

INTERNATIONAL CO-OPERATION IN RURAL DEVELOPMENT: ISSUES FOR DISCUSSION*

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I. Rural Development: Rationale and Scope for International Co-operation

In most of the developing countries, rural development has come to be emphasized because of certain persistent and undesirable trends in the development experience of the last thirty years. These trends include, among others, (a) increasing urban-rural disparities in levels of living arising mainly out of the strategic thrust on large-scale industrialization and the relative neglect of agriculture, (b) unequal distribution of ownership of productive assets of work opportunities and of incomes within the rural sector itself giving rise to misery and social deprivation of certain sections of the population, and (c) both the foregoing trends exerting pressures towards large-scale rural-urban migration of the population that could not be absorbed in the industrial sector, thereby accentuating the problem of urban poverty. There has been a fair degree of consensus that these persistent and undesirable trends can be checked and eventually reversed by a widespread and all-round development of the rural sector. This consensus, in turn, has generated the compulsive need for 'restructuring the rural society, reconstructing the rural economy and revitalising the social and cultural life in the rural areas.'¹

In terms of the demographic pressures of the population on natural resources, the rigidities in the rural institutional structure and the low productivity of resources due to outmoded technology, the problems of rural reconstruction faced by the developing countries have been very distinct in their nature from those faced by the presently developed countries. On the other hand, there have many parallels among the developing countries in the problems of rural societies, approaches to resolve them and 'experiences in implementing them'.² It should, therefore, be obvious

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¹See [1], para. 5. 3, p.38.

²See [1], para. 5. 2, p.38.

that the developing countries can learn much more from each other than from the developed countries. Following from this is the equally obvious need for economic and technical cooperation in the field of agricultural and rural development among the developing countries.

Considerable scope for effective cooperation exists among countries which are growing at different rates but facing similar problems in the development process and operating under similar parameters constraining this process. The available data on the economic characteristics of the member countries of AARRO reveals the following features:

- (1) Eleven out of twenty one countries for which information was readily available, recorded in 1980 an agricultural in work force exceeding 50 per cent and the share of rural population in total exceeding 60 per cent in most cases. These countries accounting for over three-fourths of the population in the 21 member countries are predominately agrarian and rural in character.
- (2) Among the remaining member countries, either the share of agricultural work force or the share of rural population in total exceeded one-fourth with only one exception.
- (3) The two relatively developed member countries, namely Japan and the Republic of Korea, though not predominantly agricultural in character, are still remarkable for one of the highest densities of agricultural population measured either in terms of the agricultural population per sq. km. of arable land or the agricultural workforce per sq. km. of arable land.
- (4) The pace of development measured in terms of the rate of growth of per capita GNP in real terms has been different but not too dissimilar among the member countries.

These features clearly establish the scope for mutual cooperation among the member countries of AARRO in the field of agricultural and rural development which needs to be explored to the mutual benefit of all.

II. Rural Development: Concept, Implications and Constraints

Rural development can be taken to mean sustained and secular improvements in the levels of living of all sections of the rural population. Defined thus, it should be obvious that a sustained rise in the productivity of resources in the rural areas is only a necessary condition for rural development. A sufficient condition requires that either the rise in productivity or the benefits flowing from it or both are enjoyed especially by those at the lower end of the economic hierarchy. This means that in situations characterized by acute deprivation affecting large sections of the population, the first priority of rural development should be to eradicate abject poverty. This has often necessitated community efforts and intervention. In this sense, the process of rural development in the

presently developing countries is going to be distinctly different from that in the presently developed countries. It may be noted that in the latter group of countries, rural development has taken place mostly in an fashion, without conscious collective efforts and in an autonomous fashion through the normal market forces. This is not to argue that individual initiative and market forces are going to be unimportant in the developing countries, but to emphasize the additional dimensions of collective efforts and state intervention in the process of rural development.

While the development of human and physical (land and water, in particular) resources is bound to provide the core of rural development, this has to be done with a distinct accent on equitable distribution and under the shadow of the energy crisis. While the accent of the energy problem in the rural areas is going to be on the development of new and renewable energy sources, the rising costs of conventional oil-based inputs such as diesel and fertilisers have adverse implications for raising the productivity of land.

To recapitulate, any strategy of rural development has to (a) be based on the development of rural resources, both human and physical, with an accent on equitable distribution, (b) combine market forces and private initiative with collective community efforts and state intervention, and (c) tackle the common set of constraints imposed by the energy crisis. Rural reconstruction with this common perspective is admitted to be the only way of solving the developing countries' major problems of "food, nutrition, thirst, health, unemployment and inadequate growth".³

In the above perspective, this paper attempts to delineate the areas of international cooperation. Since the process of rural development has economic as well as social dimensions, the areas of cooperation are discussed along both these dimensions in an inter-related manner. *Economic dimensions* may be taken to include those changes in the economic structure and institutions which are necessary to raise the productivity of rural resources—both human and physical. *Social dimensions*, on the other hand, encompass those changes in the social institutions and attitudes which may be necessary to exploit fully the growth potential in the rural sector.

III. Economic Dimensions of Rural Development

For the convenience of discussion, these dimensions can be classified into the following broad categories:

- III.1. Programs for raising the general growth potential of the rural resource base.
- III.2. Programs for raising the economic viability of the poor population.
- III.3. Programs for improving the living environment of the

³ See [1], para. 5. 12, p. 41.

rural population through the social services provided by the public sector such as health, sanitation etc.

Programs under the first category (III.1) are marketed by their general growth-orientation and the associated efforts towards institutional innovations and programs for facilitating the widespread dispersal of growth. Those under category III.2 are directed specifically towards easily identifiable target groups of the poor. The accent in both the above categories is on raising the economic viability of the rural households in sustained fashion in contrast to the remaining category (III.3) where the focus is on improving the living environment through publicly provided social services.

1. Programs for Raising the General Growth Potential of the Rural Resource Base.

This category would cover inter alia.,

- (a) technologies for raising the productivity of the agricultural sector;
- (b) technologies for raising the productivity of the non-agricultural rural sectors;
- (c) technologies for developing new and renewable sources of energy in the rural areas;
- (d) general institutional innovations to facilitate the widespread dispersal of the benefits of economic growth emerging from technological changes;
- (e) area development programs for correcting ecological imbalances; and
- (f) delivery systems for the transmission of technologies.

A. *Technologies for the Agricultural Sector*

In this section, agriculture is defined in its broadest sense of including, apart from crop production, livestock, forestry and fishery. Technological changes raising the productivity of the scarce resources has always been the basic growth-promoting impulse in all the countries. In the agricultural sector, the major resources are land, water and labour. Certain densely populated countries of Asia (eg. India) are characterised by acute scarcity of land whereas certain other sparsely populated countries may be characterized by an acute scarcity of labour. The countries within each of these two groups may have a lot to offer in terms of their efforts to tackle the common problem of developing technologies for raising the productivity of the bottleneck resource. The general pattern may turn out to be in the direction of biological and chemical processes (which are land-augmenting in their character) in the former group and towards mechanical processes (which are labour saving in their character) in the latter group of countries.

The areas of fruitful cooperation among land-scarce economies may be identified in the following directions:

- (1) research in the development of high yielding and/or short duration varieties of major crops which can absorb and respond to high intakes of plant nutrients;
- (2) research in the adaptation of crop varieties to different agro-climatic situations;
- (3) research in the optimum package of complementary inputs (water, high-yielding seeds, plant nutrients, pesticides, weedicides) so as to maximize the yield per hectare of cropped area in different agro-climatic situations;
- (4) research in soil conservation, water management practices and crop rotations so as to maximize the cropping intensity and thereby maximize the total value of yield per hectare of net sown area—both under rain-fed and irrigated conditions.

International research institutions and various agricultural universities located in different countries could form the foci of cooperation and exchange in those areas.

In addition, sectors related to agriculture such as forestry, fishery and livestock are assuming importance from the point of view of both the environmental considerations and employment generation. In this connection, research and exchange of experiences in the following areas appear promising:

- (5) development of cross-bred high yielding cattle that can adjust to different agro-climatic environments;
- (6) development of pasture land and feedstock cultivation taking into account the composition of livestock and their feed requirements for maximizing the output of livestock products;
- (7) development of the network of veterinary services so as to serve efficiently the cattle population; and
- (8) programs of social forestry involving measures for preventing deforestation and desertification.

B. Technologies for the Rural Non-Agricultural Sectors

It has been generally observed that, especially in densely populated countries, there has been a very limited spread of the high productivity non-agricultural sector either in commodity production or in services. This has been the case not only in the agriculturally slow-growing areas but also in the agriculturally prosperous tracts. Apparently, the reasons could be located in the total lack of or slow growth of demand in the rural areas for the products produced by traditional technologies or the services provided by traditional service occupations. Solution to these problems may very well lie in technology and/or skill upgradation so that the rural artisans and craftsmen could successfully produce the quality mix of commodities and services for which there exists demand in the rural areas and in satisfying which they could compete with the existing urban sources

of supply. The development and adaptation of technology for this purpose poses one of the most difficult and challenging tasks.

Various institutions in different countries which are involved in developing technological alternatives to the traditional techniques and in training the artisans and craftsmen in new and marketable skills could form the centers for exchange and cooperation in this area.

C. Technologies for New and Renewable Sources of Energy

In the recently concluded World Energy Conference,⁴ it was observed that in the face of shortages of traditional fuels and the relatively high costs of commercial fuels, the 'fuelwood crisis' has engulfed the rural population. This is being accompanied by deforestation and desertification and results in both a lowering of agricultural productivity and ecological imbalances. Two areas for research and exchange may be suggested in this connection:

- (1) Development of technologies for harnessing new and renewable sources of energy requiring efforts in research and development, field evaluation and imparting specialized training to a large number of technicians, artisans, extension workers, farmers and consumers. Experiments in bio-gas plants may be mentioned by way of an illustration.
- (2) Social cost-benefit analyses of substitution of oil and gas by energy sources of lower heat content. Such a substitution is known to reduce the energetic efficiency but has other positive effects such as self-sufficiency, stability of supply, improvement in balance of payments, employment generation and development of related activities.

D. Institutional Innovations for Widespread Technology Diffusion

In many countries, certain common institutional innovations have been attempted to facilitate the widespread diffusion of growth-oriented technologies and, thereby, ensure a widely dispersed percolation of the benefits of resulting growth. Exchange of experience in the following innovations in the economic sphere may turn out to be promising:

- (1) Cooperative forms of organizing credit, procurement of physical inputs and marketing of final output has been attempted in several countries. It appears to have succeeded in those cases where the asset-endowments of members are not too dissimilar, the members form a socially homogenous group with not insubstantial economic and political power and where efficient management techniques have been adopted. But clearly, more in-depth analyses of the ingredients of success as well as the constellation of circumstances

⁴ See [3], csp. pp. 45-55.

leading to failures would be fruitful.

- (2) Community development programs have been attempted to elicit mass participation for rural infrastructural development. This was expected to promote diversification of the rural economy and expand agricultural output.
- (3) Land reforms have been attempted in many countries for restructuring the property and production relations in agriculture. Among others, these included the abolition of intermediary or rent-receiving tenures, reform of tenancy including the regulation and reduction of rents, security of tenure and land redistribution. The objective has been to ensure high level efficiency and productivity along with equity in the agricultural sector. How far the restructuring of land relations are important for equitable rural development in particular and for industrial development in general has been raised in connection with the development experience of the Republic of Korea and Taiwan.

E. Area Development Programs to Correct Ecological Imbalances

Several developing countries of Asia and Africa face the common problem of ecological imbalances in the form of drought-proneness, desertification, soil erosion, etc. In India, two specific area-oriented programs which have been initiated since the early seventies may be of special interest to other countries. The first one is the Drought Prone Areas Programme (DPAP). It aims at harnessing the potential of science and technology for the optimum utilization of land, water, livestock and human resources in the identified drought-prone areas with a view to immunizing them from recurring droughts and cycles of scarcity. The primary aim is thus to bring about drought-proofing. Apart from providing additional income and employment, the diversification schemes are expected to go a long way in the restoration of the ecological balance through irrigation development, afforestation, restructuring of the cropping pattern and pasture development and changes in agronomic practices. Special emphasis has been laid on planning developmental activities on a 'watershed' basis where two ecological resources, namely, land and water could be conserved and utilized for optimum benefit. Development and adaptation of drought-resistant varieties and of agronomic practices for moisture conservation are important ingredients of this program. Similarly, the Desert Development Programme (DDP) aims at integrated development of the desert areas by increasing the productivity, income level and employment opportunities of the inhabitants through optimum utilization of available resources. It seeks to arrest desertification with the help of activities such as (i) afforestation, grassland development and sand dune stabilization; (ii) ground water development; (iii) construction of water harvesting structures; (iv) rural electrification; and (v) development of agriculture, hor-

ticulture, animal husbandry, dairy and sericulture.

F. Delivery Mechanisms for Transmission of Technologies⁵

This would cover the instruments for extension and communication with the farmers with a view to inducing them to adopt better technologies in crop production. It would be interesting and fruitful to discuss the circumstances and situations in which the alternative delivery mechanisms have succeeded. The mechanisms themselves may cover (a) incentive-based private initiative, (b) bureaucratic channels or state-intervention and (c) non-official community organizations.

2. Programs for Raising the Economic Viability of the Poor

In many developing countries, the growth-oriented programs, as well as the institutional innovations, which were conceived to facilitate the downward percolation of growth, have left certain economically and socially weaker sections of the population outside the purview of its benefits. These sections of the population are sometimes described as 'marginalized' groups, although they need not necessarily be 'marginal' in terms of their numerical strength. The programs under this category constitute the ingredients of development strategy involving a direct attack on poverty. Two basic approaches have been followed in this connection:

- (a) 'Top-down' or government-initiated programmes for what may be described as 'reaching the poor'. These may be subdivided further into two categories:
 - (i) programs for generating self-employment; and
 - (ii) programs for generating wage-employment.
- (b) Ground-level programs where non-official social action groups have been involved in 'organizing the poor' in an attempt to improve their lot in a sustained and non-reversible fashion through collective organized action.

A(1) Government-initiated Programs for Self-employment

The Government-initiated programs for generating self-employment opportunities among the poor have adopted a target-group orientation and have been implemented through bureaucratic channels. The target-group orientation is an implicit recognition of the fact that general growth-oriented programmes could not benefit the weaker sections because they were transmitted through the existing socio-economic 'institutional framework' that was dominated and controlled by the inequitable socio-economic power structure. This pointed towards the need for developing special agencies, programs and 'institutions' specifically designed to serve

⁵Since one full session of the current workshop was devoted to the discussion of this topic, we do not cover it in detail in the present paper with a view to avoiding duplication

certain easily and clearly indentifiable target groups of the poor. In the Indian context, the criterion of identification has shifted from an individual beneficiary as a unit belonging to certain social groups (scheduled castes/tribes) or economic groups (small and marginal farmers, agricultural labourers) to a family or household as a beneficiary unit selected according to certain income criteria. The programs designed for these target-groups aim at raising in a sustained fashion their economic viability by providing them with self-employment opportunities which, it is hoped, would enable them to improve their levels of living in a lasting fashion.

Self-employment opportunities are generated either by raising the productivity of the existing household asset-base or by transferring new/existing assets to the assetless poor households. Both the modes of self-employment generation involve adoption of new technologies along with skill upgradation and, in some cases, even occupational shifts. Since the poor households do not have access to credit and inputs required for technology upgradation and training facilities for skill upgradation, the idea has been to evolve special agencies and institutions which would make available on a preferential basis and often at subsidized prices, the supplies of credit and physical inputs required for technology upgradation.

Many of the earlier target-group-oriented programs in India have been merged under what has come to be termed as an Integrated Rural Development Programme (IRDP). As a concept,⁶ it involves integration in various dimensions. First, as a credit-linked program for the household as a unit, it implies integration of multi-purpose and multi-term credit from different credit-disbursing agencies. Secondly, it implies integration of the programme designed for the weaker sections with the general development programme for the local area as a unit. Thirdly, it involves integration of credit with technical services and other linkages in the production process so that the income-earning potential provided by the technology can be translated into actual income increments. Finally, it would also require inter-departmental coordination at various government levels (block, district, state, etc.) and a close coordination and cooperation between the government administration, on the one hand, and the financial institutions on the other. This concept clearly requires developing the administrative, organizational and technical capabilities both with the local administration and with the financial institutions.

Past evaluations of the target-group oriented programmes suggest certain ingredients of their success at the micro-level. The list of these ingredients would include the availability of (1) appropriate technologies for raising the productivity of the poor households; (2) professional management; (3) political support and backing in case they involve significant

⁶See [2], para. 2. 25, p.22.

redistribution of existing/incremental assets leading to social conflicts; (4) full backing from the financial institutions; (5) flexible organizational set-up providing fair autonomy of operation; and (6) enlightened leadership from the top bureaucracy capable of taking bold initiatives in innovating appropriate institutional arrangements. Success stories have emerged when most of these ingredients interact in a mutually re-informing fashion.

A(2) Government-initiated Programmes for Wage Employment

The basic cause of poverty of the assetless wage-income dependant households can be traced to their dependence on fluctuating, uncertain and low-wage employment, mostly in agriculture. In situations where there exists a deficiency of both capital and natural resources relative to labour, the scope for the asset-transfer programme may turn out to be limited. In such circumstances, the generation of wage-paid employment at a higher wage rate, whenever and wherever required, suggests itself as the only solution for the eradication of poverty from the wage-income-dependent households. It should be obvious that if the free market forces were to perform this task, a sustained and broad-based growth in productivity forms a necessary (though not a sufficient) basis for raising the wage rate as well as the quantum of work hired.

The government-initiated wage-employment-generation programmes in India (such as the Food for Works Programme or the National Rural Employment Programme) aim at providing supplementary employment opportunities to those seeking work during the lean agricultural season in a normal year in order to create durable community assets. In situations described in the last paragraph, such programmes can at best hope to alleviate poverty rather than eradicate it.

Sample surveys of employment and unemployment have revealed that the work-opportunities sought by rural households are location, time and target-group specific. If these preferences are to be respected, public works have to be located where the opportunities are being sought. This has often involved sacrificing the productivity of the assets created and their general development impact. Moreover, the predominance of wage costs in investment has also been found to affect adversely the durability of the assets created. The organizational and administrative requirements of such works may also turn out to be heavy in view of their geographically dispersed nature. On the other hand, given the inherent socio-economic limitations of the broad-based asset-transfer programme in a democratic framework, the social compulsions for the wage-employment-oriented programmes for immediate alleviation of poverty appear pressing indeed. Some analysts have advocated a large-scale public works programme which would operate throughout the year, provide perennial wage employment at a minimum wage in locations which those seeking work cannot choose

and which would create durable and productive community assets in the rural areas with a view to maximising their development impact. The institutional, organizational and political implications of such programmes require close study.

B. Ground-level Programmes for Organizing the Poor

Various non-official social action groups have been involved in organizing the poor. In these efforts, there exists a wide diversity in organizational patterns, entry points for outside activists and the mix of agitational and constructive methods to suit the locale-specific socio-economic environment and problems. The objective of social action groups is not just raising the economic viability of the poor households in a sustained fashion and, thereby, improving their levels of living ('economic development' proper), but making them conscious of their economic and social environment, their place in it and how they can change it to their advantage through collective actions. The wider focus requires an emphasis on both the economic and social fronts. It is the latter which has proved to be a relatively more difficult and slow process involving changes in attitudes and beliefs and conflicts with the existing social structure.

The major ingredient of success in such efforts can be mentioned as the presence of committed social workers or an organization in rapport with the disadvantaged sections and willing to evolve a strategy that takes into account the capabilities of the target group and is also suitable for the socio-economic environment. The difficult test of success in such efforts is to develop local leadership among the disadvantaged sections in order to sustain the development process on local effects alone—and thereby make the outside initiator dispensable. Wherever such experiments have succeeded, they have managed to construct a lasting organization among the poor with a focus on bringing about social reforms along with improving their levels of living in a nonreversible fashion. Such organizations have evolved a participatory form of development which the government-initiated institutional innovations such as the Community Development Scheme could not. It may also be mentioned that the focus of the latter was on general participation of *all* sections of the population in infrastructure development whereas that of the former has been on the participation mainly by the disadvantaged sections of the community for bringing about a betterment in their levels of living through collective efforts.

While such organizational efforts cannot be initiated and controlled at will, their organizational patterns and the instruments they evolve in bringing about changes in the social attitudes would be useful pointers to tackle similar problems elsewhere. Moreover, in some cases, it has been observed that these organizations have successfully acted as institutional agencies for implementing the government-initiated programmes and, in the process, ensured lasting benefits to the members from such programmes

and minimized the leakages to the non-target groups.

3. Programmes for Improving the Living Environment of the Rural Population. The programmes under this category include the provision of social services such as elementary, technical and adult education, health, sanitary drinking water supply, nutrition support etc. Health care, in particular, has come to be recognized as a total system of complementary services which interact in a mutually reinforcing fashion towards reducing mortality and morbidity and has also been found to have a favourable impact on the efforts towards population control. Such a package includes environmental sanitation, supply of safe drinking water, preventive medicine, nutrition support and family welfare programmes as basic ingredients.

In this connection, the minimum needs programme initiated by the Indian government during the early seventies deserves special mention. This programme laid down certain minimum norms with respect to elementary education, rural health, rural water supply, rural roads, rural electrification, housing assistance to rural landless labourers and nutrition support. Adult education was added to this list in the late seventies. This programme envisaged an adequate allocation of resources for the items of social consumption indicated above for all areas irrespective of the resource constraints of individual states. It aimed at establishing throughout the country, a network of essential services on a coordinated and integrated basis given certain predetermined criteria of uniformity and equality. The underlying premise appeared to be that if everybody's basic minimum needs for the specified social services were satisfied, the access of the poor to these services would be automatically guaranteed. This, in turn, would improve their environment and thereby contribute towards raising their levels of living. Similar programmes may have also been tried in other countries. Considerable scope for international cooperation appears to exist in the following areas:

- (1) Cost-effective technologies and delivery mechanisms in each social service which may use local resources and skills and ensure the participation of beneficiaries both in the production and the distribution of the social service; and
- (2) Organizational forms for delivering the package of services which exploit fully the complementarities among the ingredients in the package and, thereby, maximize their effectiveness.

IV. Social Dimensions of Rural Development

Productivity-raising technological change is basically a *permissive* force capable of generating potential development. Full realization of this potential has often required wide-ranging changes in social institutions and attitudes. For instance, if certain pre-capitalistic property relations

in agriculture turn out to be obstacles to technological change in agriculture, reforms in such relations may turn out to be a pre-condition for widespread rural development. Similarly, in cases where social stratification in a society prevents upward economic mobility of those classes who happen to be at the lower end of the social hierarchy, it may become necessary to bring about changes in the social structure so as to ensure widespread dispersal of the benefits of growth. In other cases, a change from the traditional nomadic ways of life, involving shifting cultivation, to stable and higher income-yielding agricultural systems may become necessary.

Changes in social institutions, structure and attitudes have proved to be fairly difficult and long-drawn processes involving social tensions and conflicts. How these can be contained and resolved without leading to violence and without going beyond the acceptable political framework is one of the most challenging tasks of social engineering facing the developing countries.

The nature as well as the pace of non-economic social adjustments are, by their very nature, specific to a particular socio-political structure. Every major change under the economic dimensions mentioned above almost invariably affects the mode of social life and consequently requires some social adjustment and/or attitudinal change. While replication of experiences in this connection is clearly not warranted because of socio-political specificity, certain general areas suggest themselves in the realm of international exchange of experiences.

First, it has often been observed that in the face of compelling profit-making opportunities, economic rationality has been found to assert itself over social and religious beliefs in case the latter prove themselves to be obstacles. Adoption of certain new technologies (e.g. artificial insemination in livestock development) while much more profitable on grounds of economic viability than traditional ones, may generate conflicts with accepted social and religious beliefs. Given their economic prerequisites, widespread diffusion of certain technologies may then become a function of the pace at which people shed their traditional beliefs. In turn, this has been found to be governed by the demonstration effect as well as certain economic and non-economic incentives offered by the agency promoting technological innovations. This becomes an exercise in social engineering and the exchange of experiences involving the problems faced as well as the instruments used to overcome them would prove valuable for other countries undertaking a similar change.

Efficient water management⁷ (involving both the quantity and the quality of irrigation) has been observed to be intimately connected with the nature and working of the institutions managing water. Given the existence of strong externalities involved in harnessing the water resources

⁷See [4] for discussion.

and the direct connection between the allocation of water and income distribution, market forces have not been able to resolve the problem of water distribution. In such cases, local community organizations or centralized bureaucracies have been evolved to tackle the water distribution problem. It would be fruitful to relate these collective organizational forms to the nature and scale of the irrigation system and study their mutual interaction in the process of agricultural growth. How far these organizational forms and the social adjustments embedded in them have emerged out of the compelling need for collective survival and betterment and how far they could be guided by certain policies would provide valuable pointers for efficient water management which is very crucial for raising the productivity of the dominant agricultural sector.

One more area in this connection may be mentioned. This relates to the policy of affirmative action towards certain groups who have been subjected in the past to social discrimination because of their caste, creed or colour. This consists of reservation of seats in legislative bodies, in educational institutions and in government jobs. The underlying idea is to improve their access to the decision-making institutions or economic opportunities and thereby enable them to advance themselves along the economic scale. It would be fruitful to study the effectiveness of such policies in terms of their basic objectives and the way these policies interact with the social structure.

V. Conclusions and Issues for Discussion

This paper has attempted to spell out possible areas for international cooperation among the developing countries in the field of agricultural and rural development.

Section I has argued that there is considerable scope for cooperation among the developing countries in view of the similarity in the problems faced and the approaches developed to tackle them as well as in the experiences in implementing different approaches.

Section II tries to pinpoint the specific features of the process of rural development in the developing countries. It is argued that any strategy of rural development has to be based not just on the general development of human and physical resources in the rural areas but has to have pointed accent on equitable distribution, has to combine market forces and individual initiative with collective community efforts and state intervention and has to tackle a common set of constraints imposed by the energy crisis.

The emphasis of the paper has been mainly on the economic dimensions of the process of rural development (discussed under various categories in *Section III*). Social dimensions have been briefly discussed in *Section IV*. The discussion has been structured into certain broad categories in such a way that the nature of the problem as well as that of the areas of

cooperation become progressively more complex. The following topics emerge for discussion.

1. Research in the development as well as adaptation of high-yield technologies in the field of agriculture and related areas (Section III. 1. A). Availability of technologies, infrastructural support required for their successful adoption, package of complementary inputs required as well as the factors governing their widespread diffusion are some of the aspects around which the modalities of international cooperation can be discussed.

2. Problems in developing technologies as well as skill upgradation techniques for the rural non-agricultural sector (Section III. 1. B).

3. Development of technologies for harnessing new and renewable sources of energy (e.g. biogas plants) and social cost-benefit analysis of inter-fuel substitution (Section III A. C).

4. Experiences in the field of institutional innovations such as cooperatives and community development and institutional changes such as the land reform measures with respect to their success in ensuring the widespread percolation of the benefits of growth (Section III. 1. D).

5. Area Development Programmes to correct ecological imbalances that result in desert and drought-prone areas (Section III. 1. D.).

6. Delivery mechanisms for the effective transmission of knowledge regarding technologies so as to realize their full growth potential (Section III. 1. F).

7. Lessons from the success and failure stories in implementing the government-initiated programmes for generating self-employment (Section III. 2. A(1)).

8. Dilemmas and difficulties faced in implementing the government-initiated programmes for generating wage employment (Section III. 2. A(2)).

9. How far the ground level non-official attempts at organizing the poor can be used as institutional agencies for canalizing the government-initiated programmes (Section III. 2. B).

10. Development of cost-effective technologies and delivery mechanisms for effective transmission of social services and of organizational mechanisms for effective transmission of social services and of organizational forms for exploiting mutually reinforcing components in a package of related social services (Section III. 3).

11. Experiences in bringing about desirable changes in the social institutions, structure and attitudes so as to realize the full growth potential of technological changes (Section IV).

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