Experience with World Bank Funded Rural Development#

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Rural development projects, designed to reach large numbers of families in villages throughout the world, were a major element in World Bank strategy in the 1970s and 1980s. Evaluation of nearly 400 completed projects shows two out of three have been satisfactory. This paper reviews and extracts lessons from evaluation of both satisfactory and unsatisfactory projects. Based on these findings it postulates a three part model of successful rural development initiatives based on incentive, production and institutional components.

1. Introduction

Rural development has been one of the main intervention strategies used by governments of developing countries and international development agencies to raise agricultural productivity and improve the quality of rural life. It was the single most important element of the development strategy adopted by the World Bank in the early 1970s, and it remains central to the Bank's current agricultural development program.

As the term implies, rural development is concerned with promoting change toward higher levels of productivity, consumption, welfare, and social organisation for those who find their livelihood in rural areas. Since most people in rural areas of developing countries are poor, rural development is concerned with improved productivity of the rural poor. This approach at once distinguishes it from 'basic needs' approaches which focus on improving the welfare of the poor through improved social services, without the essential change in productivity. While growth in productivity may follow from a 'basic needs' program, it is central to rural development. Nevertheless, rural development has a social dimension because of its focus on poverty alleviation, and where education and health programs are not in place, they are often provided in rural development programs.

Since the majority of families in rural areas are subsistence-oriented farmers, or smallholders, the focus is largely on smallholder development. This is by no means exclusive, however, as it is well recognised that all small farmers have off-farm activities and that these can be expected to expand more rapidly than on-farm activities. In this respect, rural development is not seen as a final solution but merely as an interim step in the development process.

Rural development constitutes a particular approach to agricultural development, one which, unlike typical production-oriented programs, pays more attention to organisation, institutional development, and social factors. It provides an alternative to the technology-led, large-scale agricultural development experience of Western countries in the twentieth century. One of the goals of rural development is to increase productivity without reducing employment.

Increasing the productivity of smallholders necessitates augmenting their land by the use of purchased inputs, such as fertiliser and improved seed, or their labour by the use of better equipment or additional services. As production expands, individual producers often rapidly increase their saleable surplus of farm produce. The acquisition of inputs or the sale of output both require commercial exchanges. Rural development is thus inevitably concerned with the commercial development of agriculture and with the linkages and institutional arrangements that are essential to it.

Further, since the individual transactions are typically small, arrangements are needed to aggregate saleable surpluses or break down and distribute

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purchased supplies. This process calls for the growth of some internal specialisation within villages or the introduction of external agents who will provide that service. Either way, it introduces more dealings with the broader economy, including merchants, middlemen and traders, banks and government regulators, and purveyors of services. Dealing with these various individuals or entities also requires internal organisation within villages or groups. Hence rural development is concerned particularly with the formation and evolution of local-level organisations and institutions.

This paper reviews over 20 years experience of the largest and most ambitious of rural development programs, that involving projects financed by the World Bank in a large number of developing countries, beginning in the late 1960s.[1] The paper outlines the general characteristics of successful projects and examines the Bank's experience in relief against the general model. It highlights achievements of this program, the importance of institution building to the success of individual projects, and evaluates some of the problems encountered in their implementation.[2]

2. Characteristics of Rural Development Projects

Experience with rural development operations suggests that in situations where the economic environment is supportive, project success is largely determined by basic design characteristics. Integration of the findings from impact evaluations and other studies reveal that key dimensions in the design of successful projects are: (a) the level of incentives and opportunities built in or generated by the project; (b) the suitability of the production technology and level of productivity increase achieved; and (c) the effectiveness of local organisations and the adequacy of the institutional framework they relate to. These three dimensions appear repeatedly as relatively strong features of successful projects, and as relatively weak or deficient elements in less successful ones.

Conceptually these three dimensions can be generalised to form a framework, the individual components of which appear to be characteristic of successful rural development projects. More formally, these can be described as an 'incentives or economic' component, a 'production or technical' component, and an 'institutional or social' component.

2.1 The Incentives Component

The incentives or economic component underlies the other two. Poor villagers typically have a household system in which resources are stretched and incomes are precarious. For these reasons they are normally highly risk-averse. They require high returns on any innovation to offset the risk associated with its adoption and the extra effort often required of family labour. For example, field trials have revealed that smallholders may often require an increase in yield equivalent to a return of as much as 200 per cent to ensure adoption of a new seed and fertiliser technology. For farmers to make larger-than-customary investments or join a broader program, the incentives have to be substantial. Rural development programs thus work best in areas where some changed circumstance has come about that greatly increases villagers' opportunities to produce and sell a marketable surplus or other resources (usually labour). In other words, such programs work best in localities where some positive externality has been created that can be internalised by participant households.

Such changes of circumstances can take many forms. They may include the building of new infrastructure, such as an irrigation canal, which is the case with many projects in India. The increased availability of water can ensure a crop in the regular growing season and often permits a second crop. With these kinds of incentives in place, smallholders can be persuaded to make significant changes or to incur higher costs, including giving up some of their land for field channels. Similarly, it may involve the construction of some other type of infrastructure such as a road, which gives access to previously inaccessible markets. A good example

[1] For an outline of this program see McNamara (1973) and World Bank (1975).

[2] For a more extensive treatment of government experiences see Donaldson (1991).

is provided by the building of the Karakoram Highway through the Northern Areas of Pakistan, which has transformed (with the help of a well-conceived rural development program) the villages of this backward, desolate, and formerly isolated area.[3] Affirmative changes in land tenure which encourage investment and permit borrowing with land as collateral can also provide effective incentives, as in Thailand.

Alternatively, the incentives may arise with the emergence of a new market opportunity. As an example, the rapid growth of a market for high-quality food (including livestock products and fruits and vegetables) in the Gulf countries created substantial incentives, in particular for livestock producers in western Turkey and irrigation farmers in Pakistan. Similarly, the market opportunity may be related to the building of a processing plant for a high-value crop, as was the case with tea in Kenya, cotton in Côte d'Ivoire, oil palm in northern Malaysia, or temperate fruits and vegetables in Himanchal Pradesh (northern India).

Another way that the necessary incentives may be created — perhaps the one most widely discussed, if not relied on — is through the introduction of a technological innovation, either new in local terms or totally novel. Such an innovation is generally a product of agricultural research, as in the case of the high-yielding wheat and rice varieties now grown in much of Asia. But the technical change may also involve the transfer of technology from some other place. Only rarely, however, can innovations in production technology alone generate sufficient benefits to provide the incentive for rural development, without timely, favorable price movements or parallel investments in infrastructure. Rather, new production technology has a complementary role to play, as explained below.

2.2 The Production Component

The production or technical component refers to a mechanism by which the benefits generated in the ways indicated above are captured by villages and individual farm families. It relates to changes that take place within the village or on smallholdings and incorporates processes whereby the existing stock of resources — land, labour, and capital — are enhanced or made more productive. Thus, the production component might be described as a process of factor augmentation.

For example, land is made more productive either by improving its fertility through the use of increased water and nutrients (usually in the form of fertiliser), or by growing higher-yielding crop varieties, or both. It is here that improved technologies have their role to play. Production may be further enhanced by pesticides and herbicides. Less directly, fertility may be enhanced by soil and moisture conservation measures. These elements in combination are typically employed in a complex, improved production system. A similar set of changes may apply to livestock production. All aspects of production may be improved through improved management processes.

As another example, labour productivity is increased through the use of improved tools, equipment or machines, often together with the introduction of more efficient power sources for stationary operations (such as pumping, threshing, and milling) and field operations (such as carting, ploughing, and mowing). Labour productivity may also be improved through better training, education, nutrition, and health.

Capital is enhanced by measures to build, rehabilitate, or maintain physical structures and village-based infrastructure. Such capital increases are often compounded when village infrastructure is extended to link into 'external' infrastructure, such as roads or irrigation canals, built by the state. The removal of an access constraint by building a linking road, bridge, or local canal network can provide a powerful incentive to get a rural development initiative started at the village level. Such village works depend on the mobilisation of local or external savings and investment and, frequently, collective work contributions as well.

Such changes in technology or production methods are required to provide the means for increasing output and productivity per hectare and per working day. The associated growth in output may not

[3] For a description and evaluation of this program see World Bank (1987) and World Bank (1989b).

be large at first, but if production is near-subsistence at the beginning of the process, the rate of growth in marketable surplus can be significant. Often, initial production increases may be absorbed locally through increased consumption. Ultimately, however, these production gains can be obtained and disposed of profitably only if there are concurrent institutional changes, frequently including an expanded marketing system for inputs and outputs.

2.3 The Institutional Component

The institutional or social component includes adjustments in village organisation, dealings between villagers and outsiders in commerce and government, and the institutional developments that are necessary adjuncts of the changes entailed in the 'incentives' and 'production' components. In most situations, such changes can be divided into two categories: those internal to a village, and those in the external system, especially among government institutions that provide regulation and services.

Experience demonstrates that rural development requires a certain minimum level of socio-economic or political structure at the village level. This can take the form of village organisations, farmers' associations, or smaller sub-units. Such local organisation is needed: to permit collective decision-making; to provide a vehicle for leadership; to deal corporately with outside agents from the public and private sectors; to facilitate the collective construction, repair, and maintenance of shared infrastructure; to support the provision of public services such as education, health, and agricultural programs; and to allow the institution and enforcement of rules regarding such critical activities as water-sharing, tree-cutting, and payment for shares of maintenance.

The creation of village-level organisations (of whatever form) may require the intervention of a change agent or 'animateur' who can persuade villagers to participate. However, experience demonstrates that successful initial structure-creation at the individual village level quickly leads to imitation. Achieving full participation often requires concerted effort and incentives in the form of quick results. Thus, since the generation of substantial benefits from the development process normally takes several years, it is often advantageous for projects to provide grants to fledgling local organisations to undertake some significant shared enterprise or remove some constraint affecting most of the community.

Local organisations, once created, initially take on traditional functions, but they quickly face new tests in dealing with government (or project) staff and, soon after, with commercial entities. Though there are well-tested methods for getting village organisations formed and able to function reasonably democratically, this is not easy to achieve, and many local associations are short-lived. While the rise and fall of organisations is commonplace, a certain degree of stability is essential if they are to be effective. Such organisations may be involved in a variety of activities. In different circumstances, these may range from being vehicles for local government and selected communal activities to being instruments for collective action, especially in relation to services such as provision of credit and the marketing of produce.

Such growth of local organisations presupposes that public sector institutions such as agriculture ministries, judicial and regulatory agencies and private sector organisations such as banks, supply and marketing firms, and other services are in place or emerging quickly. The realisation of all benefits from rural development involves increased commercialisation of an originally subsistence system. The growth of such public and private sector institutions is, not surprisingly, therefore found critical to project success and sustainability.

Where such institutions are not well developed the 'umbrella agency' responsible for project implementation may have to take on these functions, at least temporarily. Such 'umbrella agencies' may be parastatals, non-government organisations (NGOs) or commercial firms. Where such special entities do take on functions other than project coordination and management, their eventual phase-out from such functions often becomes a major consideration. The competence and effectiveness of project management and implementation agencies have often been important determinants of the success or failure of rural development projects.

3. Overall Achievements of Rural Development

Review of the cohort of rural development projects funded by the Bank shows that 378 have been completed out of 708 financed.[4] Some 60 per cent of these completed projects have been evaluated as having satisfactory performance. The 40 per cent of projects judged to have been unsatisfactory are largely reported in two categories: area development (45 per cent satisfactory) and livestock projects (41 per cent satisfactory). The better performing subsectors together achieved a 69 per cent satisfactory rating. Within these, the largest group was irrigation with 68 per cent satisfactory. The largest proportion of unsatisfactory projects were in Africa (46 per cent satisfactory) and Latin America and the Caribbean (50 per cent satisfactory). Quite apart from this, however, a closer assessment suggests certain patterns in the achievements and disappointments of both satisfactory and less-than-satisfactory projects in all categories.

The most favourable impact of investments in rural development projects has been in Asia. Of the completed projects, 40 per cent were in Asia, accounting for over 50 per cent of total lending for such operations. These projects had a success rating of over 70 per cent, which compares favourably with results for other sectors and for the portfolio of Bank projects as a whole. Not unrelated, perhaps, is the dramatic increase in foodgrain production that has occurred in the Asian region over the past 15 years or so. Wheat production in Asia grew almost six per cent per year over the 1970-89 period. Concurrently, rice production grew almost three per cent per year. Together, these changes significantly increased foodgrain availability in some of the most populous and poorest countries of the region, and of the world. One recent effect of this aggregate increase in supply has been a considerable depression in prices, to the benefit of all consumers. Ironically, the increases in grain production mean that some recently-completed projects now yield economic rates of return of less than 10 per cent because projected grain prices are currently low.

Virtually all of this increased output of foodgrains has come from smallholdings, which were the primary target of the Bank's rural development strategy. Further, most of the production increase — and over 66 per cent of all foodgrain production in Asia — is from irrigated land. Irrigation projects comprised roughly one-third of all Bank-supported agriculture and rural development projects and accounted for over 40 per cent of all Bank funds invested in such operations. Some 68 per cent of completed irrigation projects have been evaluated as satisfactory.

Not all of these achievements are attributable to Bank-supported projects. Although the Bank's rural development strategy had a leading influence in fashioning the rural policies and public investment programs of most participating countries, many other agencies — domestic, bilateral, and multinational — contributed significantly to overall public investment and related achievements. Further, the success of any project is dependent on the contribution of many people including its beneficiaries and those directly involved in its implementation.

Consistent with these aggregate changes, there are large numbers of individual project evaluations which document successful experiences over the past 20 years. Impact evaluations carried out by the Bank's Operations Evaluation Department cover over 50 projects of many different types, including perennial crops (coffee, cocoa, tea, oil palm, rubber), cash crops (cotton), settlement schemes (Malaysia, Thailand, Indonesia, India, Ghana), and irrigation programs (surface and groundwater schemes in arid and tropical settings). Impact evaluations involve a 'second look' based on a field survey of participants taken some five to eight years after project completion. Collectively, these reports give an impression of the positive dynamics created by successful projects. They show that, in many instances, much larger numbers of people benefit from project investments than anticipated at appraisal. The growth in incomes that is the hallmark of project success has in most cases improved human conditions, including housing, food supplies, and access to education. In all cases examined, benefits tended to be widely shared by

[4] For a more detailed review of this experience see World Bank (1988a).

all members of the project communities.

Given the impressive benefits associated with many rural development projects, it can be legitimately asked why do many not perform satisfactorily? That some 60 per cent of rural development projects completed to date have been shown to work, as described above, suggests that a good deal is known about how to design and implement projects that will work. Yet the proportion of less-than-satisfactory projects suggests that there are also many constraints and problems associated with these operations. Moreover, audits of completed projects show that less-than-satisfactory projects typically encounter many problems, not just one or two. In most cases, however, these problems fall into two general categories: (i) those having to do with the wider project environment (e.g. intersectoral linkages), including those relating to national economic policies and government support, and (ii) those associated with the way in which the project is designed and implemented.

The importance of the wider project environment is discussed more fully elsewhere. Clearly, all manner of projects fare better where sound economic policies prevail and where GNP growth is high. Unfavourable economic policies, including overvalued exchange rates, high inflation, excessively high taxation, and arbitrarily low food prices, have been key factors in the downfall of many rural development projects. Similarly, the lack of government support in the form of poor land and market regulation, limited infrastructure construction and maintenance, inadequate technical services and in attention to institutional development has caused many rural development projects not to realise their potential. Not infrequently, these kinds of deficiencies have also been associated with funding problems deriving from poor economic management. But the role of internal factors in influencing project outcomes, including project design and implementation features, is pervasive.

4. Factors Affecting Project Outcomes

The performance of rural development projects in improving the lot of rural communities is influenced by a large variety of economic, technical and institutional factors. An analysis of these factors is a larger task than can be encompassed here. What follows is, therefore, a selective review of some factors that appear to have been significant, and that have been influenced by the nature, quality and performance of institutions at national and local levels.

4.1 Economic Environment and Incentives

In terms of the overall benefits and incentives for development, much depends on official policies and programs pursued by the borrowing country. Of particular significance are (i) the role of government and its commitment to pursue rural poverty alleviation, and (ii) of obvious importance to agriculture, the issues of agricultural pricing and marketing.

The Role of Government. It is clear, in precept as in practice, that it is not possible to pursue any development strategy, especially anything as diverse as rural development, independent of national government and associated domestic institutions. Further, in the case of rural development, it requires positive commitment and usually some involvement of the government in execution of the project.

The role of government, however, is not to plan, organise, and administer rural development from the centre. By nature, rural development is a decentralised approach, in which participation of beneficiaries in project identification, technology selection, decision making, and resource provision is crucial to the motivation and sustained effort necessary for success. Rather, the role of government is to create an enabling environment which encourages smallholders to respond to expanded opportunities as they might arise. This role implies the need for favourable policies toward agriculture and supportive policies for rural development.

The macro-policy framework, including exchange rates, taxation, interest rates, and the sectoral balance of public expenditure priorities has proven most important for agricultural development of any kind.[5] Experience has shown and studies have

[5] For more detailed see Agarwala (1983) and World Bank (1991).

verified that overvalued exchange rates seriously impede agricultural growth and may even set it back. The experience of many African countries in the 1970s and 1980s provides examples. For instance, the effect of the higher costs and diminished incentives for farmers associated with overvalued exchange rates was just as severe in relation to domestic food crops in Nigeria as for export tree crops in Ghana and many other countries.

The adequacy of public investment planning, including planning of overseas borrowing and the allocation of counterpart funds and recurrent cost financing, is similarly important to the success of agricultural development. Evidence abounds that if the rural sector is left out of investment plans, the economy will be constrained to low rates of growth. This investment in the rural sector necessitates a well-developed and established set of ministries able to undertake this planning, together with the political will to support balanced development across sectors and regions.

Microeconomic policy measures, including input-and output-pricing arrangements that reflect long-run opportunity costs, are a second major responsibility of government if agricultural development is to be sustained. The government must ensure that input and output prices do not discriminate against the small producer, that they remain reasonably stable over time, and that they provide sufficient incentives so that new production initiatives can be fostered.

An adequate government regulatory system is a further prerequisite for development. This requirement applies to all sectors, but it is of particular importance for agriculture and for the commercialising process of rural development. Farmers encounter government regulations regarding the functioning of the financial system, land tenure, commerce and trading, and various reporting requirements. Most regulations seem to cause some aggravation at times, but the most serious problem relates to their absence. Either their non-existence or lack of proper enforcement can worsen the development environment for projects.

The combination of macro, micro, and regulatory policies determines the kind of environment that exists for development project initiatives. A satisfactory policy environment is desirable for all development projects. Hence the cliche that you 'can't do good projects in a poor policy environment.' For rural development projects, however, the large numbers of people involved, the relative poverty, and general fragility of the early stages of such projects make this environment of particular importance. As the experience with Bank-financed projects has shown, this facilitative environment requires a concerted government commitment to the concept of rural development, as reflected in policies, in a willingness to direct scarce resources, including trained staff, and in provision of appropriate funding and coordination mechanisms.

The depth of that commitment is in question in some cases, however, when measured by the number of projects presenting problems that were within the government's power to correct — had the right policies been adopted. On the other hand, the commitment of the World Bank to a defective project design, perhaps without the full agreement of a government, could sometimes explain the lack of attention. The lack of government commitment was identified as a factor, during ex-post evaluation, in over 40 per cent of rural development projects and was judged the most important adverse factor in about 20 per cent of projects. These figures show a substantial improvement over earlier ones, and there is now no significant difference between rural development and other projects. Although it is simpler to treat 'government' as a whole, experience has taught the prudence of carefully considering the interests, objectives, and incentives of individual parts of government when designing projects.[6]

Government Commitment. The rural poor, though numerous, have little political power, and an altruistic commitment in the upper governing levels of society to alleviate poverty is lacking in many developing countries. There are few incentives to make special efforts to change the balance of economic power even marginally, especially when the powerful have only recently themselves achieved such power and urban interests are much more

[6] For a discussion of internal government relations in rural development see Tendler (1982).

concentrated and better organised. Despite the absence of strong commitment in many cases, however, a surprising number of governments (about 63 in all) have been willing to experiment with rural development at the project level. This interest has been indicated through governments' investments in rural development, sometimes in otherwise quite unsupportive environments.

Agricultural Prices. The issue of price distortions in rural development projects has been frequently discussed in evaluations of completed projects.[7] About one third of evaluated rural development projects reviewed specifically identified issues related to agricultural pricing. Overall, agricultural pricing issues identified in projects had positive implications for project performance in only 10 per cent of the cases and negative implications in 68 per cent of the cases. In another 22 per cent of the cases the effect of agricultural pricing was either mixed or unspecified with regard to project performance.

Artificially low producer prices were by far the dominant issue. Besides creating production disincentives, they sometimes shifted production patterns undesirably and caused people to move out of agriculture. In some cases, input subsidies partly offset low producer prices, but price distortions remained a problem, particularly in terms of depressed incentives to produce. The influence of exchange rates on agricultural prices, however, generally far exceeded the impact of other policy instruments. This was frequently the case in Africa, with overvalued currencies often being the dominant factor discriminating against the projects and agriculture in general.

Marketing. Marketing issues were closely linked with price policy issues. These linkages extend in both directions. Distortions in prices make marketing of farm products all the more difficult. Inadequate marketing arrangements, in turn, reflect on the market price of the product. Like pricing, marketing components in rural development projects are concerned not only with input delivery and output processing and transfer, but also with the reallocation of displaced factors to other producers.

It was often assumed that existing marketing arrangements would take care of the incremental activities generated by rural development projects. A review of evaluated projects shows, however, that inadequate marketing severely limited rural development efforts in many countries.[8] The record is also clear that in many cases insufficient attention was given by the Bank to the adequacy of the marketing arrangements. Typically, marketing issues are confronted in rural development projects at the later stage of project implementation when production begins or a surplus is generated.

Experience in rural development projects raises questions of whether improvement in marketing services should be promoted as a component of a production-oriented project, or whether a parallel free-standing effort should be undertaken. There are a number of cases in which production projects established appropriate market infrastructure alongside introduction of new production technology. The Kenyan scheme to draw smallholders into tea production is a good example. Similar parastatal arrangements were made for the cotton development projects in Francophone West Africa, for certain settlement projects, for many of the smallholder and estate tree-crop projects and for some irrigation projects. In other cases, however, major marketing problems have required separate projects or initiatives through policy-based lending.

The lack of a commercial code is a frequent problem. Effective marketing systems employ a system of weights and measures, grades and standards, weighbridge certificates, bills of lading, storage warrants, and, above all, contract enforcement. If these elements do not exist, they may be substituted for by local customs or traditions or by the introduction of an ethnic minority that has a code of trust, financial intermediation, and information exchange within its culture. But within modern states this regulatory role is always largely played by government. Yet in developing countries there is often little attention to this function. Local conventions that are highly unsuited to modern marketing are often left unformalised. If regulations do exist, they are frequently poorly enforced. This lack of

[7] For a review of this subject see World Bank (1988b).

[8] See World Bank (1989a).

codes and standards often creates serious constraints on commercial development, particularly if long supply lines are involved, as is the case in many rural development project areas.

4.2 Adequacy of Technology

One of the main factors explaining the performance of different rural development projects was the adequacy of technology to generate improved productivity and incomes. High-yielding varieties of staple grains which, in conjunction with institutional and related changes in technology associated with fertiliser and irrigation water, were widely successful in much of South and East Asia and various other areas. Yet the lack of comparable technology for extensive rainfed areas proved limiting, and this factor was only belatedly recognised.

The experience from audited projects suggests that in general there was a pattern of over-optimism and sometimes even plain error with regard to agricultural technology. Only in a few rare cases was there sufficient caution on the technology issue that projects were delayed, phased (with an initial pilot phase), or dropped. A technical package that would raise productivity was an essential component, if for no other reason than it was required at appraisal to justify the benefits projected for the calculation. Such a package was identified or sometimes assumed for every project, although it was not always clearly defined and frequently had not been tested in the project's environment.

The most common package included new varieties and fertilisers, but even this simple approach proved to be much less successful than appraisals had projected. High-yielding varieties proved more difficult to introduce to small farmers than expected, largely because of the risks involved.[9] Experience suggests that risk aversion by small farmers is usually justified (being based on a reasonable evaluation of the odds); a relatively long build-up period for projects is required for farmers to overcome it as they become familiar with the innovations. Many of the earlier rural development projects provided single-crop technical packages, which farmers were reluctant to adopt, because they found them riskier than the more diversified, traditional multicropping systems.

If technology was not available, projects contained research or field trial components, either to adapt technology from elsewhere or to develop new technology. But adaptation frequently proved less easy and took longer than anticipated; new technology almost always could not be found and tested in time to have an impact on production during a typical five- to eight-year implementation period. In many parts of Africa, where sorghum or millet is the staple food, technical packages acceptable to the local populations have proved especially hard to find.[10] Furthermore, technical packages developed in the 1950s for the Sahel region lost much of their relevance because of a sustained decrease in rainfall.

New technologies often proved applicable only under limited circumstances and were otherwise inappropriate. Technical packages that showed promise experimentally were frequently not adapted to fit farmers' resources and conflicted with land-use practices. Agricultural technology to be applied had often not been adequately tested. In other cases the proposed package was not adopted because trials showed it to be ineffective, soils had not been surveyed, or rainfed cropping had not been tested in the proposed settlement areas. Expensive inputs were often not widely available or accepted. The recommended levels of fertiliser and insecticides were often based on research results that had not been tested under field conditions, and the recommendations proved inappropriate for a large part of the project area. Sometimes farmers did not adopt high-yielding wheat varieties because they preferred their traditional varieties, partly because of the characteristics of the straw for traditional brick-making.

These experiences and others indicate that the profitable and reliable technologies suitable for diffusion to small farmers were often not available, especially in areas with lower natural potential. As a result of this situation, uptake rates by farmers were lower than envisaged at appraisal, and the impact of projects was correspondingly reduced.

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[9] The considerable literature relating to this phenomenon is conveniently summarized in Feder, Just, and Silberman (1985).

[10] These and similar experiences are usefully detailed in Carr (1989).

Especially in low-income countries, there are two main sources of concern for the future: technological innovations are not available to support sustained increases in productivity; and the institutional research capacity for developing them in the future is weak. Many national research systems do not generate findings that are relevant to farmers and, given the time lags in research, it is likely that in the early 1990s the situation in many countries will not improve much. This lack of support for adaptive research is perhaps the most pressing long-run issue for the poorest (and smallest) developing countries.

In some African countries especially, there is now a growing portfolio of national research projects under way or planned (partly reflecting the failure of many research components in rural development projects). The long period of research before useful results are achieved, however, indicates the need for a consistent long-term support program. This kind of investment can probably be funded only by outside agencies. In contrast, there are countries, including several in Asia, where effective national research systems which are able to respond flexibly to the changing agroeconomic needs of farmers, already exist.

4.3 Institution Building

Many projects that successfully achieved their physical targets have been criticised in evaluation reports for their negligible impact on institution building. Institutional development has suffered most when reliance on autonomous or semi-autonomous 'project implementation units' have substituted for, rather than strengthened, line agencies.[11] Because of the pressure generated by tight schedules for implementation, these units often had a short-term outlook and did not contribute to the organisation of villagers or to the longer-term effort of institutional development. Their advantage is that in institutionally weak environments they can provide substantive implementation capability, especially if there is a substantial program of infrastructure construction, as has often been the case. They are, in fact, a substitute for institution building. Autonomous project management units have not proven very effective, however, in interagency coordination when the staff of contributing line agencies felt they had their own programs to implement. Also, in periods of budgetary crisis, autonomous units have often been the first to suffer cuts. Yet for lack of local institutional capability, particularly in Africa, enclave-type projects may have been judged more successful than others, especially at the early stages, given that evaluation criteria are weighted in favour of short-term increases in production and physical completion.

Part of the continuing dilemma with these project units (as analysed in numerous Bank reports) is that they provide an unsound base for continuing project activities after the reduction in donor support. This places the long-run benefits of projects in jeopardy. A partial solution is to avoid special executing units by implementing separate project components in different ministries as though they were separate projects, but with a coordinating unit, located either in a sector ministry, such as Planning or the President's Office. This approach, however, also has flaws. The coordinating ministry may give the project low priority. Ministries for individual sectors may have a greater interest in projects for which they are fully responsible. Coordination may not be effective, including that among donors financing different components.

There remains yet another concern. Because of the scale and prominence of Bank-supported rural development projects, too many of these projects tended to divert rather than create additional human resources, particularly in the absence of adequate local staff resources and with poorly performing training components. Tackling the problem of constraints on human resources more effectively, particularly in Africa, remains a challenge.

The most basic requirement for rural development projects is for local-level programs to plan, coordinate, and implement the process; and this really raises the question of whether governments can do rural development. The local-level program must involve the people in the process of determining (or helping to determine) their own future. This involvement requires prolonged consultation and

[11] See Smith, Lethem and Thoolen (1980).

explanation, usually with the practical aim of creating or strengthening local-level organisation. It involves training in conflict resolution, collaborative planning, and the setting up of internal decision-making procedures in the many villages of an area. Many different approaches have been tried, but not all are successful. The rewards of such grass-roots development activities are allegedly greater than the frustrations, which are legion. The role of 'change agent' requires great dedication, skill, and, above all, patience.

Governments are not always very good at organising such programs. Many of the most successful have been run by non-governmental organisations or by parastatal units, which have been able to exercise a high degree of flexibility. In practice, the use of a parastatal body--a free-standing, independently managed government entity--has often been the most successful approach employed in government-sponsored rural development schemes. Such has been the case in many countries located in all regions of the world, for instance the Joint Commission on Rural Reconstruction in Taiwan, the Federal Land Development Authority in Malaysia, the Kenya Tea Development Authority in Kenya, and the CIDT (cotton authority) in Côte d'Ivoire. When programs have been kept within government departments, they have been less successful, generally because of the constraints on their flexibility and the tendency for staff to have to take on regulatory and service functions as well as attempt to act as 'animateurs', or agents of change.

Whatever the organisational form of the project entity, the role of the local organisations has been critical. These organisations may be comprised of local village associations, farmer organisations, brigades, or some other grouping. None seems to be more successful than another, which perhaps reflects the fact that the chosen entity has to fit the local socio-cultural environment if it is to work. Leaving such institutions to perform their function without unnecessary interference is often difficult for government staff.

In summary, the rate of rural development, or whether there is rural development at all, is very dependent on government action.[12] Yet successful rural development presents major challenges for governments. The local organising and institution building is the most challenging. The World Bank's support for rural development, though providing a better outcome than is widely believed, has been notably short on support for institution building. Many lessons have been learned, and the majority of poor people in developing countries continue to pursue their livelihood in rural areas. Much needs to be done in the 1990s if their lot is to be improved.

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[12] For an eloquent defense of, and case for, a continued rural development effort, see Lipton (1987).

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