follow suit.

However, the actual subsidies are of less lasting importance than the successful institutionalization of political power and human talent that have led to the resolution of many local production problems.

Two concluding points should be made. First, policies with respect to social and economic investment in bypassed areas must be developed within a theoretical framework that takes account of dynamic change. Decision making must not be conceptualized in terms of static comparisons of regional and national rates of growth.

Second, and beyond theory, there is a pressing need to see the problems of the poor in Asia as more than statistics. In any analysis, it is the people that matter the most.

Appendix 1

PAPERS

Bonnen, James T. *Reflections on bypassed areas in U.S. rural development.*

Dunn, David. *Views of the World Bank on approaches to the problems of bypassed areas.*

Fukunaka, Ken & Oshiro, Tsuneo. *Economic development and changes of traditional farming in Okinawa.*

Fumoto, Reiji. *The environmental impacts of agricultural land use on hill countries and management of general planning on land utilization.*

Guerrero, Wilfred P. Leon. *Guam: An economically bypassed area.*

Jabbar, M. A. *Bypassed areas in Asian economic development.*

James, William E. *Bypassed areas, regional inequalities and development policies in selected Southeast Asian countries.*

Onaga, Kenryo. *Development and environmental protection in coastal zones.*

Owada, Keiki. *Development of agriculture in Okinawa.*

Oya, Kazuhiro, Oshiro, Kishin, & Tokashiki, Yoshihiro. *Changes of soil productivity and soil characteristics in mechanized trends of farming.*

Prapertchob, Preeda. *Bypassed area in socio-economic development in Thailand—The case of the Northeast Region.*

Rümker, Arnold von. *A German view on approaches to the problems of bypassed areas.*

Segura-de Los Angeles, Marian. *A study of two pilot agroforestry projects in the Philippines.*

Sharan, Girja. *Low deployment of science and technology in development strategy—case of Panchmahal District.*

Shrestha, Vijaya. *Bypassed areas in Nepal's economic development: Causes and consequences.*

Weisblat, A. M. *The AIDIC perspective on problems of bypassed areas.*

Yamaguchi, Mitoshi. *Technical change and population growth in the economic development of Japan and some implications to the development of less developed areas.*

Yang Hanxi & Shanguan Changju. *The transformation and development of loess plateau region in China—A case study of Youyu County, Shanxi Province.*

Appendix 2

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