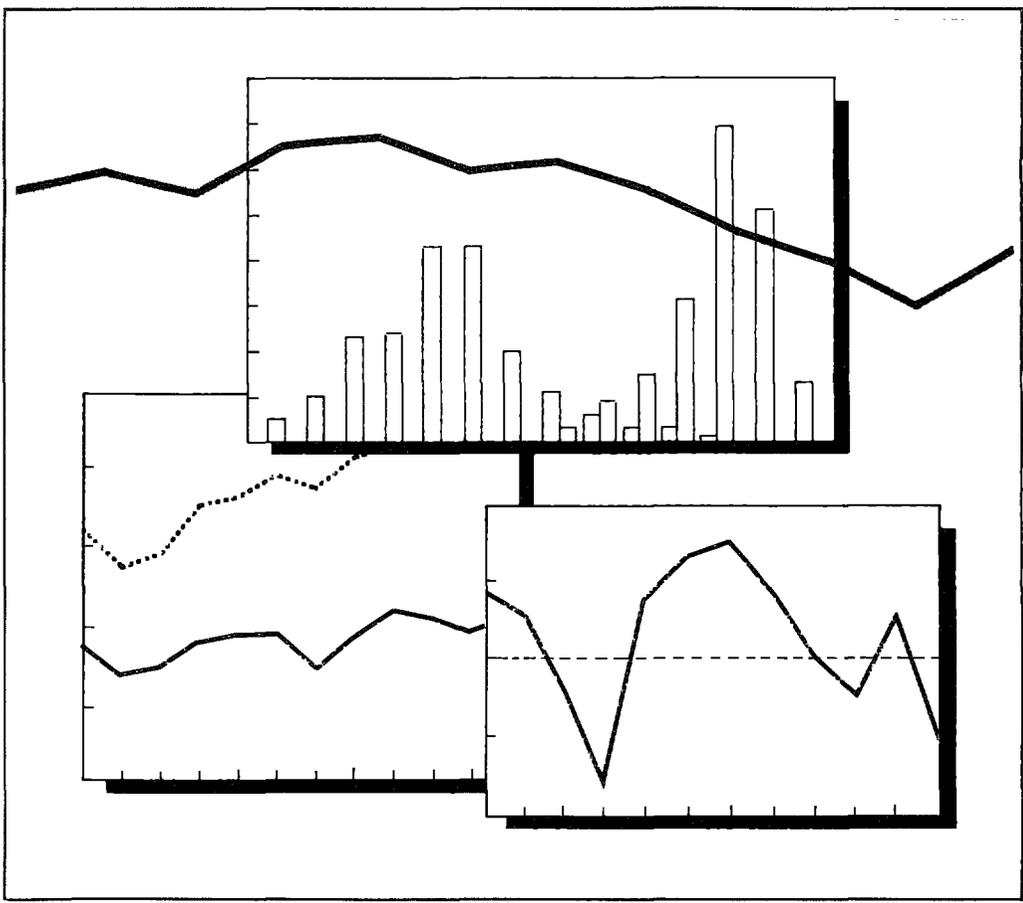


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A WORLD BANK
OPERATIONS
EVALUATION
STUDY

The Twelfth Annual Review of Project Performance Results



Operations Evaluation Department

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A WORLD BANK OPERATIONS EVALUATION STUDY

The Twelfth Annual Review of Project Performance Results

Operations Evaluation Department

**The World Bank
Washington, D. C.**

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FOREWORD

The World Bank reviews the performance of all projects that it has helped to finance. These reviews are based on individual evaluations prepared for each project. This Twelfth Annual Review of Project Performance Results assesses the performance of the 192 World Bank-supported projects evaluated in 1985. As in previous reviews, the analysis of results for the particular year is presented in the context of past results.

The Bank's evaluation of project performance is a two-tier process. The first assessment of project experience is normally made by the operational units concerned in the form of a Project Completion Report (PCR). PCRs are prepared for all completed projects and submitted for review by the staff of the Operations Evaluation Department (OED).

In about half the cases, the PCR is used as the basic document in an independent evaluation of the project by OED. The department's evaluation includes an examination of the files, the minutes of Board discussions, interviews with operational staff and in most cases visits with the borrowers and beneficiaries at project sites. The department's findings are then written up and, after any comments from borrowers or colenders are recorded, circulated together with the PCR to the executive directors and the president as a Project Performance Audit Report.

The PCRs of projects not selected for an independent evaluation, after OED staff have solicited and incorporated comments from borrowers and colenders, are forwarded to the executive directors without OED comment.

Operations evaluation in the World Bank provides a systematic, comprehensive, and independent review of the Bank's development experience. The director-general, operations, evaluation (DGO) has overall responsibility for the evaluation function. The DGO reports directly to the executive directors and has an administrative link to the president. The OED is the staff arm of the director-general. All its reports are made available to the member governments of the Bank, and those of general interest are published.

OED evaluations fall into two main categories: (a) operations audits of project, program, and sector lending; and (b) special studies of groups of projects in certain sectors or subsectors, the Bank's relationships with individual countries over a number of years, and other selected subjects. In addition, the OED participates in the evaluation of the Bank's

nonoperational work, such as research and training activities, and supports the development of evaluation capabilities in Bank member countries.

While preserving their statutory and professional independence, OED staff work with Bank staff and country officials so that all views, including dissenting views, are reflected in OED reports. This practice has been followed in producing this report, which has been distributed to the executive directors. The opinions expressed in the report, however, do not necessarily represent the views of the World Bank or its member governments.

We hope that publication of this report will enable public and private organizations working in the development field to benefit from the Bank's experience and will contribute generally to an understanding of what makes development work.

Yves Rovani
Director-General
Operations Evaluation

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ABBREVIATIONS AND ACRONYMS

CY	-	Calendar Year
DFCs	-	Development Finance Companies
ERR	-	Economic Rate of Return
FRR	-	Financial Rate of Return
FY	-	Fiscal Year of the World Bank (July-June)
GDP	-	Gross Domestic Product
IDF	-	Industrial Development and Finance
OED	-	Operations Evaluation Department
O&M	-	Operations and Maintenance
OPS	-	Operations Policy Staff
PCR	-	Project Completion Report
PHN	-	Population, Health and Nutrition
PPAR	-	Project Performance Audit Report
SAL	-	Structural Adjustment Loan (or Credit)
SEEs	-	State Economic Enterprises
TA	-	Technical Assistance

Regional Abbreviations

Eastern Africa	-	Eastern And Southern Africa
Western Africa	-	Western Africa
East Asia	-	East Asia and Pacific
South Asia	-	South Asia
EMENA	-	Europe, Middle East and North Africa
LAC	-	Latin America and the Caribbean

SUMMARY AND CONCLUSIONS

A. INTRODUCTION

1. The present Review covers 192 projects for which Project Performance Audit Reports (PPARs) or Project Completion Reports (PCRs) were issued in 1985. As in previous Reviews, the experience of these projects is placed in the context of earlier evaluations so as to allow observations on trends in project performance and changes in the approach to development adopted by the Bank.^{1/}

2. Most of the projects evaluated in 1985 were approved during the second half of the 1970s and completed in the early-to-mid-1980s. They were therefore designed in a period of world economic expansion and cautious optimism about the future. Their implementation and final outcome, on the other hand, was affected by the subsequent deterioration in economic conditions, including a decline in overall growth rates, a sharp deterioration in the terms of trade for most borrowing countries, rising interest rates and a reduction in concessionary aid flows.

3. Both in their sectoral composition and design the 1985 projects^{2/} reflect the shift in Bank priorities which began more than a decade earlier. Many agricultural projects demonstrate the emphasis on poverty alleviation, intensification of smallholder production and focus on less privileged groups. A sharper focus on the urban poor is also discernible. Overall, the projects involved a larger number of participants and institutions, but also became more complex and risky. There was a growing emphasis on policy concerns, such as the increased attention given to industrial, trade and financial policies in DFC operations, to pricing and other sector policies in energy and transport, and to cost recovery and pricing policies in agriculture.

4. Of the 189 projects that were implemented--three projects were not completed--151 or 80 percent were judged at evaluation to have been worthwhile. The remaining 20 percent were regarded as having either unsatisfactory or uncertain outcomes, compared with 26 percent reported last year. While this is a welcome improvement, it must be interpreted with caution, since it reflects a small sample and is not consistent with the adverse

^{1/} All references to the Bank in this report include the International Development Association (IDA), and references to loans include credits, unless specifically distinguished.

^{2/} In this report the expression "1985 projects" refers to projects evaluated in that year.

economic environment of the period under review, or with the record of projects in Africa and in agriculture, as further indicated below.

5. The unfavorable external and internal economic environment of the early 1980s explains to a considerable extent the still relatively large number of projects with unsatisfactory or uncertain outcomes. Other factors contributing to project failure include deficiencies in project design, the often limited institutional and administrative capacity of borrowers, distortions in sectoral and economy-wide policies, and inadequate commitment of borrowers to the objectives and priority of projects.

6. In Africa and in agriculture, the 1985 projects continued to register much higher-than-average failure rates. Nearly 40 percent of projects in Africa were judged to have unsatisfactory or uncertain results, compared with only 10-15 percent in other regions, while the failure rate in agriculture was twice as high as that of other sectors. In addition to the factors mentioned in para. 5--which tended to be more pronounced in the African context--project performance on the continent suffered from prolonged drought and political instability. When assessing the African experience one has also to consider that some of these projects were known to be bold attempts to penetrate new areas where the risks were bound to be high--in introducing new technology, setting up new institutions or spreading new procedures--all within the ambit of a rapidly expanding lending program.

7. The average completion time of projects has been increasing steadily over the whole series of annual reviews, from around 5 years in the mid-1970s to over 6 years in the last three years. This was caused by the more complex nature of projects, administrative constraints of borrowers and, more recently, shortages of local funds. Cost overruns, on the other hand, continued to decline, averaging 9 percent in 1985 compared with 40 percent in 1980. This trend reflects the reduction in world inflation, more rigorous cost estimates at appraisal, as well as the fact that many projects were reduced in scope because of the administrative and financial constraints mentioned above.

B. SECTOR EXPERIENCES

Agriculture

8. The 55 agriculture projects reviewed in 1985 involved total costs of \$4.5 billion. Thirty-three of these projects representing 86% of total investment were considered to have been successful in their overall outcome. The weighted average economic rate of return (ERR), as re-estimated for 45 of the 1985 agricultural projects that recorded this information, was about 15%, higher than in 1984 (13.7%) but below that of earlier years. By sector, agricultural credit and irrigation projects had the highest ERR (19% and 18% respectively), while by region South Asia had the highest weighted ERR (almost 23%) followed by East Asia and LAC with about 17% each. Weak performance was particularly notable in Sub-Saharan Africa, where the weighted ERRs

fell to below 6%. All regions, however, showed an overall deterioration in their reestimated weighted ERRs over the previous 5 years in part due to lower than expected prices for agricultural commodities.

9. Almost 60% of this year's projects were poverty oriented. There is little difference in the reestimated rates of return between poverty and non-poverty projects. While information at project completion on the effect of poverty projects on incomes and employment is generally weak, the limited data available suggest that most project beneficiaries achieved income levels above pre-project levels. Overall, two thirds of the incremental employment generated by the 1985 projects were in poverty oriented projects.

10. Almost half of the 1985 projects in agriculture were expected to contribute to sector policy dialogue by supporting policy reform, introducing new systems and testing new approaches and policies. The projects reviewed also illustrate the important role which the Bank can play in helping borrowers establish new environmental policies and guidelines.

11. The principal factors contributing to sustainability of project benefits are careful project design compatible with the socio-economic milieu, support for institution building (including training) and a diversity and breadth of beneficiary involvement. These factors also reflect the five recurring audit themes, which account for one half of all issues raised at evaluation: project design, institutional capacity, institutional development (especially staffing and management), monitoring and evaluation, and supervision. Another audit theme, which is examined this year particularly in the context of two specific case histories, suggests that in the context of a rapidly expanding lending program, some projects may have been affected by pressures to lend. The risk tended to be greater for marginal projects.

Industry

12. Thirteen industrial projects were evaluated in 1985, with a total investment cost of US\$2.6 billion, of which 30% was financed by the Bank. Eight projects involved construction of new production facilities and the remaining five modernization/expansion of existing plants. As in earlier Reviews, there have been implementation delays, in part due to the novelty of the production processes introduced and factors beyond the sponsors' control. Nevertheless, most of the projects had achieved or approached design capacities at audit. Progress in achieving institutional objectives was on the whole positive. The main problems likely to affect the future flow of benefits derive primarily from potentially unfavorable market developments and price trends over which enterprises have little control. Reestimated ERRs averaged 14%.

13. The projects under review supported high priority sectoral programs and were technically sound. While costly in terms of delays in completion, the projects were convenient vehicles for the introduction and adaptation of modern process technologies, as well as for the development of the domestic capital goods industry and the upgrading of skills. The overall approach to

technology transfer was imaginative, well-designed, judiciously integrated, and resulted in the successful adoption of efficient and forward-looking technology. The projects also emphasized and contributed to policy reforms, particularly the institution of more realistic pricing policies and improvements in the marketing and distribution systems.

14. The Bank played an important role in the preparation, design, implementation and supervision of some projects. Nevertheless, project experience suggests that there are elusive issues that require constant attention and review by the Bank. They include depth and continuity of borrower commitment, extent of managerial autonomy, borrower resistance to technical assistance packages, availability of counterpart funds, difficulties in ensuring compliance of contractors with specified standards of quality and performance, inability to devise effective mechanisms for early detection of flaws in equipment design and fabrication, and the precariousness of demand and price forecasts.

Development Finance Companies

15. The DFC projects involved 14 Bank loans and two IDA credits totalling US\$373.8 million and helped to finance some 1,500 industrial and mining subprojects with a total cost of about US\$1.3 billion equivalent. Improving the functioning of the DFC as an institution and the transfer of resources to expand production were common objectives to all 16 projects. In four projects there was an additional emphasis on the small and medium-sized enterprises; three others were aimed at the mining sector. Five of the 16 projects under review had a sector policy dialogue content.

16. Half of the DFCs recalculated the estimated economic rates of return of a sample of subprojects when they had begun production. These reestimations confirmed that generally the subprojects continued to be justified. However, by the time these DFCs were evaluated, the financial position of many subprojects had deteriorated, reflecting general economic conditions, and a number had fallen into arrears on their subloans. In turn, this affected the portfolios and profitability of the DFCs. The situation, while still cause for concern, was not as serious as in previous years, thanks in part to improvements in supervision by both the DFCs and the Bank.

17. There was reasonable progress in institutional development with all but four of the 1985 projects. In terms of resource mobilization, more than half of the 1985 group of DFCs suffered to some extent from controlled interest rates. Most had to rely dominantly on official sources for both their local and foreign resources. At the time of evaluation, the prospects of sustainability for about half of the 1985 group of DFCs appeared to be good, but the sustainability of the subprojects themselves was harder to judge, given their dependence on the state of the economy.

Transportation

18. The 38 transportation projects in the 1985 Review (roughly half in the roads subsector, one-fifth for railways and the rest for ports, shipping

and aviation) have supported a large amount and variety of investments. Achievements are clearest with major discrete road improvements, where generally high traffic growth points to good economic results, and similarly with port investments, where there has been a rapid increase in flows of goods. Where the investment was more diffuse, the economic impact is more difficult to establish. For the same reason, there are difficulties in establishing the outcome of a sector policy dialogue and of institutional development components. Project objectives were frequently couched in somewhat vague terms and a subsequent comparison with results was difficult to make. Generally, large scale, basic restructuring efforts did not fare well, while more limited and specific initiatives had better results. The 1985 projects provide little or no evidence of significant regional variations in sector achievements. There was little adverse environmental impact from transportation projects.

19. Significant implementation factors affecting the performance of projects in this year's Review include political unrest, rapid economic changes, uncertain cost estimates when lending was approved, and the style of supervision. Road maintenance funding continues to be a major concern in many countries. While the Bank's transportation projects have had a major impact in terms of monies spent, facilities built and equipment installed, institutional constraints on efficiency in the transport sector remain acute.

20. Financial and revenue covenants were not always observed. None of the 1985 railway projects ever met financial forecasts for various reasons, including the large social obligations imposed on railways, combined with restrictions on tariff increases and unwise major capital investments known to be loss-makers. Financial performance of ports was generally good.

Power, Water Supply and Wastes Disposal

21. The objectives of the 15 power and 7 water supply/wastes disposal projects reviewed in 1985 were broader than those reviewed in previous years. Although many projects were still intended to provide new capacity to meet existing and estimated future demand for services, in many cases rehabilitation and improvement of existing facilities and operations were important parts of the projects. There was also a wider focus on institution building, and the Bank's efforts towards increasing the social impact of projects led to an increase in the number of projects addressing the problem of access to service.

22. The economic return from the 1985 group of projects appears satisfactory. Most were part of a series dealing with policy changes that had been raised in earlier projects. While the Bank's impact on sector policies was generally satisfactory, to get results multiple lending operations were often necessary. In fact most of the dialogue that took place with the 1985 projects focussed on failures to adhere to policies which had already been agreed to during earlier operations. The major problems on projects with negligible or partial institutional achievements were the lack of competent and continuous management and qualified staff. Sustainability issues were

also shown to require more attention—one of the most obvious factors undermining sustainability is excessive losses of energy or water in transmission and distribution systems (largely a reflection of inadequate maintenance and operational programs). The social impact of the water supply and waste disposal projects is difficult to measure, but it appears that their degree of success in reaching particular target groups depended mainly on how carefully the target group had been analyzed in the first place, and on the priority given to reaching them during implementation.

23. All 1985 water and power projects had revenue covenants. There was substantial non-compliance. Because projects in the utility sectors use revenues as proxy for economic benefits in estimating economic rate of return, ERRs were shown as negative in some instances. This resulted from inadequate tariff adjustment in face of high inflation, and was no indication of the economic value of investments.

24. Water supply and waste treatment projects are generally beneficial to the environment, and in one project improved downstream conditions resulted from investment in a controlled water supply system for navigation. However, in several large scale water supply and sewerage projects, the sewerage component did not keep up with additional water supply, and when there was a shortage of project funds, the sewerage component was adversely affected. Some hydro power projects had successful associated population resettlements. A thermal project produced pollutants far in excess of health norms, and the Bank has been unable to have a satisfactory dialogue with the borrower on the issue.

Education

25. The 15 projects evaluated in 1985 (total cost almost \$600 million, including Bank financing of \$297.7 million) reflected the continued broadening of objectives, away from a fairly exclusive focus on narrowly defined manpower justifications toward a wider definition of human capital formation, which subsumed efforts to improve educational quality, increase access among disadvantaged groups/regions, meet basic educational needs and strengthen the management capacity of the education system. The success of the 1985 projects in achieving these broader economic and social equity objectives was mixed, particularly with those encompassing innovative educational strategies with curriculum diversification and non-formal education. Most evaluations also raised issues that stemmed from an absence of sustained financial or policy support for project institutions or objectives.

26. Implementation problems continued to be linked mainly to the lack of local funds and weak project management. Where persistent and severe financial difficulties have been present, the Bank should consider shouldering a higher share of total costs or instituting revolving fund mechanisms. By contrast, one area of improvement has been in the procurement of furniture and equipment.

Population, Health and Nutrition

27. Two of the seven projects reviewed this year were multi-component nutrition projects, the remaining five being population projects, some with substantial health components. The objectives of the population projects were largely related to fertility reduction and support for family planning services, with components that involved substantial construction, including large numbers of health clinics. The result was a disharmony between family planning objectives and health components, which has made evaluation of population projects complex. Implementation of population projects continued to be affected by delays and at project completion it was often found that family planning facilities were underutilized, with health service components taking precedence. Much broader efforts are required to ensure the success of family planning services.

28. To date the Bank has financed only five free-standing nutrition projects. The two 1985 nutrition projects aimed at strengthening nutritional development through institutional and program support as well as direct nutritional contributions. Both projects suffered substantial implementation delays, but despite institutional and other shortcomings, both made important contributions to the development of the sector. From the beginning nutrition projects have received substantial policy level review in the Bank, including a 1983 internal review which concluded that there was a need for more systematic emphasis on nutrition in the Bank's population and health lending programs. It also concluded that when appropriate the Bank should finance specific nutrition projects, with a narrower focus, rather than complex multi-sector nutrition projects.

C. CONCLUSIONS

29. Five principal factors that determine the outcome project should be highlighted:

- ° First, project designs need to state clear and acceptable objectives, and must be technically, administratively and financially feasible. Over one third of the 1985 projects showed deficiencies in this respect.
- ° Second, the institutional capacity of borrowers continues to be a key factor in determining the outcome of projects and the extent to which their benefits can be sustained in the future. Many of the 1985 projects have been effective in strengthening borrower institutions.

- ° Third, there is a close link between project performance and the internal policy environment at the sector and country level. The introduction in the early 1980s of structural adjustment lending has underlined the importance given by the Bank to this link. All SAL operations evaluated in 1985 were found to have had a significant positive impact.
- ° Fourth, projects require adequate borrower support. This has not always been the case and as a result, some projects were delayed and scaled down because of shortage of local funds, while others were constrained by lack of political action or manpower shortages. Strong borrower support is especially important for SALs, where the strength of political commitment to program objectives is fundamental.
- ° Fifth, many projects were reported to have been adversely affected by external factors such as deteriorating terms of trade or depressed markets for project outputs. In Africa, a prolonged drought and political turmoil added to these difficulties. Such events underline the need for effective action by both the borrower and the Bank in adjusting to a changing environment.

30. The 1985 group of projects reinforce lessons from earlier years and suggest that the following issues require renewed attention from the Bank (paragraph references are to the relevant sector chapters):

- ° Although projects are not necessarily the best instruments to initiate sector policy changes, they can play a reinforcing role in implementing policy reforms which have been agreed and started earlier (para. 2.31);
- ° project related dialogue and support can encourage governments and agencies to undertake environmental impact assessments; however, if Bank supervision fails to follow up on environmental issues identified at appraisal, an unsatisfactory outcome is likely (para. 2.38);
- ° data on indicators of social impact continue to be incomplete and weak and it is not clear whether such information can be gathered economically (para. 2.21);
- ° project achievements in respect of institution building continue to be weak, particularly in the two Africa regions (para. 2.32);
- ° the quality and continuity of senior management is important; while clearer policy and strategy direction as well as ex-post evaluation by government are needed, day to day state intervention in autonomous entities is counterproductive (paras. 3.08, 3.16);

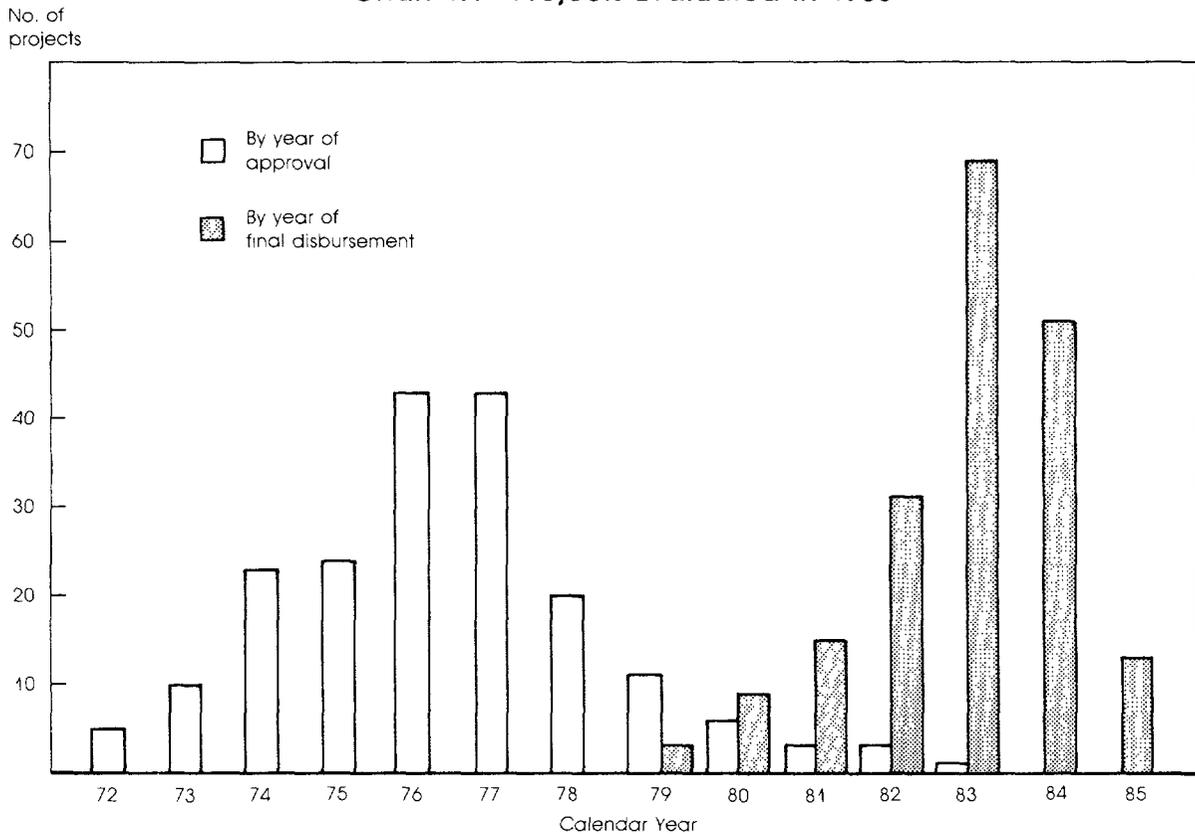
- the pay-off from using competent and highly experienced engineering talent at all stages is high (para. 3.08);
- extensive training in developing local skilled and managerial personnel is a significant success factor (paras. 3.08-3.09);
- when procuring locally produced equipment, the technological capability and delivery capacity of suppliers must be ascertained, particularly in complex and innovative projects (para. 3.19);
- for effective project implementation, close and collaborative Bank and co-financier supervision is important (paras. 3.26, 3.29);
- poor documentation at project completion of the results of sector policy dialogues, sector training and technical assistance initiatives, evolution of user charge and taxation policies, and the execution of Plans of Action, frequently deprives the borrower and the Bank of important lessons for project design and implementation (para. 5.12);
- failure to take account of competitive developments in other countries is a frequent cause of embarking on a loss making project (para. 5.17);
- continuous review of Bank and Borrower bidding procedures or requirements are important in view of rapidly changing technologies and manufacturing methods, especially in the field of electronics
- a large proportion of training programs have been unsuccessful because they were only loosely designed by the time of loan/credit approval (para. 6.17);
- provision of resources for proper plant management, operation and maintenance is as important as provision of resources for project construction (para. 6.39).

I. OVERVIEW

A. The Projects and Their Environment

1.01 This review draws on the experience of 192 projects that were evaluated in 1985. Most of these projects were approved during the second half of the 1970s and completed in the early to mid-1980s. Their performance therefore has to be judged against the background of world conditions and the Bank's^{1/} evolving lending policies during the period they were conceived and approved, and the generally difficult economic conditions that have developed during their implementation period.

Chart 1.1 Projects Evaluated in 1985



^{1/} All references to the Bank in this report include the International Development Association (IDA), and references to loans include credits, unless specifically distinguished.

1.02 Nearly 80 percent of the 1985 projects^{2/} were approved during the five years 1974-78 and nearly half in 1976 and 1977 (see Chart 1.1). This was an era of expansion and cautious optimism. The effects on the developing countries of the first oil price increase in 1973 had proved to be less disruptive than expected and oil prices had stabilized. The world economy was recovering from a period of recession, and commodity prices were for the most part forecast to keep pace with the expected rate of world inflation.

1.03 In contrast to the relatively optimistic expectations at the time of their approval, most of the projects evaluated in 1985 had to go through a difficult implementation period. The years covering the late 1970s and early 1980s represented a serious challenge to the economic prosperity of many developing countries. They had to cope with prolonged economic recession in the major industrial economies, a severe deterioration in their terms of trade and a reduction in concessionary aid flows. Interest rates on external borrowing have been very high and have exacerbated the developing countries' debt service burden. Finally this was a period of fluctuating but generally declining prices for primary commodities and, latterly, of rising protectionism. These events clearly affected the outcome of many of the projects evaluated in 1985.

1.04 Within the Bank, the mid-1970s were years of rapid expansion. Total lending had doubled in real terms between FY64-68 and FY69-73, and the amount lent to Africa had tripled. Bank and IDA commitments continued to expand by nearly 20 percent a year during the period FY74-78, the years when most of the evaluated projects were approved.

1.05 The increasing number of projects evaluated each year reflects the rapid expansion of Bank lending. Thus the 192 projects evaluated in 1985 were 10 percent more than in 1984 and nearly twice as many as evaluated in 1980. The 1985 projects also reflect, in both their sectoral composition and design, the evolving priorities of the 1970s. Many of the agricultural projects demonstrate the emphasis on poverty alleviation, intensification of smallholder production, and outreach to the less privileged groups that had been called for at the Nairobi Annual Meeting in 1973. A similar shift in emphasis was discernible in other sectors--including a sharper focus on the urban poor and expanding opportunities for less privileged groups in education projects. As a result of these changes, Bank projects in this period became increasingly complex and risky, involving larger numbers of participants and institutions.

1.06 Another manifestation of the Bank's evolving objectives and of the diversification of its lending instruments since 1980 is the greater emphasis on policy-based lending. This is reflected not only in structural adjustment loans per se, but also on an increasing emphasis on policy concerns in traditional projects, such as the increased attention given to industrial, trade and financial policies in DFC operations, to pricing and other sector policies in energy and transport, or to cost recovery and pricing policies in agriculture.

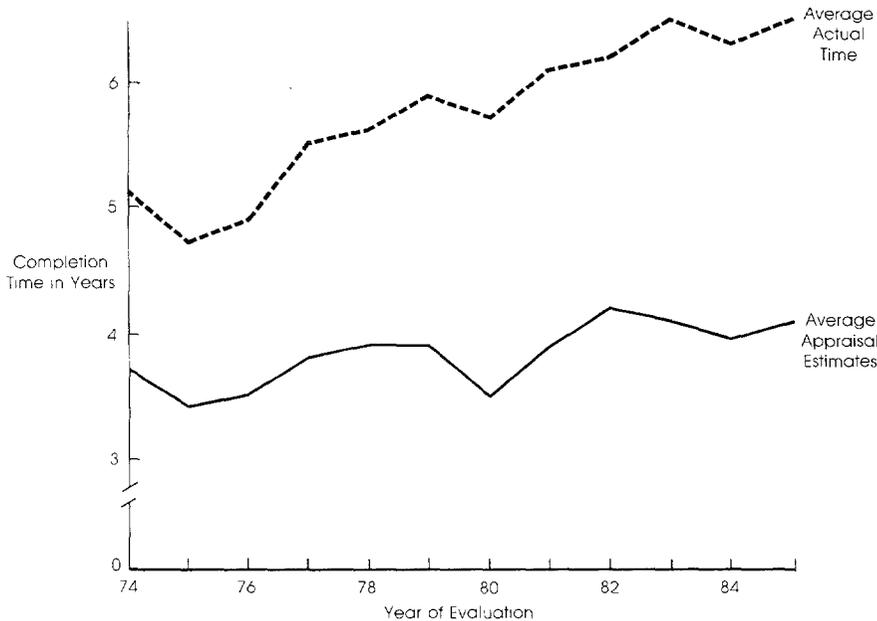
^{2/} In this report the expression "1985 projects" refers to all projects evaluated in that year (see para. 1.01).

B. Implementation Experience

Timeliness of Implementation

1.07 The average completion time of projects has been increasing steadily over the whole series of annual reviews, from around 5 years in the mid-1970s to over 6 years in the last three years (see Chart 1.2).

Chart 1.2 Estimated and Actual Completion Times, 1974-85



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1.08 The average project evaluated in 1985 took 6-1/2 years to implement--from loan agreement to completion--compared with the original estimates of a little over 4 years. Over 90 percent of the 1985 projects required more time to complete than originally estimated (see Appendix Table 1.6). There were no major variations in actual average completion times either by sector or by region (Table 1.7).

1.09 The principal reasons for completion delays were the same as in the past--inadequate project preparation, changes in project scope, administrative constraints within the country and the unfamiliarity of the borrower with Bank procurement procedures, delays in the appointment of staff or consultants, and lack of financial support for the project by the borrower. The latter factor was of particular importance to the 1985 projects, as many borrowers faced difficulties in providing counterpart funds; this caused delays in procurement and recruitment of staff, and led to design changes all of which tended to spread implementation over a longer period. These factors more than offset the favorable effects on average project completion time of

the greater proportion of quick-disbursing SALs, the operation of the Special Action Program and the closing of a number of projects, particularly in Eastern Africa.

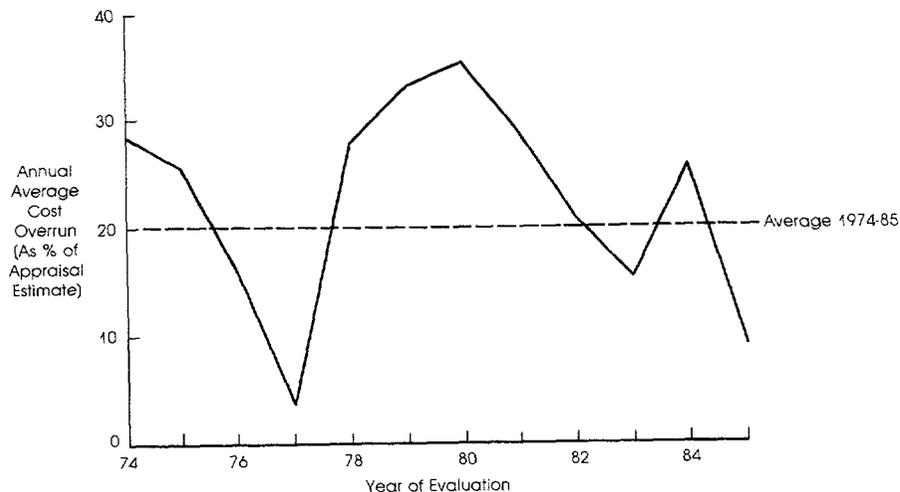
1.10 The recent (September 1985) introduction of mandatory standard disbursement profiles by the Bank can be expected to bring future appraisal estimates more in line with actual experience, and thus narrow the gap between projected and actual completion periods. However, the use of standard profiles will not speed up project implementation as such.

1.11 The Bank has recently taken more direct action to address the causes of delay mentioned in para. 1.09. These include training programs in procurement and consultant selection procedures for both Bank staff and borrowers, the preparation of sample bidding documents and the recent requirement that the status of project preparation should be more specifically defined in staff appraisal reports. Some Bank departments have also made special efforts to speed up project implementation in recent years, particularly in the crucial early phase of project implementation when most delays seem to occur.

Cost Experience

1.12 In contrast to the continuing trend for projects to be delayed in implementation, the 1985 group showed a resumption of the recent trend towards smaller costs overruns (Chart 1.3). While more than half of all the projects overran their appraisal estimates, the average overrun was much lower than in the recent past--9 percent compared with 40 percent in 1980 (see also Appendix Table 1.10).

Chart 1.3 Average Cost Overruns¹



¹Average percentage cost overrun calculated in US Dollars from the total actual and appraisal costs of all projects evaluated in a year.

1.13 The declining trend in cost overruns reflects the various steps taken by the Bank to improve cost estimates—including the growing practice of undertaking detailed design work of engineering projects before loan approval, and more systematic use of price contingencies. Another factor was that many projects were reduced in scope, some substantially, because of constraints in implementation capacity or shortage of counterpart funds. This was the main reason why Eastern Africa was the only region to have an overall cost underrun. As in the past, it proved easier to scale down people-oriented projects in agriculture and education than large infrastructural projects. Such changes in the size and composition of projects after approval suggest that trends concerning cost overruns should be interpreted with caution.

1.14 Another factor affecting project costs was that the reduction in world inflation resulted in procurement prices often being lower than forecast at appraisal. Since 1981, in particular, both energy and manufacturing prices have tended to remain below the assumption of continued inflation that underlay cost estimates made in the the 1970s. Finally, the analysis of cost experience in PPARs and PCRs expresses costs in U.S. dollars and therefore does not reflect the cost overruns of projects expressed in local currencies, which have generally been considerably higher. During 1985, the Bank introduced reporting on cost changes in local currency terms as part of supervision, but has not yet added this analysis to the coverage of PCRs.

C. Project Achievements

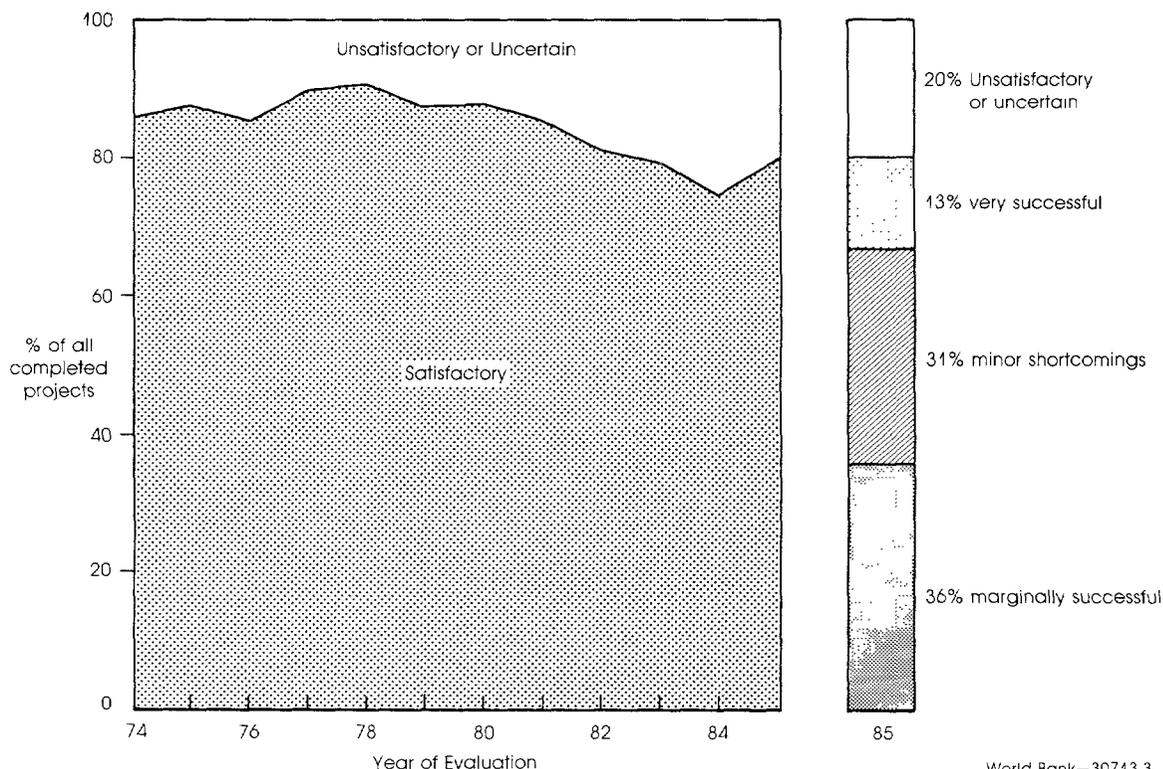
Aggregate Findings

1.15 Of the 192 projects evaluated in 1985, all but three^{3/} were implemented, although several projects had to be substantially reduced in scope and part of the supporting loans cancelled.

1.16 In overall terms, the 1985 projects showed better results than those reviewed last year. Of the 189 projects that were implemented, 151 or 80 percent were judged at evaluation to have been worthwhile. The remaining 20 percent were regarded as having either unsatisfactory or uncertain outcomes, compared with 26 percent reported last year (Chart 1.4). While this is a welcome improvement, it must be interpreted with caution, since it reflects a small sample and is not consistent with the adverse economic environment of the period under review or with the record of projects in Africa and agriculture, as further indicated below.

^{3/} The credit for the Chad Third Highways (Cr. 840) was never declared effective and was cancelled in full. Two education projects (Trinidad and Tobago Education III, Loan 1722, and Zaire Education II, Credit 624) made negligible progress and had 90% of their supporting loans cancelled.

Chart 1.4 Project Results, 1974-85



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1.17 Still, the share of projects with unsatisfactory or uncertain results continues at a relatively high level. Factors contributing to project failure, besides an adverse economic environment, include deficiencies in project design, the often limited institutional and administrative capacity of borrowers, distortions in sectoral and economy-wide policies, and inadequate commitment of borrowers to the objectives and priority of projects (see Section D below).

1.18 The overall outcome of last year's group of projects was affected by a lower proportion of projects in Africa and in agriculture, (Charts 1.5 and 1.6; also Appendix Tables 1.3 and 1.4), both of which continued to register much higher-than-average failure rates in 1985. Nearly 40 percent of projects in Africa were judged to have unsatisfactory or uncertain results, compared with only 10-15 percent in other regions, while the failure rate in agriculture was twice as high as that of all other sectors combined. In addition to the factors mentioned in para. 1.17 above--which tended to be more pronounced in the African context--project performance on the continent suffered from prolonged drought and political instability. But the assessment of African experience also reflects the fact that some of these projects were known to be bold attempts to penetrate new areas where the risks were bound to be high--in introducing new technology, setting up new institutions or spreading new procedures--all within the ambit of a rapidly expanding lending program. These issues are analyzed in greater depth in the agricultural chapter of this Review.

Chart 1.5 Sectoral Breakdown of Projects

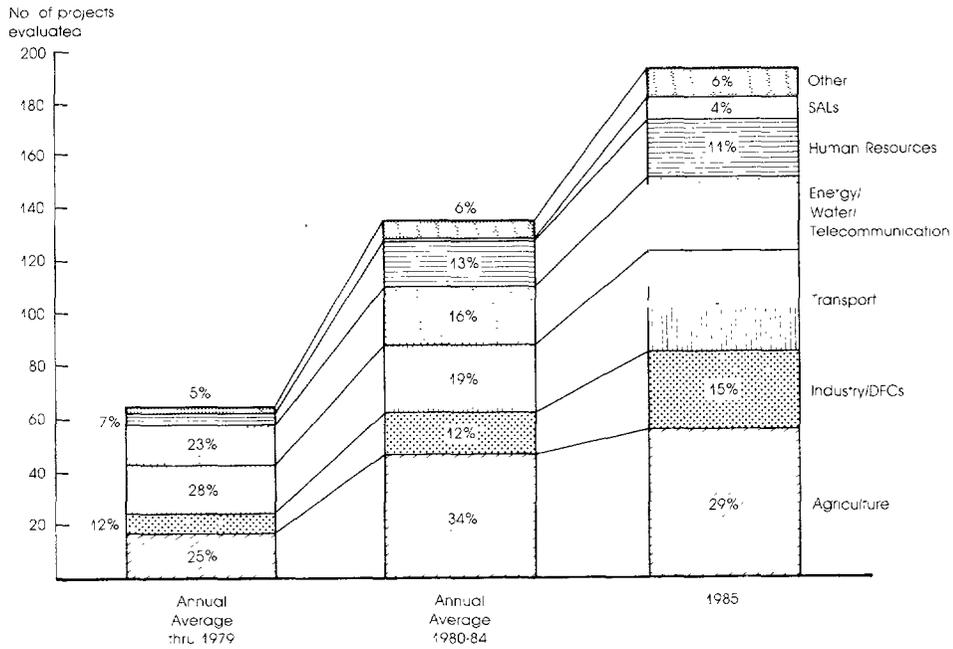
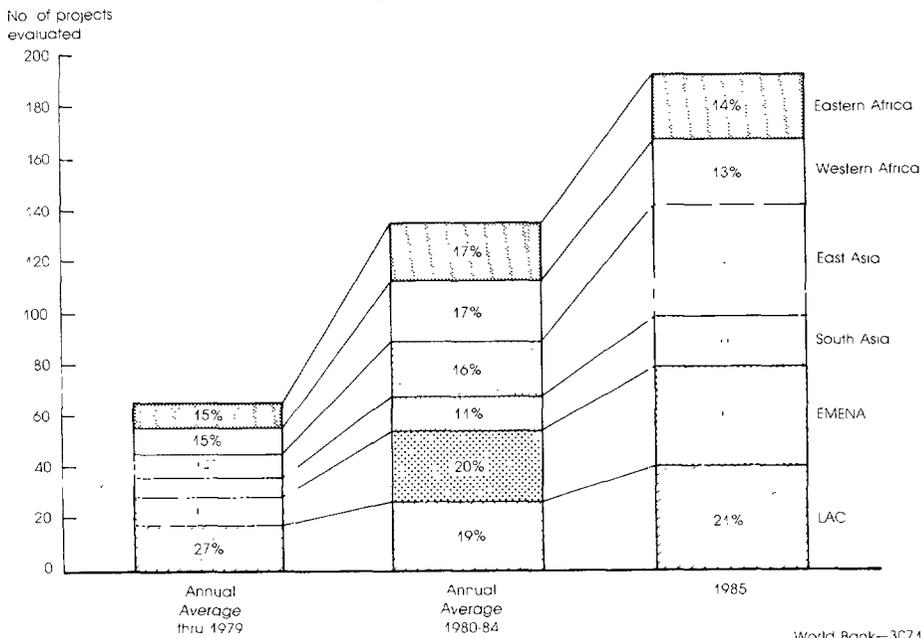


Chart 1.6 Regional Breakdown of Projects



1.19 The group of projects with satisfactory outcome covers a broad spectrum—from very successful to only marginally successful ones. To provide a sharper focus, the 151 successful projects have been divided in three categories: 25 (or 13% of all completed projects) were assessed to be very successful, in the sense that they were expected to meet all the major objectives and contribute substantially to the development of the borrowing country. A further 58 (or 31%) had revealed minor shortcomings but were still expected to meet most of their objectives and achieve satisfactory results. The remaining 68 (or 36%) had revealed more serious shortcomings in meeting their objectives, but were still considered, on balance, to have been worthwhile (Chart 1.4; also Appendix Table 1.14).^{4/}

1.20 While these assessments are to some extent judgemental, they do serve to illustrate that only about a third of the projects reviewed were unqualified successes or complete failures. More typically, the results have been mixed, with more progress having been made towards achieving some goals and less with others. Many of these projects were scaled down in scope during implementation, as a result of financial constraints or of limitations in borrowers' institutional and administrative capacity.

Economic Impact

1.21 The method of estimating economic benefits varies between projects. Three different categories of projects are included in this Review, according to the methodology used:

- o Projects, principally in agriculture, industry and transport, for which the Economic Rate of Return (ERR), effectively captures the economic benefit of the investment. There were 96 such projects in 1985.
- o Projects in the utility sectors where the Bank uses revenues as proxy for economic benefits in estimating economic rates of return (see para. 1.26 below). There were 25 such projects in 1985.
- o Projects for which no quantifiable indicator of economic returns was available at evaluation. There were 68 such projects (36% of the total) in 1985, including 20 human resources projects, 16 DFC operations, 10 non-project loans (of which 8 were SALs) and 4 technical assistance projects. There were also 18 projects for which ERRs were not estimated at evaluation, usually due to inadequate data.

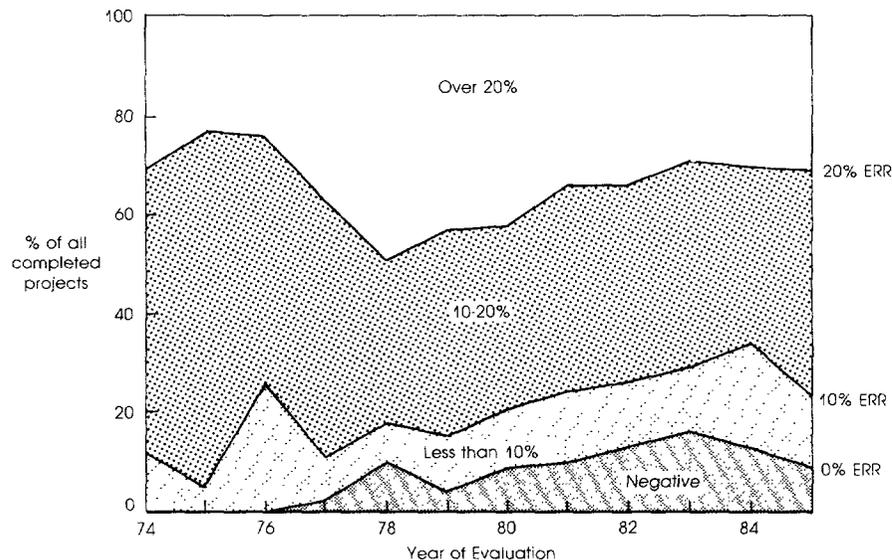
1.22 Economic Returns. Most of the 96 projects for which ERRs were calculated were in the agriculture, industry and transport sectors. The re-estimated rates of return are based upon actual investment costs and a revised projection of the expected benefits and operating costs during the remaining life of the project. While these re-estimated rates of return are

^{4/} This differentiation into three categories was not undertaken in previous reviews.

therefore based on more up-to-date data than those made at appraisal, it is important to remember that they are still estimates and in no way constitute a final measure of a project's net benefits.

1.23 The distribution of ERRs of the 96 projects is depicted in Chart 1.7 (see also Appendix Table 1.11). By far the largest proportion of projects (46%) had ERRs of between 10 and 20 percent, with another 31 percent having ERRs of over 20 percent. Twenty-three percent of projects had ERRs estimated at less than 10 percent, compared with 34 percent reported last year. This improvement in economic results is consistent with the generally more favorable outcome of projects in 1985 referred to in para. 1.16 above.

Chart 1.7 Distribution of Projects by Estimated Economic Rate of Return



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1.24 The weighted average ERR of all 96 projects in 1985 was estimated at 17.7 percent, compared with 16.1 percent in 1984.^{5/} Weighted average ERRs increased in both agriculture^{6/} and industry and continued at a high level in the transport sector. This improvement in overall performance is encouraging. However the improvement is not uniform over all regions: three of the regions recorded lower average ERRs in 1985 than in 1984 (Appendix Table 1.12).

^{5/} The weighted average ERR is calculated by weighting each project's estimated ERR by the total project cost. Other averages mentioned in this chapter are simple arithmetic averages.

^{6/} See also paras. 2.09 and 2.10.

1.25 A comparison of the ERRs estimated at the time of project appraisal with those re-estimated at evaluation shows a widening gap, as clearly revealed in Chart 1.8. Until 1977, there was a tendency for re-estimated ERRs to exceed appraisal estimates. But since 1978, the ex-post estimates have increasingly fallen short of ex-ante estimates (see also Appendix Table 1.13). For the projects reviewed in 1985, the appraisal estimates averaged 24 percent compared with an average of 17 percent at evaluation. There is no full explanation for this phenomenon. However, there appears to be some parallelism between the diverging trends in ERRs and the trends in anticipated and actual commodity prices shown in Chart 1.9, and the deteriorating international environment during implementation that was discussed in para. 1.03.

1.26 Economic Returns of Utility Projects. There were 25 projects in electric power, water supply and telecommunications for which the ERR used revenues as proxy for economic benefits. All but three of them were judged to be satisfactory. An analysis of all projects showed that nearly half (48%) had rates estimated at less than 10 percent and about 30 percent had rates of 10-15 percent. This is a much better performance than last year, when over a third of the comparable group of projects were estimated to have a negative ERR. As indicated in Chapter VI, revenues as used for calculating ERR of utility projects tell more about the level of prices charged than about the economic value to users of electricity, water supply or telecommunications.

1.27 Other Projects. The remaining 68 projects were assessed on more subjective judgements about their likely economic outcome, as well as their achievement of other project objectives as discussed in the following sections. Five of the 13 completed education projects were assessed as failures or were considered to be uncertain in their outcomes. Four DFC operations (out of 16) were regarded as failures. On the other hand, all non-project loans and technical assistance projects were regarded as successful. Of the eight SALs, three were regarded as having achieved most of their objectives, and five were considered to have been worthwhile, despite significant shortcomings in carrying out agreed reform programs.

Policy Impact

1.28 About one third of the 1985 projects aimed to support significant policy changes of one kind or another within the borrower countries. For the most part, these policy initiatives focussed on pricing issues as well as on operation and maintenance policies and the associated issue of cost recovery. With the advent of SALs the spectrum of policy conditionality in Bank operations was substantially broadened, including economy-wide policies such as foreign trade reform, public sector finance and investment, interest rates or debt management.

1.29 The Review shows that many of the project-related policy changes were successfully undertaken (see also para. 2.31). For example two agricultural projects in Cameroon helped to ensure increased farmgate prices for oil

Chart 1.8 Appraisal and Evaluation Estimates of ERRs, 1974-85

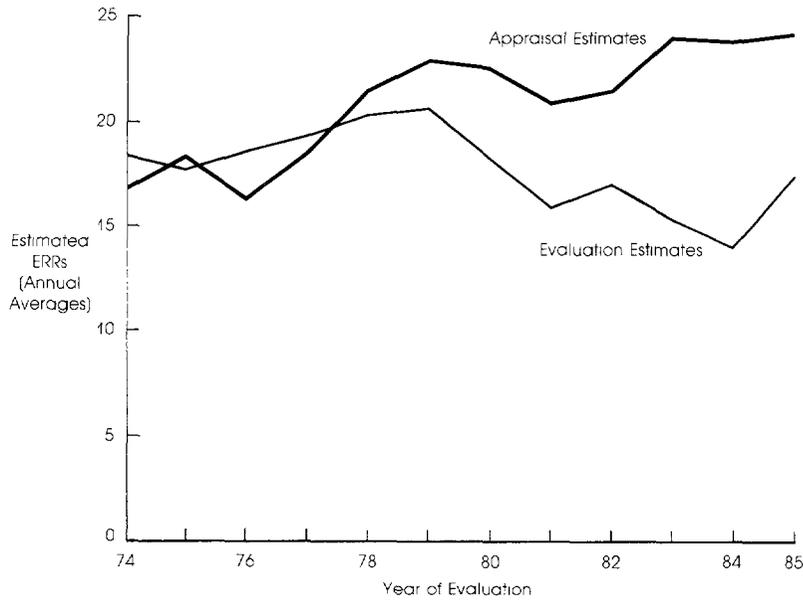
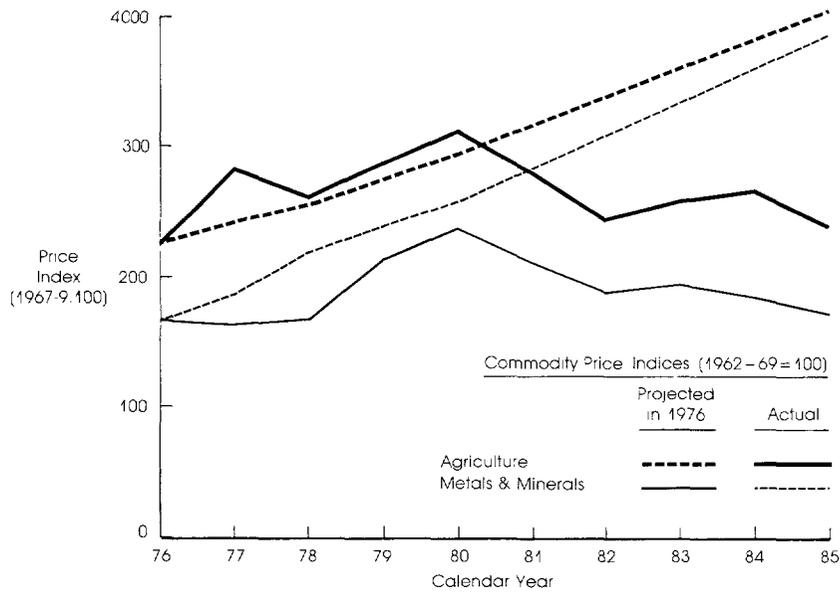


Chart 1.9 Commodity Prices: Projected and Actual, 1976-85



Source: Economic Analysis & Projections Department
World Bank

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palm; a dairy development project in Tanzania contributed to the establishment of a system for the regular review of produce prices; and in Korea, the Government largely lived up to undertaking under the project to budget sufficient funds for road maintenance. In a few cases, however, little or no progress was made in developing the policy framework; for example in a power project in Syria the Bank and the government never established a common ground for a constructive dialogue on pricing policies.

1.30 The review also confirms past experience that formal covenants on individual projects alone have been of limited value in influencing sectoral or economy-wide policies, or even in maintaining agreed policies. For example it was noted that in several projects involving agriculture and public utilities the responsible entity failed to implement changes or adhere to agreed policies; when fiscal, economic or political conditions in a country became difficult, pricing policies were frequently relaxed, suspended or abolished--in breach of project covenants. This is not to say, however, that Bank policy initiatives associated with project lending have not had any effects on sectoral policies; through policy dialogue, where the whole lending program has sometimes been made contingent on major policy changes the response of borrowing countries has often been substantial. In this context the findings of the first group of SAL audits undertaken during 1985 are therefore of particular interest; it is through SALs and other policy-based loans that the Bank is complementing project related policy initiatives to achieve comprehensive and economy-wide reform.

1.31 While SALs have varied widely in specific design, their most frequent policy objectives have been in the areas of pricing, taxation, tariffs, interest rates and subsidies. SALs have also pursued major sector reforms, especially in agriculture, industry and energy. While the timeliness and extent of adjustment measures varied greatly between countries, many critical policy changes were carried out in most countries. For example, agricultural price reforms and energy pricing, conservation and development have been successfully implemented. Trade policy and related industrial reforms have been less satisfactory.

1.32 Both project and SAL experience suggests some general conclusions about policy reform efforts:

- o First, policy reforms tend to be more complex and time-consuming than expected. The implementation of SAL programs, for example, has taken much more time than anticipated, and, when implemented, the measures took much longer to show results. The expectations of Bank staff were too optimistic on both counts and insufficient attention was paid to implementation requirements or implications. The number of conditions attached to most early SALs were too many and too complex.
- o Second, policy reform objectives pursued by the Bank are unlikely to be effective unless the borrower accepts the need for reform and participates in the process of policy review and formulation. Covenants, while sometimes forcing specific actions, have not by themselves proved effective in changing attitudes about basic policy issues.

- o Third, if the process of policy formulation is to be sustainable, the policy-making capacity of a country may itself need strengthening. This process of institutional development is a complex and lengthy one which normally cannot be accomplished within the time horizon of a single project and may stretch beyond even a series of SALs.
- o Fourth, policy studies, which have been a favorite component of both SALs and Bank projects, are unlikely to induce policy changes unless the borrower sees the need for the study and has the capacity to absorb and utilize its findings.
- o Fifth, the evaluation of the first group of SALs does appear to corroborate the conclusion that SALs are more effective than projects in accomplishing economy-wide policy changes that go beyond the reach of a single project's influence. However, the 1985 operations also throw some light on the complementarity between project, sector lending and SALs which together can contribute to policy reform if the various instruments of lending are designed to address a set of objectives, mutually agreed with the government.

Social Impact

1.33 Bank attention to the social nature of project lending has grown. This heightened attention has focussed on redressing socio-economic imbalances, improving the quality of life and enhancing skills and income earning capabilities, frequently by targeting low income or otherwise disadvantaged groups, such as women, poor farmers or urban dwellers, and out-of-school youth.

1.34 Not surprisingly, most projects encompassing specific social or equity objectives have been concentrated in education, agriculture, urban, water supply and population, health and nutrition, with a few in other sectors like DFCs. Project objectives have been designed to enhance living standards by

- o improving access to, and quality of, services: water supply and waste disposal, transportation infrastructure, health facilities, information on family planning and/or contraceptive methods, nutritional improvements; and
- o raising productivity and opportunities for income generation through improved education, credit, agricultural inputs, small scale industrial employment.

1.35 The achievement of social objectives has been difficult to isolate and measure ex post. Part of the problem derives from the complexities in attributing causality to a set of events stemming from a given project. In addition, information found in evaluation reports is often fragmentary reflecting both the intrinsic difficulties in setting up social evaluation criteria and the inadequacy of data to assess the social impact of projects. Finally, the nature of the social process itself--essentially long term and dynamic--renders viewpoints offered at project completion tentative at best.

1.36 One measure of impact, undertaken mainly in agriculture and education reports, was the tallying of numbers of project beneficiaries. Nearly 17 million rural people (or over 3 million families) benefitted from irrigation, credit and area development components in the 1985 agriculture projects that reported such information. About 80 percent of these beneficiaries were successfully reached through poverty-oriented components, which benefited more people per project and in a more cost-effective way than had been noted over the previous five years (paras. 2.22-25). Similarly, education projects evaluated in 1985 created approximately 92,000 new student places and at the time of completion were enrolling over 135,000 students (Table 7.3).

1.37 Some partial data on employment generation was also gained from the DFC and agricultural evaluations. Data collected on 18 agricultural and 11 DFC projects reported increases of 135,000 man-years of full-time employment and 36,000 new jobs, respectively, plus a significant amount of secondary employment. Data for the 11 DFC projects indicated that the bulk of the sub-projects financed were relatively labor intensive, and that about one-third were directly aimed at assisting the poorer--and often neglected--small entrepreneur (paras. 4.07-4.08). A large number of irrigation and area development projects which did not provide specific data on incremental employment are also believed to have created many new jobs, particularly in Asia and Africa (para. 2.28).

1.38 Achievement of specific social objectives vis-a-vis targeted populations has been mixed, but appeared to hinge upon how carefully the target group was analyzed in the first place and then on the priority given during implementation to actually reaching them. For example, in Syria the training and provision of female teachers encouraged parents to send their daughters to school in unprecedented numbers. By contrast, innovative attempts to reach those outside the formal education system continued to meet with mixed success because components were merely appended to projects without the careful preparation and coordination they required (para. 7.15).

1.39 Some projects by their very nature affected diverse cross sections of the population, multiplying the difficulties in designing and implementing components aimed at poverty alleviation. Transport projects in Bolivia and Guinea nonetheless offered examples of the positive impact of improved infrastructure on lower income groups (paras. 5.07 and 5.11). Some projects carried certain "costs" of redistribution--such as the water supply projects in Liberia and Jordan and the power projects in Ghana and Brazil--where attempts to provide improved services to the poor carried clear implications for cost subsidization by higher income customers (para. 6.10).

1.40 Although the social dimensions of structural reforms were not an important consideration in the design of most of the SAL programs reviewed in 1985, evidence suggests that the social impact of these programs was neither inconsiderable nor uniform across social groups. While many (mainly small) farmers appear to have gained more from increases in food and export crop prices than they have lost from reductions in subsidies, urban wage and salary earners' standards of living have declined after the elimination of

subsidies to food, petroleum and public enterprise services. It is clear that more attention needs to be given to the social costs and benefits of SAL programs.

1.41 Some conclusions on social impact that emerge from the above discussion are as follows:

- o First, assessing the overall social impact of projects--both ex ante and ex post, both direct and multiplier--raises difficult questions of methodology and data collection.
- o Second, social impact, particularly that involving basic changes to the fabric of society, takes time to achieve and is probably best addressed through a series of lending operations.
- o Third, equity and efficiency considerations, while not inherently in conflict, sometimes suggest alternative approaches. If such a dilemma arises, both the social and economic costs and benefits must be weighted carefully.

Technological Impact

1.42 The 1985 projects continued to support technological innovation in most fields. Thus 44 of the 55 agricultural projects included in the review sought to support improved technical packages to increase production and yields. Such technology was locally novel but generally not new, having been adopted from field experience in other situations. In industry, virtually all projects had technology transfer as a major objective. Again, as in agriculture, the technology need not be new to be beneficial; on the contrary, many borrower agencies have benefitted from adopting technologies which, although in standard use throughout the world, were new to them. Technology transfer has also been an important objective for projects in transportation and electric power.

1.43 In many of these cases the new technologies were successfully introduced. Examples are the novel pre-baked anode electrolytic cell technology in an aluminum smelter in Brazil, or the thermo-mechanical pulping and twin-wire paper making in Turkey. Most of the port projects evaluated in 1985 introduced container installations while one of the thermal power projects used special boilers designed to burn very low-quality lignite.

1.44 There were, however, occasional problems. Experience in agriculture stresses the importance of ensuring that the technology has been tested, if possible in the project area, and that full attention is given to the cultural and sociological factors that will determine whether the technology is adopted. Within agriculture, there is a marked difference between the largely favorable experience with irrigation projects, where the innovations are clearly demonstrable, and the generally disappointing experience with area development projects, especially in Africa. Some of these tried to introduce inadequate technology (given the variability of seasons, and constraints on farming), often involving a high degree of risk to the farmer. In hindsight it is clear that more careful preparation could have reduced the risks inherent in bold new attempts.

1.45 The introduction of sophisticated technologies takes time and it is important to allow for the learning process. In some industry projects, for example, local agencies were slow to recognize the complexity of the task they had undertaken, and were at times over confident to begin with. Other problems arise when the new technology needs to be transferred as a package. For example, in the transfer of modern electronics technology, the common commercial practice of selling a whole system designed to customers' needs conflicts both with traditional purchasing practices of many borrowers and with the international tendering procedures of the Bank. These problems seem to have contributed to the delays and disputes that arose in some railway projects.

1.46 There may also be difficulties over the supply of spare parts. Complex machinery quickly goes out of use without an assured supply of parts. Even where projects included finance for parts (e.g. Sudan and Pakistan Railways and Bangladesh Inland Water Transport) problems were encountered, suggesting that there is scope to devise more effective systems for the supply of spares under Bank-assisted projects. In several education projects, too, special workshops were underutilized because there was an inadequate supply of stores or parts. Such cases also point to the danger that a new technology may involve higher financial costs--and in particular--recurrent costs. If so, there is the risk that it may not be fully maintained or may even be abandoned altogether.

1.47 A rather similar problem relates to the supply of skilled personnel to sustain the technology. Past experience has shown the importance of thorough training to ensure that the new technology takes firm root. One of the best-known examples is the massive training effort required to introduce the training-and-visits extension system. Several of the 1985 projects included very successful training programs, especially in industry or other sectors where the training effort could be confined to a single entity.

1.48 This Review, together with the evidence presented in previous reviews, permits some general conclusions regarding changes in technology through projects:

- o First, to be successfully adopted, the technology must be both proven sound and appropriate to the needs of the user.
- o Second, it is important to assure that the borrower can absorb and sustain a new or improved technology. The search for technical excellence has sometimes outweighed a pragmatic assessment of the extent to which technology can be adopted.
- o Third, the successful transfer of technology often places a heavy burden on Bank staff, since it implies not only a major involvement in project preparation but also a close watch on the process of technology change during implementation.
- o Finally, especially in agriculture, due attention needs to be given to cultural and social factors which might inhibit the introduction of new technologies.

Environmental Impact

1.49 There are insufficient data to draw up a balance sheet on environmental effects in any sector. The Review found that, despite the increasing attention given to the subject in recent years, the environmental impact of Bank-supported projects is not very well documented in evaluation reports.

1.50 There are several reasons for this. One obvious reason, of course, is that evaluation reports would tend to deal with the subject only when there was a recognized problem. Another reason is that most projects reviewed to date were conceived during a period when environmental concerns received less attention than they do today. This may help to explain why the protection of the environment often received little overt attention in project documents. Several evaluations refer to weak government support for project-related environmental measures, the absence of legislative guidelines, or reluctance to enforce legislation where it exists. In several cases environmental control measures were dropped to avoid cost overruns.

1.51 Some evaluation reports comment favorably on the way environmental concerns have been handled. Most industrial projects were judged to have made adequate provision for pollution control, and several agricultural projects were singled out for their effective environmental control. These included elaborate dam safety measures in an earthquake-prone area in Yugoslavia, and the effective control of effluent discharge from oil palm, rubber and livestock enterprises in Malaysia, Cote d'Ivoire and Romania. Of more significance, some projects had a positive impact on the environment by helping to develop environmental guidelines, formulating or strengthening overall governmental policies for protecting natural resources, or demonstrating new environmental control techniques.

1.52 There were other projects that were thought to have damaged the environment. These included cases where deforestation was judged to have had an adverse effect on wildlife in Cameroon, the possible pollution of groundwater resources by agri-chemicals in Yugoslavia, and a deterioration in waste water standards under a water supply project in India when priority was given to expand urgently-needed water supplies beyond the capacity of the treatment facilities.

1.53 It is likely that the increased emphasis being given to the environment today will be reflected in projects evaluated in future years. However, it is evident from this Review that it is not enough merely to include suitable protective measures in Bank-assisted projects. These can, after all, be dismantled on project completion, or lose their effectiveness through poor maintenance or unskilled supervision. They may also--like the flood-control measures in a Malaysian project, which passed on flood waters to non-project areas--fail to tackle the broader problem. It also appears necessary for the Bank to play an active role in helping borrowers to become more aware of the importance of environmental protection (and of its costs and benefits), to draw up guidelines and legislation, and to build the institutions to monitor environmental impact and enforce legislation.

Institutional Development

1.54 The review of 1985 projects again demonstrates the crucial role of borrower institutions. Nearly three-quarters of the projects were reported to have institutional development as a significant objective. Of these, 30 percent were judged to have achieved substantial results and a further 43 percent at least partial results. The sector chapters provide some insight in the range of these endeavors and their achievements. Some of the more notable achievements involved:

- o the successful introduction of the training-and-visit extension system in Rajasthan (India),
- o continued support for a new agriculture research program in Brazil,
- o widespread improvements in the managerial capacity of industrial enterprises,
- o the development of an excellent water supply agency in Bombay,
- o some important contributions to wider sectoral administration in education,
- o significant gains in overall economic management through the medium of SALs.

1.55 As in past reviews, there were other cases where the project failed to make a significant impact on the institution, and a few examples of the consequences of not tackling tough institutional problems through the medium of project lending. In Zaire, for example, the Bank too hurriedly approved a second education project despite the unfavorable experience with the first project, the acknowledged weakness of the implementing agency, and unclear government policies. In the event, 94 percent of the loan was subsequently cancelled. As a result of this experience, the third project focuses primarily on strengthening institutional capacity.

1.56 The growing body of ex-post experience with project-supported institutional development efforts suggests that, as in the policy area, there are limitations to what can be achieved under a single project. Some of the more ambitious projects demonstrated that fundamental institutional change is unlikely to be achieved within the ambit of a single project. For example, two railway projects in Algeria and Turkey attempted to radically transform railways, but the results of these bold effects fell far short of their goal. It is now well recognized that institutional development is a complex and long-term process best supported through a continuous effort over a series of operations.

1.57 But even a series of investment projects may be unsuitable for broad institutional reforms or to tackle wider constraints that go beyond the reach of the projects and the agency they are designed to support. Many projects are themselves hindered by factors beyond the control of project management. The 1985 projects include examples of good institutions which

are hampered by political interference, particularly in staff and managerial appointments. Other projects were plagued by shortage of funds, poor salary scales, national scarcity of skilled staff, or the personnel policies of the country. Some problems arise from weaknesses in the central agencies that control them, including the high turnover of senior management. In one project, for example, performance was affected by the fact that the relevant ministry changed hands twelve times during the course of project implementation.

1.58 These systemic problems may frustrate Bank attempts to protect projects through staffing or financial covenants or project-related training components. In some cases, these problems could have perhaps been foreseen at the project preparation stage and better allowed for in the design. However, there is clearly a limit to how far an agency can be insulated from the country environment in which it operates; in the worst situation even the best institution may collapse in the midst of drastic economic upheaval or political turmoil. Thus the experience of SALs--that did try to tackle these wider institutional problems--is of particular interest.

1.59 In general, the review of the first group of SALs suggests that they face some of the same difficulties as projects in trying to support institutional reform. It appears that the high-level dialogue that preceded and surrounds SALs provides an excellent opportunity to focus on the fundamental institutional problems facing a country and the priorities for institutional change. They have also acted as a catalyst in stimulating follow up technical assistance and Bank sector work. But it is generally much easier for the Bank to use SALs to initiate action--whether this be raising energy prices, reducing tariffs or undertaking a policy study--than it is to change the institutional culture of government, to develop the range of necessary skills, or to train managers.

1.60 The review also suggests that, whether the Bank works through projects or SALs, an institutional support program needs to be conceived as a long term process and developed in full understanding and agreement between the Bank and the borrower. There are no easy solutions or short cuts, and it is clear that the Bank can seldom achieve lasting results by relying upon project covenants to persuade a reluctant borrower to accept fundamental changes, on technical assistance personnel to effect change from outside, or a few officers within government to sponsor change from within. As with policy reform, it seems that the Bank must commit itself to a long-term partnership with the borrower--with emphasis on cooperative institutional analysis and problem solving--if it is to have a major impact. It also seems that the resulting institutional development program might be best supported through a variety of instruments--project lending, SALs or sector adjustment loans, and free-standing institutional support projects--in collaboration with other donors.

Sustainability

1.61 The question whether or not the benefits generated by a project will be sustained after project completion has received increasing attention in recent years. In two OED studies on the subject projects were rated

according to whether they were likely or unlikely to achieve sustainable results, or whether the outcome was too uncertain to make any judgement.

1.62 In overall terms, 44 percent of the projects were judged likely to achieve sustainability--almost the same proportion reported in the review of agricultural projects included in the Tenth Annual Review. On the other hand, 40 percent were reported as marginal or uncertain, reflecting the difficulty of making a judgement about likely sustainability when the project may not have reached maturity, when it may face an uncertain market or policy environment, or when the institution may be still young or fragile.

1.63 The factors that affect project sustainability were similar to those discussed in earlier OED reports. One of these--the need to strengthen institutional performance--has already been referred to. But two other factors stand out in sharper focus in this year's Review. The first is the impact of the world economic environment on the project, which has so often frustrated initial expectations for the project and in some cases threatens its very existence. The second factor relates to the domestic environment facing the project.

1.64 Past reports have emphasized how important are the continued support and commitment of the borrower to keep the project working successfully. The degree of support can usually be judged by its practical manifestations, particularly as expressed through supportive policies and the allocation of financial and human resources. But a more basic consideration that has been evident in recent years is the total country context within which a project must continue to operate. As more countries have faced unsustainable balance of payments deficits and crippling budgetary problems, they have been unable to sustain all the projects under implementation, not to mention supporting new ones. Moreover, some countries, particularly in Africa, simply do not have enough skilled and experienced manpower to manage all ongoing programs and projects equally well, even though the borrower may recognize that each one needs the best management available if it is to thrive.

D. Lessons of Experience and Issues for the Future

1.65 Many different factors acting together determine the outcome of a project. Most of these factors have been discussed in past Annual Reviews, particularly in the sector chapters. Their continued importance, as illustrated by the experience of the 1985 projects, justifies that they are once again highlighted in this Review.

1.66 All past evaluation work has pointed to the critical importance of project design--especially the clarity and acceptance of objectives, the technical, administrative and financial feasibility of the project, and the thoroughness with which it is prepared and appraised. These same factors have again been shown as crucial to the 1985 projects. Over one third of the 1985 projects were judged to have been adversely affected by deficiencies in preparation or appraisal. Many of these projects were based on over-optimistic production targets, or they under-estimated the implementation problems faced by the borrower, by its institutions and by project beneficiaries.

1.67 The institutional capacity of the borrower was identified more often than any other factor as determining the outcome of a project and the extent to which its benefits are likely to be sustained in the future. The performance of borrower institutions continues to be crucial to ensuring efficient implementation and the sustainability of project benefits. Many of the 1985 projects have been effective in strengthening borrower institutions, although some seem to have been based on only a superficial diagnosis of the institutional constraints facing the borrower, and an inadequate understanding of the complex and often intractable administrative, political and cultural problems involved. Another aspect of institutional capacity is the capacity to deal with the Bank's procedures and consultants--many projects were delayed due to difficulties, particularly for new borrowers, of this kind.

1.68 The Review also points to the close link between project performance and the performance of the sector or the country as a whole. In particular, as in past years, the internal policy environment has been identified as an important influence on the outcome of many projects. Yet the 1985 projects again show the difficulty of using individual investment projects as an instrument to influence wide-ranging sector policies or effect broad institutional change. Quite often the project by itself simply does not carry enough weight to achieve broader sectoral objectives, particularly when Bank funds form a small proportion of the total financial package.

1.69 In the 1980s the Bank introduced structural adjustment and sector adjustment lending so as to have more impact on policies. While these new instruments have not always been fully effective, and the actions agreed under adjustment programs have frequently been delayed, the results so far are encouraging. The introduction of SALs has provided the Bank and its borrowers with a powerful additional instrument, which in coordination with project and sector lending in pursuit of agreed objectives, can help to address economy-wide and comprehensive goals of policy and institutional reform. It has also helped to significantly increase the role of country and sector analysts in policy formulation and dialogue.

1.70 The review once again reveals that strong borrower commitment and continuing support for the objectives and priority of a project are important ingredients of success. Many projects were reported to have suffered from inadequate borrower support. Some were delayed and scaled down because of the shortage of funds, others were hampered by constraints that went beyond the control of the project agency, including national manpower shortages or a high staff turnover.

1.71 In this context, the Bank has an important role to play by supporting the process of consensus-building. Nowhere is this more crucial than in SALs, where the strength of the political commitment of, and consensus among, the political and administrative leadership of a country are fundamental. Ultimately the borrower must take responsibility for its own policies and actions and should therefore be fully involved in the design and preparation

of the project or program. But many of the more successful and high impact projects and SALs indicate that the Bank can sometimes play a crucial catalytic role in helping the borrower to review options and to build support and cooperation vital for success.

1.72 These priorities place a heavy responsibility upon the Bank and its staff and may call for new skills--in social and political analysis, in institutional analysis, and in the dynamics of consultation and consensus-building--that are not now widely available. It is important that the Bank should have the resources and full range of skills to undertake the challenges that lie ahead. Some of the recent evaluation work carried out by OED also suggests a case for strengthening the role of Bank resident missions, to give them a more substantive role in analysis, program formulation and implementation, in close collaboration with the borrower.

1.73 In view of the difficult conditions in which most of the 1985 projects were implemented, it is not surprising that many projects were reported to have been adversely affected by external events. The world recession after 1979 depressed the market for project outputs, and in some cases market prices were so much lower than had been anticipated at appraisal that it became difficult for a project to succeed. In addition, an unusually large number of the 1985 projects were severely affected by natural setbacks, such as the prolonged drought in Africa, or by political turmoil, war or sweeping administrative changes. Such events underline the need for prompt and decisive action on the part of both the borrower and the Bank to adjust to a changing environment.

II. AGRICULTURE

A. Introduction

2.01 All of the agricultural projects reviewed by OED in 1985 were approved by the Board after FY73, i.e., after the Bank's new directions for agricultural lending were announced at the Annual Meetings in Nairobi in September 1973. The purpose of these new directions was to reach more effectively those living in poverty, particularly those in absolute poverty who suffer from disease, illiteracy and malnutrition. It was estimated at the time that almost 40% of those living in the developing countries lacked basic human necessities. Efforts to overcome poverty were to be achieved in two ways: first, by assisting the poor to increase their productivity and second, by increasing their access to essential public services such as basic education, primary health care and clean water. Bank lending, therefore, would specifically target the poor through new-style projects with social components to supplement the production objectives, and with built-in monitoring and evaluation which would assist in measuring overall project impact. Since most of the poor in the developing countries subsisted in rural areas, a natural consequence of the shift in Bank priorities was that agricultural lending assumed a greater share of the loan portfolio.

B. Sector Lending Objectives

2.02 The concern for equity manifested in these policy changes of the early 1970s was not expected to conflict unduly with the Bank's traditional emphasis on growth objectives. Agricultural technology, particularly the combination of irrigation, fertilizer, and improved cereal seeds, was also considered favorable for smallholder-led growth. Since food shortages were regarded as endemic to much of Asia, and the Bank's forecasts of agricultural commodity prices anticipated continuing shortages in the wake of the food crisis of the early 1970s, the Bank simply expanded the prominence it was already according to the agricultural sector as an engine of growth and development in the Third World.

2.03 The new lending objectives also embraced institutional and policy concerns. For example, it was recognized that if governments were to deal with the more than 100 million small farm families estimated to be in need of urgent assistance, local farm groups and intermediate institutions would have to be created as channels for technical assistance and financial resources. To be viable, such local and intermediate organizations would need to display rigorous financial discipline, local initiative, and self reliance.

2.04 Some of the instruments selected to help execute the new strategy, such as, area development or integrated rural development projects, have had a poor performance record. In retrospect, the assumptions about available technologies and other factors of production, which proved accurate for irrigated and some of the better rainfed areas, have proved unduly optimistic for smallholder-led growth in other conditions, especially in pastoral areas or regions with low or uncertain rainfall. This is particularly the case in Sub-Saharan Africa. At the same time, the shift away from e.g., loans to

assist large scale livestock producers in Latin America, has been a reminder that the priorities of development aid are to help those most in need. The continued strong support under the new strategy for irrigation project lending in South Asia, which in earlier years had already benefitted many small farmers and wage employment, is also a reminder that equity considerations were not entirely a new feature of lending objectives for agriculture.

C. Sector Achievements

Overview

2.05 During 1985, 55 agricultural projects were reviewed in 38 Project Performance Audit Reports (PPARs) and 17 pass-through Project Completion Reports (PCRs). This Review reports the results achieved by the 55 projects and compares them, where appropriate, with those of a corresponding group of 221 completed projects reviewed during the previous five years, 1980-84. (A full analysis of these 221 projects is given in the Tenth and Eleventh Annual Reviews.)

2.06 As Appendix Table 2.1 shows, the 1985 group of projects exceeded those reviewed in each of the previous five years in terms of total (and average) project cost, and total Bank Group lending for the sector. Average cost of the 55 projects reviewed in 1985 was US\$82.1 million (compared with US\$58.9 million for 1980-84). Individual projects ranged in size from US\$758 million (India ARDC III) to US\$3.1 million (Maldives Fisheries). Thirteen projects had costs greater than US\$100 million each, and these accounted for 66% of the aggregate investment. At the other extreme, 11 projects had costs of less than US\$20 million, accounting for only 2.6% of the aggregate investment.

2.07 The greater part of total investments of US\$4.5 billion in the 1985 projects was concentrated in South Asia (31%) and EMENA (27%), with East Asia and Pacific following with 17%. At the lower end of the scale was LAC with 13%, Western Africa with 10% and Eastern and Southern Africa with 2.5% (Chart 2.1). The modest representation of the two African regions in 1985 contrasts with their relatively larger share of total investment in 1980-84. The investment shares of subsectors in 1985 were: agricultural credit, 26%; irrigation, 24%; area development, 20%; "other projects", 13%; livestock, 12%; and tree crops, 5% (Chart 2.2).

Economic Results

2.08 This section discusses the economic impact of projects, primarily in relation to their re-estimated economic rates of return (ERRs) anticipated

Chart 2.1 Investment in Agricultural Projects, By Region, 1985

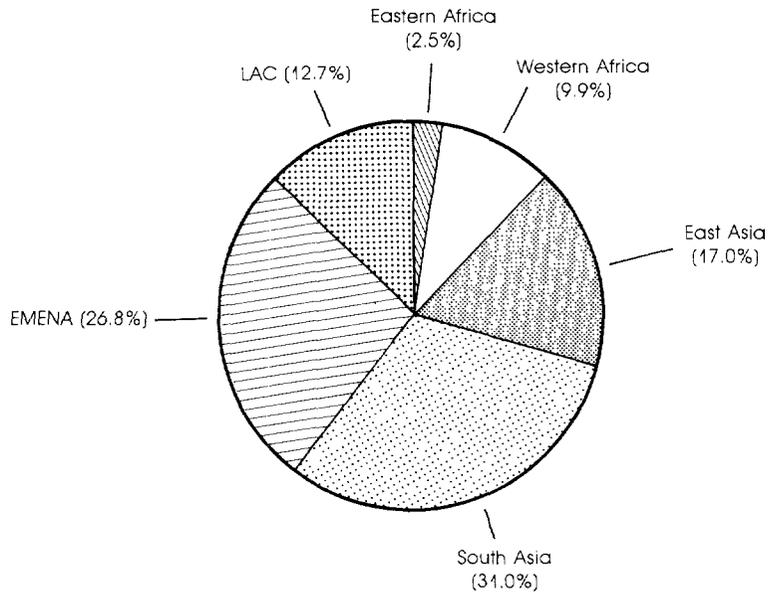
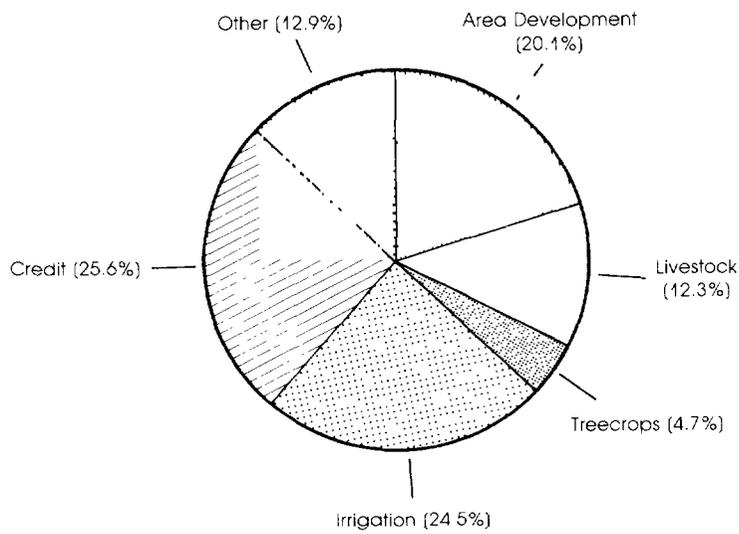


Chart 2.2 Investment in Agricultural Projects, By Sub-sector, 1985



at project completion.^{7/} These re-estimated ERRs are based on the best available actual data on costs and returns up to the time of project completion and on revised estimates for the remainder of the useful life of the projects. The main lesson from the 1985 group of projects is that agricultural investments overall continue to be highly successful, but that unsuccessful projects are still relatively frequent, regionally, in Sub-Saharan Africa and, sectorally, in area development and specialized livestock projects.

2.09 Chart 2.3 shows the weighted and simple average re-estimated ERRs reported for projects reviewed in each of the six evaluation years 1980-85.^{8/} For the 45 projects reviewed in 1985 for which ERRs were calculated, the weighted average ERR was 15.1%. This was above the level achieved in 1984 (13.7%), but still below those of the earlier years shown. The simple average (unweighted) ERR in 1985 was 13.7%. In each of the six years the weighted average was higher than the unweighted average because larger projects (especially large credit and irrigation projects) tended to have higher ERRs (Appendix Table 2.4).

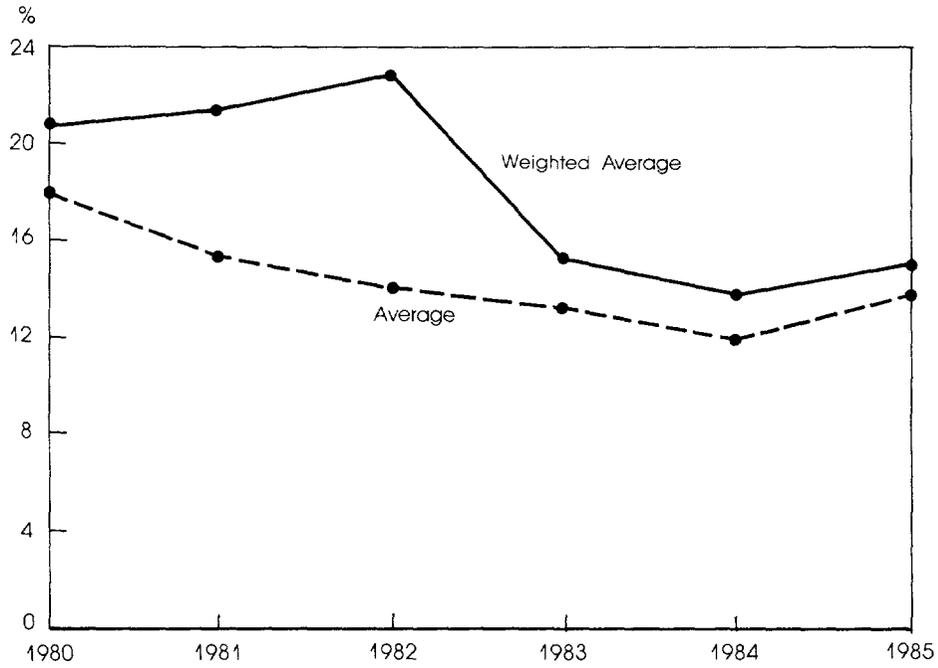
2.10 The overall project success rate for 1985 was 67%, equal to, or greater than, such rates obtained for the previous two years, but below those for earlier years (Chart 2.4 and Appendix Table 2.7). The investment success rate—the cost of successful projects as a proportion of all project costs—was 86%, nearly the same as for 1980-84 (Appendix Table 2.7).

2.11 Performance by Subsector. Judged by their ERRs, credit, irrigation and "other" projects had the best performance in 1985, followed by area development, livestock, and treecrops projects (Appendix Table 2.5). Note that area development projects enjoyed an average ERR of 12.7% and that the spread between this and the top rate of 19.1% for credit projects was less than seven points. They also performed better, by two percentage points, than in 1980-84. Judged by the less specific criterion of "success" (e.g., having an ERR of at least 10%), irrigation and "other" projects fared the best and livestock the worst, although these comparisons are handicapped by sparse observations (Appendix Table 2.8) and problems of definition. For example, a recent review of 330 ongoing and audited projects with livestock investments concluded that livestock investments as a component of a diversified project appeared more successful than as part of a specialized livestock project.

^{7/} In considering their performance, projects were judged to have been successful if they had re-estimated ERRs of at least 10%, or if other important benefits, such as significant institution building, offset the circumstances of a return that was marginally less than 10%. For projects where no re-estimated ERR was available, a general assessment of project performance was made to determine success or failure. (This methodology is consistent with that used in previous Annual Reviews).

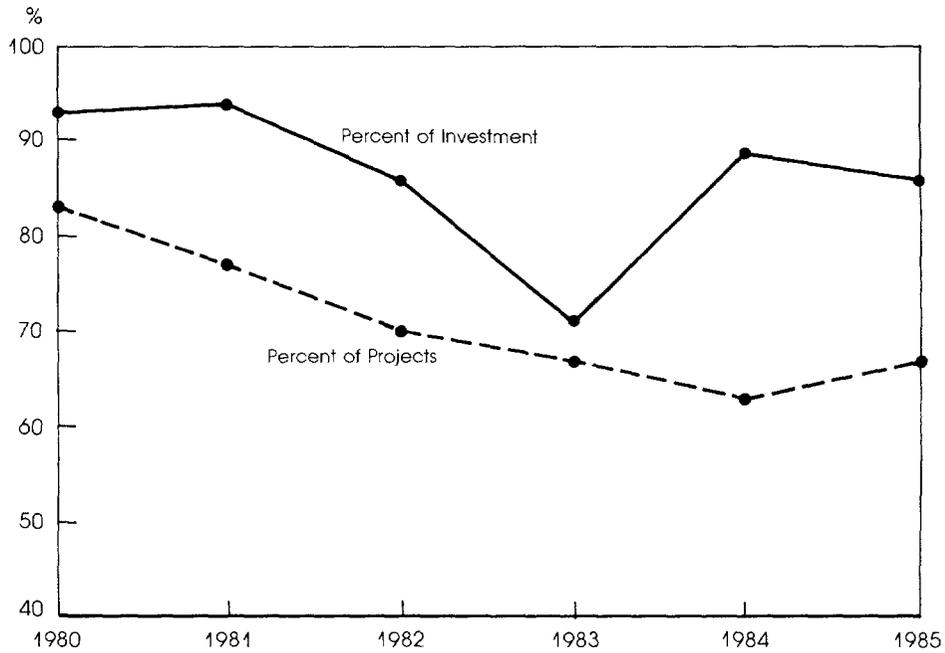
^{8/} Throughout this chapter, unless otherwise stated, all average ERRs are weighted averages where the ERRs from individual projects have been given a weight equal to the project cost at completion. For projects with a negative rate of return the ERRs have generally been assumed to be minus 5%.

Chart 2.3 Economic Rates of Return of Agricultural Projects
1980-85



Source: Appendix Table 2.4

Chart 2.4 Success Rates of Agricultural Projects
1980-85



Source: Appendix Table 2.7

2.12 Crop/Area Development projects, the largest group to be reviewed in 1985 (16 out of 55 projects), were spread widely throughout the Bank's regions, with 88% of them classified as poverty oriented. Despite the improvement in their ERR (para. 2.11), their performance was disappointing: only one-half were considered successful at completion. Irrigation projects comprised the second largest group (12 projects in 1985), with a total of nine located in East Asia and Pacific and South Asia. This group performed well; 92% were classified as successful at completion. Credit projects, which numbered seven in 1985, offered a somewhat lower success rate (71%) than in the past. Treecrops/Estates projects had mixed results again in 1985, with only three of a total of six succeeding, all in Western Africa. The livestock subsector comprised three projects, of which only one was successful. "Other projects"--forestry, fisheries, processing, land settlement, and miscellaneous--accounted for 11 of the projects in 1985, and all but one were successful.

2.13 Performance by Region. Eastern and Southern Africa and Western Africa continued to be the most problematic regions with project success rates of only 13% and 38% respectively; all other regions had success rates of at least 83%, with South Asia being the most successful (89%) (Appendix Table 2.9). Furthermore, projects in the African regions had average ERRs of less than 6%; the others had averages of at least 14%, with South Asia having the highest (22.9%) (Appendix Table 2.6). Taking the two Africa regions together, the failure rate of agricultural projects in Sub-Saharan Africa reached a high point in 1985 of 75%. This compares with 63% in 1984 and 52% in the period 1980-84. Such a bleak performance confirms once again the serious nature of the development problems of Sub-Saharan Africa. It also highlights the location of the Bank's difficulties with the agricultural sector. Sub-Saharan Africa had two-thirds of all agricultural project failures in 1985.

2.14 As reported in last year's Review, several factors account for the poor project performance in Sub-Saharan Africa: inappropriate economic policies, harsh agro-climatic conditions, insufficient agricultural research, and fragile agricultural institutions. But in view of the deteriorating record, related developments reported in other sections of this Review are of interest. First, all of the 1985 tree crop projects which proved successful were located in Western Africa (para. 2.12). This finding is a counterpoint to the negative experience with technology transfer in area development projects which unfolded in the two Africa Regions (para. 2.37). Second, the record in respect of institution building in Sub-Saharan Africa continues to decline both when compared with achievements of past years and with other regions (para. 2.33). Third, three of the seven projects overall which were identified as contributing to the removal of sectoral constraints were in Sub-Saharan Africa; all assisted in respect of price reform (para. 2.31) which is timely and relevant given the findings of this year's Review that there is a higher frequency of pricing issues for Eastern Africa in the recurring evaluation audit themes (para. 2.48).

2.15 Performance of Poverty-Oriented Projects. The number of poverty-oriented projects reviewed each year has continued to increase because more and more projects are reaching completion and are therefore being covered by

reviews. A poverty-oriented project is one where at least half of the direct benefits are expected to accrue to people in a specified poverty target group. Thirty one of the 1985 projects were poverty-oriented and 24 had no specific poverty focus. Taking only projects for which re-estimated ERRs are available, the average returns for poverty and non-poverty projects in the two periods under review are:

	Weighted Average ERR	
	<u>1980-84</u>	<u>1985</u>
Poverty	15%	14%
Non-poverty	22%	15%

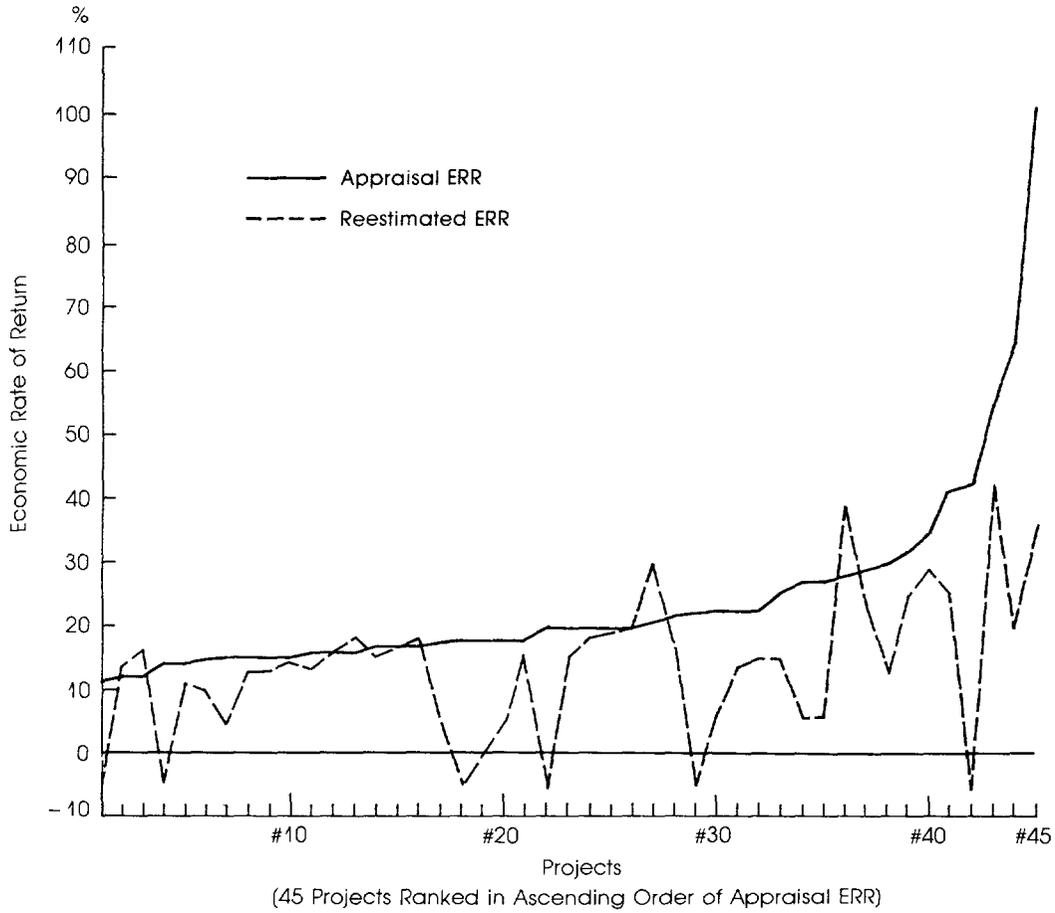
2.16 Of the 31 poverty-oriented projects in 1985, 13 (42%) were failures. This compares to 22 failures (32%) out of 68 projects for the 1980-84 period. Unsuccessful area development projects account for a large part of this failure. Virtually all area development projects are poverty projects and of the 47 area development poverty projects evaluated, 24 have been failures. Furthermore, a more careful analysis of factor influences, similar to the statistical analysis pursued in last year's Annual Review, confirms that the lower ERRs observed for poverty projects are not the result of any fundamental conflict between the growth and equity objectives of poverty projects, but reflect (at least in part) the choice of project instrument - e.g., area development projects.

2.17 Reliability of ERR Forecasts. Last year's Annual Review reported an analysis of 238 pairs of appraisal and re-estimated ERRs for the period 1979-84 which indicated only a modest correspondence between re-estimated and appraisal forecast outcomes. Re-estimated ERRs were consistently smaller than appraisal ERRs by 9.0 percentage points on average. The performance of ERR appraisal forecasts for 45 projects reviewed in 1985 was similar; re-estimated ERRs were smaller than appraisal ERRs by 10.7 percentage points on average (see Chart 2.5). The average difference has exceeded 10 percentage points now for three Review years in a row (Appendix Table 2.10).

2.18 The linkage between this observed performance of projects and their appraisal characteristics appears to be systematic enough to be used as an aid in performance prediction. Based on a statistical analysis of project profile and performance results over 1979-84, the average unweighted ERR for the 1985 projects was forecast, entirely on the basis of factors known at appraisal, at 16.4%, i.e., 2.7 percentage points above the actual result of 13.7%, and 8.0 points lower than the appraisal average (see Box). This demonstrates that the actual performance record of similar projects can offer a useful point of departure for Bank appraisal missions to improve the realism of their predictions.

2.19 Impact of Projects on Food Production. An important finding of the Bank's involvement with agriculture projects is that the predominant emphasis given to food production has continued to be a significant feature of these

Chart 2.5 Appraisal vs. Reestimated ERRs For Agricultural Projects
1985



FORECASTING PROJECT OUTCOMES

The Eleventh Annual Review presented the results of a statistical analysis of actual (re-estimated) economic rates of return and the influence thereon of the Region, subsector, project "style", and size of Borrower economy. Further refinement of this kind of analysis has resulted in a significant improvement in our ability to draw on the lessons of experience to assist in predicting project outcomes.

The same project data (for 1979-84) that were analysed in the Eleventh Annual Review have been analysed with two additional factors - appraisal ERR and appraisal completion time - and the regression coefficients so obtained have been used to forecast ERRs and chances of project success of the 1985 group of projects. Note that all the factors underlying the forecasts were known at appraisal. What has been added is the observed association of these factors with the actual performance of projects reviewed during 1979-84.

Table 2.1 gives a summary of the forecasts in the form of average ERRs by subsector, alongside the actual and appraisal ERRs, and the forecast probability of project success. In each case the statistically derived forecast ERR is closer, in several cases much closer, to the actual ERR than was the appraisal estimate. Furthermore, the statistical analysis forecast that the average success rate for the 45 projects having ERRs would be 66%, which is close to the actual success rates observed for both this subset of the 1985 group of projects (71%) and the entire group (67%) (para. 2.10).

Table 2.1: PERFORMANCE FORECASTS FOR 1985 PROJECTS, BY SUBSECTOR

Subsector	Number of Projects	Average ERRs (Unweighted)			Forecast Average/a Success Rate
		Appraisal Estimate	Forecast/a	Actual	
		%	%	%	%
Area Development	13	23.3	12.2	10.8	56
Livestock	3	19.7	6.0	2.7	38
Treecrops/Estates	5	15.5	12.5	8.3	58
Irrigation	12	23.6	22.2	18.1	82
Credit	5	28.4	22.5	16.4	83
Other	7	33.6	17.2	18.4	62
Total	45	24.4	16.4	13.7	66

/a Statistically derived.

The forecasts proved highly sensitive to project characteristics like subsector and region. For example, the analysis forecast that the Swaziland Rural Development project would have a probability of success of only 27%, despite this project's relatively favorable appraisal ERR of 23% (it turned out, incidentally, to be a failure, with an actual ERR of -5%); whereas it also forecast that the India Maharashtra Composite Irrigation project would have a probability of success of 83% even though this project had a lower appraisal ERR of 17% (it turned out to be a success, with an actual ERR of 17%).

projects. Of the 55 projects evaluated, 42 (76%) were designed either to increase the level of food production directly or had food production as an important project objective (Appendix Table 2.11). These figures are comparable to the 82% of the 1980-84 group of projects that were also designed to increase food production. In the 1985 group of projects, 8 others were designed to affect the level of food supplies indirectly. These projects were in agro-industries, grain processing, research and extension and other support-type subsectors.

2.20 More detailed data on food production at evaluation is relatively scarce. Only 22 of the 55 projects reviewed in 1985 had quantifiable data recorded at project completion on food production that was suitable for aggregation. This data indicated that incremental food production from the 22 projects was expected to reach 2.8 million tons at full development. Irrigation and area development projects produced 43% and 34% respectively of the incremental food supply. With regard to incremental food production targets set at appraisal, 12 of the 22 projects (54%) attained or exceeded food production goals. This compares to 61 projects (44%) of the 138 for which food production data were available for the 1980-84 period. Most of the projects emphasized increased food production through increased yields and crop intensity; a few achieved production increases by enlarging the area cultivated.

Social Impact

2.21 The data in the following sections on project beneficiaries, incomes and employment suffers from deficiencies similar to those for food production, and is therefore unlikely to be fully representative of eventual project impact. The limited change in, and instability of, farm incomes at the early ex post evaluation stage add to the difficulty of measuring incremental incomes or predicting what these will be at full development of the project. However, six impact evaluation studies which were completed by OED in 1985 do provide more satisfactory data since they were based upon farm surveys. Brief summaries can be found in the accompanying Boxes. A lesson from project experience is that given the extent to which data on indicators of social impact are weak, more thought has to be given as to how such information can be gathered economically.

2.22 Project Beneficiaries. Data on direct project beneficiaries were available for 35 of the 55 projects reviewed in 1985. These indicate total beneficiaries of about 16.8 million rural people or 3.1 million families, by far the largest numbers recorded in any one year (see Appendix Table 2.12). As in the past, area development, irrigation and credit projects accounted for virtually all the direct beneficiaries (99%) in this year's group, compared to a similarly high proportion (89%) for the 1980-84 period. Most of the beneficiaries were also concentrated in a few projects. Seven of the 35 projects, each with more than half a million beneficiaries (five from South Asia, and one each from East Asia and Pacific and LAC Regions), accounted for about 90% of the total numbers reached. Appraisal estimates of direct beneficiaries from these seven projects are comparable to those reached at the time of project completion. Evaluation in effect confirmed that the distribution of beneficiaries among these 35 projects was very skewed.

SOCIAL IMPACT
MALAYSIA: FIRST, SECOND AND THIRD JENGA TRIANGLE PROJECTS
(Loans 533, 672, and 885-MA)

The three Jengka Triangle projects were the first of six Bank loans to the Government of Malaysia for the development of new lands to be planted to oil palm and rubber and settled by landless people. The projects were part of a large government development and settlement program started in 1956 with the Federal Land Development Authority (FELDA) as executing agency, and which, by the end of 1984, had achieved the settlement of about 89,000 settler families on more than 600,000 ha.

The three projects, approved in 1968, 1970 and 1975, consisted of clearing about 40,000 ha of jungle, planting 26,000 ha of oil palm and 13,800 ha of rubber, construction or expansion of 4 palm oil mills, construction of roads, villages and related social infrastructure and settlement of about 9,200 smallholder families on 4-ha plots.

By the time of the impact evaluation, seventeen years after the first and four years after completion of the third project, two-thirds of the oil palm and about 20% of rubber plantings had reached full production, thus allowing a more accurate estimate of the agricultural, economic, social, financial and institutional impact of the projects.

A sample survey of 229 settlers was carried out in 1985 and follow-up interviews with twenty women settlers were conducted. The survey showed that settlers' incomes are about 3- to 3.5-fold above the rural poverty level and relatively higher for oil palm settlers than for rubber settlers. A large number of commercial activities have been developed by settlers and encouraged by FELDA. However, incomes derived from these activities were lower than expected. The survey showed that settlers' increased incomes had been translated into significant improvement in living conditions. Social infrastructure, particularly education, has been important in both attracting and retaining settlers.

The projects' negative impact on the environment was found to be less severe than expected at project completion. Soil erosion due to land clearing was minimal; all oil palm mills were equipped with efficient treatment plants; there was no indication that climatic change has resulted from the development of Jengka. The clearing of forest land, however, had a considerable effect in terms of reduction of wildlife populations, as protection measures now used were not known at the time the projects were implemented.

Although women play a major role in the agricultural activities, rubber in particular, their contribution is still constrained by traditionalist sentiment.

The financial impact of the projects has been positive for all parties involved in Jengka. While settlers have increased their living standards, FELDA enjoys a healthy financial position and the State of Pahang and the Federal Government have been able to obtain substantial revenues from the projects through land taxes and export duties. The cost recovery rate from settlers has been excellent for oil palm but less satisfactory for rubber, resulting in the need to extend repayment periods beyond the initially planned period for rubber settlers.

SOCIAL IMPACT OF THREE IRRIGATION PROJECTS

In the KOREA PYONGTAEK-KUMGANG IRRIGATION PROJECT, it was found that project farms were about 17.8% larger than the average national holdings, but farmers only had average incomes 6% above the national level. This disappointing result can be explained by Korea's rapid industrialization and the proximity of Seoul to the project area, which caused a drain on farm manpower and large increases in farm labor wages. Though spreading, farm mechanization has not kept pace with the reduction in farm labor supply. Because of migration to urban areas, fewer young people are now employed in agriculture, while older males increasingly do the work with the help of farm machines and female laborers. Revision of farm size ceilings (now 3 ha) will become essential to prevent further migration. A farm large enough to allow a potential farmer both to have a suitable income and be a part of Korea's modern culture may be necessary to attract younger people back to agriculture.

The TURKEY SEYHAN IRRIGATION PROJECT has contributed to significant increases in farm incomes. Living standards greatly improved, demonstrated by better health, education and to a certain extent, lower birth rates. Although land tenure in the project area is highly skewed (23% of the families hold 80% of the land), all smallholders have benefitted from the project. It also helped improve permanent farm labor incomes and provided about 30,000 man/months of employment for seasonal labor.

People in the area are convinced that the project is the source of their great fortune, characterized by a levelling up: poor before, they now are free from debt and risk, they have access to innovation and technology, high living standards, and a stake in the system that only the richest farmers had before.

However, problems loom. There is room for only some children to take over the land, and the fact that good technical education can be rewarded by high farm incomes provides incentives for all children to assert their claim to farm shares. Some technical problems remain unsolved. Complaints about insufficient credit are common. Policies greatly favor farmers, but subsidy policies could change, as the Bank has sought over the years.

The SRI LANKA LIFT IRRIGATION PROJECT failed to provide irrigation water adequately, dependably or equitably. Systems were underdesigned; water supply was inadequate or irregular; canal deliveries were unsynchronized with requirements of lift systems; broken down pumps took too long to repair; and water distribution was poor. These problems were due to design and implementation deficiencies, some of which were overcome in time, but not until many farmers had justifiably lost confidence in the schemes.

But the technology of chili and onion cultivation has begun to spread within the project areas and limited export markets for green chilies have developed. Thus, although the market prospects are narrowing, lift irrigation continues to be used by farmers for the cultivation of chilies and other high-value crops. In such cases, irrigation water is likely to supplement rainfall or gravity irrigation and lift mechanisms may continue to be individually controlled.

Project farmers enjoy incomes distinctly higher than non-participating smallholders. However, with no funds to replace pumps/engines in the next two years when their economic life comes to an end, the project may become unsustainable unless farmers themselves, or government, take action to replace the pumps/engines in time. The lined channels, pumphouses, pipes, etc., which have another 15 years of useful life, may become redundant without operating pumps.

2.23 The average number of beneficiaries per project for the 1985 group was about 480,000 rural people or about 87,300 farm families, nearly double the number reached on average during the 1980-84 period. The smallest number reached in a single project was about 2,200 individuals (Fiji Sugar Development Project) compared to 400 individuals for the 1980-84 period. On the other hand, the average number of beneficiaries in the 1985 group in the irrigation, area development and credit subsectors was more than half a million people per project. Beneficiary income increased as a result of intensive on-farm improvements (such as greater access to irrigation water, availability of farm inputs and credit facilities) as well as due to changes in the project environment, such as the development of rural infrastructure and village markets.

2.24 Indicative figures suggest that the average project cost per direct beneficiary (expressed in current terms) was US\$178 for the 35 projects for which information on beneficiaries was available for 1985, compared to US\$255 for the 1980-84 period. In the three subsectors (area development, irrigation and credit) where comparisons with the 1980-84 period are relatively more meaningful, project cost per direct beneficiary remained about the same for area development at about US\$100, and decreased by about 20% to about US\$230 for credit and irrigation compared to the 1980-84 period.

2.25 This year's group of poverty-oriented projects reached a larger number of rural people, benefitted a larger number of rural families per project, and had a lower cost per beneficiary than did corresponding groups in the 1980-84 period. About 80% of the total number of beneficiaries came from poverty-oriented projects, which is considerably greater than the proportion of beneficiaries reached by those projects in previous years. The average number of beneficiaries for this year's group of poverty-oriented projects was about 582,000 rural people on average, twice the number of beneficiaries from non-poverty projects evaluated in 1985. Cost per beneficiary was also considerably smaller with poverty-oriented projects than with non-poverty projects for the 1985 group. While these results are interesting, one must be wary of the sampling problems. The data available about beneficiaries tend to be drawn from successful projects, not failed ones.

2.26 Income data. The data on income generation, as in the past, continues to be insufficient. Only 15 of the 55 projects evaluated during the year provided suitable data, and in a few of these appraisal estimates of incremental income were unavailable. Most projects achieved income levels that were greater than the pre-project levels, although appraisal expectations turned out to be over-optimistic in most cases. Incremental income changes ranged from a high of US\$5200 (in 1983 dollars) per family for the Philippines Fourth Rural Credit project to actual declines in real income in projects such as the Kenya Group Farms Rehabilitation project and the Malaysia North Kelantan Rural Development project. Only in a very few projects did the incremental income generated exceed appraisal forecasts and these were notably in the Brazil Lower Sao Francisco Polders and Malaysia Keratong Land Settlement projects.

2.27 In a number of projects where income data were unavailable, the magnitude of incremental farm income may be inferred from crop yield and

production data. As in the past, these sources revealed that in many of the projects farmer income increased substantially compared to pre-project levels. However, the decline in international commodity prices affected farm income in a larger number of projects in this year's group than in previous years. In some cases output quantities forecast at appraisal were not achieved in spite of stable prices, allegedly because of factors relating to project design and implementation.

2.28 Employment data. Only 18 of the 55 projects in this year's group had data on employment, and they reported a total of 135,000 man-years of full-time employment created annually at full development (Appendix Table 2.13). This reporting rate is much in line with that for the 1980-84 group, when likewise about a third of the projects provided data on full-time jobs created. Nevertheless, a large number of projects which did not provide specific data on incremental employment are believed to have created many new jobs, particularly in South Asia (four irrigation and a credit project in India), East Asia and Pacific (three relatively large irrigation projects in the Philippines and Indonesia), Western Africa (three area development projects in Nigeria) and Eastern and Southern Africa (four credit and area development projects).

2.29 Of the reported incremental employment created by the 1985 projects, area development projects accounted for about 45% of additional jobs annually, followed by irrigation (21%) and credit (10%), in contrast to the 1980-84 period when irrigation and credit projects together accounted for 88% of the reported man-years of full-time employment created. In this year's group three projects each created more than 20,000 man-years equivalent of full-time employment and accounted for almost half the recorded total: the Malaysia Western Johore Agricultural Development, Mexico Integrated Rural Development Papaloapan, and Indonesia Seventh Irrigation projects. All three projects were poverty-oriented. In fact, poverty-oriented projects generated slightly more than two-thirds of the 135,000 man-years of full-time employment created annually at full development. Thus, it appears that poverty-oriented projects have continued to perform relatively well compared to non-poverty projects with respect to employment creation.

2.30 Overall weaknesses in the data on beneficiaries, incomes and employment point to the need to strengthen monitoring and evaluation of project outcomes. Ways in which this can be achieved as well as Bank experience with built-in project monitoring and evaluation are discussed in an OED special study (see Box).

Agricultural Projects and the Sector Policy Dialogue

2.31 A major change from projects reviewed in the previous years is the sharp increase in the number of projects used as instruments for addressing wider sector issues beyond their immediate objectives of increasing production or supporting institution building. Twenty-two of the 55 projects were identified by auditors as expecting to contribute to a sector policy dialogue; a further two had a positive impact although this had not been expected at appraisal. These efforts to accomplish wider sector impact fell into three categories: one group supported policy reform by helping to

BUILT-IN MONITORING AND EVALUATION: AN OVERVIEW

OED has made a number of studies on the monitoring and evaluation (M&E) junction, most recently with regard to 104 agricultural projects, which had been approved between 1969 and 1980 and evaluated after completion during the period 1980-84. Consistent with earlier findings, the performance of M&E in agricultural projects has been found to be relatively poor: 15% of the projects showed good results, 39% had seriously deficient M&E systems, and in 46% the M&E system either was not implemented or performance was unsatisfactory.

Shortcomings have been attributed to such factors as weaknesses in local institutions; over-ambitious objectives and targets; deficient design, appraisal and supervision; managerial and organizational problems; staff shortages; late start-up of M&E components, and failure to provide timely feedback information; better coverage of implementation compared with operational aspects; conflicts between project authorities and a central M&E unit; insufficient borrower support; too much data generated by complicated surveys combined with inadequate data processing capacity; poor cooperation of farmers or participating agencies; failure by project management to use monitoring information; and a tendency to respond inadequately after weaknesses in M&E systems had been identified.

The findings point towards some weaknesses in the basic concepts underlying M&E; monitoring is more widely accepted by borrower and Bank staff and more successfully implemented than evaluation. Although a thorough review has been recommended, preliminary conclusions are that monitoring should be undertaken in all projects as an integral component of a mandatory management information system (MIS), while evaluation need not be carried out universally but should be designed only for projects requiring an in-depth review. As a result, there would be a declining emphasis on the traditional M&E units in projects. This view is broadly consistent with efforts to reorient the Bank's M&E work, which was initiated in the early 1980s by the Agriculture and Rural Development Department's M&E unit.

A key recommendation for organizing the Bank's effort with MIS and evaluation is that its Regional Offices should strengthen their own commitment and capacity. Specifically, regional staff should be offered relevant training, and each region should establish a responsibility center for MIS and evaluation by identifying a specialist position charged with improving the region's awareness of, and performance in, project monitoring and evaluation. A specialist advisory position in OPS should be retained to provide Bank-wide leadership and coordination.

Bank Management has proposed a number of actions in response to this study. Its proposals to strengthen M&E across sectors, to upgrade regional M&E capabilities and to strengthen M&E-related training are broadly responsive to the study recommendations mentioned in the previous paragraph.

resolve previously identified sectoral problems (e.g., commodity pricing, cost recovery); a second group were vehicles for introducing new systems/procedures/strategies (for example, introduction of new extension methodology); and a third tested new approaches and policies by their support for pilot activities. As the following examples suggest, projects can play an important role in effecting necessary sector policy change by reinforcing policies introduced prior to project appraisal or negotiation, or by introducing new policies through a series of project interventions over a period of time:

o Addressing Specific Policy Constraints.

Ten projects were expected to tackle identified sector policy constraints, and seven of these had a substantial or partial impact; a further two were viewed at completion to have made a positive contribution, although this had not been anticipated at appraisal. Indonesia Seventh Irrigation and Sri Lanka Tank Irrigation and Modernization projects, while having relatively little impact on their own, nevertheless as part of the larger ongoing Bank-supported assistance for irrigation continued to address long-standing issues of cost recovery, the price of rice, and the development and management of tertiary irrigation systems. Additional project contributions in respect of removing sectoral constraints were: the simplification of government's financial procedures (Haiti Rural Development Project in the North); the raising of farmgate prices for oil palm, an important treecrop in Cameroon (Cameroon CAMDEV II and SOCAPALM II projects); the institution of a government review of producer prices, which in turn contributed to a regular review (Tanzania Dairy Development project); and improving the services to land reform (Honduras Agricultural Credit project).

Innovative, although preliminary, measures to tackle land reform and consolidation were also the outcome of two projects in Malaysia (North Kelantan Rural Development and Western Johore Agricultural Development projects), although this had not been anticipated at appraisal. In three projects, the expected contribution to improved sector policies did not occur either because of political sensitivity or because sectoral strategies, including detailed organizational agreements, had not been agreed upon by the respective governments prior to appraisal.

o Introduction of New Systems.

Nine projects were seen at appraisal to provide a vehicle for introducing new systems or procedures. Three of them expected to introduce new approaches/methodologies for research and extension (two substantially achieved their objectives); a fourth project successfully established a new policy for settlement of pastoralists; the remaining five aimed at supporting new policies promoting regional development or the opening of new areas, three of which were largely successful.

In the India Rajasthan Research and Extension project, the extension system was reorganized virtually statewide and the training and visit methodology introduced. By contrast, introduction of this same methodology in West Bengal encountered major difficulties caused by labor action. Whereas each state encountered similar problems, particularly in respect of staffing, this was to a large extent overcome in Rajasthan by relatively stronger state government support.

In Brazil, a new program for research services, including the establishment of a new agency, was successfully introduced and developed (Brazil Agricultural Research project) with the project providing timely support for clearly identified goals and objectives. In the Somalia Drought Rehabilitation Program, a strategy was ultimately developed to support the government's policy of establishing permanent settlement of pastoralists.

Five projects aimed at promoting regional development or opening up new areas. In Cyprus, the Pitsilia Integrated Rural Development project was the first multi-sector development effort undertaken by the government with Bank financing and aimed at improving an economically depressed region. Despite difficult agricultural conditions, it was concluded that strong government commitment, competent management and flexible coordination arrangements contributed to success, including the achievement of land consolidation. A similar project in Greece (Yannitsa Irrigation project) also achieved these same objectives of converting a previously poorly developed area of rainfed farming to irrigated agriculture, but here delays were encountered due to insufficient cadastral information, unsatisfactory departmental management and less government commitment. Government objectives in respect of agricultural diversification were similarly supported in Côte d'Ivoire where opening up new lands in the southwestern part of the country for rubber cultivation (Côte d'Ivoire Second Grand Bereby Rubber project) also assisted in regional development and land settlement.

Less successful projects in introducing new strategies were the Malaysia Keratong Land Settlement and Ethiopia Drought Areas Rehabilitation projects. On a more general level, however, it is evident that Bank experience with settlement projects has been positive. A recent OED review of 34 completed Bank-assisted projects, for which 27 had ERRs recalculated at completion, reported that 62% had ERRs above 10%, with a majority having major multiplier effects (See Box).

o Introduction of Pilot Reforms.

Three projects were designed with pilot components to test the feasibility of certain sectoral policies and achieved partial success. In the Thailand Northeast Rural Development project, pilot components aimed at improving research and extension systems were

THE EXPERIENCE OF THE WORLD BANK
WITH GOVERNMENT-SPONSORED LAND SETTLEMENT

A recent OED study on government-sponsored land settlement is based on 34 completed Bank-assisted projects which had been approved during the period 1961-78. The total cost of these projects was US\$1.59 billion, exceeding appraisal estimates by 93%. Total Bank Group lending amounted to US\$413 million. Implementation took on average 85 months, or 36% longer than originally expected. The average re-estimated ERR at completion of the projects which had been audited (27 projects) was 15%, compared with 17% estimated at appraisal; 62% had ERRs of 10% or better, and 50% of the successful projects had major multiplier effects.

The findings of the study confirm that successful settlement projects can not only increase agricultural production and benefit large numbers of low-income families, but also catalyze a process of regional development. Such projects have the potential to combine development with sound environmental management. Provided adequate attention is paid to the nature of the settlement process and to a number of key variables, investments in land settlement would appear attractive. Among the key variables deserving special attention are project management, site selection, research and extension, marketing services, phasing of investments, provisions for operation and maintenance, mobilization of settler initiative, and promotion of settler-run organizations.

Concerning Bank performance, it was found that lessons learnt need to be more systematically incorporated in new projects. Appraisal could be improved by providing a wider range of expertise, formulating expectations more realistically, and possibly by supplementing current methodologies. Supervision would benefit from greater frequency and flexibility, better coverage of sociological aspects, and more emphasis on monitoring and evaluation.

Of continuing concern in settlement projects are the relatively high cost and poor cost recovery from beneficiaries. Measures identified to reduce costs include combining sponsored settlers with native and spontaneous settlers; greater private sector involvement; orienting settlements more towards regional roads and market towns; investing less in settler housing, and involving settlers more in project aspects. Better cost recovery could be achieved by making cost recovery policies explicit at the time of settler recruitment; through more efficient collection; using a portion of collected funds to benefit settlers directly; and by establishing group liability through settler organizations.

Another recommendation is that the Bank should clarify and formalize its policy on land settlement. Furthermore, Bank staff should become better aware of settlement issues, with more attention paid to beneficiaries and farming/production systems. Small-scale settlements should be linked to adjacent communities. Assistance should be extended on a pilot basis to non-farm enterprise development and employment generation. Bank funding should be provided for all key project components, including urban development. The design, management and organization of settlement schemes should take due account of aspects of transferring responsibilities at project completion to suitable local organizations. In cases of poor performance, the Bank should promptly initiate remedial measures and apply sanctions as appropriate if performance remains unsatisfactory.

tested and before project completion led to follow-on projects. In Nigeria, two separate pilot efforts were tested in the Livestock Development project, one of the effectiveness of imported technologies for large-scale ranching, another on small-scale production systems integrated with agriculture. While the first has proved a failure, the positive experience gained with the second has allowed development of a follow-on project. In the case of the Algeria Technical Assistance Rural Development project, some of the studies undertaken provided useful guidelines for the government to develop improved rural development policies. The importance of pilot components or projects as a means of testing alternative development strategies was underlined in the Mexico Papaloapan Integrated Rural Development project, where the audit concluded that the integrated approach of the project proved impossible over such a large area, and that a pilot project as a first phase would have been desirable.

Institutional Development

2.32 Forty five projects reviewed in 1985 were designed to strengthen institutional capacity, by creating new agencies or reorganizing existing ones, and providing (a) technical assistance, (b) training, (c) studies and (d) systems development. In the judgement of the auditors, the record in respect of institution building continues to be weak, particularly in both Africa Regions. Admittedly, the projects reviewed would only have benefitted latterly from increased Bank efforts towards institutional strengthening. A recent Bank report on Project Implementation and Supervision also highlights that almost 40% of the on-going portfolio in the two Africa regions (and the agriculture sector in particular) continue to face "moderate problems" in respect of institutional development objectives.

2.33 The percentage of projects achieving substantial success in the realization of institutional development objectives appears to be less than in previous years. In 1985 only 17% of projects were viewed as being substantially successful, compared with 35% in 1984 and 44% for all projects reviewed between 1979-83. When these projects are combined with those achieving a partial degree of success, the percentage for 1985 is 71% of projects compared with the 72% recorded in 1984 and the 77% characterizing the 1979-83 set. The distinction in regional performance, which was noted last year, has also continued, with a higher success rate being recorded for projects outside of Sub-Saharan Africa (SSA). Thus in 1985, 78% of projects in all regions outside of SSA achieved some degree of success in respect of building institutional capacity (versus 86% for the six years of 1979-84), while only 50% of projects within SSA achieved some success (compared to 63% in SSA for the years 1979-84).

2.34 The explanation for the significantly lower numbers of projects regarded as achieving "substantial" success is not apparent. It cannot be attributed to any greater incidence of projects in this year's Review from regions which have tended to perform relatively poorly in the past. However, the importance of linkages must be recognized. There can be no doubt that the combination of factors such as inappropriate government policies, a weak

human resource base and shortage of counterpart finance, as well as the intrinsic unsuitability of many institutions to conditions encountered in Sub-Saharan Africa, play a part.

2.35 Attempts to explain the degree of partial/substantial success in institution building by examining the performance of the agencies involved produced no consistent pattern. Thus, in EMENA all seven projects achieved some degree of success although in three of them the performance of the delivery agencies was classified as poor. In Western Africa, where only 57% of projects overall made a substantial/partial contribution to institution building, no poor agency performance was recorded. It is notable, however, that in Eastern and Southern Africa, the region with the lowest achievement score (43% successful), five of the seven projects reviewed were considered to have experienced poor agency performance.

Technology Adoption

2.36 In measuring this indicator, the suitability of technology was gauged to mean the use and adoption of technical packages to increase yields and production of agricultural crops and livestock, as well as the use of engineering and other technology to make more efficient use of existing resources. Data from 44 of the 55 projects in this year's group reveal that in 39% of the cases substantial success was achieved in using and adopting technical packages; in another 39%, success was only partial; in 22% of the cases, success was negligible. At least 57 percent of the projects used technical packages that had been previously tested. An important lesson on the adoption of technology is that previously tested technical packages appear to have been successful (except in area development projects where their use did not appear to make a difference to the outcome). This confirms the findings of the Ninth and Tenth Annual Reviews which concluded that there was a high probability that improved technology would be successfully adopted if it had already succeeded elsewhere.

2.37 Lack of suitability of technology for this year's group of projects continues to be associated with cultural and sociological factors, the unfamiliarity of some of the technology, unpromising institutional perspectives, and the price/subsidy distortions associated with some factors in the technical packages. These are all findings which have been noted in past reviews and, more recently, in an OED Special Study of 330 Bank-assisted projects in the livestock subsector, focussing on smallholder development in particular (See Box). The suitability of technology appears to vary considerably across subsectors within agriculture. For example, with irrigation projects the experience has been largely favorable because the engineering aspects of the technology have been relatively easier to adopt. On the other hand, the experience of technology with area development projects, particularly in Africa, has been disappointing, especially where various other factors have compounded to make the technical package seem even less appropriate. For example, a large number of projects in this year's group were located in the harsher environments of Africa and many of them assumed high risk factors where farmers were expected to change significantly their subsistence-oriented production activities.

THE SMALLHOLDER DIMENSION OF LIVESTOCK DEVELOPMENT
A REVIEW OF BANK EXPERIENCE

A recent OED study on the above subject is based on 330 Bank-assisted projects (124 completed and 206 ongoing at the time of the Review). The total investment cost of these 330 projects for livestock development from 1959-1983 was US\$11.7 billion (constant 1983 dollars) of which almost US\$6.1 billion was targetted to smallholders. The average ERR of livestock activities of the 104 projects for which ERRs were recalculated completion completion was 11.0%, disaggregated as follows:

	<u>Specialized Livestock Projects</u>	<u>Projects with Livestock Components</u>
Smallholders	-0.3	10.7
Largeholders	6.2	13.6
Mixed Small/Largeholders	11.6	18.9
Total	7.2	14.0

Experience with project performance indicated that a large number of livestock investments were successful, particularly in the regions where lending was highest. Their success should not be obscured by the existence of problem projects, mostly in Africa, whose two regions accounted for only 11% of all livestock investment. Furthermore, the large variation in project performance suggested a need for improved appraisal methods, especially greater attention to the production coefficients adopted, the benefit stream projected, the project timeframe and risk analysis.

The principal factors contributing to successful project outcome were the availability of: technological packages adapted to existing farming systems; an economic context providing attractive producer incentives; the institutional capability to implement the proposed project; qualified technical personnel; government commitment to livestock development and/or smallholders; political and economic stability; clear property rights for lands to be developed; functioning producer organizations—particularly where group action is needed; a realistic project design which takes into account country strengths and weaknesses; and firm, consistent yet flexible supervision of implementation.

The report noted that Bank support for livestock investment has declined sharply since 1980 after a steady increase in the two previous decades, in spite of livestock's high potential for raising smallholders' incomes and living standards. At the same time, there has been a shift from specialized livestock projects to support for livestock components in large, complex projects where the primary objective was agricultural development. Other important findings concern: the importance of adequate economic incentives to project success; the need to recognize the effect of economic linkages between the agriculture/livestock subsectors; the importance of joint production systems; the shift in focus from ranching to farming, reflected in project design and country policy; greater attention for animal production research in developing countries; strengthening of livestock extension services and of support services in general; greater attention to training and to land tenure issues; and a need to focus more on milk production relative to beef and to small ruminants, swine and poultry operations.

Environmental Impact

2.38 Thirteen of the 55 projects reviewed involved environmental aspects, of which six were considered as having had a positive impact, largely by successfully supporting the introduction or development of environmental guidelines. In the remaining seven projects, it was found that the projects had a deleterious effect on the environment, or that efforts in support of environmental protection were poorly followed up during project implementation. Lessons from project experience are that first, the Bank can have a substantial input assisting in the formulation of government policy/guidelines for environmental protection which can then be strengthened through follow-on projects; second, sufficient financial resources - which can be provided through project assistance - are important, particularly where government commitment may not be too strong; and third, the Bank must follow up on environmental issues identified at project preparation or appraisal, failing which an unsatisfactory outcome is likely.

2.39 In the Zambia Industrial Forestry Phase II project and Malaysia Keratong Land Settlement project, Bank involvement assisted in the formulation and strengthening of overall government policy for protecting natural resources. Support for specific environmental guidelines was successful in four projects: in Yugoslavia Macedonia Strezevo, guidelines for elaborate dam safety measures were established in this earthquake-prone area, while in Malaysia Keratong, Romania Livestock II and Côte d'Ivoire Second Grand Bereby Rubber, guidelines were established for the discharge of effluents from palm oil, livestock and rubber processing enterprises. In Morocco Sebou II project, however, loan proceeds for the construction of an effluent treatment plant were cancelled, in part because pollution control standards drafted by the Government in 1980 were not enacted. Weak government support and the absence of legislative guidelines further affected two projects: in India ARDC III, lack of state legislation regarding groundwater exploitation, as proposed at appraisal, resulted in less effective project specific measures being introduced; in Philippines Mindoro Rural Development project, the watershed component suffered from lack of appropriate legislation and of budgetary support.

2.40 Likely project impact on the environment through large-scale land clearing was discussed in four projects. Regarding the Malaysia Keratong Land Settlement project where the United States Government's General Accounting Office had voiced such a concern during project implementation, an OED impact evaluation study which investigated in depth the ecological effects of three similar settlement projects in Malaysia found that their negative impact was much less severe than had been expected at completion. In Côte d'Ivoire Second Grand Bereby Rubber project, land clearing was also conducted in an environmentally responsible fashion, but this was less than satisfactory in the Zambia Industrial Forestry Phase II project.

2.41 In six projects there has been either poor follow-up by the Bank on environmental issues flagged at appraisal or insufficient attention accorded to ecological aspects, with consequent unsatisfactory outcome. In Burundi Fisheries and Morocco Sebou II projects, studies on lake/river pollution control were not undertaken nor were these followed up by the Bank.

Inattention to environmental aspects was evident in Yugoslavia Agriculture and Agricultural Industries (Montenegro) where intensive use of plant nutrients and plant protection measures may be affecting important groundwater resources. In Malaysia, in the North Kelantan, flood protection measures introduced by the project resulted in more flooding outside the project area, while in Keratong, agricultural development was adversely affected by elephant damage to young oil palms, but satisfactory measures for elephant control were not in place at project completion. Adverse project impact on wildlife through deforestation was also noted in Cameroon HEVECAM II Project.

Sustainability of Project Benefits

2.42 For the purpose of this Review, sustainability is defined as the ability of a project to maintain an acceptable flow of net benefits after final disbursement of project funds. This, in turn, requires evidence of a dynamic rather than a static process to maintain such benefits, with primary responsibility for this resting with the borrower and its institutions. A total of 24 projects out of the 55 in 1985 were classified at project completion as having likely prospects for sustainability; in a further 11 projects, this was considered to be still uncertain. In 12 projects sustainability was regarded as unlikely, and marginal in a further 8 cases. Lessons identified in the PPARs as accounting for likely sustainability of projects are, in descending order of frequency: (a) suitability of services extended to farmers; (b) involvement of a wide number of institutions/beneficiaries; (c) effective training/manpower development; (d) support for existing programs/institutions; and (e) flexibility during project implementation.

2.43 Suitability of the services extended includes the concept of appropriate technical packages and compatibility with the socio-cultural environment. Involvement of a mix of institutions and beneficiaries was reflected in a judicious blend of the public and private sector, strong technical back-up provided by private companies, and good coordination among various public sector agencies and self-managed farmers' organizations/women's groups. Effective training and manpower development was apparent in three projects which benefitted from strengthening of agricultural supporting services, while in the case of Fiji Sugar, this resulted in management control successfully passing to Fijians. In Côte d'Ivoire Second Grand Bereby Rubber project the training program developed for rubber tapping, including women tappers, was regarded as a model for other treecrop projects in Côte d'Ivoire in particular, and Western Africa in general.

2.44 Through support for existing programs the Bank also contributed to institution building. For example, although India Haryana was essentially an irrigation project, its sustainability was in large part due to the prior establishment of rural development programs. In a further three projects, assistance to existing line agencies enhanced borrower capacity. Strong government support was also considered important in contributing sustainability in four projects (Mexico Tropical Agricultural Development, Maldives Fisheries, India West Bengal Agricultural Development, and India Rajasthan Agricultural Extension and Research projects), while continued Bank support through follow-on projects was a key factor in four other projects (Brazil Agricultural Research, Mexico Tropical Agricultural Development, Cameroon

HEVECAM II and Zambia Industrial Forestry Phase II projects). Finally, flexibility in project implementation proved important in Philippines Second Grain and Greece Yannitsa Irrigation projects.

D. Lessons of Experience and Feedback

2.45 The following discussion of OED findings first considers recurring evaluation issues before examining those related solely to project performance. Performance-related issues tend to dominate any discussion of lessons learned but it is useful, even at the risk of some repetition, to review findings of a general nature.

Recurring Evaluation Issues

2.46 The Ninth Annual Review reported "recurring audit findings" from 43 in-depth or intermediate PPARs that were issued in 1982. The current Review presents similar information for all 323 projects reviewed over the period 1979-85: by year (Appendix Table 2.14), by type of project (Appendix Table 2.15), and by Region (Appendix Table 2.16). This issue profile deserves to be studied further to support better preparation of Bank missions for appraisal and supervision.

2.47 Table 2.2 gives these recurring themes in descending order of frequency. The five most frequently recurring issues, accounting for just over half of all issues raised at evaluation, were: project design; institutional capacity; institutional development regarding staffing and management; monitoring and evaluation; and supervision. Obviously, the way issues are categorized conditions these results, but it is significant that the top three issues and many of the remainder have strong links with project performance.

2.48 There does not appear to be much variation in these indicators among regions, although perhaps the higher frequency of pricing issues for Eastern and Southern Africa is significant. However, there is considerable variation among subsectors. Irrigation projects recorded significantly more frequent operation and maintenance issues, including post-project maintenance of facilities, while credit projects generated more issues with on-lending arrangements and institutional capacity. Treecrops and estates projects experienced more frequent issues with staffing and management, and for all "other" projects Bank supervision was a recurring problem. This kind of variation is to be expected, given the sectoral spread of Bank projects. In fact it is instances of convergence which are more significant. For example, the top five issues still accounted for a significant share of issues among all subsectors, ranging from a low of 42% for irrigation to a high of 61% for credit.

Performance-Related Issues

2.49 Appendix Tables 2.17 and 2.18 give auditors' assessments of the reasons why projects succeeded or failed. Both the definition of contributory factors and the assessments themselves are somewhat arbitrary and subjective, but their pattern is revealing. As was the case in previous

Table 2.2: FREQUENCY OF EVALUATION ISSUES, 1979-85

Issue Category	Frequency	Cumulative Frequency %
Project Design/Appraisal	207	14
Inst. Dev.: Institutional Capacity	181	26
Inst. Dev.: Staff and Management	160	37
Monitoring and Evaluation	129	46
Supervision	83	52
Pricing	82	57
Technical Issues	74	62
ERR Calculations	70	67
Technology Transfer	67	72
Loan Administration	67	76
Procurement	62	81
O&M/Post-Project Maintenance	61	85
Land Issues	53	88
Consultants	51	92
On-lending	48	95
Environment	38	98
Counterpart Funding	24	99
Cofinancing	10	100
Total No. of Issues	1467	

Reviews, the recurring nature of the assessments and their emphases is striking. There are, however, three points of incongruence between the results for 1985 and earlier years. Adverse political factors had less impact on project performance, as did also adverse pricing and other government policies, and insufficient Borrower support. Among project failures, design problems figured even more prominently than in earlier years, while among project successes, a higher proportion of 1985 projects owed their performance to good project design and strong Borrower support and, probably as a result, to better institutional performance by project executing agencies.

2.50 Last year's Review examined certain key problem areas: project design, the environment for project lending, project performance in Sub-Saharan Africa, and the Bank's arrangements for project quality control. In the course of this examination the Review observed that the Bank's internal accountability for project performance was diffused and was not confined to the agricultural divisions. The Bank's drive to reach lending targets was cited as potentially damaging but unfortunately it has been difficult for OED to isolate this issue as a major cause of poor project performance. However, a number of recent OED reports have now managed to do so.

2.51 Bank pressure to lend is evident in two projects reviewed this year. In Haiti Rural Development Project in the Northern Department, the audit highlighted that the project was "an example of the effects of Bank pressure for rapid project launching, the first in the agriculture sector in Haiti, despite scant Bank acquaintance with the country in general and the sector in particular". In Mexico Papaloapan Integrated Rural Development Project, while the project, unlike Haiti, was carefully prepared, the initial design (based upon pilot activities) was completely changed by the appraisal mission--the project area was extended sevenfold to cover the entire Papaloapan Basin, with costs increasing from US\$26 million to US\$111 million and later to US\$138.5 million. The complexity of design, insufficient preparation and poor interagency coordination resulted in the project closing three years behind schedule with about half the original project components implemented and 48% of the Bank loan cancelled. The audit concluded from project experience that "although the project was designed as a pilot project, the Bank's and Government's pressure for quick action and a more ambitious project resulted in insufficient project preparation."

2.52 The results of such pressure to lend confirm a finding noted in the audit of six agricultural projects in Tanzania in 1984, where "the speed of the build-up (of the lending program) with many projects being prepared and appraised rapidly, overstretched implementation capacity and detracted from performance of all projects." The audit concluded "a more carefully phased build-up, including due attention to the risks involved, particularly of technical risks brought to the attention of Bank management, probably would have had a better result both in terms of short-term impact and longer-term sustainability." Similarly in Madagascar Morondava Irrigation and Rural Development project, the audit highlighted the lack of consensus between the Bank and the Borrower and stated that "the new government was pressured by the Bank to accept the project so that it could be immediately submitted to the Executive Directors...it was clear, however, that the new government had serious reservations about the project." The audit further noted that the Bank's insistence on holding to the date of Board presentation despite the Borrower's reluctance "is likely to cause future difficulties and is a risk that should not be taken simply for the purpose of respecting time-tables." A recent special study attributed poor performance of smallholder livestock projects in part to the pressures of the lending program, concluding that "it is neither in the Bank's, nor in the individual borrower's interests, to embark on non-viable undertakings on the basis of lending targets."

2.53 These projects offer instances where an unseemly pressure to lend was detected at evaluation. Such pressure is not normally so detectable and is seldom documented. Because of the subtlety of its influence on mission terms of reference, reporting, and decisions, it is an extremely difficult factor to evaluate. To be sure, the existence of some level of pressure to lend in a development institution which takes its funding mandate seriously is probably axiomatic. The challenge for the Bank is to ensure that its procedures release this pressure in well-managed directions and prevent it from getting out of hand. There is reasonable suspicion that some projects approved in the 1970s, when the Bank's lending program was expanding rapidly, were influenced adversely by pressures to lend. Clearly at risk were

marginal projects, already risky enough. But even projects otherwise sound at conception, like the Mexico Papaloapan project, were open to distortion.

Summary of Findings and Lessons Learned

2.54 It is appropriate again this year to highlight the principal findings (including those highlighted in the past), according to how agreeable or disagreeable they have been:

Agreeable

1. the total investment in agriculture projects continued to perform well (paras. 2.08 and 2.10)
2. irrigation and credit projects generally achieved the highest returns to investment while agriculture projects in the two Asian regions and EMENA continued to perform well (para. 2.11 and 2.13);
3. poverty oriented projects generated more employment opportunities and reached a larger number of beneficiaries at lower cost (paras. 2.15, 2.16, 2.25 and 2.29);

Disagreeable

4. area development, specialized livestock, and treecrops/estates projects continued to have the most difficulties (paras. 2.11-2.12), while agriculture projects in Sub-Saharan Africa continued to perform poorly (para. 2.13);
5. consistent overruns in project cost and completion times, with related delays in disbursements are a continuing problem (Appendix Tables 2.19 & 2.20);
6. the Bank has usually failed to obtain changes in sector policies through individual covenants in projects' legal agreements as witnessed by the fate of most covenants on commodity pricing and irrigation cost recovery (1985 Annual Review);
7. project achievements in respect of institution building continue to be weak, particularly in the two Africa regions (para. 2.32);
8. data on indicators of social impact continue to be incomplete and weak, and it is not clear whether such information can be gathered economically (para. 2.30);
9. the data on food production, cropping intensity and yield increases are also relatively incomplete, though more reliable than the social impact data (paras. 2.19, 2.20, 2.36 and 2.37);
10. the suitability and adoption of technology varied between subsectors in agriculture; area development projects seemed most prone to have problems with technical packages (paras. 2.36-2.37);

11. the Bank's commodity price forecasts for a number of major commodities, including cereals, were too optimistic up to 1982 (1985 Annual Review);
12. the Bank's appraisal forecasts of project outcomes have been unduly optimistic, reflecting the negative flavor of many of the above-mentioned lessons (paras. 2.17-2.18);

Other Findings

13. previously tested technical packages have been more successful than untested technical packages (para. 2.36); and
 14. most of the direct beneficiaries reported in completion reports at project completion were concentrated in only a few projects (para. 2.22), which appears to be consistent, though, with numbers reported at appraisal.
- 2.55 The major lessons learned have been:
1. projects can play a reinforcing role in effecting sector policy changes which have been introduced beforehand (paras. 2.31 and 2.38);
 2. project related dialogues and support can encourage governments and agencies to undertake environmental impact assessments (para. 2.38);
 3. important factors in project sustainability were shown to include suitability of services extended, involvement of a wide number and range of participants and effective training and manpower development (para. 2.42);
 4. there can be adverse consequences, particularly for marginal project proposals, of improper handling of pressures within the Bank to lend money (paras. 2.50-2.53);
 5. the high success rate for credit projects has not reflected adequately the frequent doubtful financial viability of financial intermediaries (1985 Annual Review);
 6. the high success rate of irrigation projects has been in spite of the frequently poor maintenance of canals and other irrigation structures; and
 7. if Bank supervision fails to follow up on environmental issues identified at appraisal, an unsatisfactory outcome is likely (para. 2.38).

Bank Response and Follow Up

2.56 The Bank's response to OED's and its own findings on project experience is recorded regularly in project implementation reviews and Annual Reports to the Board on Project Implementation and Supervision. The following paragraphs summarize the principal elements of this response as reflected in the most recent reviews and reports.

2.57 Regarding the least sector-specific of problems afflicting agricultural projects - e.g., the linkage between project and macro economic performance in Sub-Saharan Africa - the Bank has helped countries improve their financial and economic environment through a variety of actions ranging from SALs to Country Implementation Reviews. Regarding implementation delays, Bank management has likewise responded with a number of measures, the most prominent of which was its instructions in September 1985 requiring the use of standard disbursement profiles which indicate the historic implementation experience for the different lending instruments, by sector and subsector. The more specific lessons for agricultural lending have drawn a variety of responses dealt with below.

2.58 Bank staff note that past difficulties in obtaining successful compliance with covenants - e.g., on commodity prices and irrigation cost recovery - are not, as such, a reason to cease seeking sector policy changes through project lending. Staff are more conscious now of the need to obtain early government commitment on key sector and institutional issues, with as many changes as possible before project appraisal or negotiations so that there is less reliance on uncertain commitment.

2.59 The changing role of resident missions and of local contract staff is important. The Bank's Regional Mission in Eastern Africa was reorganized in 1984 to integrate its supervision and preparation work more closely with the overall Bank strategy in the countries concerned. Implementation assistance has also been strengthened through the secondment of Bank staff (e.g. in Zaire and Tanzania) and use of local contract staff in Kenya. Regional Staff believe that the changing nature of its operations will require supportive in-the-field collaboration with borrowers, which in turn calls for more projects staff (particularly in Agriculture) in the resident missions. In W. Africa, the agriculture staff in Abidjan, which previously had responsibility for project preparation and supervision in some countries, has been converted into a Division which has full responsibility for the Agriculture sector in four countries; responsibility for preparation and supervision in other countries has been assumed by the other Agriculture Divisions at Headquarters. In E. Asia, the resident missions in Indonesia and Thailand are making an increasing contribution to supervision, especially in Agriculture.

2.60 An increasing number of mid-term reviews are being held for agricultural projects in all Regions to adjust implementation plans or even project objectives. Also, in each Africa Region, a Senior Agricultural Advisor has been appointed in the Projects Department to help address systematically issues of lending and implementation in agriculture. In response to the technical and design difficulties of projects, the Agriculture Department has urged that:

- o agriculture projects not include research components if they involve only short-term support, and thus distort long-term research priorities;
- o forestry programs be funded in a series of time slice projects over 10-15 years; and
- o livestock development be treated as an integral part of the farming system, and that veterinary service costs be recovered by involving producer associations.

Examples of other specific responses of the Bank in Eastern Africa have been:

- o the closing out of about 50 projects in FY85, many of them agriculture projects with major problems;
- o simpler projects with more cautious expectations of organizational and managerial improvements;
- o a shift from integrated rural development projects to institutional support for research, extension and marketing; and
- o a shift from new investments to rehabilitation and to operations which address policy and institutional problems more systematically.

III. INDUSTRY

A. Introduction

3.01 This review covers a diversified group of thirteen industrial projects^{9/} evaluated during calendar year 1985: three mining (two copper, one aluminum), nine process industries (four fertilizer, one polyester polymerization, one glass fiber, one pulp and paper, one steel, and one cement), and one industrial estate.^{10/} In all instances, the project sponsors were government owned or controlled enterprises. Total investment cost amounted to US\$2,630 million, of which US\$770 million (29%) was financed by the Bank, US\$261 million (10%) by foreign official sources, US\$252 million (10%) by foreign commercial sources, and US\$1,363 million (51%) by own funds, budgetary allocations and local commercial sources. A common feature of virtually all projects was that they were large, complex, technologically advanced and highly capital intensive. The regional representation of the projects was as follows: East Africa 1, LAC and East Asia and Pacific 3 each, and EMENA 6.

B. Sector Lending Objectives

3.02 As with the projects approved during the 1970s, most (eight) of the currently reviewed projects involved construction of new production facilities, but quite a few (five) included rehabilitation, modernization and/or expansion of existing plants. The projects (approved between 1973 and 1979) reflect the Bank's emphasis during the decade on project lending in productive sectors to help spearhead industrial expansion, modernization and diversification, and generate or conserve foreign exchange. Several projects

^{9/} Of the thirteen projects listed in Appendix Table 3.1, only three were audited by OED.

^{11/} The industrial Estate (Jakarta Pulogandug) project in Indonesia is not reviewed in this chapter since OED proposes to undertake a study to assess the Bank's experience with industrial estates and export processing zones. It is sufficient to note that, as was the case with earlier industrial estate projects which have been evaluated, Coromandel (Mauritius), Latkrabang (Thailand) and the Industrial Estate Authority (YAR), discussed in the Tenth and Eleventh Annual Reviews, the Jakarta Pulogandug Estate encountered problems in implementation, in particular land acquisition difficulties, which resulted in changes in scope and design. The estate is expected to be completed in 1988. Despite the setbacks, the prospects are that the project will be a reasonably successful one. The institution-building objective has been achieved, while financial performance to date is considered satisfactory.

initiated policy dialogues, aiming at the promotion of sectoral and institutional objectives. Thus, the projects aimed primarily at expanding available capacities for efficient import substitution and, on occasion, for export, focussing on the production of complex, high value-added "down-stream" products relying on domestic natural resources. In most instances, transfer of technology, attainment of optimal plant scales, and establishment of high ecological standards and pollution control devices, were additional important objectives.

3.03 All projects supported high priority sectoral programs formulated by the respective governments, in some cases assisted by Bank staff. Aside from promoting the vertical integration of facilities (e.g., mining, beneficiation, processing into intermediate and final products; glass making, spinning, weaving, finishing), many of the projects featured strong inter-sectoral linkages. In countries with a fairly well established technological base (Brazil, Romania), a further objective was the promotion and development of increased technological capability of the local capital goods industry. In certain industries (fertilizer, cement), the project also aimed to address deficiencies in the distribution system, or to help work out a master plan for the development of the entire industry.

3.04 Finally, most projects were designed to assist in the further institutional development of the sponsoring project enterprise, including expansion of training for managerial and technical personnel, improvement in accounting and management information and control systems, establishment of sound financial principles and pricing policies, and the rationalization of marketing activities.

C. Sector Achievements

Operating Results

3.05 As in earlier reviews, most of the projects were implemented with considerable delays, typically ranging from twelve to thirty-six months (Appendix Table 3.1), in part because of the novelty of the production processes, the inherent complexity of the task at hand, unrealistic implementation schedules, and factors beyond the sponsors' control. Major causes included ineffective project management, instability in senior management, lack of experience of contractors in implementing technically complex projects, change in project site, scope and implementation arrangements, poor performance of local civil works contractors, land acquisition problems, shortage of construction materials, delays in delivery of locally produced equipment, political vicissitudes, shortage of counterpart funds, administrative hurdles, and political interference. By contrast, superior performance is attributable to contracts with potent bonus/penalty causes for early/late completion, good performance of engineering contractors, smooth procurement of equipment and services, use of competent and highly experienced engineering contractors at all stages, strong management teams, and effective Bank supervision. These findings affirm the project experience discussed in earlier reviews.

3.06 Of the thirteen projects in the group, five had cost underruns in U.S. dollar terms, largely due to the devaluation of local currencies and hence a decline in local costs, efficient procurement of equipment and materials, adequacy of price contingencies, and effective implementation. Six projects experienced marginal cost overruns (1% to 7%), and only two overruns of about 50% (Appendix Table 3.2). Reasons for cost overruns include delays in implementation, changes in project scope and design, design deficiencies, lack of counterpart funds, and higher costs of engineering and project management. This experience contrasts with the findings of earlier reviews where there have been substantial cost overruns.

3.07 Mining projects. The experience with this group has been quite varied. The aluminum project in Brazil was very successful in production build-up and rapidly achieved design capacity. Despite the decline in domestic demand, production levels have been sustained through an effective export drive. In Peru, the copper project experienced considerable difficulties due to equipment failures, construction deficiencies, design problems both at the mine site and the concentrator, and the inferior quality of ore. Because of these problems, production in the foreseeable future is not expected to exceed 75% of the original estimate and the project has been rated unsuccessful (para. 3.27). In Zaire, the copper project suffered from the political and economic vicissitudes of the 1975-78 period, which necessitated changes in the scope of the project and the implementation of a program to rehabilitate the company's operating facilities. Completion of the full scope of the original expansion was postponed indefinitely due to financial constraints. The project only succeeded in restoring previous levels of production.

3.08 Fertilizer group. The plants in Indonesia reached full capacity utilization rates earlier than expected. This favorable performance is principally attributable to the continuity of top management, the creation of a strong management core, the development of local skills through extensive training and the use of technical assistance, and the construction of virtually flawless facilities by using competent and highly experienced engineering firms at all stages. In Brazil, the acid plants reached high capacity utilization levels after overcoming the initial operating difficulties due to process and equipment problems. Although the decline in demand for fertilizers has constrained fertilizer output to about one-half of capacity, the plants producing intermediates were able to achieve high capacity utilization by marketing the excess acid to private sector fertilizer plants. Finally, in Romania, sustained capacity utilization in the earlier period hovered around two-thirds of the rated level due to ill-phased commissioning of the various units and operational problems. Efforts to improve capacity utilization of the plants were frustrated by the low domestic demand for fertilizers and the depressed export market.

3.09 Manufacturing process group. Here the build-up of production in the glass fiber and polyester polymerization plants in Romania was affected by decreased consumption and changes in the composition of demand. Both, however, expect to reach rated production levels in 1986 based on favorable demand forecasts and the fact that the equipment is sufficiently flexible to permit changes in the product-mix. In Turkey, after initial technical

difficulties due to equipment failures, the newsprint mill reached relatively high capacity utilization rates (80%), largely thanks to the considerable effort to train operating and technical personnel. But production of sawnwood, a component of the project, has been well below appraisal estimates because of the severe depression of the construction industry. The slow build-up of production of the steel project in Romania reflects to some extent a longer than expected learning curve, equipment problems (para. 3.11), and slower than projected growth of the domestic market. Full capacity utilization could be achieved in 1986 provided that a portion of the output can be exported. Finally, the cement plant in Egypt has operated at approximately 60% of rated capacity, severely affected by shortage of skilled personnel and maintenance problems.

Financial and Economic Results

3.10 Recalculated financial rates of return at audit were below 15 percent for about half of the projects, but well above original estimates for the remaining (Appendix Table 3.3). Only two projects had unsatisfactory recalculated economic rates of return. Lower re-estimated returns typically are attributable to cost overruns, delays in implementation, low capacity utilization, increases in operating expenses, and the decline in product demand and prices. Higher returns, on the other hand, reflected savings in capital cost, superior production performance, a shift toward higher value products, and favorable price trends for specialized products.

Sectoral and Policy Reforms

3.11 About 75% (US\$101 million equivalent) of the equipment procured by the projects implemented in Brazil and 25% (US\$54 million) of those supported in Romania was manufactured by the local capital goods industry under technology transfer arrangements. However, the high level of technology transfer achieved was marred by significant delays in the delivery of the locally produced equipment. These delays were caused by differences in standards between external suppliers and local manufacturers, repeated alterations in the technical documentation required for the local manufacture of some parts to permit interfacing with imported equipment, and the fact that some local factories were manufacturing specialized equipment for the first time. Furthermore, the adaptation process resulted in costly delays in project completion, as well as equipment failures or problems requiring subsequent design modifications. Nevertheless, domestic capabilities for sophisticated equipment fabrication were developed, local technicians acquired valuable skills in the process, and the growth potential of the local capital goods industry was enhanced.

3.12 Preparatory work for the Indonesian fertilizer project drew attention to the need for major changes in the existing distribution system and led to Bank support for the construction of facilities, the purchase of transport equipment, and the preparation of a study for the development of a national distribution system. The series of projects in the manufacturing sector in Romania raised the awareness of the authorities of industrial, economic and accounting practices elsewhere in the world, and played a part in promoting gradual, but fundamental, changes in existing practices toward

industry, including increased enterprise autonomy, appreciation of the value of invested capital and revised accounting procedures. Many of the latter were incorporated in the economic and financial measures recently adopted by the government.

3.13 In Turkey, the broader sectoral objectives of more efficient use of wood through integration of a sawmill and a pulp mill, as well as the energy savings from delivering wood with intact bark that can be used as fuel, were not achieved. The failure was due to the persistence of the traditional forestry practice of hand-barking. In Egypt, a study of production, distribution and marketing facilities in the cement sector to prepare a comprehensive investment program, was carried out; but an investment strategy was never formulated, and there has been no progress in improving pricing policies.

3.14 The difficulties in achieving some of the wider sectoral objectives or policy reforms (e.g., managerial autonomy in public sector enterprises) certainly does not suggest that the project approach to address such problems should be discontinued, as there have been cases with tangible achievements in the past. But the experience points to the need that, in particular environments, such efforts often have to be complemented by macro-economic or sector reforms possibly in the context of a structural adjustment loan.

Institutional Development

3.15 Considerable progress has been made in strengthening institutional capacities. With few exceptions, the projects under review developed sound organizational structures, management systems and technical staff capabilities. External technical assistance and extensive manpower development programs with the participation of licensors and equipment suppliers, strong political commitment, and managerial autonomy accounted for this outcome. For instance, in Indonesia, the fertilizer enterprise opted at the outset to muster a substantial input of expatriate expertise, and implemented a comprehensive staff training program which permitted local personnel to move rapidly into technical and managerial positions. The company also developed a modern financial management system to cope with its expanding operations. Reimbursement for accumulated losses the enterprise had suffered in discharging marketing responsibilities required by government, as well as financial covenants which impressed on the authorities the need to focus on important price relationships, helped to strengthen the financial viability of the company.

3.16 At the other end of the spectrum, as a result of the limited autonomy over major policy and managerial decisions, the institutional underpinning of the project sponsors in Zaire and in Egypt remained weak, and has adversely affected their operating and financial performance. In the case of Zaire, two recent Bank technical assistance and rehabilitation projects aim at helping the copper company to consolidate its reorganization effort, to undertake financial and engineering studies to improve technical efficiency and cost controls, and to strengthen its management in production, finance and marketing.

Technology Transfer

3.17 Process technology transfer to intermediate and consumer goods industries was a major objective of most projects covered in earlier reviews and common virtually to all projects under the present review, affording singular opportunities to those countries that were in a position to exploit them. As with the projects reviewed earlier, this objective was met successfully--although at a cost. The technologies were appropriate and efficient considering the resource endowment and the stage of development of the host countries.

3.18 For example, the aluminum smelter in Brazil employed a novel pre-baked anode electrolytic reduction cell technology, which entails lower energy consumption, simpler operating procedures, lower operating costs, and fewer industrial wastes. The process selected for the production of glass fiber (Romania) uses a more effective drawing system which reduces energy consumption and material losses. The polyester polymerization plant (Romania) was based on a continuous production process that permits lower operating costs and ensures more uniform product quality. The steel plant (Romania) involved new processes in the production of stainless steel and more efficient techniques in the production of high alloys. The newsprint project (Turkey) introduced two recently developed process technology improvements (thermo-mechanical pulping and twinwire papermaking), which have significant technical and financial advantages. Finally, the cement project (Egypt) pioneered in that country the application of the more energy efficient dry process technology.

3.19 The experience with all projects involving sophisticated technology transfer demonstrates that the hurdles in high technology transfer cannot be underestimated. All the projects suffered from prolonged commissioning problems and loss of production. In reality, some of the implementation delays represent the learning curve for the domestic enterprises engaged in manufacturing equipment for the first time. Part of the delay, however, represents the slow recognition by some of the agencies involved of the technological complexities and the inherent difficulties of the task at hand. Excessive confidence has been particularly evident in instances where there have been earlier successful attempts to adapt modern technology, albeit at a more basic level (e.g., Romania).

3.20 An institutional by-product of technology transfer was the involvement in some instances of local engineering firms as prime contractors with full responsibility for design and construction. In the process, these local firms worked closely with foreign engineering contractors and gained valuable experience in modern design and engineering techniques, thus becoming effective vehicles for the adaptation of modern technology. Their experience was further enhanced by their involvement in offsite design and erection. Such an exposure, as well as the experience these firms gained in project management, were important steps in their achieving professional recognition.

3.21 It is noteworthy that in projects involving technology transfer and adaptation, project sponsors and the Bank recognized early on the risks and

uncertainties associated with these novel processes. To minimize those risks, during the project preparation stage the Bank was regularly engaged in thorough vetting of the issues with the sponsors, the contractors and/or the equipment suppliers. In most cases, the sponsors were encouraged to make use of independent technical advice, particularly during the implementation stage, to help them seek solutions as problems arose and to train their staff. This approach, largely due to the receptivity of the sponsors, was effective.

Environmental Issues

3.22 All projects in this group included provisions for pollution abatement in major production facilities, in line with the Bank's policy instituted in the late 1960s. The pollution control equipment was designed to reduce air and water pollution to meet set standards. On occasion, these standards also provided a convenient vehicle for instituting or upgrading environmental measures. In general, monitoring practices meet established norms, emissions are not spewed into the atmosphere, and liquid effluents are treated properly before discharge. The cement plant in Egypt has not had any problems with liquid effluents; but it did have some ecological problems in cleaning the exhaust gases, apparently due to inadequate maintenance. In the case of Peru, the original decision to neutralize discharges by installing a solvent extraction and electrowinning plant was subsequently reversed, with Bank approval, to avoid cost overruns; as a result, the effluents are now discharged into a tailings pond. The full environmental impact of this short-term solution is under review with Bank assistance. No appreciable detrimental effects on the environment were reported in all other instances.

Sustainability of Project Benefits

3.23 Despite setbacks due to technical and teething problems that affected production build-up, most of the projects had achieved or approached design capacities at audit, and prospects appeared good that these results would be sustained into the future. Progress in achieving institutional objectives was on the whole positive, as the projects in most instances have developed technologically advanced and competitive plants, sound organizational structures, energetic and outward-looking management teams, and effective management systems. In the few instances where sustainability remains uncertain, the principal threatening factors are government interference with the company management, price controls, sluggish progress in institutional development, and market uncertainties. On the other hand, the major factors accounting for the unsustainability of the only project in the group reviewed were design deficiencies, equipment failures, poor quality of ore, and the dramatic decline in prices (see also paras. 3.27-3.29).

3.24 Financial profitability for all projects has been below expectations but improving. Contrary to the experience with earlier reviews, reestimated financial rates of return were unsatisfactory in quite a few projects, but economic rates of return, with two exceptions, were satisfactory although below the estimated rates at appraisal. The main problems likely to affect the future flow of benefits derive primarily from potentially unfavorable market developments and price trends over which enterprises have little control.

D. Lessons of Experience and Feedback

Overview

3.25 The projects in the group supported high priority sectoral programs, were technically sound and, with few exceptions, economically attractive. While costly in terms of delays in completion, the projects were convenient vehicles for the introduction and adaptation of modern process technologies, as well as for the development of the domestic capital goods industry and the acquisition or upgrading of skills. The overall approach to technology transfer and adaptation was imaginative, well designed, judiciously integrated, and resulted in the successful adoption of efficient and forward-looking technology. The projects also emphasized and contributed to policy reforms, particularly to the institution of more realistic pricing policies and to improvements in the marketing and distribution systems, although success has been uneven.

3.26 Bank supervision has been visible, high in frequency and effective, with the Bank playing an important role in the preparation and design of the projects, in upgrading safety and environmental standards, in encouraging financing by multilateral and bilateral agencies, in assessing technical assistance requirements, in formulating procurement arrangements, and in strengthening project implementation management. The bidding, bid evaluation and award of the equipment packages were on the whole satisfactory. Covenants were pertinent, realistic and unambiguously formulated and, with some exceptions, they were complied with. On occasion, covenants were particularly helpful in raising prices to more realistic levels and in instilling financial discipline.

3.27 At the time of the audit, only the copper project in Peru was considered unsuccessful, as it had achieved few objectives, if any, and had no foreseeable worthwhile and sustainable benefit flows through its economic life. Difficulties in start up and operations due to construction deficiencies, design problems, equipment failures, poor quality of ore, and adverse price trends were major factors that adversely affected performance. As the expected reduction in operating costs and increase in copper recovery did not materialize, cash flows and rates of return became negative. The fertilizer project in Romania revealed major shortcomings in meeting its objectives, in part due to unfavorable market developments; but it can still be considered worthwhile and as marginally successful, although its sustainability remains uncertain.

3.28 Four projects (31%) have had partial success and their sustainability is still uncertain. The cement (Egypt), newsprint (Turkey), copper mining (Zaire), and industrial estate (Indonesia) projects have achieved some of their objectives, have had fairly satisfactory performance to date, their physical characteristics and potential augur well for the future, and they can be reasonably expected to sustain their economic and financial benefits as they strengthen their institutional capacity. But an array of external and internal factors have affected their performance: they relate to government interference with the company's operations, price controls, poor world market performance, slow growth of domestic demand, lack of experience

in export marketing, unstable organizational arrangements, poor product quality and shortage of skilled personnel due to high turnover.

3.29 The remaining seven projects (55%) were the most successful. They achieved virtually all original objectives, showed high performance results, and the prospects appear good that the results attained will be sustained into the future. These satisfactory results reinforce similar findings by earlier reviews. Major factors accounting for superior performance relate to design (e.g., appropriate technology and plant scale, adequate project preparation), implementation (e.g., effective project management, borrower commitment and support, effective external technical assistance and Bank supervision), and efficient operations (e.g., strong management team, development of institutional capacity and human resources, rapid achievement of design capacity, successful export drive, flexibility in product-mix).

Lessons Learnt

3.30 Whatever success was achieved in terms of sector policies and institutional impact it is a reflection of the political commitment of the borrowers and their agencies; the sensitivity and skill of the broader dialogue between Bank and borrowers; the receptivity of the borrowers to change and reform, without which narrow project conditionality would not have been effective; the generally high quality of project design and preparation; and finally, the shared awareness of the Bank and its borrowers of the potential impact of stronger technical capabilities and institutional capacities on the longer-term development effort. Such benefits cannot be fully captured by the economic and financial returns of these projects but they are nonetheless vital. The few less successful of the 1985 projects represented failures in one or more of these critical areas.

3.31 The Bank's involvement in addressing many issues that emerged during the preparation, implementation, commissioning and operation stages of the projects provided a rich experience. The lessons drawn largely affirm those that were noted in previous annual reviews.^{11/} They suggest:

- (a) the high pay-off of using competent and highly experienced engineering firms at all stages;
- (b) the importance of maintaining good working relationships with consultants and contractors;
- (c) the significance of extensive training in developing local skilled and managerial personnel;
- (d) the need to appreciate at the outset the complexities of technology transfer, and to ascertain the technological capability and delivery capacity of suppliers when procuring locally produced equipment, particularly for complex and innovative projects;

^{11/} For a convenient summary, see in particular Tenth Annual Review of Project Performance Audit Results, 1984, paras. 4.15-4.27.

- (e) the advantage of working out procurement arrangements and cost control arrangements well in advance;
- (f) the cost-effectiveness of providing for bonus/penalty clauses tied to implementation schedules for engineering contractors;
- (g) the need for more circumspect forecasts of demand and price trends;
- (h) the serviceability of financial covenants as well as agreements on product pricing, even if enforced with difficulty, in initiating policy changes and in introducing financial discipline;
- (i) the importance of identifying early in the project cycle and addressing continually during project preparation and execution major sector issues (e.g. pricing, distribution);
- (j) the need to develop realistic project implementation schedules, factoring in environmental constraints and the sponsors' experience;
- (k) the important role of adequate and close Bank (and co-financier) supervision for effective project implementation;
- (l) the importance of maintaining stability in senior management; and
- (m) the inimical effect of state intervention in a company's operations.

3.32 Finally, one observation deriving from the present review which merits mention is that contracting and procurement practices in centrally planned economies raise special problems of decision-making, coordination and accountability. The system in these countries tends to create rigidities, as administrative arrangements do not allow the sponsoring enterprise to act swiftly and to effect expedient changes when problems or unforeseen circumstances arise, thereby adversely affecting project implementation.

Bank Response and Follow-up

3.33 A mechanism is in place so that the lessons of experience which emerge from project performance reviews, as well as from on-going projects, are taken into account in the design and implementation of new industrial projects. The Project Implementation Review, conducted regularly, tries to feed the lessons of experience from the implementation of on-going projects both into modifications that may be needed in these projects and into new lending. Project Briefs routinely record relevant experience acquired in the design or supervision/implementation of projects in the same country. During the appraisal review process, a major function of the OPS advisors is to bring to bear on new projects the lessons of experience of prior relevant projects. Finally, the President's Reports presenting new loans for approval are required to discuss the lessons from prior audits, and how the proposed project takes these lessons into account.

3.34 Mining projects: A number of additional initiatives and approaches of more recent vintage are worth highlighting. Recognition of the special risks associated with mining projects has led to strengthening the Bank's technical capability in this area, revision of internal procedures for appraisals, and greater focus on price trends. Particular emphasis is being put on intensive testing of ore quality, more rigorous estimation of ore deposits and assessment of ground conditions before entering into mining projects, and on a more thorough vetting of the technical aspects of projects during appraisals. Close attention is also being given in appraisals to more realistic estimates of "learning curves," especially in operations which may depart considerably from more typical cases due to significant differences in local circumstances.

3.35 Industrial projects: In designing new industrial projects, increased attention and support is being given to rehabilitation/modernization and institution-building, with particular emphasis on management development (in order to improve efficiency and to lower operating costs in existing plants), rather than to new investments and increases in capacity. These efforts are often linked to energy-saving programs, improvements in environmental conditions infrastructural support, and to actions to strengthen managerial capability in its various facets.

3.36 Policy and institutional reforms: These have been given increasing emphasis since the mid-1970s. A dialogue between the Bank, the government and the project entity on pricing and marketing policies is normally initiated at an early stage of project preparation and an action program is devised. Since the early 1980s, these objectives are also being approached (depending on the particular circumstances) through policy-based lending, involving sectoral/sub-sectoral structural adjustment operations which focus on particular sets of activities and issues. The adverse impact of recent world market developments on the performance and overall sustainability of industrial projects has also directed attention to the need for more cautious forecasts of demand and price trends. To this end, there has been increased coordination between the Bank's Commodity and Projection Divisions and the Industry Department to permit better assessment of potential project risks arising from the volatility of demand and prices.

3.37 Environmental issues: The PCRs treat environmental issues adequately, although in rather general terms. Notwithstanding the inherent difficulties in quantification, it would be instructive to provide in the PCR an assessment of the cost incidence and expected benefits of installing pollution abatement devices, as well as to draw the lessons learned from the experience. In this respect, it might be helpful if the issues were discussed with the Bank's Environmental Adviser and his comments were reflected in the PCR. Such an approach is all the more justified since, with the new policy of selective auditing, only a fraction of the industrial projects is audited by OED. As a result, the audit of the unselected projects is limited to the first tier, i.e., the PCR.

3.38 Subtle project implementation problems can never be avoided completely. However, their incidence can be reduced by continuously taking steps to mitigate unforeseen problems and to elicit responses more swiftly when difficulties emerge so as to minimize their adverse impact. Necessary measures of which staff are already aware in their recent appraisal work include assessing early on the risks and uncertainties associated with new process technology transfer, vetting more thoroughly technical and marketing issues during project preparation, developing the requisite institutional capability of the sponsor and injecting the proper technical assistance inputs. Furthermore, there is need to assess more carefully the technological capability and capacity of construction, engineering and manufacturing firms before the award of contracts, to assure that engineering contractors and technical advisors of sponsors are experienced for the task at hand, and to prepare more realistic cost estimates and implementation schedules.

3.39 Nevertheless, there are certain elusive issues that require constant attention and review. They include depth and continuity of borrower commitment, extent of managerial autonomy, borrower resistance to technical assistance packages, availability of counterpart funds, difficulties in ensuring compliance of contractors and subcontractors with specified standards of quality and performance, inability to devise effective mechanisms for early detection of flaws in equipment design and fabrication, and the precariousness of demand and price forecasts.

SUSTAINABILITY OF PROJECTS:

REVIEW OF EXPERIENCE IN THE FERTILIZER SUBSECTOR

An OED study on this subject focussed on 14 fertilizer plants in seven countries, representing all projects financed by the Bank in the early 1970s which had been operating by mid-1985 for at least four years after completion. The concentration on the fertilizer sub-sector, reflecting the orientation of industrial lending at the time, permitted a closer examination of technological and industry-specific factors, while cross-country comparisons helped identify country-related and policy issues.

Seven plants were found to have sustainable levels of benefit flows, while five could become sustainable if technical or raw material problems were resolved. Two plants were judged to be unsustainable. Capacity utilization and productive efficiency were identified as important elements in sustaining acceptable levels of benefit flows through the economic life of projects. In this regard, given the sensitive interaction among process design, equipment and local conditions, the fundamental catalyst to combine properly all these elements is the human resource, with emphasis on managerial and technical skills.

Other important factors under enterprise control influencing performance, and by extension sustainability, were the adequacy of measures taken to ensure technology transfer and adaptation, and the development of local technological capabilities. Closely linked to these elements were managerial performance and continuity of tenure. Since all but one of the plants were in the public sector, government policies relating to such issues as managerial structure and autonomy were critical. Factors outside the control of the enterprises included adequacy and quality of raw material and/or energy supplies, pricing policies, and unanticipated changes in demand.

Another critical factor affecting sustainability was institutional development. The Bank consistently stressed the need for project authorities to develop management information systems and to undertake training programs for management, technical and operating personnel combined with the use of technical assistance. Among the projects reviewed, training of local staff received considerable attention but there was less general acceptance of consultant use, particularly during implementation and the initial stages of operation. In the latter instances, the approach was to learn essentially by trial and error. The most successful projects, of which PUSRI III and IV in Indonesia were outstanding examples, had effectively implemented extensive technical assistance and training programs with emphasis on learning while doing under experienced guidance.

The report found that the objective of sustainability could be enhanced by additional efforts to facilitate technology transfer, involving inter alia post-completion supervision missions and inter-change of experience among Bank-supported projects. Improvement in public sector management could also be dealt with on more general levels, including policy dialogues covering such issues as operational autonomy, appropriate incentives and adequate organizational structures. Finally, more circumspect forecasts of demand and price trends could help weed out less promising ventures.

IV. DEVELOPMENT FINANCE COMPANIES

A. Introduction

4.01 This review covers the 16 development finance company (DFC) projects evaluated during 1985, of which nine were not audited by OED. These projects involved 14 Bank loans and two IDA credits totalling US\$373.8 million and helped to finance some 1,500 industrial and mining subprojects with a total cost of about US\$1.3 billion equivalent.^{12/} Four projects were follow-ons, involving the same intermediaries as the previous projects. Two projects involved more than one intermediary in on-lending the Bank Group's funds, while all the other 1985 projects involved only one intermediary. Nine loans or credits were the first to the institutions in question while the rest were repeat operations (either the second, third or fourth). The regional distribution of the 16 projects is given in Appendix Table 4.1.

B. Sector Lending Objectives

4.02 Improving the functioning of the DFC as an institution and the transfer of resources to expand the production of goods and services have been the traditional objectives of DFC lending, and remained the general focus up to the mid-1970s. The focus then broadened to include a wider range of financial intermediaries and the promotion of growth in priority sectors, regional dispersion of subprojects and more labor-intensive activities. More recently, the emphasis has been on improving industrial, trade and financial policies, and new types of projects have been developed to achieve these ends.

4.03 The projects evaluated in 1985 reflect, to a greater or lesser extent, all three of these phases. All included institution building, the first phase. In four projects there was an additional emphasis on the small and medium-sized enterprise (SME) sector and three others were aimed at the mining sector (in one case along with the industrial sector). The third phase is represented by two projects that attempted to achieve improvements in sector policies, in particular the interest rate regime, and by three others that included the development of the capital market as an additional objective.

C. Sector Achievements

Economic Results

4.04 DFCs in general, while usually well aware of their developmental role, do not always fully quantify the economic benefits provided by the subprojects they finance. Instead, these are usually assumed to flow naturally from any subproject which is technically feasible and financially

^{12/} In addition, one project included a pilot smallholder tree farming component involving US\$2 million of the Bank loan. This component benefited some 1,300 smallholder tree farmers.

viable. Of course it is often difficult for the DFC to collect data of this kind, especially for the smaller subprojects, and it can be costly in terms of manpower with no apparent offsetting benefit. The result is that there is little data available on, for example, the amount of new production capacity that was created by the 1,500 subprojects assisted by the 16 projects under review. We do know that almost half were newly established enterprises, with the remainder undergoing expansion and/or modernization. Basically, the foreign exchange resources provided by the Bank group helped make possible the importation of the equipment and, in some cases, raw materials necessary to create this additional production capacity.

4.05 A good number of the subprojects were expected to export some or all of their output or to replace imports, thus helping to alleviate balance of payments problems. Investments to modernize existing production lines or to install balancing equipment were expected to lead to increased capacity utilization and to reduce unit costs of production. The available data, however, is too fragmentary to judge with any precision the actual progress made in these areas. Many of the DFCs that carried out these projects estimated the financial rates of return, and some, the economic rates of return, of subprojects as part of their appraisal work. As many as half of the institutions recalculated these rates of return for at least a sample of the subprojects when they had begun production. These recalculations confirmed that generally the subprojects continued to be justified. This is in contrast to projects evaluated in earlier years when the recalculations were rarely done, and when they were, they usually suggested that the earlier estimates had been optimistic. By the time these projects were evaluated, however, the financial position of many of the subprojects had deteriorated, reflecting in part general economic conditions. As a result, a number had fallen into arrears on their subloans, including most of the smaller enterprises. Other enterprises financed by the DFCs experienced the same difficulties, leading to high arrearages in most of the DFCs' portfolios; between 15 and 40 percent of these portfolios were affected by arrears.

4.06 This situation is similar to that found among the projects reviewed in previous years, and has been a source of concern within the Bank for some time (see paras. 4.43-4.46).^{13/} The effect on the profitability of this year's group of DFCs, however, was not as uniform. While the profits of some were declining at the time the projects were evaluated, and for a few had turned negative, profits of several DFCs in the group were on the upswing, generally as a result of good management. This is in contrast to the profitability of other DFC projects reviewed in recent years where the level was generally modest, if not negative.

^{13/} Last year's Annual Review noted, however, that "unlike the more pessimistic outlook reflected in [the 1983] review, the situation at present appears to have stabilized, due in part to improvement of supervision capability, closer follow-up and early remedial action by the DFCs and the Bank." 1985 Annual Review of Project Performance Results, para. 3.60.

Social Impact

4.07 There are data on employment creation for eleven of the projects. As a direct result of these eleven projects, some 36,400 new jobs came into being, with an unknown amount of additional secondary employment also created. As indicated in Appendix Table 4.2, the cost per job created varied substantially, from as low as US\$550 equivalent to over US\$500,000 equivalent, depending on the type of activity being financed. While the DFCs financed both capital- and labor-intensive activities, the mean and median values in Appendix Table 4.2 suggest that the bulk of the subprojects were relatively labor-intensive.

4.08 As noted earlier, four of the projects emphasized providing finance to SMEs, usually combined with technical assistance. These projects were directly aimed at assisting the poorer (and often neglected) small entrepreneur by providing the inputs needed to increase income and improve living standards.

Improving Industrial, Trade and Financial Policies

4.09 Five of the 16 projects under review had a sector policy dialogue content, reflecting the third phase in the evolution of DFC lending objectives. In only two cases, however, was significant emphasis placed on this objective by the Bank, and these were the only projects which registered even partial success in achieving the stated goals. These were the third and fourth projects involving several intermediaries in Ecuador. The 1975 PPAR on the first two projects in Ecuador had concluded that they had been successful in achieving their objectives of increasing long term financing to industry and in helping the DFCs develop into stronger and more mature institutions. It recommended that future DFC projects should aim at developing Ecuador's capital market as a means of aiding domestic resource mobilization. This, therefore, was a primary objective of the third and (especially) the fourth projects. While much that had been expected to happen did not because of staffing and budgetary constraints, progress was made for the first time on some of the fundamental policy issues such as interest rate reform. More recently the frequency and quality of the Bank's policy dialogue with the Government has improved.

4.10 The first and so far only project involving the Somali Development Bank (SDB) sought, through sector policy dialogue, to provide an opportunity for the Bank Group and the Government to review industrial policies, particularly interest rates. Unfortunately, the dialogue that did take place was not very productive, though the Government has become more responsive in the last two years. During the appraisal of the third project involving the Liberian Bank for Development and Investment (LBDI) several weaknesses in financial and industrial sector policies were recognized and proposals made to address them. The main focus included strengthening investment promotion activities and developing small-scale enterprises, as well as adjusting LBDI's lending interest rate. Again, progress in achieving these objectives was less than satisfactory.

4.11 The second project involving the Bolivian Banco Industrial S.A. (BISA) included as an additional objective an effort to help develop the

capital market by encouraging BISA to mobilize domestic resources through bond issues. While these efforts were innovative, they were unsuccessful due to the rudimentary state of the capital market in Bolivia and the uncertain market situation for this new type of paper given Bolivia's political and economic difficulties since 1978.

Institutional Development

4.12 Institutional development continued to be an important objective of all DFC projects, in spite of the evolution of the Bank's approach to DFC lending and its broadening focus. Even with established, mature institutions, further improvements are usually possible, whether in specific appraisal areas such as market considerations or economic analysis, or in more comprehensive supervision of subprojects, especially after the physical completion stage. With newer institutions (the typical case among the projects evaluated in 1985, if only in terms of their relationship with the Bank group), a broader effort is usually required in order to establish sound procedures and policies.

4.13 It is difficult to fully assess what a single project has accomplished in terms of institution building as institutions are constantly evolving. Nevertheless, it is possible to say that there was reasonable progress in this respect with all but four of the 1985 projects. In those four cases the institutions involved were first-time borrowers from the Bank group. Three were located in Africa and one in Latin America, and three were Government-owned.

4.14 In two cases the main cause of the shortfall appears to be management. At the time of appraisal, the President of the Somali Development Bank was a dynamic ex-civil servant, providing decisive leadership and thus reassurance that the project would be successful. His departure a year or so after the project was approved created a void that has never been filled, and apparently contributed substantially to many of the project's subsequent difficulties. Senior management turnover at the Banco Minero, the Bolivian national mining bank, was very high (five general managers in three years), resulting in inconsistent policies and poor staff morale. The results of the technical assistance components included in this small scale mining development project were also negatively affected by the fact that during the course of the project twelve individuals held the office of Minister of Mining and Metallurgy.

4.15 The other two projects where there was negligible progress with institution building were both in the Cote d'Ivoire. The Banque Ivoirienne de Developpement Industriel (BIDI), in response to new competition in the long-term lending field from commercial banks, diversified into commercial banking. Prolonged difficulties in establishing these new activities, as well as persistent weaknesses in appraisal capability and management coupled with an adverse industrial environment, led to a financial crisis. Unfortunately, BIDI's institutional deterioration was not recognized until recently because of inadequate supervision by its Board (on which IFC and several foreign shareholders were represented) and also by the Bank, as well as deficient auditing by BIDI's external auditors. The Government, on the basis of Bank recommendations, is now taking steps to restore BIDI's health.

4.16 The other project in the Cote d'Ivoire where little was achieved in institutional development was the small scale enterprise project. This was apparently due to a lack of commitment on the part of the technical assistance and other agencies to play the roles foreseen for them at the time the project was appraised. Moreover, the Bank failed to spot this lack of commitment and consequently did not include these institutions in the project design. Also contributing to the project's lack of success were the several reorganizations of the technical assistance agency, which ultimately was transformed into a civil service agency. With its salaries reduced, it lost many qualified staff, and its effectiveness deteriorated.

4.17 The first industrial credit project in Paraguay was a more positive experience in institution building. The Banco Nacional de Fomento (BNF), established in 1961 as a multipurpose government-owned DFC, had by 1976 become virtually decapitalized as a result of poor performance and substantial operational losses. A new President and Board of Directors were appointed with a mandate to rehabilitate the institution, and the Bank was approached for assistance. An integral part of the resultant project was a UNDP-financed, Bank-executed technical assistance program. An important element in the success of this program was the continuity of leadership by BNF's top management team as well as the support provided by the Government. Other examples exist, for example BISA in Bolivia, of strong management facilitating substantial institutional improvements.

Resource Mobilization by DFCs

4.18 One reflection of a DFC's maturity and independence is its ability to raise the resources it needs, both local and foreign, from the market, and not to have to rely on official, usually concessional sources. All too often, however, a DFC's resource mobilization effort is frustrated by the local policy framework, especially an administered interest rate structure. More than half of the DFCs in the 1985 group suffered to some extent from controlled interest rates, while only three appeared to have relative freedom to set their own rates. Even those three (as well as most of the others) relied on official sources for both their local and foreign resources. Very few were successful in raising resources from the market.

4.19 One that was successful was BIDI in the Cote d'Ivoire. It mobilized resources from its shareholders (local and foreign), other foreign aid institutions and foreign commercial banks. In 1980 it began to accept deposits as part of its diversification. It is ironic, though, that because of errors in judgement, BIDI's excessive borrowings ultimately created serious financial difficulties for it, as noted in para. 4.15. LBDI in Liberia, which has a shareholder structure similar to BIDI's, was not as successful as BIDI in raising resources even though it had some freedom to set its own interest rate. Instead, it depended on official sources for its foreign exchange. It did make an effort in 1977-78 to attract deposits from domestic sources and obtained short-term deposits of about US\$10 million from institutional sources. However, this could not be sustained given the worsening liquidity position in the economy and the deposits steadily declined, accounting for only about 6 percent of total resources by the end of 1983.

Sustainability of Project Benefits

4.20 There are two ways of looking at the question of sustainability of project benefits when considering DFC projects: whether the subprojects will be sustained and whether the DFC itself will be sustained. With regard to subprojects the picture is mixed. For example, the Credit provided to the SDB in Somalia helped finance eight industrial subprojects and 24 subloans to farmers to purchase tractors and other farm implements. Data on the seven largest industrial subprojects indicate that at least five are doing reasonably well, operating profitably and servicing their debts; the benefits from these subprojects would appear to be sustainable. On the other hand, 75 of the 84 small scale enterprises financed under the SSE project in the Cote d'Ivoire were in arrears when the project was evaluated. In the absence of a functioning technical assistance delivery agency, they are unlikely to survive.

4.21 The sustainability of subproject benefits as judged at appraisal is not assured. Much depends on the state of the economy and its evolution. In most countries the economy has been negatively affected by the recent worldwide recession, depressing the activity of industrial and other enterprises. However, as economic activity recovers, so should the fortunes of individual enterprises.

4.22 It is only a little easier to reach judgements as to the sustainability of the DFCs themselves. If they are properly organized and staffed, enjoy sound management, earn an adequate return on the capital they employ, maintain arrears within acceptable levels, and are able to mobilize the resources they need, the DFCs themselves are likely to be institutionally strong and financially viable, and the benefits they provide the economy sustainable. It cannot be emphasized enough that sustainability depends heavily on a supportive policy environment. Among the twelve DFCs in the 1985 group, the prospects of sustainability for about half appeared at audit to be good, while the outcome was less certain for the other half, whether because of depressed economic conditions, lack of strong management, competition from other institutions or other reasons. However, as conditions change, so will these judgements.

D. Lessons of Experience and Feedback

Project Design

4.23 The design of several projects evaluated in 1985 included some features that with hindsight appear over-optimistic. The proposed bond issue that BISA was expected to place in the undeveloped local market in Bolivia has been mentioned in paragraph 4.11 above. The technical assistance components included in the small scale mining development project in Bolivia had a number of ambitious objectives, which were only partially achieved. Contributing to this outcome was the fact that responsibilities for implementation were only loosely defined and assigned to different agencies. The poor coordination resulted in serious misunderstandings, overlapping of functions, and disputes among the institutions.

4.24 The first development banking project in Brazil included as a central element in the project design a Plan of Action to strengthen the technical procedures of the apex institution and to improve the performance of the state development banks. The scope of this Plan of Action was very ambitious, given the time frame involved, and reflected in part the Bank's relative unawareness of the institutional and political complexities involved. Disagreement between the Bank and the apex institution as to the role of the two development banking specialists who were to help implement the Plan also contributed to the lack of progress.

4.25 The fourth development banking project in Ecuador had as a major objective the completion of several studies for the development of the capital market. In retrospect, these research projects were very demanding for the central bank to undertake at the same time as it was attempting to deal with inflation, devaluation, financial system crises, interest rate policy and declining resource mobilization. The studies were probably also excessive in scope since half of them addressed complex long-term institutional issues with few more immediate benefits to the financial system.

4.26 Major assumptions underlying the design of both the third and fourth development banking projects in Ecuador, and of other projects, were that the economy would continue to enjoy modest growth for an indefinite period and that there would be no major devaluations of the sucre relative to the dollar. These assumptions proved wrong, and all projections made for the projects were substantially off, resulting in poorer than expected performance.

4.27 The design of the first Development Bank of the Philippines (DBP) project reflected, *inter alia*, DBP's refusal to accept an outside audit of its financial position (in addition to that done by the Commission on Audit of the Government). This was required in order to ascertain DBP's true financial condition, and to undertake a major structural reform. As a result, it was agreed that the development of DBP into a viable financial institution would be a gradual effort achieved through a series of industrial loans, with only modest specific institutional improvements sought under the first project. At the time the second project was appraised, Bank staff expressed reservations about DBP's Board structure and the functioning of its top management team. It was recognized that any significant improvement in these areas would require major amendments to DBP's Charter. However, improvements were seen as important objectives, given that a significant portion of total Bank lending to the Philippines was and would be channelled through DBP. Because of their importance, it was felt that these subjects should be discussed between Bank management and the Philippine Government. Bank management did raise the issue of the Board's composition with the authorities but these issues apparently were not pursued, though a new chairman/chief executive officer was appointed a year later.

4.28 In the case of SDB in Somalia, the progress made in achieving the institution building objective of the project was disappointing, in large measure because of SDB's failure to fully utilize the services of its expatriate staff and because SDB had so little control over recruiting and rewarding its local staff. The Bank Group should have sought agreement from

the Government and SDB at the time of project preparation on appropriate measures for facilitating SDB's recruitment and retention of adequate professional staff. Measures such as allowing SDB to play a major role in the selection of its staff, granting it freedom to determine its own salary structure and to offer incentives such as housing to its staff would have been beneficial.

Implementation Factors

4.29 As noted above, one factor negatively affecting the implementation of many projects was the economic downturn. Political crises also took their toll on project implementation, for example in Liberia, where investment demand was negatively affected. Certainly, implementation of practically all of the DFC projects reviewed in 1985 took longer than forecast. Using the Closing Date as a proxy for the completion date, the original expectation was that it would take on average about four and a half years to complete each of these projects. In fact, it took over 20 additional months, or an average of more than six years. Another measure of the speed of implementation is how long it took to fully commit the loan or credit to individual subprojects. The original deadline for the submission of subprojects to the Bank group was set on average two and a half years after the legal documents were signed. This deadline had to be extended an average of 29 months,^{14/} though often to allow for the commitment of only a small remaining portion of the loan or credit. The Bank has now instituted the use of a standard disbursement profile for all new DFC (and other) projects, based on historic disbursement patterns. The profile for all Regions combined provides for a Closing Date a little more than seven years after Board Approval, in line with the experience with the 16 projects under review.

4.30 Implementation of one of the projects in Cote d'Ivoire, the SSE project, was delayed for about two years because the central bank authorities imposed an 8.5 percent interest rate ceiling on SSE loans shortly after negotiations but before the project was presented to the Board (the Bank loan carried an interest rate of 8.5 percent and was expected to be onlent to SSEs at 13 percent). It should be noted that the market terms that subborrowers are expected to pay for Bank Group funds are often more expensive than the cost of other available funds, making it difficult for a DFC to utilize them. The issue in Cote d'Ivoire was finally resolved when the Government agreed to compensate the intermediary for its negative spread. Adding to the delay was the fact that one of the key agencies was still undergoing reorganization at the time the loan was approved. This suggests that Board presentation should have been delayed.

4.31 The main reasons for the Bank's ineffectiveness in bringing about improvements in the appraisal work of BIDI in Cote d'Ivoire include the following: (i) the Bank loan was a small part of BIDI's overall resources (and for many years one of the most expensive) and therefore provided little leverage; (ii) other creditors of BIDI were less strict regarding subproject appraisals; and (iii) BIDI's management was not fully receptive to the Bank's approach.

^{14/} This average is based on only eight of the 16 projects.

4.32 The SDB project in Somalia included funds to cover the cost of expatriate advisors who were to provide assistance in strengthening SDB's institutional capabilities by establishing appropriate procedures and training Somali staff. SDB did recruit these advisors, but then assigned them to day-to-day operational responsibilities, especially for project appraisals. As a result, the advisors were able to spend little time on in-house and on-the-job training of the Somali staff, and the institution building objective suffered.

4.33 On the positive side, the substantial progress made in the institutional development of BNF in Paraguay was due in large part to the comprehensive technical assistance program which was part of the project. Also, the continuity of leadership provided by BNF's top management team, and the support provided by the Government, were a great help.

Lessons Learnt

4.34 The 16 projects reviewed in 1985 provided a variety of new lessons as well as reinforcing many lessons from projects reviewed in earlier years. A list of major lessons from our earlier experience with DFC projects can be found in last year's Annual Review of Project Performance Results, paras. 3.61-3.67.

4.35 The discussion above on the design of projects suggests that, when preparing projects to rehabilitate large, multi-purpose government DFCs, the Bank should appreciate more fully the complex and often intractable administrative, political and cultural problems involved. A comprehensive program to overcome institutional shortcomings should be agreed with the government and the DFC during project preparation, as should also, when necessary, measures for recruitment and retention of adequate staff.

4.36 A greater supervision effort by the Bank is required during the early years of its association with new DFCs, especially when institutional development is an important objective or when SSE technical assistance delivery agencies are involved. During supervision, the general performance of the industrial sector must be distinguished from the resource allocation performance of the DFC, as good project performance may only be due to good economic conditions, and may be masking weaknesses in the DFC.

4.37 Loan covenants should be carefully worded, their intent understood by all parties to the agreement, and deviations or exceptions explicitly agreed upon and recorded. In supervising projects the Bank should be alert to any deviations, whether intentional or not, from agreed conditions and covenants.

4.38 Earlier reviews of projects had demonstrated that the quality of management is a powerful driving force behind the development of an institution. A number of the projects covered by this review, while reinforcing that lesson, also established that continuity of sound management is important to an institution's continued growth and development. However, as borne out by at least two projects in the 1985 group, the success of a project should not be dependent on the continued availability of a particular individual.

4.39 A number of DFCs are adding new services to their traditional long-term lending activity in order to remain competitive within their expanding financial sector as well as to integrate themselves more completely into the local financial system. Several of the projects in this year's group have shown that smaller, specialized financial institutions must be able to adapt themselves quickly and decisively to changed conditions if they are to survive. The Bank should be particularly attuned to the problems of transition and be prepared to assist in the successful launching of the new activities, while preserving the essential developmental orientation of the institution. For example, embarking on traditional commercial banking activities such as deposit taking and short-term lending, if properly managed, can help strengthen a DFC as a financial institution and improve the performance of its projects. However, as noted in para. 4.15, there may be a temptation for a DFC to ignore or de-emphasize its developmental role as it pursues new activities that appear likely to be more profitable.

4.40 One of the projects reviewed in 1985 demonstrated that, while it is entirely appropriate for a DFC to make equity investments, revolving its equity portfolio often presents a dilemma as it would naturally like to sell the least profitable and therefore the least saleable investments while retaining the most profitable and therefore the most saleable. Another project evinced that a private DFC is not likely to be able to play a major role in mobilizing domestic resources unless the overall policy environment and state of capital market development are conducive to this purpose.

4.41 With regard to the foreign exchange risk, it was observed in last year's Annual Review that, rather than force the risk on private industrial borrowers, it may be more realistic and practical to offer them a choice between taking the risk or having the government take it for a reasonable fee. This matter is very important for the Bank's DFC work and deserves to be studied in all its dimensions so as to establish realistic guidelines and practices. A case in point is one of the DFCs in this year's review which represents a rare instance of the intermediary itself bearing the risk. Although in this case the Bank was probably justified in allowing an exception to its usual practice of discouraging DFCs from assuming any foreign exchange exposure, the arrangements to limit the DFC's exposure proved to be ineffective, resulting in the DFC absorbing substantial foreign exchange losses. This experience stresses the danger of departing from the usual practice, even when the particular circumstances appear to justify it.

4.42 Finally, there were two cases among the 16 projects reviewed last year where the project appeared to have been presented to the Bank's Board prematurely. Presentation of the SSE project in the Cote d'Ivoire should have been deferred because institutional reorganizations were taking place in the country and there were last minute local developments which had implications for the project (see para. 4.30). In the other case, the follow-on loan to BISA in Bolivia, the timing of the project appeared to be dictated more by the Bank's own work program than by a realistic assessment as to when the intermediary would need the additional resources.

Bank Response and Follow-up

4.43 The main issue that has occupied the attention of IDF staff within the Bank over the past several years has been the arrears situation of the DFCs. While improvement of the portfolios of the individual DFCs depends primarily on improvements in the economies of the countries concerned, Bank staff has been working closely with the DFCs to develop specific action programs. Typically, these programs aim to shift priorities from new projects to better management of existing portfolios, as well as assist current clients to minimize defaults and improve their own liquidity and creditworthiness.

4.44 The West Africa Region, for example, has tried to put its portfolio supervision on a more systematic basis. It has established a Portfolio Committee in the IDF Division to review trends and patterns in the portfolio, discuss problems common to several projects and to identify solutions. Comprehensive supervision guidelines were issued in 1984 to improve the quality of the analysis in supervision, assure consistency of approach and format, and to make supervision more effective. In light of the financial difficulties faced by the intermediaries, the Region has also put greater emphasis on diagnostic and rehabilitation work which involves, for example, joint audits of the portfolio of an individual DFC (with staff of the DFC and its auditors), a clearer separation of loans made at government request from the rest of the portfolio, restructuring plans for the DFC, and Action Plans with specific, monitorable deadlines.

4.45 Last year the East Asia and Pacific Region financed, under an ongoing loan, a review of BAPINDO's portfolio by an external firm. This review resulted in a classification of the Indonesian DFC's portfolio into three categories: problem-free, facing problems but worth rehabilitating, and unviable projects. Under a forthcoming Asian Development Bank project, agreement has been reached with BAPINDO that it will build up an in-house capacity to deal with the portfolio problems identified by this external review, and that it will strengthen its project evaluation capabilities. The Bank will finance technical assistance to help BAPINDO in this regard. In the South Asia Region, the resident missions in Pakistan and Bangladesh are contributing to the supervision of IDF projects by reviewing and monitoring subprojects, participating in meetings with the Government and the Asian Development Bank, and helping borrowers solve implementation problems.

4.46 In general, the IDF Divisions have increased the amount of time spent on supervision because of the arrears problem. However, over the past several years supervision reports written after the return of a mission have become significantly briefer, often being merely a one-page standard form which allows little scope for discussion of problems and issues in any depth. Though additional material can be attached as annexes, this is not often done. This matter deserves the attention of OPS and the Regions.

4.47 At the institutional level, a Review of World Bank Lending to Small Enterprises has recently been published.^{15/} It represents the first

^{15/} World Bank Lending to Small Enterprises, A Review, Industry and Finance Series, Volume 16, July 1986.

systematic review of the Bank's operational experience with this activity since the initiative was taken in 1977 to increase support to small enterprises. The report brings out some important lessons of past experience for future support of SSEs, many of which are echoed in various OED reports. Under preparation is a paper on Credit Guarantee Schemes for Small and Medium Enterprises, to be distributed shortly. This paper will provide a comprehensive review of the issues involved in the design and implementation of such schemes, based on the experience accumulated in various developed and developing countries.

4.48 It should also be noted that the statement in the relevant staff manual dealing with DFCs is being revised to reflect the evolution of the Bank Group's approach to the sector. A new statement dealing with financial sector operations has been drafted and is under discussion within the Bank. In addition, the committee on accounting, auditing and financial information systems, established last year to prepare new financial guidelines and auditing standards, as well as to develop new information systems for DFCs, has produced a manual which is expected to be issued later this year.

4.49 The new DFC Data Base, which was activated in 1985, is expected to help in dealing with supervision in general. It focuses on three areas: mobilization and structural indicators; efficiency and profitability indicators; and portfolio quality indicators. By providing a time series of comparative data, analyses of common problems will be aided.

V. TRANSPORTATION

A. Introduction

5.01 This Review covers 38 projects in the transportation sector, of which roughly half (18) are in the roads subsector, about one-fifth (8) for railways and the rest (12) are for ports, shipping and aviation. This conforms to the pattern of lending for transport over many years and to the pattern in prior Annual Reviews. Only four of the roads subsector cases were approved earlier than FY76, and only two cases originated after FY80. The bulk (12) of the roads cases reviewed thus represent Bank commitments to the subsector in the four fiscal years 1976 to 1979.

5.02 The 20 non-road transportation cases are clustered in a somewhat earlier period, with all but one having been approved in the fiscal years 1974 to 1978. Of the total 38 transportation cases, 20 originated in three fiscal years (1976, 1977, 1978) but they account for only roughly one-fourth of the transportation cases approved during those years. The patterns which emerge from these cases are rather similar to those observed in previous Annual Reviews. As a sample, they appear to suggest continuity in Bank practice.

B. Sector Lending Objectives

5.03 Most of the transport projects reviewed here are not associated with a specific production activity but are intended to provide more carrying capacity for a range of traffic or to reduce the cost of carriage generally. In an age when roads are being extended and improved in a major way, while railways are mostly being consolidated, it is not surprising that most road projects in this year's Review are to produce expanded transport services (through construction of new or better roads) while most railway projects are for maintenance, renewal and rehabilitation. At the same time, all road projects included better maintenance as an objective, with 12 (out of 18) designating it as a primary purpose. This clearly reflects a realization by the Bank of the central importance of improved maintenance in achieving better and more economic road transport.

5.04 There were a few instances where transport projects in this year's Review were linked to specific production processes. The Chad Second Highway Project supported the Government's five year cotton development program. The Honduras Third Port Project was related, in part, to a lumbering operation. Such ties to specific production processes have the advantage of keeping a clear track of objectives and achievements. However, they expose the investment to the risks of depending on a single source of demand. For example, one of the port investments in Honduras was an economic failure because the lumbering on which it was based was delayed.

5.05 Lending objectives in the transport sector also included support for larger scale programs involving many activities beyond the Bank-defined project. Examples include a three year road rehabilitation and maintenance program (Guinea Second Highway), a program to reduce a road maintenance backlog (Benin Third Highway), a major overhaul of a national railway (Algeria

First Railway), and various versions of national railway investment or railway restructuring programs (Yugoslavia Fourth Railway and Turkey First Railway). For the railway projects, subobjectives, such as improved efficiency, increased capacity, commercial viability, or establishment of institutional autonomy were frequently specified. In fact, the group of railway restructuring projects in this year's Review continues a long series of such projects and may provide useful insights into restructuring loans in other sectors or for economic adjustment.

5.06 The transfer of technology is a common objective in most transport projects which aim to introduce mechanized transport by building roads, or to supplant an older, inefficient technology (e.g. replacing steam locomotives with diesel), or to make an older technology more efficient. These have been the essence of Bank transport lending for many years and bring in their wake some of the main issues in transport lending such as locomotive maintenance and vehicle weight control. However, this year's group of cases includes more recent examples of technological innovation, such as container facilities for ports and railways and microwave communications in railways.

5.07 Finally, a considerable number of this year's projects were directed at sector policy objectives, although social and macroeconomic policy objectives were rarely mentioned specifically. For example, projects contained components to improve transport planning and management (for example, Greece First Highway, Turkey First Railway) or supported a dialogue on pricing policy in the transport sector (for example, Côte d'Ivoire/Burkina Faso Regional Railway, Tunisia Second Highway). Transport pricing is sometimes mentioned (as a means of providing benefits to low income people or of holding back inflation), but it is a blunt or perhaps ineffective instrument for this purpose. Yet one interesting way of achieving social objectives is mentioned in the Bolivia Aviation Project which facilitated the shipment of meat to rugged mountain areas. While this helped the rich cattle producers, it also provided protein at lower prices to a population suffering serious nutritional deficiencies. Thus, even where initiatives are directed at very specific objectives, their effects may touch a diverse group of beneficiaries.

C. Sector Achievements

Economic Results

5.08 It needs to be emphasized that economic rate of return (ERR) calculations at completion are still forecasts based largely on projections. Even major elements like the cost of the investment and the current volume of traffic, may often not be known with reasonable accuracy at completion. Furthermore, there are problems in valuing benefits which frequently vary widely by region, but are often treated as nationally uniform and are assumed to run unchanged for many years; this is particularly true of vehicle operating costs, and maintenance costs both for road and rail.

5.09 It should be noted that ERRs for many projects were calculated on the basis of selected project components only. Other problems in calculating

ERRs which are relevant to this year's Review include the difficulty of calculating road maintenance benefits by establishing to what extent road conditions in fact improved after the completion of a maintenance program. Another methodological difficulty was the comparison between rail and truck costs used in the ERRs of five of the eight railway projects.

5.10 Of the 38 1985 transportation projects, about one quarter were not subjected to ERR analyses. About half the cases had estimated ERRs in the range 10% to 30% and about one-tenth had ERRs of under 10%. The relative scarcity of ERRs over 30% (representing the remaining fraction of cases) observed in previous Reviews thus continues. Overall, it would appear that some two thirds of the 1985 projects were known to have ERRs at quite satisfactory levels. The limited variability in ERRs between appraisal and completion was maintained; for example, about one-third of the cases had estimated ERRs at completion within 10 points of the ERRs at appraisal, and most of these completion ERRs were greater than, or equal to, those at appraisal. Variability in results was greater for railways and ports than for roads projects. This is explained by the greater uncertainty of port and railway traffic forecasts, the complexities of the Bank's typical railway projects and the uncertainties inherent in marine construction. More caution with, and more detailed analysis of, their expected cost-benefit ratios during the preparation phase would therefore be worthwhile.

Social Impact

5.11 This is difficult to identify in transport projects because such projects typically involve diverse cross-sections of the population. However, while transport services cannot practically be set aside for poor people, they may be of great benefit to low income groups. For instance, mobility and access to new goods and services offered by a better rural road may constitute the essential link for an enterprising individual to achieve a more productive life. Such increased mobility was recorded in connection with the Guinea Second Highway Project. An interesting example of how transport services can sometimes be differentiated by quality levels and by price is provided by the Jamaica Airport Project. Here the airport for foreign vacationers was built with better amenities than the airport which served mainly business travelers and residents.

Sector Policy Dialogue

5.12 As in prior Reviews, transport planning is the most frequently mentioned instance of the sector policy dialogue. No less than seven of the cases had separate components to improve planning and management in the sector. Initiatives included training for, or technical assistance to, planning units, studies on issues like road user charges, and the execution of a Plan of Action for Transport Coordination (Turkey First Railway Project). The precise achievements of these efforts have not been documented in most cases. Many of the transport and coordination institutions concerned seemed to be quite fragile and became relatively ineffectual, or were disbanded when the training was completed or the technical assistance withdrawn. Perhaps this reflects the often observed short life of initiatives undertaken on an enclave basis.

5.13 The competitive position of a railway was a major problem in a series of projects especially where a railway had been built as the main link to a country's ports and now had to meet competition from road transport and pipelines. Outstanding examples of such cases were the railway projects in Madagascar, Sudan, Côte d'Ivoire/Burkina Faso and Pakistan; rail/road issues also were prominent in the Turkey First Railway Project. The case of Madagascar Railways provides an interesting example of the rail/road problem. Until the early 1980s the railway had great financial difficulties due to its low tariffs. Since 1982, when the railway introduced cost-based tariffs, the railway has been highly profitable. An upgraded road parallel to the railway line was completed in December 1985, but three months later was severely damaged by a cyclone. While there has always been some rail/road competition along this railway corridor, competition based on the new road has not yet begun in earnest. When it does, some impact on the railway seems inevitable and the previous financial problems may recur.

5.14 Competition problems which have become endemic in railway operations as road transport and pipeline technologies have spread, are traditionally handled as issues of "transport coordination". Some experts have argued in favor of a competitive solution based on establishing a "level playing field" for all participants, thus making the railway a more efficient competitor. The problem has been exacerbated in countries where an inward looking trade strategy is in vogue and where traffic along the major import-export corridor is not growing rapidly. The cases in this year's Review do not indicate any striking examples of solving these difficult problems. Indeed, in some instances (e.g., Sudan) the matter was not much considered. Moreover, little notice was taken of the fact that the Government was a major factor in many such situations, as it controlled a large proportion of the movement of goods, particularly by rail.

5.15 Another major sector policy dialogue concerned funding for road maintenance. In Korea, the Government largely lived up to its undertaking to provide sufficient budget for road maintenance. But in a number of African and Latin American countries, insufficient monies were made available for this purpose. The Bank may need to consider what new means might be more effective in persuading governments to appropriate resources to road maintenance. Improved maintenance standards may themselves be an important inducement to the appropriation of funds which sometimes are refused because legislatures are not convinced that maintenance money is being put to good use. Maintenance also appears to be a problem in the port subsector.

5.16 The issue of privatization arose for the first time with the Bangladesh Second Inland Water Transport Project. In this instance the nationalized Inland Water Transport Corporation (the successor of a number of previously private shipping companies) was suffering severe operational problems and financial losses. The Bank had suggested as a possible remedy the return of these vessels to the private sector, but the matter is still under review by the government.

5.17 This year's cases illustrate how a more realistic acceptance of the existence of competition is often needed. For example, the two airports in Jamaica not only competed with each other, but with terminals in neighboring

islands of the Caribbean; this raised issues when setting airport charges that went far beyond cost recovery. The Aden Port Project in the Peoples Democratic Republic of Yemen (PDRY) was based on a projected bunkering business which never developed, partly because of changes in shipping patterns, and partly because of the availability of cheaper fuels at competitive ports in neighboring countries. The Philippine Third Port Project sought to promote a national port planning effort, but made only limited allowance for the competitive effects of private ports on public sector operations.

Institutional Development

5.18 More than half of the 1985 road projects had institutional development objectives which often involved studies of road maintenance (Botswana), maintenance planning (Benin), or training of maintenance personnel (Guinea). Road maintenance has rightly been an important Bank concern for many years; it has been noted as a serious problem in previous Annual Reviews and remains so in this one. The problem is complex and challenges the ingenuity of Bank staff. The question of how best to organize maintenance institutions has come to the fore only recently. Traditionally, the Bank has assumed that roads should be maintained by government, although, in the Algeria Second Highway Project, the reform of public sector road maintenance has lately been directed toward maintenance by contract. While management and skills are critical to good road maintenance, whether it is done by a public or private agency, the Bank needs to give more considered attention to the impact of organizational arrangements on the maintenance function.

5.19 With perhaps one exception (Algeria Second Highways, where the highways function became separated from other public works activities), ambitious institutional restructuring was not a prominent feature of road projects in this year's Review in contrast to the ambitious programs of institutional restructuring in railway projects. The Madagascar First Railway Project sought to make the railway "financially independent", an objective that was achieved under the Second Madagascar Railway Project, at least thus far; the Algeria First Railway Project involved a "major overhaul" of the railways; the Turkey First Railway Project was "to radically transform the railways into an efficient, commercially viable enterprise"; the Mexico Third Railway Project supported the consolidation of all Mexican railways into the Nacional de Mexico, while the Yugoslavia Fourth Railway Project was associated with the Government's policy of creating decentralized systems owned by the Republics. The results of these restructurings have fallen considerably short of stated aims and in several cases the effort was characterized in the evaluation reports as overoptimistic or overambitious. That also was the assessment on the program of studies in the Algeria First Railway Project where the railways' capacity to procure and administer consulting services, to review reports and to implement recommendations, was overestimated.

5.20 The problems of railways, at best a slowly growing and frequently a declining industry, are surely more difficult than those of the expanding road sector and radical measures may seem fitting. However, those can be difficult to implement. The likely lesson is that fundamental restructuring is not an attainable objective within the ambit of one project, particularly,

when the Bank (in the words of one PCR) "seeks to impose a concept of a commercially oriented enterprise in a sector usually regarded as a public service in African and European countries". Moreover, many developing countries lack accountability mechanisms which make it even more difficult to reform parastatals. It is no surprise that plans of action (as developed for railway projects in e.g., Pakistan, Turkey, Yugoslavia and Mexico) have had rather a mixed success. They provide a commendable focus for managerial activity, but no irresistible impetus for improvement.

5.21 Another object of institutional development with several examples in this year's Review is the establishment or recent reorganization of national port/airport authorities (Mauritius, Sudan, Korea, Philippines, Yemen Arab Republic and Jamaica). The Bank has traditionally looked with favor on such authorities to further improve management and fiscal prudence. The financial performance of the port authorities has generally been good, although quite often it is a case of the successful ports supporting the rest. This is the case in Korea where Busan port is the mainstay of the umbrella authority.

5.22 Institutional development can also be exemplified by improved financial performance. However, in none of the eight 1985 railway projects did actual financial results measure up to forecasts. By contrast, several of the port projects met and exceeded such forecasts. The reasons for this difference call for careful analysis. It is perhaps attributable to the less complex managerial tasks in ports, to the fact that ports are direct foreign exchange earners, to their quasi-monopoly position (in some instances) and to the relatively greater social obligations traditionally imposed on railways.

5.23 Certainly the record suggests that railways are more prone than ports to undertake investments which, even in advance of completion, are known to carry negative rates of return. In at least four of the eight railway projects such investments occurred, contrary to the indications at appraisal (Sudan, Côte d'Ivoire/Burkina Faso, Algeria, Turkey) but the arrangements with the Bank were sufficiently vague to permit this or the Bank acquiesced to the action. In two projects where there were explicit undertakings against other investments, severe countrywide budgetary problems helped to achieve adherence to Bank agreements.

Technology Transfer

5.24 As reflected in past Annual Reviews, much technology transfer has been achieved under transportation projects but it has also been beset by controversy. This has been particularly acute in disputes over road design standards where the Bank has generally opted for criteria based on economic analysis, while the borrowers wanted higher standards. In the case of the Greece First Highway Project, the Bank and the Government, after some ten years of discussion, were unable to come to agreement on this issue. Such a persistent divergence of views suggests that the matter went way beyond technical problems.

5.25 The transfer of modern electronics technology has also raised special problems. Both in the Pakistan Tenth Railway Project and in the

Yugoslavia Fourth Railway Project serious delays and disputes arose over the purchase and installation of telecommunications and signalling equipment. The traditional purchasing practices of railways and the international tendering procedures of the Bank need to be suitably adapted for the purchase of entire electronic systems specially designed to customer needs which can be contracted on single responsibility basis. The Bank may wish to examine this problem in further detail, as instances of this kind are likely to increase.

5.26 Another difficult and sector-wide problem in technology transfer is the supply of spare parts. The introduction of equipment from abroad invariably requires spare parts supply, but quite often the system breaks down because of lack of budget or foreign exchange, administrative obstacles, etc. The Sudan First Railway, Pakistan Tenth Railway and Bangladesh Second Inland Water Transport projects are good examples of this kind of problem. The Bank should make a more concentrated effort through its projects to help devise more effective systems for the supply of spares, since in their absence the introduction of complex technology is ineffective and sometimes results in new machinery being imported instead of the parts being replaced. A system based on private stockists, as has recently been implemented in certain francophone countries in Africa, might be investigated.

5.27 The spread of container technology has been commented upon in previous Annual Reviews. Six of this year's group of eight port projects involved container installations (Mauritius, Sudan, two in Korea, Philippines and Honduras). The new installations are reported to have been introduced smoothly but typically the Bank's forecasts underestimated the pace of conversion from break bulk to container movements (for example, the Korea First and Second Port Projects). A careful review of these and similar cases would help determine the reasons why the rate of introduction of this new technology was faster than forecast. Finally, the transfer of technology also encompasses the transmission of know-how by technical assistance and training. These are areas where the Bank has been heavily involved but where the results have been mixed; initial delays in establishing a well functioning port authority for the Mauritius Port Project were eventually overcome, but efforts to implement revised operating procedures in the Turkey First Railway Project ran into difficulties.

Environmental Issues

5.28 Environmental issues have received limited attention in most transport projects. Typically such projects concerned renewal, improvement and marginal expansion of existing infrastructure which would not create measurable disturbances to ecological systems. Often projects provided equipment to railways, ports and road authorities where project impacts were widely scattered and environmental impacts not obvious. However, greater discussion of environmental questions might have been appropriate in projects where construction in ecologically delicate zones was involved. A thorough study focussing on the environmental impact of transport projects is needed.

Sustainability of Project Benefits

5.29 According to one definition, a continuation into the future of an acceptable economic ERR constitutes sustainability. As already noted, even at physical completion, the ERR of a transportation project reflects projections and assumptions about the future, e.g. about traffic volume, since if traffic is less than projected, benefits usually are much reduced. However, divergence from forecasts does not as such constitute a lack of sustainability but rather reflects inadequacies in planning and prediction, or changed circumstances after start of implementation. Alternatively, the concept of sustainability may refer to the presence or absence of exceptional measures needed to maintain the economic performance of a project. For example, a railway project is not "sustainable" if its traffic is generated by episodic prohibitions against road transport or if the railways' operations are vitally dependent on outside experts who might leave at any time.

5.30 Significant variations in actual versus appraisal projections of traffic have occurred in this year's group of projects. In over one third of highway projects, traffic has exceeded projections. However, in several cases, such as Papua New Guinea Second Highways, traffic projections have been quite accurate so far. The record is much less uniform for ports and railways. About half the railway projects experienced increases in freight business with the others showing stagnation or decline, despite forecasts to the contrary. For rail passenger services results were even more mixed. It should be noted that in most of this year's cases rail charges were low, and it is likely that, if governments withdrew subsidies, freight and passenger volumes would not continue at present levels. In this sense, the traffic lacked sustainability.

5.31 In all eight port projects there were wide variations between forecast and actual traffic. Sometimes, as in Sudan, imports were underestimated and exports were overestimated and the combined total was less than projected or, as in Korea, general cargo was underestimated and bulk commodity traffic was overestimated. These mis-estimates not infrequently led to distortions in capacity, because facilities were built for one trade pattern rather than another. Overall, the record suggests that more detailed work in traffic forecasting should have been required, going well beyond the time-honored techniques. In particular, factors like transit time and consignment size should have been evaluated more carefully in view of the low level of influence of price differentials on choice of transport mode.

5.32 The institutional development components pose another version of the sustainability question--have institutional changes been maintained after the project 'prop' was removed? The evidence is mixed. For example, in Yugoslavia the Action Plans instituted by the railways have been adopted as standard practice, and in Korea the port of Busan authorities continues to be highly skilled in managing the container yard. On the other hand, in several projects the organizational innovations have withered away--such was the case with the transport planning agencies in Greece and Turkey. Personnel policies obviously have a decisive influence on the durability of institutional development. Low salaries were mentioned in Greece, Jamaica and

Paraguay as obstacles to staffing and carrying out the public agency's work. In Pakistan, railways staff were reported to have left for better paying jobs elsewhere after they were trained. In Botswana the agency was constrained not only by the fact that few trained persons were available within the country, but by limited response to requests for help from abroad. There is clearly a need for innovative solutions to such problems; it might be noted that in very poor communities food has been used effectively as a pay incentive instead of salary. Much greater investment in training at all levels, which would still be a fraction of expenditures on capital projects, is warranted almost everywhere.

Summary

5.33 The 38 transport cases have supported a large amount and variety of investments. The facts are clearest with major discrete road improvements, where generally high traffic growth points to good economic results and similarly with port investments where there has been a rapid increase in flows of goods. Where the investment was more diffuse, the economic impact is more difficult to establish. For the same reason, there are difficulties in establishing the outcome of a sector policy dialogue and of institutional development components. Project objectives are frequently, and perhaps inevitably, couched in somewhat vague terms and a subsequent comparison with results is then difficult to make. However, it appears that large scale, basic restructuring efforts did not fare well, while more limited and specific initiatives had better results. It should be noted that the 1985 projects provide little or no evidence of significant regional variations in sector achievements.

D. Lessons of Experience and Feedback

The Importance of Project Design

5.34 This is thought to be a fundamental factor in project performance. The Korea Fifth Highway Project exemplifies an excellent design: the parties were in full agreement on the overall concept and major features of the project; the project fitted into a clearly articulated national roads plan; while very large in terms of dollars, the project had only a few major components, each precisely defined and carefully prepared; and the project was well adapted to the implementing capacity of the country. Some other projects suffered design deficiencies which created major problems. For example, there was a lack of agreement between the parties on road design standards (in Greece) and on road execution procedures (in Syria); a project was implemented without due attention to the national context (Madagascar First Railway); the project was unsuitably complex (Turkey First Railway); project components were not properly prepared (Indonesia Second Shipping); and the project was beyond the absorptive capacity of the recipient (Algeria First Railway).

5.35 If a project is one in a series, project design can profit from deliberate linkages to other projects. In the case of roads, 16 out of 18 projects were the second or subsequent in a series and only two (Greece and Lebanon) were the first road projects for those countries. Six of the eight

railway projects were one in a series, four being the second or subsequent follow-on and two the first follow-on. With the two other railway projects, despite several attempts no follow-on lending has occurred. In some projects, such as Korea Fourth Highway, very effective linkages existed between prior and subsequent lending, but in others (such as Syria Second Highway) very little continuity exists.

5.36 Project design would be improved if outside cofinanciers were better integrated into the project design since many projects are subject to influences created by other financing sources. For example, the very large roads program, partly aided by the Indonesia Fourth Highway Project, was also assisted by numerous other aid givers, although Bank documents give no formal recognition to this fact and gloss over the opportunities and conflicts which might possibly result. Similarly, the frequent cases of railways making investments outside parameters agreed with the Bank typically involved financing from other sources of finance though this is rarely acknowledged.

5.37 Formally acknowledged cofinancing is a feature of most projects in the Africa regions. However, in several cases the documents were not explicit regarding the intended roles of other sources of finance. In one case (Benin Third Highway) the cofinancing documents made little or no provision for coordination. Arrangements for joint supervision were rarely mentioned in project design and collaborative supervision proved difficult to arrange later. Greater coordination with other sources of finance clearly deserves consideration, but it will only work if the borrower does not perceive it as a form of "ganging-up".

5.38 The manner of executing civil works was a major project design issue in several cases. An initial question was whether to use (private) contracting (with or without international competitive bidding) or whether to opt for some version of force account. Contracting might be better integrated into project design by offering various forms of assistance; this was attempted under the Indonesia Fourth Highway Project by financing technical assistance for Indonesian contractors, and under the Algeria Second Highway Project by financing fellowships for engineers in national construction companies. On the other hand, there was no attempt to help Jamaican contractors. In the Papua New Guinea Second Highway Project the Government agreed to limit the use of force account construction in order to make more work available to private firms, but in several instances project design excluded their use. In Benin and Syria the Government wished to develop local Government-owned contracting firms, in the latter case as a possible export service to neighboring countries. In the event, the performance of these contractors was not satisfactory, perhaps because their capacities were not sufficiently appraised during the project design phase. On the other hand, the semi-autonomous construction unit which was created in connection with the PDRY Second Highway Project did good work, partly because of careful provision to manage the unit through an outside construction management firm. In recent years the Bank has increasingly studied the problems of development of the civil construction industry and has undertaken various initiatives both under its loans and outside them to assist in promoting and furthering local contractors in developing countries.

5.39 Finally, mention should be made of the special noncompetitive procurement arrangements which were permitted under the Dominican Republic Emergency Road Reconstruction Project. In fact, there was no need to bypass normal, prudent procurement practices since an emergency road was quickly made available without Bank assistance. Furthermore, as it turned out, difficulties arose with the accelerated procedures approved by the Bank.

Implementation Problem

5.40 Significant implementation problems affecting the performance of projects in this year's Review included political unrest, rapid economic changes, uncertain cost estimates when lending was approved, and the style of supervision. Political problems were a major factor in at least seven cases, including outright hostilities in Chad and Lebanon and severe unrest in Bolivia and Jamaica. One audit report (Lebanon Highway) questioned whether continuing with a particular road project under the circumstances was a sound decision. It would appear that the Bank needs to develop better procedures for reassessing a project when major disturbances occur, and for making such design modifications as may be necessary.

5.41 Rapid economic changes (including currency fluctuations) often necessitate adjustment to project design; this year's cases are characterized by many such changes, although by few instances of cost overruns. In fact, the wish to avoid supplementary financing has become paramount, and there have been instances of over-provisioning for overruns (as in Botswana Third Highway where extraneous unplanned investments resulted) or the contrary phenomenon of severe pruning and restructuring of project content (for example, Mexico Third Railway). If resources become constrained, reduction in project content is appropriate, but a rational procedure is needed. The Jamaica Airport Project represented a good response to this problem. A standing interministerial committee charged with overseeing project implementation reviewed the individual project components and made changes to keep within available funds and to serve changing needs. However, a thorough analysis of individual components was not available and the committee in fact made its decisions with only a rough idea of economic priorities. An effective response to changed economic conditions thus requires a good balance between proper planning before and flexible adjustment later, and between adherence to plans and letting them lapse as circumstances require.

5.42 Accuracy in cost estimates is of critical importance in project financing. If costs exceed budget, difficult questions as to priorities and project design must be answered and new financial arrangements made; if costs are less than budget, excess commitment charges accrue, or at least funds are tied up which could be better used elsewhere. Cancellation, besides being perceived as embarrassing, often implies a reshuffling of various agencies' financial stakes in a project. It is right, therefore, that much effort has gone into making cost estimates accurate and dealing with the eventuality that they are not.

5.43 In several cases among this year's group, bids were obtained before Board presentation. In two of these cases (Papua New Guinea Second Highway and PDRY Second Highway) the low bid was greatly in excess of the estimate,

and quite different arrangements had to be made. The Papua New Guinea project was redesigned to limit it to the most profitable improvements, with certain very risky work transferred to government forces, while in the PDRY case, the government organized a force account unit with external contract management thereby assuming most construction risks for itself. In another case, bids were received before Board presentation (Indonesia Fourth Highway Project) but they did not insulate the project against subsequent cost increases due to errors in engineering work. Some observers believe that the availability of specified, limited funds influences bidders to keep their offers low; this may indeed be the case, especially if bidders believe that they may subsequently be able to increase their bids through change orders. Whether such an approach ultimately keeps costs down remains to be established.

5.44 Large contingency allowances obviously insulate cost estimates against estimating errors. Such errors are also more easily disguised in a sector loan or line of credit context. For example, in the Indonesia Fourth Highway or Korea Fourth Highway, cost changes could readily be accommodated by adjusting the volume of works. This practice obviously reduces implementation difficulties for the financiers, but also takes away an important measure of discipline, to the point where the conventional concept of project cost loses much of its meaning.

5.45 Supervision styles seemed to have varied and this appears to have affected projects in particular cases. There was some evidence that small countries in Africa had discontinuous or infrequent supervision (Benin and Botswana). Continuity of supervision was maintained for a very difficult road project in PDRY and for smaller countries in the LAC region (Dominican Republic, Jamaica, Paraguay); their relative proximity allowed as many as four visits to the first two of these projects during the initial year of implementation.

Lessons Learnt

5.46 Appraisal analyses have for a long time now identified road maintenance as a major concern in many countries; several causes are cited, among which the inadequacy of budgetary provision is the most persistent. This suggests that the problems surrounding maintenance funding have not been truly "learned". Have borrowers adequately understood the message that maintenance is the most efficient means of keeping up mobility? If maintenance is so obviously worthwhile, why is not money made available for it? Does the phrase "lack of political will" adequately describe why money is not provided? Does the ready availability of (external) funds to rebuild ill-maintained roads in any way sway the decision on maintenance funding?

5.47 A similar lesson emerges from various large scale restructuring efforts, particularly in railways, where results have been disappointing. Perhaps the very comprehensiveness of the effort can exhaust both the borrower's and the Bank's staff. More important, borrowers often do not accept the Bank's singleminded devotion to commercial or economic viability.

5.48 There is also the lesson that timing and the prompt receipt of information is critical in project implementation. For example, the list of spares to be bought under the PDRY Second Highway Project was outdated because by the time procurement was to occur requirements had changed. Similarly, the appraisal team's list of roads to be included in the Benin Third Highway Project was superseded by the time of execution because their state of disrepair had changed, as had priorities. Another example emerges from the Guinea Third Highway Project where there was a serious diversion of project funds; where progress reports were received late.

Bank Response and Follow-up

5.49 This can only be documented in a few of this year's cases, as most of the projects were designed before the evaluation system had generated a significant body of data. The lesson that the Bank's emergency loans are not suited to immediate restoration of access which emerged from the Dominican Republic Emergency Road Reconstruction Project (and earlier ones, such as the Peru Road Reconstruction Project) has been incorporated into the Bank's July 1984 Guidelines for Bank participation in reconstruction projects after disasters. Also, the lesson that local contractors need to be supported if effective and fair competition tendering for civil works is to be achieved, has been acknowledged in the extensive Bank efforts to help in the promotion of the local construction industry.

5.50 However, there is also evidence of persistence with unsuitable project patterns. The problems with poor engineering preparation and overloaded trucks which had plagued the Syria First Highway Project still were major concerns in the Second. The difficulties regarding overoptimistic implementation schedules in previous loans made to Pakistan Railways were still evident in the Tenth Project. The Sudan Fourth Railway Project suffered from the same "efficiency" difficulties as the Third Project. The failure in the Madagascar First Railway Project to address the divergence of views between the Government and the Bank on the role of the railways also applies to the Second Project. A main objective of the Indonesia First Shipping Project, to eliminate unsafe and inefficient vessels through a ship purchase program, was not attained and became the basis of another ship purchase program under the Second Project. In all these cases, the Bank seems to have struggled with difficulties which it had already experienced in similar situations earlier on, and this may indicate that prior lessons were not fully absorbed in the Bank's operations.

5.51 It is clear that the Bank's transportation projects have had a major impact in terms of monies spent, facilities built and equipment installed. The Bank has also had a major impact in raising awareness about the importance of institutional constraints on efficiency in the transport sector. However, institutional problems remain and the Bank needs to continue to give great attention to this area. Such problems are particularly sensitive to macroeconomic currents which have affected the outcomes of many of the cases in this year's review.

VI. POWER, WATER SUPPLY AND WASTES DISPOSAL

A. Introduction

6.01 This chapter covers projects that, in previous Reviews, were treated under the heading "Public Utilities." In fact, beginning in the 1970s, the Bank sought to promote the identity and specific economic and social development impact of each of the subsectors, power and water supply, and has moved toward treatment of these specialties in different contexts: power projects in the framework of the energy sector and water supply and sewerage in that of community development projects.

6.02 This chapter summarizes the experiences with 15 power projects and 7 water supply/wastes disposal projects reviewed during the calendar year 1985 as listed in the Attachment. Six additional projects which previously would have been part of the broad public utilities/energy group are excluded from this chapter because of their small numbers or special characteristics. These omitted projects - the First and Second Bangladesh Telecommunications Projects, the Sixth India Telecommunications Project, the Second Thailand Natural Gas Development Project, the Fourth Sui Northern Gas Pipeline Project in Pakistan and the Ankara Air Pollution Control Project in Turkey - will be taken up in future Reviews, however, when there is a larger sample available.

6.03 The twenty-two 1985 power and water supply/wastes disposal projects covered by this chapter were supported by 18 Bank loans and 5 IDA credits in a total amount of US\$934.5 million equivalent, of which US\$756.5 million was for power projects. Of this total, US\$72.1 million was eventually cancelled. The portion of the loans/credits cancelled, at 7.7% of the original amounts, was about three times the average cancellation rate for the 136 public utility projects covered in earlier Reviews, and was mostly caused by cancellation of nearly 40% of the loan for the Second WAPDA Power Project in Pakistan (where prices for imported materials were lower than expected) and two-thirds of the loan for the Sixth Power Project in Chile (where the borrower failed to satisfy financial covenants). The earliest of the loans/credits was approved in 1972 (Nigeria, Power IV) and the latest in 1980 (Cyprus, Power V).

B. Sectoral Lending Objectives

The Project Environment

6.04 The period 1972-1980, during which the projects discussed in this chapter were prepared and appraised, and the period between 1980 and 1985, when most of them were implemented, were in sharp contrast in terms of their economic environment. At appraisal relative optimism ruled, there was quite rapid growth and rising commodity prices in the world economy. The anomalous increases in petroleum prices and pervasive inflation caused a change after 1980 at the time of project implementation; there was world recession, high debt and a pessimistic economic outlook in developing countries. The external environment had a negative impact on projects; this is documented by the lowering of actual rates of return in recent years' audits. The 1985 PPARs for power and water supply reflect this changed perception.

6.05 There were also changes in Bank policies, with a greater orientation towards poverty alleviation and more attention to the environment. As a result, there was a shift in project objectives; with the rising scarcity of capital and the higher cost of energy, the Bank increasingly stressed a system approach to the planning of electric power and water supply facilities, progressively replacing the comparison of alternative individual projects by investigation of least cost system developments. At the same time, it more systematically encouraged utilities to price their product at long run marginal cost, or at least to adjust the tariff structure to signal the relation between the long run marginal costs of the various types of supply. The Bank's efforts towards increasing the social impact of projects led to an increase in the number of projects addressing the problem of access to service. This was also reflected in the number of projects which included distribution components; in the power sector, it brought the first few village electrification projects. At the same time, lower demand and higher costs (reflecting inflation) reduced the outlook for project returns recalculated in 1985.

6.06 During this period projects grew large and more complex, partly reflecting the higher costs of alternative sources of energy. Bank lending in the power sector was constrained and in the water supply and waste disposal sector grew notably only in the second half of the 1970s. Thus the Bank provided a diminishing part of the required financing in these sectors but played an increasing role in helping mobilize complementary financing. That it did so successfully, in particular in the power sector, is documented by the fact that, in the period 1978-80, 70% of power projects involved co-financing, against some 20% in the years before 1975.

6.07 Increasing size and complexity, as well as inflation, not only led to an increase in costs, but also made them less predictable and, hence, project preparation and implementation more difficult. Meanwhile, project pricing did not keep up with the inflation in costs and the financial position of most utilities became precarious. Such difficulties were exacerbated by two further factors: on the one hand institution building became increasingly arduous because growing complexity and soaring costs called for ever more expert management and planning, both in short supply in developing countries. At the same time, growing costs made the utilities more dependent on their governments for meeting capital requirements, than previously. Faced with general inflation in their countries, most utilities became ever more reluctant to implement in due time the frequent tariff adjustments generally foreseen in the loan and credit agreements. The dangerous deterioration of the utilities' financial performance was accompanied in due course by a decline in the operation and maintenance capacities of these companies.

6.08 In many respects, the objectives of the 1985 power and water supply/wastes disposal projects were beginning to broaden substantially from those for the 136 projects reviewed in the six previous years. Although many projects still were intended to provide new capacity to meet existing and estimated future demand for services, usually as part of the utilities' development programs, in many cases, rehabilitation and improvement of existing facilities and operations were important parts of the projects. There was also a wider focus on institution building.

Power Projects

6.09 About 90% of the power projects by the mid-1970s included sector-wide planning for the development and use of energy resources, pricing policies, institutional development, whether for the country as a whole or for a state or province. In the case of Zambia (Kafue Hydroelectric Project, Stage II) the planning was based on the expected growth of the market for power in both Zambia and Zimbabwe, since the power systems are interconnected. (This is a case where security of national power supply objectives competes with the objective of least-cost supply for interconnected systems). In the water supply projects, the process developed gradually and only those in Somalia and Brazil (for Minas Gerais State) were based on sector-wide planning. The objectives of the other water supply/wastes disposal projects were directed at more localized needs. Nevertheless, institutional and pricing policy objectives were expected eventually to have a country-wide effect.

6.10 Although there was increased attention to the distribution side of the business, seven (47%) of the 1985 power projects also included major generation components, of which five were for hydroelectric installations. The use of hydrological resources was increasingly attractive as a substitute for imported fuel oil in the mid-70s. Power generation in the other two projects (in Malaysia and Romania) was based on thermal plants utilizing indigenous fuels. The Nispero Power Project in Honduras, while basically a combined hydroelectric and power distribution project, included a sizeable diesel engine-driven generating component as well, intended primarily to bridge a supply gap until another large hydroelectric installation could come on stream.

6.11 When compared with nearly 80 power projects covered by the most recent previous Reviews (1979-1984), the number of 1985 power projects where generation was the major physical objective (as contrasted with projects focussing on distribution, rehabilitation and energy conservation) has fallen, as a percentage of all power projects reviewed by OED, from an average of 68% for the 1979-84 period to 47% for 1985. Based on the year of loan approval (rather than the year of ex post evaluation), two thirds of all power projects approved in FY74 or earlier (i.e., essentially before the energy price spiral began in 1973) focused on power generation, while for the 42 reviewed power projects approved during the period FY75 through FY80 the percentage with generation as the major objective dropped to 57% (or 53% if projects approved by the Bank during that period, but not yet reviewed, are included). There was no significant change in the proportion of projects with generation objectives which relied mainly on hydroelectric installations; it held quite steady at about 55%.

6.12 Since FY76, the total number of power projects financed each year has increased substantially, and the newer projects tended to concentrate more on non-generation components, like transmission, distribution, rehabilitation components and energy conservation, reflecting increased concern with access to service and total system development. Also, because of the rapid inflation and the depressed economic conditions in the late 1970s, the rate of increase in power demand slackened (or reversed) and the need for new generation capacity was reduced considerably.

Water Supply and Waste Disposal Projects

6.13 Consistent with previous years, reduction of the incidence of waterborne diseases and improvements in standards of living through increased supply of safe water and improvements in disposal of wastes were fundamental objectives for all the 1985 water supply and wastes disposal projects. An additional important objective for two projects (the Mombasa project in Kenya and the Bombay, India project) was relief of water supply shortages which were a threat to commercial and industrial activity. Almost all the projects focused on increased water production and transmission capacity, with lesser attention given to expensive distribution improvements. One exception was the Jordan project where the principal physical effort was on distribution, with increased production to be part of a complementary project supported by other financing agencies. Production targets for two projects (Liberia and Somalia) were intended to meet relatively short-term needs. In both cases, longer-term plans and the next development stage were to be prepared as part of the projects. Another key objective of the Somalia project was rehabilitation and modification to make better use of existing facilities.

6.14 Some of the water supply projects, particularly in Liberia and Jordan, aimed specifically at providing service to the urban poor in low-income areas, although it was clear that such service would have to be subsidized by higher-income customers, commerce and industry, service to whom would also have to be improved substantially as a high priority objective. The same dilemma was true for the two power projects (in Ghana and Brazil) which included elements of service for low-income urban families. The objectives of one project (Jordan) included extension of sewer service to low-income urban population, although nothing was said in the project design that it was tailored specifically for the urban poor. In general it appears that concern for water supply service for the urban poor became an important part of all Bank Group financed water projects in the mid-70's. However, none of the 1985 water supply/wastes disposal projects (and very few in previous years) included sanitation objectives that would directly benefit the large urban populations, for whom access to water-borne waste disposal systems is unlikely in the foreseeable future because of the high cost of such facilities; UNDP/Bank supported research on low-cost waste disposal alternatives was still in progress and had not yet been incorporated into project designs.

6.15 None of the water supply projects reviewed in 1984 had rural water supply components, and this was a feature of only one of the 1985 projects (in Kenya), and then only at the level of studies because of the lack of local planning in this sub-sector. This contrasts with projects reviewed in 1979-1983, which reflected increased action on water supply for rural communities. However, the 1985 power projects reflected an increase in rural electrification objectives, with four projects (Chile, Malaysia, Philippines and Syria), which were all approved in FY76 or later, having significant elements in this respect. In one case (Philippines), however, the project was aimed more toward the fringes of urban communities than toward truly rural populations. These projects were a direct result of an in-depth study program for the development of rural electrification which took place in the first half of the seventies.

Institutional Development

6.16 From information available in review documents, it appears that nearly 90% of the 1985 projects had significant institutional development objectives. These are not always easy to identify, because serious institutional issues and major changes often had been taken up as part of wider sector dialogues and in accordance with borrowers' wishes, were not discussed in the appraisal and loan/credit documents. However, more recently approved projects suggest more explicit discussion and detailed attention to institutional problems and objectives.

6.17 Staff training was included as a specific objective in 12 (55%) of the 1985 projects. This was consistent with the cumulative average for power and water supply/wastes disposal projects reviewed in 1979-1984, but considerably below the 71% average for projects in those sectors reviewed in 1984 alone. The reason for the lower 1985 figure is that nine of the projects reviewed involved well established utility organizations with adequate training programs already in operation and, therefore, without need of specific training objectives. Another parallel between training components of the 1985 projects and earlier projects is that most training was planned only loosely at the time the loans/credits were approved. This is unfortunate and probably contributed to the lack of success of at least one-third of the training programs.

Financial Objectives

6.18 Financial objectives for the 1985 projects, again aimed toward improvements in financial performance and control, the establishment and improvement of commercial accounting systems and procedures, more effective billing and collection methods, and better management reporting systems. The objective in all cases was to develop enterprise capacity to generate finances adequate for satisfactory operation and maintenance, and to support development plans. Typically, the strategy for achieving this objective was to improve the cost effectiveness of operations, develop better long-range investment programs, and carry out tariff studies and implement reforms to the level and structure of charges. Some of this strategy was identified directly in the loan or credit agreements, but more frequently implied by the financial covenants.

6.19 Revenue covenants were included in the lending conditions for all of the 1985 projects. Of these, about two-thirds - mostly power projects - were commitments to generate revenues sufficient to produce specific annual financial rates of return on assets. Most of the others required the utilities to contribute percentages of capital investments from operating income, while a few required only the recovery of operating and maintenance expenses. In two cases--the water supply projects in Kenya and Jordan--the revenue covenants were based on tariff analyses reflecting long run marginal cost principles. This approach was needed since the capital costs of incremental supplies from sources further afield were rising tremendously. As in recent reviews, there has been substantial non-compliance with these financial covenants.

C. Sector Achievements

Economic Results

6.20 The experience with the 1985 Power and Water supply/Wastes disposal projects as a whole closely parallels that of the projects reviewed in 1984 and previous years, although policy and methodology improvements introduced in the early seventies began to be reflected in the cluster of 1985 projects prepared and approved subsequently. Economic rates of return (ERRs) are the usual evaluation basis, using the increased net revenues expected to accrue from the project as a measure of the minimum project benefits.^{16/} These ERRs were calculated initially, then reestimated after completion for 86% of the 1985 public utilities projects. A little more than 50% of these projects had re-estimated ERRs that were lower than the appraisal expectations. This is somewhat better than the experience with the 1979-84 projects. The 'before and after' estimates for nearly 40% of the 1985 projects were substantially the same compared to about 20% in earlier years. This may indicate an improving trend in demand and particularly in pricing which in most countries had lagged behind inflation before the latter started slowing down towards the end of the period under review. About 10% of the 1985 projects had re-estimated ERRs which were higher than the original forecasts. Of the re-estimated ERRs, 55% were below 10%, against an original estimate of two-thirds. About 20% of the re-estimated ERRs below 10% were negative, which is better than for the 1984 projects (35%), but still twice as much as the cumulative average for pre-1984 projects. In reviewing performance in terms of ERRs, it is important to note that in most cases ERRs for power and water supply indicate more about the inadequacy of tariffs in the face of high inflation than the economic value of investments.

Social Impact

6.21 The social impact of power and water supply/wastes disposal projects in 1985 projects has been discussed in the Reviews, largely in terms of improvements in standards of living, health and family incomes. Such impacts were indirect and also influenced heavily by many other factors such as nutrition programs, education and private enterprise and employment generation activities. In view of the difficulty in quantifying this impact, the best that can be done is to compare appraisal estimates with the reported accomplishments of projects in reaching target groups, such as the urban poor or rural populations.

^{16/} A statement of Central Projects Staff notes: In public utilities projects only the revenues from tariffs can be estimated with confidence and are used as a proxy for benefits. The resulting ERRs may, therefore, significantly understate the actual returns to the economy since the benefits to consumers may substantially exceed the regulated prices they are charged. Largely because of this it is generally not meaningful to compare ERRs for projects across different sectors/subsectors.

6.22 Sixteen of the 1985 projects had significant distribution components with potential social impact. Expost evaluations of only six of these projects (three power and three water supply) included some kind of factual account of the project's success or failure in achieving intended coverage. Three were mostly successful, one failed to reach the target group and the other two were somewhere in between. The degree of success appears to depend mainly on how carefully the target group was analyzed in the first place and then on the priority that was given to reaching them during project implementation. Moreover, appraisal estimates of the population to be reached are seldom followed-up by satisfactory surveys to measure the actual coverage.

Rural Electrification

6.23 Guidelines for lending for village electrification were issued in FY76. The four 1985 projects were among the earliest approved by the Board. The experience has shown that the Bank can play a needed role in such projects by:

- (a) coordinating aid from other sources and obtaining co-financing; and
- (b) using more rigorous economic analysis to examine those projects and to help put sub-projects in order of priority; and
- (c) optimizing design standards.

6.24 The experience also shows that more explicit guidelines for evaluating the social benefits from rural electrification i.e., projects are needed to establish a better analytical base for designing the projects.

6.25 Because of the marginal economic nature of these projects, it is especially important to investigate the basis on which they have been planned, and to ensure that they meet the following:

- (a) the project is part of an integrated rural development program;
- (b) subproject priorities within the program have an economic basis;
- (c) a proven market with a developed cash economy exists;
- (d) project designs follow least-cost practices appropriate to the market; and
- (e) the capacity of the implementing agency to build and operate the system is assured.

Sector Policy Dialogue

6.26 Relatively few of the 1985 projects referred to specific discussions of policy changes. However, two-thirds of the projects were repeat operations and policies acceptable to the Bank were generally part of an ongoing dialogue. In other cases, the Bank either saw no reason for major

policy changes (Philippines Rural Electrification, for example) or, for a first project in a country with a centrally controlled economy (Romania), chose not to try to influence changes in policies at that time, although some (like pricing) were substantially different from Bank norms. Generally the Bank's impact on sector policies was satisfactory, although to get results multiple lending operations were often necessary. Most of the policy dialogue that took place with the 1985 projects focussed on failures to adhere to policies which already had been agreed to during earlier operations. For example, when fiscal, economic or political conditions in a country became difficult, often in the face of high inflation, policies with respect to adequately pricing services proved generally less than successful.

6.27 Policy dialogue in two of the 1985 projects was ineffectual. In one (Syria), the physical objectives of the project were accomplished satisfactorily, but the Bank and the government never established a common ground for constructive dialogue on institutional and pricing policies and practices. In another country (Chile), the Bank's and the government's position on pricing and financial management policies were poles apart from the beginning and the Bank was overly optimistic to suppose that after four years between project appraisal and loan effectiveness, much change would occur during project implementation. Eventually only one-third of the loan was disbursed and few, if any, sustainable benefits were realized.

Institutional Development

6.28 Achievement of institutional objectives for the 1985 power and water supply/wastes disposal projects was mixed, as in the recent past experience, but overall the success rate appears to have been positive, and somewhat better than the results for projects reviewed over the last several years. Subject to the limitations of quantifying institutional improvements, there appears to be substantial achievement of defined objectives for about 35% of the 1985 projects, partial achievement for about 40% and negligible achievement, if any, for 25%.

6.29 The major problems on projects with negligible or partial achievements were the lack of competent and continuous management and qualified staff. Most often this was because employment conditions were insufficient to attract and retain skilled staff; the price that the responsible authorities were willing to pay - or had resources to provide - not only in salary and wages, but also for training and the working environment in the broadest sense for the human resources required for sound operations, was too low.

6.30 The Bombay India Water Supply Project is an interesting example of a project with a very good institutional development record, traceable largely to the quality of staff that exhibit an exceptional degree of pride in their work and their organization. The organization has the undeniable advantage over many others because potential employees with the necessary basic educational backgrounds are widely available locally. What happens next is most important. The organization has a very good internal training policy and program which is continually being improved and expanded. Staff pride stems from a reputation for high performance standards, particularly on the

technical side. There is a feeling of stability in the institution, remarkably little political interference (in spite of it being part of a municipal government), excellent delegation of authority and easy contact between all levels of staff. Transfers to field posts is not a problem, as it often is in state or national government agencies.

6.31 The Bombay example illustrates another point. Previous Reviews have stressed the importance of the autonomy (and hence accountability) an enterprise should have in planning and conducting its affairs, particularly those relating to staff and finances, within the broad policy and development objectives established by higher authorities. Although helpful, it is not essential that this autonomy be strictly by statute. More often, as is the case in Bombay, it is by delegation to those directly responsible for the success of an operation, complemented by a supportive but hands-off approach by those in higher positions of authority.

6.32 The 1985 projects include other examples of good institutions which continue to do a satisfactory job but are hampered by political interference, particularly on staff and managerial appointments. In some cases, basically good institutions have collapsed because of drastic political and economic changes which would have an adverse effect on even the most autonomous agency. However, experience had indicated that strong agencies can survive even the difficulties created by the harsh economic environment of the 1980s.

Technology Transfer

6.33 Transfer of technology occurs to some degree in all power and water supply/wastes disposal projects which include the design, installation and operation of equipment. Even if the equipment uses standard technology known worldwide, people on new projects may learn much about it for the first time. Occasionally, there are notable examples of significant technology transfers. For example, one of the 1985 projects (Romania) featured the introduction of very large and unusual boilers for a thermal power station, designed to burn very low-quality lignite. Because of unsatisfactory operation (design, manufacturing and fuel problems), modifications were required. These were designed and manufactured locally and the results were very successful. Although not originally intended, the experience resulted in a technological advance and introduction of new technology in the country's machine building industry that was the project's major supplier.

Environmental Concerns

6.34 The 1985 projects faced a number of environmental concerns, none of which were atypical for power and water/supply wastes disposal projects. Included among these were two successful population resettlement experiences (Ghana and Thailand), resulting from construction of hydroelectric projects. In Zambia, changes in natural stream flows (because of a dam and reservoir) required augmentation of low flows by special releases from the reservoir. And again in another hydro project in Thailand, improved downstream conditions have resulted from the investment in a controlled water supply system for irrigation.

6.35 A concern about a thermal project in Romania was an increase in air pollution. Baseline measurements of existing pollution were made in preparation for monitoring and controlling any harmful effects from plant discharges. These measurements were made in a timely fashion both before and after starting operations with lignite fuel. Concentrations of some pollutants were found to remain within safe limits, but others (sulphur dioxide and depositable fly ash) exceeded health norms by 10% to 30%. The concern has been raised with the government but there is no up-to-date information on the steps that will be taken to reduce pollution to safe levels.

6.36 Water supply and wastes disposal projects are generally beneficial to the environment. However, in a water supply project (Kenya), river water downstream from a new water treatment plant was to be monitored to detect any ill effects of discharges to the stream as a consequence of plant operations. No action on this had been taken by the implementing agency at the time of the ex-post evaluation report although the concern has been raised by the Bank.

6.37 The Bombay Water Supply and Sewerage Project had an environmental dimension which is typical of many large scale projects of this type. Top priority was given to alleviating a critical water supply shortage and because of overriding physical and financial constraints - improvement of the wastewater disposal system was increasingly costly and thus considered of lower priority. It was recognized, therefore, that the sewerage components of the project could not keep up with increasing wastewater production and that already extreme pollution in receiving waters would get worse. This has happened, even more than at levels earlier anticipated, because as a project cost saving measure, some of the sewerage components had to be deleted during implementation. This problem will have to be further studied.

6.38 In general, the environmental aspects of the 1985 power and water supply/wastes disposal projects were seldom fully examined during preparation. Major environmental effects were difficult to anticipate and few could have been corrected during project implementation. Few ex-post evaluations have fully reported on these problems and none of them in depth. Thus, a much more thorough study of environmental impact is needed.

Sustainability of Project Benefits

6.39 Sustaining the estimated benefits of power and water supply/wastes disposal projects appears to require as much attention and effort as implementation of the project in the first place. Improving or continuing the pace of institutional development is essential, but often difficult. A number of the 1985 projects faced problems of spare parts shortages (and even lack of fuels) because of foreign exchange shortages, as was the case with projects reviewed earlier. This has led to maintenance deficiencies and loss of production and distribution capacity. Experience increasingly demonstrates that it is at least as important to provide for resources, including needed foreign exchange, for proper plant management, operation and maintenance as it is for constructing the project.

6.40 Perhaps one of the most obvious areas which undermines a project's sustainability is the excessive losses of energy or water in transmission and distribution systems, whether by theft through illegal connections, leakage or faulty metering. The original objectives of about 25% of the 1985 power projects and about 45% of the water supply projects included reductions of such losses, but in most cases results were unsatisfactory, with excessive loss levels resulting from insufficient control. More recently, the Bank has adopted a more up-front and aggressive approach to the losses problem, recognizing that it needs as much priority as the project elements designed to increase production.

D. Lessons of Experience and Feedback

6.41 Selected conclusions and lessons taken from the ex-post evaluation reports for the 1985 power and water supply/wastes disposal projects are listed below and closely parallel those from operations covered by the last several Reviews.

Institutional

- (a) Project preparation should include a realistic appreciation of instances where government policies run counter to the Bank's concepts of institutional autonomy and financial viability;
- (b) the Bank should exercise particular care in making loans, even to the extent of withdrawing, when the government or implementing agency's management does not have a receptive attitude toward institutional objectives which the Bank considers to be critical; and
- (c) training should be assessed by specialists at appraisal to try and ensure they are cost effective, and during implementation and after completion to determine both qualitative and quantitative results. Components should be more carefully appraised and monitored and offer scope for evaluating results.

Project Preparation and Loan Processing

- (a) Where energy losses or unaccounted-for water are problems, projects should include specific action programs to deal with the cause of losses. Such programs should be monitored and given as much priority as the project elements designed to increase production;
- (b) in economies where growth prospects are precarious, emphasis should be placed on ensuring full utilization of capacity of existing facilities, rather than on investing in extensions of such systems; and
- (c) in particular, with respect to rural projects, it is important to ensure that (i) subproject priorities within the program have an economic basis; (ii) a proven market with a developed cash economy exists; (iii) project designs follow least-cost practices

appropriate to the market; and (iv) the capacity of the implementing agency to build and operate the system is assured.

Projects Benefiting Rural or Urban Poor Populations

- (a) The experience shows that more explicit guidelines for evaluating the social benefits of these projects are needed to establish a better analytical base for designing projects which benefit the rural and urban poor; and
- (b) experience has also shown that the Bank can play a needed role in such projects by: (i) optimizing design standards; (ii) using more rigorous economic analysis to examine projects and to help prepare sub-projects; and (iii) coordinating aid from other sources or obtaining co-financing.

Social Impact

- (a) Ex post evaluations show that more should be done to determine the actual coverage of distribution projects and the impact on the beneficiaries; and
- (b) an attempt should be made in projects aimed at serving urban and rural poor to ascertain that beneficiaries are being reached, and to determine how many, etc.

Environmental Impact

6.42 Little monitoring of the environmental impact of 1985 power and water supply/wastes disposal projects was apparently carried out and few ex-post evaluations reported on these concerns. A thorough study focussing on the environmental impact of these, and subsequent projects, possibly including uncompleted projects of sufficient importance, is therefore needed.

Feedback

6.43 It is still difficult to ascertain the extent to which the conclusions of ex-post evaluations have been systematically reflected in subsequent projects. In some cases, PPARs/PCRs have resulted in the introduction or modification of some features of a follow-on project, and increasingly, references to PPAR/PCR findings appear in Board documents, indicating a positive trend.

6.44 Experience with several of the 1985 public utilities projects is reflected in follow-on projects. Examples include:

The Mogadishu Somalia Water Supply Project was intended as an interim measure while a second project was prepared. The second project was prepared and the physical components are being implemented efficiently. The limited capacity to absorb organizational and technical improvements and training, identified in the first

project, was acknowledged and more realistic approaches and timetables were adopted for the second project.

The Liberia Monrovia Water Supply Project generally met its physical objectives, but failed to meet most institutional objectives, to the extent that project benefits were rapidly undermined. A new technical assistance project, intended to assist with rehabilitation and improvement of the institution, is realistically based on the experience of the first project.

6.45 Feedback of experience with power and water supply/wastes disposal projects of a potentially significant nature has also occurred through various documents prepared by the Bank and the six monthly project implementation reviews. For example, OPS has been the source of a number of papers which relate to the "lessons" on water supply and wastes disposal projects listed in this and previous Reviews. These include a recent paper on rural water supply projects which suggests methods of quantifying economic benefits. The Water Supply and Urban Development Department (WUD) of OPS is undertaking special studies on experience with financial covenants, and is preparing guidelines on cost recovery and replicability. Another WUD study is investigating problems of unbilled water, and a discussion paper by the Public Sector Management Unit of OPS on the subject of country commitment to project objectives and implementation is under preparation. Similarly, the Energy Department has for some years produced advisory memoranda which address many issues raised in this and prior reviews. Pertaining to this year's lessons, papers have been prepared on tariff structures and rates (to reflect long run marginal costs) and on power system loss reduction programs. A Sector Support Strategy Paper for Electric Power (1983) examines many "lessons", as do a number of other Papers on the "Economic Benefits of Power Supply" and "Optimizing Rural Electricity Supply." These papers are available as regular staff publications.

VII. EDUCATION

A. Introduction

7.01 The last two Annual Reviews took a look at Bank Group lending through the 91 projects evaluated in the previous six years, and sought to identify recurring issues. The present review uses this material as a backdrop to its commentary on the 15 projects evaluated in CY85, ten of which were approved between 1975-1977.

7.02 The total amount of Bank Group lending approved for the 106 education projects reviewed to date (CY74-85) was US\$1.3 billion. The average cost was US\$29 million, and the approved Bank lending averaged US\$12.2 million per project (Appendix Tables 7.1 and 7.2). As noted in the past two Annual Reviews, average project costs have been rising, reflecting the trend toward larger projects: for the 15 projects evaluated in 1985, average cost was nearly US\$40.0 million and average loan or credit size was nearly US\$20.0 million. However, 1985 was the first time that the actual costs of the projects reviewed for a given year fell short of estimates, reflecting the fact that cost overruns were offset by three major cancellations (Zaire II, Algeria III and Trinidad and Tobago III, where 85-90% of loan/credit proceeds were cancelled--see para. 7.45). Heretofore, only Greece IV (evaluated in 1984) and Spain I and II (evaluated in 1977) experienced such major cancellations. It was also true that in the 1985 group of projects, there were an unusual number of projects with cost underruns--of the 106 projects reviewed to date, 26 had cost underruns, of which 9 belonged to 1985 alone.

B. Sector Lending Objectives

7.03 The projects evaluated in 1985 contained a wide range of objectives, continuing the pattern noted in the previous two Annual Reviews. They reflected a broadening of objectives, away from a fairly exclusive focus on narrowly defined manpower justifications toward a wider definition of human capital formation, to include efforts e.g., to improve educational quality, increase access among the disadvantaged groups or within disadvantaged regions, meet basic educational needs and strengthen the management capacity of the educational system. Fully two-thirds of the projects reviewed this year had components that focussed on the basic education cycle. This reflected a conscious policy shift during the mid-1970s directed at reaching the absolute poor through a variety of methods, including improving the quality of education and educational services at all levels, but particularly basic education. The correctness of this policy shift has been supported by growing evidence from education research and Bank project experience that demonstrates the high returns and increased productivity attributable to improvements in access to and quality of basic education.

7.04 Typically, projects contained multiple objectives, and many were set within the context of either a specific educational reform or general effort at educational change. Virtually all of the projects incorporated measures to make education more responsive and relevant to the needs of the economy and to distribute its benefits more equitably over the society as a

whole. Reform of the formal system generally sought to reorganize and reorient middle and secondary level education, by consolidating basic education (grades 1-8 or 9) and strengthening vocational, technical and scientific programs (Algeria III, Brazil II, Dominican Republic II, Thailand IV, Tanzania V). Such efforts to improve the formal system included not only building and equipping classrooms, laboratories and workshops, but also training/retraining teachers and administrators to develop educational materials and implement revised--frequently diversified--curricula. Unlike last year, however, there were no projects devoted to textbook production, which was ironic in view of the importance of this activity in programs of qualitative improvement.^{17/}

7.05 Projects frequently sought to expand educational and training opportunities for specifically identified groups--women, farmers, out-of-school youth, indigenous groups and adults--through the strengthening of both formal and non-formal systems. Several projects provided schools and centers to serve both children and adults (Dominican Republic II, Sudan II, Thailand IV, Guatemala II and Tanzania V), while others included non-formal vocational training centers aimed at developing skills useful to the economy (Zambia IV, Algeria III, Syria I, Dominican Republic II, Tunisia III and Sudan II). Because of their intentionally close link with industry, the operating expenses of some vocational training institutions were financed through a payroll levy (Dominican Republic II).

7.06 In keeping with the Bank's focus on rural development, nearly two-thirds of the projects reviewed in 1985 contained agricultural education and training components. Institutions financed under these projects covered, for example, non-formal farmer training (Zambia III and Dominican Republic II), agricultural technician training (Zaire II and Korea IV) and university level agricultural training (India I and Zambia III).

7.07 An increasing percentage of projects also allocated substantial resources to institutional development. In some cases, projects aimed at creating special institutions or agencies to research, guide or consolidate and coordinate sector efforts (Zambia III and IV, Korea IV and Syria I). While this sometimes included the provision of physical facilities, in most cases it entailed provision of expert assistance or fellowships to strengthen: local capacity to administer and supervise project institutions; planning and evaluation capacity through the development of school mapping, data gathering and the tracing of graduates; and construction capacity.

^{17/} This does not imply a long term trend away from textbook production. In the 1974-1978 period, during which most projects evaluated in the course of this review were approved, 16% of all education projects contained text book components. Between 1979-1983 the proportion had doubled to 32%.

C. Sector Achievements

Economic Results

7.08 Because of the long-term nature of both the education process and its benefits, the economic returns to education projects are not necessarily discernible at the time of project completion or audit. Although by no means an exclusive list, the economic results of education projects will be discussed in terms of: (a) expanded capacities of educational systems; (b) improvements to internal efficiency and throughput; and (c) external efficiency and manpower impact of projects. Another important issue, the costs of expansion and qualitative improvements, will be discussed under the heading of sustainability.

7.09 Expansion. Appendix Table 7.3 makes a comparison between the number of student places envisioned and the facilities actually provided disaggregated by subsector.^{18/} In the past two Annual Reviews, the aggregate number of places provided approximated the number of places planned. This is not the case this year owing to the non-implementation of three projects and the severe scaling down of another.^{19/} Other project shortfalls were related to reductions in project size to compensate for unexpectedly high price increases.

7.10 Total enrollments were also well below what had been forecast at Appraisal, although there were variations among projects and project institutions. Past experience indicates that primary/basic and general secondary schools tend to become fully enrolled, although this was not always evident at project completion as schools were just opening their doors (Zambia III). Technical, vocational and agricultural schools or institutions which were part of an educational reform had much more trouble achieving full enrollment because they were new and therefore untested or were considered by students and parents to be less desirable educationally. Also, these schools had difficulty in obtaining teachers in the various specializations offered (Brazil II, Syria I, Tanzania V). In projects where technical education proved very popular, resulting in high demand and full enrollment (Tunisia III, Korea IV, Dominican Republic II, Zambia IV), at least some of the following features were present: a strong on-going demand among students and employers for skills being taught; the presence of an existing and successful institution which was being expanded or upgraded; close integration between

^{18/} The paucity of data in the reports, the frequently profound changes to project content and the increasing number of projects with non-formal components or providing equipment only (which blurs the student place distinction), make across-the-board comparisons somewhat misleading. Other factors making comparisons difficult are: the dynamic nature of enrollments, which change from year to year and depend upon single or multisessional usage, and the variable student place/enrollment ratios, which depend upon the level of the institution and type of facility.

^{19/} The number of Integrated Rural Education Centers in Sudan II was reduced when the self-help approach to construction proved unpopular.

the schools and the communities they served; and the provision of equipment and facilities which were appropriate and could be maintained cost-effectively.

7.11 Non-formal programs also had trouble achieving enrollment targets because they did not address the needs of the population to be served or were poorly planned, coordinated and executed because no single Ministry was responsible for their administration. The exception was Thailand IV, which actually exceeded its quantitative targets. While not without some of the shortcomings mentioned above, the Thailand IV programs were generally successful and were expected to continue to improve owing to the increased institutional capacity supported by the project.

7.12 Internal and External Efficiency. The recent commissioning of many of the project schools evaluated often precluded a thorough investigation of their internal or external efficiency. Internal efficiency--how expeditiously or cost-effectively students are processed successfully through the system--was addressed in the PCRs and audits less frequently than external efficiency--how individuals utilize their education/training in the job market. Four projects evaluated in 1985 offer some interesting, and perhaps unexpected, perspectives in this regard. The introduction of practical work into the upper primary curriculum in Tunisia III, probably the most successful such effort to date, is credited with actually improving internal efficiency. The vocational training institutes in Korea, supported under the Fourth Project, were also very efficient. In both cases potential employers were very supportive of these programs, which translated into apprenticeships or jobs for the graduates. A combination of stipends to trainees and the high demand for certain skills fomented successful training programs in Syria I and Zambia IV.

7.13 The employability of graduates and the manpower impact of project institutions were easiest to determine where there were direct or immediate linkages between the trainees and their employment. Such was the case for in-service training programs supported in Dominican Republic II, vocational training programs in Korea IV, agricultural universities in India I and technical training in business, medical and accounting fields in the two Zambia projects and Tanzania V, where informal interviews with employers were often the main tool for testing and evaluating program effectiveness. Because they usually corresponded to a perceived need, the external efficiency of such programs was quite high. Where the linkage with the labor market was less direct, or where the demand for the skills training supported under the project was miscalculated, external efficiency was low, as was the case with some agricultural training programs supported in the African projects and the secondary schools in Brazil II. Moreover, as the Bank is becoming increasingly aware, "terminal education" programs^{20/} at the secondary level are in many cases not so perceived by the students involved. Studies of technicums in Algeria and diversified secondary schools in Thailand indicate that the majority of graduates opt for continuing their education.

^{20/} These aim primarily to prepare students for the workplace rather than further education.

7.14 The increased Bank support for the evaluation of education programs (reflected in financial support and/or technical assistance, as well as numerous covenants mandating tracer studies) has frequently come to naught, and this trend continues: of the six projects this year in which tracer studies were required, compliance was achieved in only two. As noted in the past two Annual Reviews, Borrowers are unlikely to undertake, much less institutionalize, complex and costly evaluation procedures like tracer studies without good cause and certain payoff. It is probably better to strengthen school administration and supervision, planning, evaluation (including essential data base management techniques) and labor market analysis as a prerequisite for appropriate evaluations of the system.

Social Impact

7.15 Most education projects reviewed this year targeted disadvantaged groups or regions. Their success to date in achieving social equity objectives was mixed, although the full impact would not be known for several years. Two noteworthy successes were in Syria and Tunisia. The increase in the number of female primary school teachers as a result of the Syria project was regarded as sufficient incentive for rural parents to begin sending their daughters to school in increased numbers. The practical studies introduced into the upper primary curriculum in Tunisia were successful in making primary school leavers more attractive in the job market. Generally speaking, with the exception of Thailand (para. 7.11), non-formal rural training offerings suffered from a number of handicaps: they were inadequate to attract female participants (Zambia III, Dominican Republic II); the communities being served were insufficiently interested (Tanzania V, Sudan II) or programs had not yet materialized (Guatemala II). While non-formal components can have important advantages of adaptability and flexibility, diffuse administrative responsibility and the very lack of a formal structure may militate against success. Evidence suggests that such programs have been merely appended to many projects without the careful preparation and coordination that they require.

Technology Transfer

7.16 Bank-financed projects have frequently supported innovative educational strategies aimed at extending the delivery system or improving the quality or relevance of the education being offered. For the purposes of this Annual Review such strategies will be referred to as "Technology." Unlike the recent past, no projects reviewed this year encompass the production of textbooks or the use of educational radio or television, but a number of projects did assist new approaches--such as diversified curriculum or nuclearization--or helped to refine existing practices regarding examinations and guidance counseling.

7.17 Several projects sought to extend a "diversified curriculum" (i.e. a curriculum including practical subjects such as woodwork, metalwork, commercial subjects, domestic science or agriculture) into project schools, usually at the upper basic or secondary levels. The aim was normally pre-vocational, as opposed to vocational, with a view to making students more employable directly after graduation. With the exception of the oft-cited

Tunisia III project, the attempts to extend practical studies met with partial success at best. Special facilities workshops were frequently underutilized because of inappropriate equipment, insufficient attention to the supply of consumables and repairs or lack of specialized teaching staff (see para. 7.10). Common facilities centers--so designated because they would be shared by several schools--were generally even less successful, serving only one institution because of problems in securing the cooperation of a number of schools (Brazil II, Guatemala II, Sudan II). Students graduating from diversified programs frequently elected to continue their academic education, further undermining the effectiveness of the diversified approach. All of these problems, in addition to the substantially higher recurrent costs of sustaining a diversified curriculum, have been discussed in past Annual Reviews and these assessments have also been supported through other Bank research.^{21/}

7.18 Nuclearization, an approach linking satellite and frequently multi-grade lower primary schools with a central school (nucleus) offering the full basic education cycle, is a technique which has been tried in several Latin American countries. The broad purposes of nuclearization are to increase access to education and improve school supervision and educational quality. While past Annual Reviews have noted difficulties in implementing this innovation, attempts supported under the Dominican Republic II tested the feasibility of the Government's nuclearization policy and helped extend the system nationwide, a major achievement in primary education reform. A major component in the success of this effort, frequently absent from past nuclearization attempts in other countries, was the upgrading of primary school teachers and administrators. Because of a spillover effect of the training program to new non-project institutions, more than twice the number of teachers and administrators initially targeted were trained, so that qualified personnel now exist at all levels of the system to implement the change.

7.19 This experience, and that of several other projects reviewed this year, highlight the critical importance of human resource development within the education sector (see also para. 7.10). All projects reviewed in 1985 provided financing and/or technical assistance for the training of teachers and administrators. Six projects strengthened primary or secondary teacher training institutions, while five others provided technical assistance or fellowships to improve the teaching function. Especially positive teacher training results were obtained in Syria I (see para. 7.15) as well as India I; fellowships provided under the latter project contributed substantially to strengthening university teaching.

Institutional Development

7.20 Education projects continued to have considerable institutional impact through their project implementation units (PIUs), particularly

^{21/} See "Diversified Secondary Education and Development: Evidence from Colombia and Tanzania." G. Psacharopoulos and W. Loxley, Baltimore: Johns Hopkins University Press (1985).

strengthening capacities in school design and construction, school planning norms, equipment procurement and overall project administration. Nevertheless, PIUs in general continued to be plagued by their anomalous position in the governmental hierarchy. Although responsible for executing projects, PIUs are often powerless to influence policies affecting project implementation and outcomes (Dominican Republic II, Guatemala II, Syria I). Staffing is also a problem, as reflected in the continued heavy reliance on expatriates (Tanzania V, Zambia III and IV) and the insufficient salaries needed to attract and retain qualified personnel (Dominican Republic II, Guatemala II, Trinidad and Tobago III).

7.21 An increasing proportion of education projects also supported measures to strengthen aspects of educational administration. Some projects assisted central agencies responsible for coordinating or directing certain educational services. The two Zambia projects made an important contribution in this regard by establishing an Educational Services Center which integrated nine entities (responsible for such activities as curriculum development, library services, production of instructional materials, examination administration) in one building, thus providing economies in the use of space, transport and equipment, as well as enhancing administrative cooperation and coordination. The Dominican Republic II and, indirectly, Korea IV helped to create national organizations having comprehensive control over skilled manpower training. Both entities have responsibility for regulating training programs, testing and accreditation and have consolidated and improved the responsiveness of the training system to the requirements of the economy. Thailand IV achieved two important results: (a) extending the Training and Maintenance Center, which had been developed in 1970 to produce and supply teaching materials and equipment and provide training in equipment and building maintenance for the newly-introduced diversified secondary schools, and (b) strengthening the Division of Adult Education (which was upgraded to a Department) and providing a regional network of offices to better manage adult education.

7.22 Virtually all projects with institutional development objectives continued to rely heavily on expert services and fellowships, particularly the former. Project-funded technical assistance is still the most likely target of reduction when cost-overflow problems supervene. Some problems with the timing of technical assistance were also noted. This was especially the case when the presence of experts and their counterparts did not coincide (Zambia III, Sudan II, Syria I). Local experts were very useful and cost effective in Brazil II and Guatemala II. Contracting with local agencies (in this case universities) in Guatemala had important benefits: collaboration between higher education institutions and government agencies was promoted; new ideas about curriculum development were generated; and the capacity of universities and of individuals presently in decision making position was strengthened.

7.23 Two projects from the 1985 group had problems because of the Bank's initial failure to appreciate the importance of integrated and sustained institution-building:

- (a) The Bank prepared and approved Zaire II too hurriedly despite the unfavorable experience with the First Project, the acknowledged weakness of the implementing agency and reservations on the content and viability of the project in the face of unclear government policies. After unsuccessful attempts to scale back the project, 90% of the Credit proceeds were cancelled. In light of this, the Government and the Bank have agreed to a Third Project focussed entirely on strengthening the Government's planning, data collection administration and management role in the education sector.
- (b) Brazil II included and successfully executed studies and technical assistance. The benefits of this were considerable but not sufficiently directed at issues essential to project success. Given that the states did not thoroughly support the educational reform which the project assisted, greater impact could have been achieved if institutional development efforts had concentrated on such issues as the financing of the reform at the state level, the revision of the curriculum to meet local needs and state level manpower studies.

Sustainability of Project Benefits

7.24 The sustainability of a project and the ultimate success of the investment depends upon the continuing viability of project institutions--i.e., their ability to meet perceived educational needs--and the level of Government commitment as expressed through favorable policies and the allocation of financial and human resources. Most reports reviewed raised sustainability-related issues. In several cases, the lack of consistent policy support for an educational reform or the difficulty in reconciling disparate viewpoints caused Borrower commitment to some project supported programs or institutions to waiver. In Tanzania V and Zambia IV, shifting policies with regard to agricultural or rural training undermined the effectiveness of project institutions. In the Dominican Republic II, the non-formal primary education program was not implemented because of a change in government policy favoring the use of radio and television over existing centers. Ineffective project management and the difficulty in getting necessary measures authorized initially delayed the implementation of Guatemala II, but were eventually overcome when Government commitment to the project increased.

7.25 India I and Brazil II involved structural changes to autonomous or state-supported education systems. In the case of India, redundant features in agricultural universities were to be eliminated while in Brazil, diversified secondary education was to be developed. Both projects had problems in executing the proposed changes because the parties most concerned had not been adequately involved in project design. The secondary schools in Brazil were in the difficult position of having to rely on the lukewarm support of the states and the students, who preferred the better funded, established, and federally-supported technical school system. Many of the reports reviewed have stressed the importance of adequate involvement of all relevant parties in project design.

7.26 Aside from sector policy issues, other sustainability concerns arose from the implications of introducing practical subjects into the general curriculum or from the low levels of maintenance of project institutions. During the 1970s, the Bank supported many attempts to introduce practical subjects, but future support for practical programs will probably depend to a great extent upon their cost recovery or cost containment measures. Although the effectiveness of the approach in preparing individuals for the workforce is still being speculated upon, the approach can no longer be regarded as a panacea for problems of educational relevance and quality, particularly in light of the substantial cost of maintaining such programs. Practical studies require additional teachers with special skills and administrators capable of programming workshop schedules for maximum utilization. Not only the initial investment, but also the recurrent cost of equipment maintenance and provision of consumables, is considerably higher than for general education programs. Finally, even if the above cost can be sustained for project schools, there is still the difficulty of standardizing the public education system so that unequal educational opportunities do not arise. In several projects the above issues surfaced, raising concerns over the sustainability of practical programs (Tanzania V, Sudan II, Tunisia III, Guatemala II, Brazil II, Syria I). Some projects proposed to offset higher costs through student fees or production-oriented activities (Tunisia III, Guatemala II, Thailand IV).

7.27 Although all Loan/Credit Agreements included standard covenants on maintenance, these were often not adequately adhered to in practice. It was common to find reference to poorly maintained infrastructure (water, sewerage and electricity) which, particularly in the case of practical subjects, precluded use of workshops. Lack of funding, lack of systematic assessment of maintenance needs and confusion over responsibility for maintenance were common problems. However, two projects stand out for the contribution they made toward institutionalizing maintenance procedures. Thailand IV supported a center which inter alia trained staff in the special maintenance needs of the diversified secondary program supported by the project (see para. 7.21), while in Zambia III, in recognition of the severe state of disrepair of previously assisted schools, added a secondary school maintenance program component during implementation.

C. Lessons of Experience and Feedback

Project Generation and Design

7.28 Nine of the 15 projects evaluated in 1985 were generated with some assistance from UNESCO and/or FAO. The project generation (defined as the time between the first mission and Board approval) averaged 29 months for the 1985 set of projects, which compared with 38 months for the 1982 set and 27-28 months for 1983-1984.

7.29 The reversal of the recent trend toward shorter project generation times is misleading, being attributable to project circumstances with Guatemala II and Tunisia III, where generation was suspended for a time, resulting in preparation times of 43 and 78 months respectively. In Guatemala this was caused by the Government seeking softer lending terms compounded by a

conflict over the bid award for a proposed Bank-financed power project. In Tunisia, project generation was suspended for three years since the Borrower could not supply detailed information desired by the Bank. Paradoxically, once the preparation of an education project became a priority in Tunisia, preparation and appraisal missions followed within one month of each other, and a hasty project formulation resulted; the project was eventually successfully executed after substantial modification during implementation. Excluding these two anomalies, the average preparation time of the 13 remaining projects was 24 months. Thus, the observation in last year's Review that diminishing generation times are to be expected from an increasing proportion of repeater projects is generally borne out for this year's projects as well. It is hardly surprising, therefore, that the three projects with the shortest preparation times were fourth or fifth in a series (i.e., Tanzania V (18 months), Zambia IV (17 months) and Kenya IV (14 months)).

7.30 Although the time taken to generate a project has implications for Bank and country programming and budgeting, it has proven irrelevant to project success or failure from the perspective of either implementation or sustainability. Past reviews have also found no connection between generation time and project success. The quality of the sector work, the Borrower's commitment to the project, or the feasibility of project design within the Borrower's overall socio-economic and administrative context are the key determinants of success. Korea IV, with the shortest preparation time, and Thailand IV, with one of the longest, were both carefully designed and very successful. In the case of Thailand, difficulties between the Borrower and the Bank in reaching agreement over project objectives and scope led to delays, but eventually contributed to a project focused on two well-formulated project items. The First Education Project in Syria, expeditiously prepared in only 20 months because of very thorough sector work, was also quite successful, especially for a first operation in the sector.

7.31 Less successful projects also had certain design features in common, although length of preparation time was not among them. In the case of uncompleted projects (para. 1.15), there is evidence that strong country interest in borrowing from the Bank was lacking during project generation. Normal Bank standards on technical preparation were bypassed to accommodate accelerated preparation and approval of Trinidad and Tobago III. This strategy, aimed at improving Bank-Borrower relations, ultimately backfired when most of the loan proceeds were cancelled.

7.32 Other problematic project designs did not adequately reckon with certain elements crucial to project success: clear and consistent policy direction from the Government, adequate mechanisms for recruiting/retaining and training/retraining teachers, grassroots support from communities affected and commitment to additional recurrent costs resulting from the project (see the section on Sustainability). These elements assumed special significance within the context of an educational reform. Tanzania V, which supported massive social change through "villagization," and Brazil II which attempted to implement a controversial and potentially costly reform in eight states, both failed because the reforms proved unacceptable or unimplementable. The Brazil project and India I lacked sufficient input during preparation from those entities ultimately benefiting from the project (para.

7.25). The lesson is that the Bank must recognize, address and incorporate independent and possibly divergent viewpoints that may surface in projects dealing with autonomous institutions or federal systems.

7.33 Attempts to mandate change sometimes took the form of covenants and conditions which were overambitious, particularly when not also grounded in some aspect of project financing. Such covenants remained unfulfilled and the desired change unimplemented, as shifting Government policies rendered the covenants meaningless or the absence of financial or technical support undermined their importance (Brazil II, Guatemala II, Tunisia III).

Implementation Problems

7.34 On the whole, construction was satisfactory, although in some projects there were substantial delays over building material shortages or the lack of Government financing. Local firms were involved in construction in several projects. This frequently proved effective (where numerous small scale institutions were to be constructed), and had the additional advantage of building up the local construction industry. The experience was marred by problems with contract award in one project, Algeria II, where misprocurement resulted.

7.35 Construction methods varied. Self-help construction and force account methods were tried in a few projects, but without much success (Tanzania V and Sudan II). As past Annual Reviews have pointed out, self-help construction methods are most successful when they conform to pre-existing local customs. Two projects opted for modular or prefabricated construction, in one case where lack of interest in self-help prevailed and an alternative method had to be sought. Although the resulting structures were functional, this method was not problem-free, as site supervision was sometimes inadequate, the structures did not harmonize with the surroundings, and the costs were very high (Sudan II and Syria I).

7.36 Supervision of construction was problematic, especially where project units were understaffed and/or inexperienced, or where project sites were scattered and transportation was difficult. Government decisions to decentralize responsibility for school construction supervision (Syria I and Algeria III) resulted in poor supervision of project works largely because there was no attempt to prepare local administrators for their new responsibilities. By contrast, although Bank financing for primary school workshop construction under Tunisia III was dropped, enthusiastic local groups took over workshop provision and expeditiously acquired the necessary Bank-financed equipment. The school mapping study financed under this project was also effectively carried out, further strengthening the decentralization effort by allowing the establishment of small planning units at the district level.

7.37 Annual Reviews over the last five years have noted the improving trend in furniture and equipment procurement. There were still some problems with synchronizing the delivery and installation of materials with the completion of civil works or providing adequate interim storage, but even these timing problems have been greatly reduced over the years. Two successful

examples of equipment procurement were Korea IV and Tunisia III, where nearly all Bank Group financing was for equipment, while buildings were locally financed. One area where problems remain is the preparation of equipment/furniture lists. While the standardization of items and their purchase by a central authority may produce efficient practices and economies of scale, inflexible procedures which preclude local purchases or specific local requirements may overlook opinions and preferences of end-users, and may therefore result in inappropriate or underutilized equipment (Thailand IV, Tanzania V and Sudan II).

7.38 In several projects, delayed implementation was linked to the lack of local funds (Tanzania V, Trinidad and Tobago III, Zaire II, Sudan II, Brazil II, Guatemala II and the Dominican Republic II). Although an increasingly common feature in education projects, none of these projects involved the use of a revolving fund, which could have eased matters in some cases (Dominican Republic II and Sudan II). Where severe financial difficulties were present, and particularly where an economic crisis arose during implementation, as happened in Zaire II, the Bank Group might have considered shouldering a higher share of financing of the total costs, including a larger proportion of local expenditures.

7.39 All projects affected by severe implementation problems also suffered from weak project management. A large proportion of these projects involved multiple project units that were not coordinated or coordinating committees that did not function as planned. For example, implementation of Tanzania V was hampered by the existence of three project units, each charged with country-wide activities; the management of Sudan II remained weak until the two project units were amalgamated; and the multi-ministerial committee in Guatemala II responsible for reviewing technical assistance proposals, architectural designs and equipment specifications lacked incentives to meet and come to decisions.

7.40 In several projects (Guatemala II, Sudan II, Brazil III), project management arrangements were revamped during implementation, with responsibilities transferred to new project units and resultant improved performance. However, projects that promote institutions requiring inter-ministerial cooperation, as is frequently the case with non-formal education and training, are prone to continuous institutional problems both throughout and after project implementation. In this context, it is interesting to note that during the implementation of one of the better implemented projects (Tunisia III), an inter-ministerial approach was rejected by the Government as being too complex. PIUs occasionally also had multiple responsibilities (Tanzania V and Thailand IV). In Thailand IV, the project unit charged with implementing the non-formal component was upgraded to a department in the Ministry of Education during the life of the project. Paradoxically, while institutional gains resulted from this action, the change in the focus of responsibility -- from direct implementation to multi-agency coordination -- created serious gaps in project management.

Lessons Learnt

7.41 Some of the "lessons" from the 1985 group of projects have already been elaborated upon. These include: (a) the utility of revolving funds (para. 7.38); (b) the positive impact of local consultants (para. 7.22); (c) the desirability of involving end users in equipment list preparation (para. 7.37); (d) the care needed in preparing non-formal, diversified secondary or other practical curricula programs (paras. 7.10, 7.17, 7.26); (e) the weakness of free-standing covenants as mechanisms for ensuring process changes to educational systems or maintenance of project institutions (paras. 7.14, 7.27, 7.33); and the importance of effectively implementing institutions in ensuring smooth implementation and building up managerial capacities in the sector (paras. 7.20, 7.21, 7.39).

7.42 Another lesson which can be drawn is the importance of adequate sector work as the basis for lending and of developing projects within the context of a feasible sectoral development plan. Repeater projects in Asia and Africa bear witness to this lesson, those in Thailand and Korea being successfully completed and probably sustainable, while those in Zaire, Zambia and Tanzania have less certain outcomes. Within this context, a comment from the Zambia III PCR is worth quoting:

"The project was prepared in 1971 when sector work did not form the major basis for project lending; consequently, this project covered a great variety of non-related components. Obviously, chances of greater success for this project would have increased if it would have been prepared with a view to better reach educational objectives in a more coordinated manner and more attention paid to Government's ability to finance their share of operating costs."

7.43 One lesson that seems to be emerging from the body of experience with project performance in education is the need to develop facilities that are appropriate to the Borrower's level of infrastructural development and technical and financial maintenance capabilities. Large numbers of educational programs have been designed and executed assuming the supply of water, sewerage and electricity services would be met without direct project intervention. These assumptions have been belied in practice. As a consequence, the health of students relying on intermittent or unsafe water supply, not to mention the educational programs supported under the projects, are in jeopardy. A case in point is Zambia, where the Government failed to provide essential services for project institutions, as agreed during the First Education Project, and as a consequence, these needs had to be met under Zambia III. Project preparation should take cognizance of the Borrower's ability to meet the site development needs and infrastructural maintenance requirements of the institutions proposed and, if the need arises, include financing for these elements, as provided for in the guidelines to Bank staff.

7.44 Another significant finding is the success and probable sustainability of projects designed to meet pre-existing demands for educational services. Projects that respond to the needs of and build active linkages

with host communities and employers, thus ensuring grass roots participation and support (Tunisia III, Korea IV, Dominican Republic II), are inevitably more successful in both the short- and the long-term than those that do not (Tanzania V, Brazil II, Sudan II). (See paras. 7.10, 7.12, 7.13, 7.25, 7.35).

7.45 As noted earlier, the 1985 group of 15 had two uncompleted projects and certain lessons have been drawn from this experience, particularly regarding hasty preparation and the need for Borrower interest in financing from the Bank Group (see para. 7.31). Another important lesson to be drawn from these three projects (and also the experience in Brazil) concerns policy on reappraising or cancelling a project. In all cases the projects experienced intractable implementation problems and/or major shifts in Borrower policy which undermined the justification of the investment. In the case of Brazil, the Bank demonstrated considerable flexibility in the light of the changing circumstances, but probably should have insisted upon a reappraisal. In cases where implementation is clearly hopeless, the Bank should act earlier and more decisively once the Borrower's lack of commitment to, or interest in, the project has been determined. Such negotiations are increasingly attempted in practice, but frequently encounter Borrower resistance to early judgements on cancellation.

Bank Response and Follow-up

7.46 There are various ways of assessing the Bank's response to lessons learned. In this section informal interviews with Bank staff and a review of Project Portfolio and Project Implementation Reviews (PIRs) have been used to supplement the findings of the fifteen evaluated projects.

7.47 By and large, education PCRs and Audits do not follow up on previous project experience as a matter of course. This is an oversight considering the large number of repeater projects whose antecedents have been audited. Other than making general references to the sectoral context giving rise to a project, reports generally do not discuss either the past performance of earlier projects (and how this affected the project being evaluated), or the implications of the current project for follow-on lending. However, three of the projects from the LAC Region were a notable exception among the 1985 group since all the reports included a final section on recommendations. The trend toward self evaluation and feedback in these LAC projects, as commendable as it is unusual, should be encouraged in other regions as well. Guatemala II generated lessons concerning expeditious school site acquisition, over-ambitious covenants and the need to monitor educational programs, and the PCR concluded that "The Bank should be prepared to assist the government in following up these recommendations during supervision missions for Loan 2328-GU" (Guatemala: Basic Education Project). The PCR for the Dominican Republic II also detailed specific recommendations for the Borrower and the Bank, while under a section entitled "Implications for Future Projects," the Brazil II PCR discussed how the Bank might better have handled the major changes to this project and also the impact of studies and technical assistance divorced from the main thrust of the project (see para. 7.23).

7.48 Other instances of follow-up to specific lessons of project experience have been noted in greater detail elsewhere in the report. These include: (a) the need to strengthen the institutional capacity of the Borrower in project implementation (Zaire II, see para. 7.23); (b) the importance of building up maintenance systems for project facilities where such mechanisms do not exist (Thailand IV and Zambia III, para. 7.27); and (c) the need to expand teacher training to correspond with the growth of institutions supported under previous projects (Korea IV, para. 7.10).

7.49 Bank response to project experience is also reflected in the evolution of sector lending strategies and the project process itself, with each Region finding its own useful lessons. For example, some Regions have shown increased willingness to include financing for recurrent costs in education. Regional experience also has led to greater care in assessing the viability and costs of practical subject curriculum and non-formal components and greater focus on school rehabilitation than school expansion. Also, increased support for low cost construction schemes using local materials, self-help, force account and small local contractors is evident.

7.50 Increased awareness of, and attention to, the larger problems of human resource development has important impact on the scope of work of the sector. Education staff are involved in monitoring Project Related Training and public sector management training programs to a greater degree than ever before. This is in addition to greater emphasis on the institutional development of Borrower education systems through the strengthening of education administration (planning, budgeting, data base management, evaluation, school supervision, etc). The Bank also is recognizing that failures to achieve institutional development may be related to the inadequacy of certain conventionally applied mechanisms, such as technical assistance and tracer studies. This recognition is leading to greater care in the planning and execution of training and evaluation components, including a greater reliance on local/regional expertise.

7.51 Project Implementation Reviews over the last three years have noted improved overall performance of education projects. The PIRs attribute this to better-focused project objectives and more detailed and advanced project preparation, including attention to the implementation capacity of the Borrower. The First Education Project in Syria has already been mentioned in this context (see para. 7.30). Mechanisms for ensuring thorough preparation, including the Project Preparation Facility and, in some Regions, Preparation Assistance Loans, are netting considerable benefits in terms of smoother implementation and reduced cost and time overruns. Cases of persistent financial problems, such as inability to meet start up or agreed upon local costs, are being addressed through revolving funds, or by the Bank bearing a larger share of total project cost.

7.52 One area where Bank response has been less than adequate has been in the area of completion reporting of education projects. Problems of education PCR backlogs, high staff ratios for PCR preparation (especially by comparison with other sectors) and low quality output have been singled out in recent PIRs and OED documents alike, but remain largely unresolved. The Regions have been experimenting with ways of dealing with problems of backlog

and staff ratios, but this does not address the issue of PCR quality. Part of the problem revolves around the responsibility for PCR preparation and the priority attached to completion reporting. While acknowledging the undisputed value of self evaluation for the Bank and the Borrower, responsibility is too often passed to staff or consultants previously uninvolved with the project, and therefore unlikely to have an impact on follow-on work. Furthermore, Completion Missions frequently are scheduled long before final disbursement, so that only a partial picture of the project experience is presented. Some Regions have had considerable success in encouraging the Borrower to prepare PCRs, and the importance of this in the institutional development process is undeniable. Nevertheless, the Bank retains the final responsibility for ensuring accurate and thorough completion reporting. A review of the mechanics and purpose of the completion reporting process itself is long overdue.

VIII. POPULATION, HEALTH, AND NUTRITION

A. Introduction

8.01 The World Bank began direct lending for population projects more than 15 years ago; it extended direct lending to nutrition projects in 1976 and to health projects in 1981. In the last few years there has been a substantial increase in lending for projects in the sector; overall, from FY70 to FY86, lending for 61 population, health and nutrition (PHN) projects amounted to US\$1.5 billion (see Appendix Table 8.1). During the seventies PHN projects were concentrated in Asia and LAC and today 23 projects in five countries (Indonesia, India, China, Brazil and Bangladesh) account for over half of total PHN lending. Only recently have identification, preparation and lending for PHN projects considerably expanded in both Eastern and Western Africa.

8.02 In the early seventies, in generally difficult environments, emphasis in population project work was on achieving fertility reduction objectives through financing of health infrastructure as a delivery system of family planning services. Bank policy at the time did not permit direct lending for health projects. From an early focus on post-partum family planning services in maternity hospitals, projects broadened by adding components of IEC (Information, Education and Communication), management training, participation of women's groups and involvement of government agencies other than health ministries (examples are Bangladesh I, Philippines I and Indonesia II). This multi-sectoral approach, made implementation more difficult because of weak administrative capabilities and overburdened national health infrastructures.

8.03 In the second half of the 1970s and the early part of the 1980s there were a substantial number of similar repeater projects. But, the Bank changed its policy in 1980 and began lending directly for health projects (Health Sector Policy Paper, February 1980). As a result, the health focus in population projects has become more explicit recently and, free from the no-health-lending limitations, lending for the PHN sector expanded substantially. For example, PHN lending amounted to about US\$360 million for 13 projects over the FY78-FY82 period; however, for the FY85-FY86 period it amounted to almost US\$600 million for 18 projects.

8.04 During 1985, 7 PHN projects were reviewed in 5 Project Performance Audit Reports (PPARs) and 2 pass-through Project Completion Reports (PCRs). Most of the projects evaluated by OED to date belong to what can be called the first generation of Bank PHN projects (mentioned in para. 8.02 but see also para. 8.27). The 1985 group of PHN projects is the largest yet reviewed by OED in any year and equal to the total number of PHN projects reviewed in earlier years.

Table 8.1: SUMMARY OF PHN PROJECTS EVALUATED TO-DATE

Evaluation Year	Number of Projects Reviewed	Total Bank Funding /a			Actual Project Cost
		IBRD Loans	IDA Credits	Bank Group Lending	
1979 (6th)	1	2.0	--	2.0	4.6
1981 (8th)	3	3.0	33.2	36.2	66.9
1982 (9th)	2	16.5	5.0	21.5	12.5 /b
1984 (11th)	1	--	4.8	4.8	34.0
Subtotal	7	21.5	43.0	64.5	118.0
1985 (12th)	7	73.8	13.2	87.0	203.7
Total	14	95.3	56.2	151.5	321.7

/a As approved and before cancellations.

/b Does not include Iran Population (included in Bank lending) as main components not implemented and loan cancelled almost in full.

8.05 Two out of the seven projects reviewed were multi-component nutrition projects and the remaining five were population projects, with substantial health components in many cases. The Bank has only financed a limited number of free-standing nutrition projects and its policy towards nutrition interventions has evolved substantially. In the population (and health) fields the Bank has considerably expanded its activities. This review, therefore, deals with these two types of projects separately.

B. Population

Introduction

8.06 Seven population projects, all approved in the early 1970s, have been reviewed in earlier Annual Reviews. Experience with six of them^{22/} provides the background against which the commentary is made on the five

^{22/} The Iran Population Project has been excluded. For several reasons (economic changes, overburdening of the construction industry, inflation, management delays and lack of commitment) the main project components were not implemented; neither was a project management structure put in place and there was low interest in population matters among Government officials. As a result, the loan was almost totally cancelled (96%) at the Closing Date. For that reason the project does not provide useful data for aggregate analysis, although it clearly confirms the importance of Government commitment and warns against a sense of over-optimism during project design, namely that difficulties can easily be overcome.

population projects evaluated in CY85: Indonesia First Population (Credit 300-IND), Malaysia Population (Loan 880-MA), Philippines First Population (Loan 1035-PH), Dominican Republic Population and Family Welfare (Loan 1325-T-DO), and Jamaica Second Population (Loan 1284-JM). These more recently evaluated projects were also mostly approved in the early 1970s. Total Bank funding for the 11 projects amounted to US\$103 million (detailed in Appendix Table 8.2).

Sector Lending Objectives

8.07 The objectives of all five CY85 evaluated population projects were related to fertility reduction as was quite explicit in some cases. For example, the Dominican Republic project was expected to "contribute directly to over one-fourth of the fertility decline to be achieved by the family planning program during the next 25 years" and the Indonesia project would "reinforce and expand the Government's efforts to reduce fertility, thereby creating considerable social and economic benefits". In addition, most projects included other objectives, namely to expand and strengthen the Government's family planning services and system, and in many cases to expand family planning services to rural areas.

8.08 A large variety of project activities was financed under these projects. However, all projects included substantial construction or "hardware" components, covering training facilities and/or health clinics as well as the provision of equipment and vehicles for these facilities and in support of other project activities. In addition, all projects included provision for training, technical assistance, management support, research and studies and sometimes the payment of staff and other recurrent expenditures (generally referred to as the software components). Except for the Indonesia project (where the hardware was limited to only offices and training facilities^{23/}) all projects included the construction of clinics, sometimes in substantial numbers. This was clearly related to a strategy of integration between family planning and Maternity and Child Health (MCH) or health in general. However, despite this emphasis on integration and the construction of health facilities, health objectives were not formulated for most of these population projects, largely related to the fact that the Bank did not allow direct lending for health in those days.

8.09 The result was a lack of synchronization between objectives and components: the projects had family planning-oriented objectives but health-oriented components. While it is a fact that such projects had a substantial impact on health delivery systems, it remains true that in the absence of clearly formulated health objectives for that generation of population projects there was a lack of harmonization between project achievements and formulated project objectives. As a result questions could be raised, as best

^{23/} As an aside it should be noted that the architecture of these Indonesian offices and training facilities was adapted to the local environment, despite considerable pressure for utilitarian design. In contrast to many other projects, the end result is therefore an architecture which is not only useful but beautiful as well.

formulated in the audit of the Philippines project, whether the impact of the project could also not have been achieved with less investments in facilities not directly related to the formulated project objectives.

8.10 Furthermore, this disharmony between project objectives and components has made the evaluation of such projects complex. Population project objectives are normally stated in the most general macro terms. However, the specific components in many cases do not appear clearly linked to these objectives while often targets for components or subcomponents (such as for example facility utilization goals) have not been formulated. In addition, population projects are normally part of wider programs and more substantial efforts, and population growth is influenced by many factors other than program, let alone project activities. As pointed out in many audit reports, it is, therefore, difficult to establish causal links between project activities and changes in the macro objectives formulated for the project.^{24/} A major lesson arising from the evaluation of population projects, therefore, is that formulation of project objectives requires more focus, while a clear hierarchy of objectives between program, project and sub-activities needs to be established with linkages made explicit. Also, concrete targets are needed for the individual project components. More conceptual work on this is urgently required.

Sector Achievements

8.11 Implementation: The population projects required substantial efforts mainly from Borrowers but also from the side of the Bank. Implementation delays continued to affect project implementation and these delays have become more extensive for the 1985 group of projects: the percentage time overrun was 84% compared to 49% for the projects reviewed earlier (see also para. 8.13). By contrast, cost overruns were substantially lower compared to earlier reviews. In fact for the group reviewed this year there is a slight aggregate underrun (see Appendix Table 8.3).

8.12 Cost underruns were due to effective initial procurement (Jamaica II) or reduction in components or a change in the mix of components in many projects. The level of contingencies was seriously overestimated resulting in savings and a cost underrun in the case of the Philippines project. Devaluation savings in the case of the Indonesia project were used to finance additional activities. The only cost overrun occurred in the Malaysia project and was mostly due to the use of larger building designs than originally envisaged.

^{24/} This can be illustrated by the following simplification. Under a population project a substantial number of health clinics was constructed; at the end of the project it is concluded that the fertility rate in the country has declined but that the clinics are only sparsely utilized. In the opposite case the clinics would be used to capacity while there is no sign of movement in the fertility rates. In the absence of any other objectives or criteria identifying the better of the two projects is quite arbitrary.

8.13 Realism in estimating implementation schedules for population projects remained a problem (see Appendix Table 8.4). Of course, this problem is not limited to the PHN sector, but, given the fact that population lending is expanding to countries more likely to have a weaker institutional base than most "traditional" population borrowers, it is important to incorporate past lessons into present practice. The prescribed use of disbursement profiles is likely to help in this connection.

8.14 As in the past, the major reasons for implementation delays continues to be inappropriate and complex administrative and budget procedures. To a certain extent this reflects the fact that for most implementing agencies this was the first time they had to deal with relatively complex Bank projects. However, it also suggests that the Bank probably did not make enough attempts during project preparation and appraisal to understand the complexity and detail of administrative procedures and lines of authority.^{25/} Construction was further hampered by site acquisition problems, inexperienced contractors, insufficient engineering supervision and other logistical problems. These, as well as coordination problems between concerned departments, have in the past and continue to be the most important factors in causing the substantial implementation delays. This was also reinforced, at least until recently, by a tendency on the part of the Bank to utilize project savings for other or expanded project activities, rather than cancel the saved amounts. In addition, selection procedures for training and hiring of consultants caused further delays in the case of the Dominican Republic project, while staff turnover and countrywide financial problems seriously affected the Jamaica II project.

8.15 In terms of overall achievements two projects clearly achieved or exceeded their project objectives (the Indonesia and Dominican Republic projects). By contrast, the Philippines project achieved few of its stated objectives. This was mainly caused by the fact that the project was supposed to impact on population policy but its components were substantially divergent from that objective. Thus its objectives could not be met. In addition, infrastructure created under the project was underutilized.

8.16 Among the more successful population programs the Bank is associated with, is the Indonesia population program.^{26/} The Government adopted a national family planning program in 1968 and established the National Family Planning Coordination Board (BKKBN in Indonesia) in 1970. The Bank became

^{25/} While not developed for the population sector, a framework for analyzing organizations and organizational relations was developed for the Bank which would also be applicable for PHN projects. See: The Design of Organizations for Rural Development Projects - A Progress Report, World Bank Staff Working Paper No. 375.

^{26/} For additional details see Paul, Samuel, Managing Development Programs: The Lessons of Success, Westview Press, Boulder, Colorado (Chapter 5), and Parson, J.S., "What Makes the Indonesia Family Planning Program Tick", Populi, Vol. II No. 3, 1984 (pp. 5-19).

involved in the Indonesian population program through its first project, approved in 1972, and to date has financed four population projects, the last one approved in May 1985. The main objectives of the First Population Project in Indonesia were to increase the scale of the Government's family planning program and to broaden the range of its activities. Despite implementation problems, the project has contributed greatly to strengthening the delivery system as well as the national family planning program.

8.17 The Dominican Republic project also satisfactorily achieved its objectives both in terms of physical infrastructure and staff training. As a result of the latter the number of active nurses increased considerably. A similar impact resulted from the Philippines project, where the training of additional midwives was the most significant project achievement. The Jamaica II project was seriously affected by implementation problems, and as measured against its original objectives fell short, although it did make a contribution to strengthening the process of integration and improving the level of services available in one region. The major impact of the Malaysia project was also in strengthening and expanding health and family planning service availability in rural areas.

8.18 As noted in the audit report, Jamaica II's "impact on fertility trends and nutrition status, could not be determined due to the difficulty in isolating these effects from those of other program interventions". In the Dominican Republic the general fertility rate went down from 8 children per woman in 1960 to 4.4 in 1979; the audit nevertheless emphasized that it would be difficult to measure the accomplishments of the project in terms of its contribution towards this fertility reduction, since a downward trend in fertility was already apparent prior to the project. Similarly, Malaysia's fertility had been declining since the 1960s. However, as noted in the audit the project contributed to the increase in the annual numbers of family planning acceptors (although recent figures show a reversal in this trend).

8.19 Institutional Development: The major impact of the Malaysia project has been on institutional development. The population program was established virtually from scratch; the capacity of the Ministry of Health to extend services to the rural areas was substantially strengthened while the human and institutional resources of the National Family Planning Board were developed to plan, implement and evaluate the programs. Nevertheless, the project was institutionally complex, as are many of the other population projects. Lack of clarity in the roles and functions of the coordinating agencies, and agencies directly responsible for management and implementation of project components, created organizational problems during the implementation of the project.

8.20 In the Philippines project the Ministry of Health rather than the Population Commission became the de facto lead agency as most components were health related. The Indonesia project provided a strong institutional base for strengthening BKKBN, but the full impact of this was not evident until

later when the second and third population projects were also being implemented. In the case of the Dominican Republic project the Bank relied for institution building on a separate project, which, however, did not materialize. Institutional strengthening was therefore limited.

8.21 Special project units were sometimes established to facilitate project implementation. While important for efficient project execution and administration, they also proved anomalous as they were created outside the existing organizational framework and were never really part of existing bureaucracies. In certain cases these units purposely kept their distance from the existing organizations and procedures. It is no wonder that many were dismantled soon after (or even during) project implementation with harmful consequences. As the audit of the Philippines project noted: "institution building efforts might have been more successful if considerably greater caution had been exercised in phasing out the project unit and merging its functions with the present Ministry of Health."

8.22 In general, all five projects have been judged to have either substantially or at least partially achieved their institutional development objectives. Confirming earlier annual reviews,^{27/} these projects also demonstrate that institutional and management improvements are of utmost importance. Almost all evaluated population projects initially underestimated the very formidable management and administrative difficulties involved in implementing large-scale integrated family planning programs, especially when an over-optimistic program overextended an already weak institutional framework.

8.23 Policy impact of these projects has been more difficult to determine. It was limited in the case of the Philippines project. In the case of the Malaysia project, a change in Government policy led to a divergence of opinions regarding population strategy, and as a result the second project was closed with the remaining balance being cancelled. The policy impact of the Jamaica II project will depend to a large extent on the third project now being negotiated between the Government and the Bank. Both in Indonesia as well as the Dominican Republic, policy impact has been substantial and sustainability seems to be assured.

8.24 Sustainability of Projects Benefits: In the case of the Indonesia project, the Bank continued to be, and still is, involved in the family planning program of that country. While there was no immediate follow-up project in the case of the Dominican Republic, there is evidence that attitudes toward family planning are now possibly even more favorable as a result of the success of the project. Given Jamaica's severe financial problems, the sustainability of the second population project is uncertain at best although the third project, now being negotiated, might remedy some of these problems. The sustainability of the Malaysia project was affected by changes in Government policies. In the case of the Philippines project, much

^{27/} See, for example, the Tenth Annual Review of Project Performance Results, 1984, para. 4.93.

depends on what can be achieved with the second project as, by itself, the first project did not have any substantial impact on the country's population program and objectives.

Lessons of Experience and Feedback

8.25 Among the most frequently discussed issues in population project audit reports this year were: project design, project administration and management, and Bank performance and supervision. These are issues identical to those raised during evaluation of earlier population projects. In addition, most audits this year raised specific points with regard to donor coordination.

8.26 The Bank entered the population field relatively late when at least three major donors already had several years of experience in developing and implementing population projects. This, as well as the Bank's philosophy of lender of last resort, made negotiations with other donors regarding project design and funding arrangements essential. Among the five 1985 projects two were cofinanced in the formal sense (namely Indonesia and Malaysia, both by the United Nations Fund for Population Activities (UNFPA)) and two other projects also relied on substantial donor inputs--the Dominican Republic, where project design and institution building strategy depended on USAID, and the Philippines project, where population activities, separately funded by USAID and UNFPA, were nevertheless retained as part of the Bank's project description. As noted in both the Malaysia and Philippines audits, donor relations were sometimes constrained. As noted in the Indonesian audit, the important lesson is that "the priorities and interests of cofinancing agencies as well as their relevant administrative rules and regulations should be clearly understood at an early stage." It should also be noted that in comments on the Malaysia audit report the cofinancier observed that closer coordination with the local UNFPA office would have been useful.

8.27 Many of the population projects evaluated to-date were part of the "first generation" of Bank projects that put considerable focus--far too much is the view in many audits--on the "brick and mortar" approach. At project completion it was found in many instances that family planning facilities were underutilized, while in the field health services provided under these projects were the focus of attention, although the Bank at the time did not lend for health. This has changed (see para. 8.03) and it is now also clear that much broader efforts are required to both create the demand for, as well as ensure the supply of, family planning services.

8.28 Some interesting findings can be derived from these project experiences. For example, it has been common practice in many of these projects to reallocate unused balances or other savings to the financing of extended or new project activities, sometimes with (and sometimes without) formal notification to the Board. While the purposes of these reallocations have been valid, it should nevertheless be noted that practice elsewhere in the Bank has been different. Given the implications for Bank policy, and the delays that project extensions cause in project implementation (see para. 8.14), a review of these practices might well be warranted.

8.29 Some of the earlier population projects included built-in reviews by panels of external experts. This appears no longer to be the case. Nevertheless, where such panels functioned, their effect seems to have been beneficial. A fresh look is therefore suggested to determine if such panels could not have merit for the new generation of PHN projects.

8.30 Among the major lessons that can be derived from the 1985 (and earlier) population projects, and that appear today to be most relevant to the design of population and health projects are:

- Evaluation of population projects is inherently difficult but would be facilitated if objectives were clearly formulated and linked with project activities. A hierarchy of program, project, impact and process objectives is suggested, while clear targets need to be established for project components (see paras. 8.07-8.10).
- Implementation continues to be affected by severe delays. Clearly, more realistic timetables need to be designed; also, more focus on administrative detail during preparation, and more attention to the start-up period. In general, less complex projects might help (see paras. 8.11-8.14).
- Most first-generation PHN projects clearly underestimated the very formidable management and institutional problems involved in implementing projects, and at the same time clearly demonstrated the importance of institution building and management improvement. In this context the use of project management units should clearly be part of the wider institutional objectives of the projects. Also, coordination has proven to be difficult in most cases and cumbersome in all (see paras. 8.19-8.22).

C. Nutrition

Introduction

8.31 The Brazil Nutrition Research and Development Project was the first nutrition project financed by the Bank. The Bank's decision to lend in this sector was part of the basic needs strategy adopted in the early 1970s and was taken on "the grounds that a well-directed nutrition investment can lower mortality and morbidity rates, contribute to increased productivity, assist in achieving family planning and education objectives, serve as a direct means of income redistribution and, in general, improve the social and economic conditions of disadvantaged portions of the population."

8.32 When lending for nutrition first began, the Board felt that the Bank should proceed cautiously, with only a few projects. Since then the Bank financed only five nutrition projects. Projects in Brazil, Indonesia and Colombia have been completed. These three projects, approved in 1976 and 1977, were heavily multi-sectoral. The India Tamil Nadu Nutrition Project, approved in 1980, was designed to concentrate on fewer actions, and this project is expected to be completed in about one year. Based on the mid-project review and other reports, this appears to be a highly successful

project, and is so recognized internationally (for details on these four nutrition projects, see Appendix Table 8.5). More recently, in 1985, the Second Nutrition and Health Project was approved for Indonesia (see para. 8.40).

8.33 From the beginning, nutrition projects have received substantial policy level review. As part of the review of the basic needs nutrition paper it was decided that the Bank should improve its nutrition knowledge through country economic and sectoral work. Since then, analyses of varying intensity have been completed for 22 countries. In late 1983, a major internal review of nutrition projects was undertaken within PHN. This review concluded that there was a need for more systematic and stronger emphasis on nutrition in the Bank's population and health program. It also concluded that under appropriate circumstances the Bank would finance specific nutrition projects with a narrower focus than the earlier complex multi-sector nutrition projects.

8.34 Thus, the Bank has already drawn major lessons from its involvement in nutrition lending. In these circumstances, there was little audits could add to the lesson-learning process, which is why the PCRs on nutrition projects were passed through. Nevertheless, given the substantial attention focused on nutrition projects originally, it is a pity that the above-mentioned nutrition review has remained unpublished. The Bank should record its experience with nutrition lending in more detail and highlight its views on a changed approach to nutrition development in a much more widely distributed Bank document.

Sector Lending Objectives

8.35 The objectives of the Bank's nutrition projects in Indonesia and Brazil were to: (a) strengthen institutions and policies; (b) develop targeted nutritional interventions; and (c) training and research. Both projects had a complex, multi-component structure. The Indonesia project was originally conceived as an experimental and institutional development project. But during the preliminary review of the project (customary for all nutrition projects in accordance with instructions governing "new projects with unique features") the Board emphasized the need for directly "productive" nutrition components aimed at target groups and the final project was, as a result, substantially enlarged.

8.36 The main project goal of the Brazil Nutrition Research and Development Project (Loan 1302-BR) was to enhance the Government's capabilities in the nutrition sector so that within four years it would be able to conduct an effective nutrition program. At the time, Brazil had been experiencing rapid economic growth, but because of equity concerns Government wanted to launch an ambitious nutrition program which would recognize Brazil's lead position in fighting malnutrition. However, under economic and political pressures, the direction of the commitment changed and Government became less willing to support the experimental nature of the Bank project. Instead, it became more interested in action that would meet the immediate nutritional needs of a larger target population (such as food donation delivery). The design of the Brazil project was very much influenced by the fact that the project was the

Bank's first in the nutrition field. The need for flexibility during implementation was therefore stressed in the appraisal report. Bank staff also looked for opportunities to experiment in order to discover the most effective means of delivering nutrition services.

Sector Achievements

8.37 Both projects suffered substantial implementation delays: two and a half years for the Brazil and three and a half years for the Indonesia project. Given the newness of the concepts, programs and institutions, implementation timetables—and thus disbursement schedules^{28/}—were clearly unrealistic. Seven (rather than the planned five) years were required to complete disbursements; in the fourth year, disbursements had only reached 22% of the appraisal estimate in the case of the Indonesia project and 33% in the case of the Brazil project. Contributing to this was that local project costs were, in both cases, much lower than expected, mainly because of substantial devaluation, but also because of changes in project design and component mix.

8.38 Being a first Bank project for Indonesia's Ministry of Health, initial budgetary and management problems seriously affected implementation of the Indonesia project. In the end, however, most project components were completed satisfactorily, with some of the activities extended and new ones added to utilize substantial loan savings. Implementation of the Brazil project was initially jeopardized by the Borrower's lack of commitment toward some components, and by staffing constraints. However, following reformulation of the project, with much closer Borrower involvement, performance picked up and the project was completed within the amended implementation schedule.

8.39 Despite institutional and other shortcomings, both projects made important contributions towards the development of the sector and improved Bank-Borrower relationships in the nutrition field. Regarding nutrition service delivery, the Brazil project far exceeded its initial targets. In addition, two of the programs introduced in the Bank-assisted project became national in scale; two also have been copied by other countries (including Colombia as part of the Bank-assisted project there). The Government of Indonesia has established a strong institutional base for nutrition development in a remarkably short period of time. An international team of experts conducted an external evaluation of the project in the summer of 1982 and credited the project with "strengthening and expanding" the program in Indonesia and noted the "quite impressive" impact of its action programs.

8.40 Following the implementation of these two projects and the substantial efforts undertaken by the governments themselves, both Brazil and Indonesia are now in a much better position, in terms of human resources and institutions, to tackle nutrition problems. No follow-on nutrition project

^{28/} This is not atypical for PHN projects; similarly unrealistic disbursement schedules were included in other first projects in other sectors at the time.

is in the pipeline at this stage in Brazil but a follow-on project has been approved in Indonesia.^{29/} Policy impact in Brazil as well as Indonesia has been substantial and sustaining these nutritional initiatives does not seem to be a cause of concern given each government's large ongoing commitment to nutrition programs. The main issue is largely one of effectiveness, which the Bank is currently discussing with both countries.

Lessons of Experience and Feedback

8.41 From its experience, particularly in the Brazil project, the Bank has learned that consumer food subsidy programs and other large food delivery programs can be effectively targeted and can save substantial costs. This knowledge is especially important as the Bank gets more involved in analysis of structural adjustments in which reduction of consumer food subsidies commonly plays a major role. The lessons of targeting from the Brazil project and social marketing techniques pioneered in Indonesia (as well as innovative training and supervision techniques in the India Tamil Nadu project) have wider application to other PHN projects and beyond. Both projects have also demonstrated the difficulties of monitoring and evaluating nutrition intervention. They have also clearly demonstrated that government commitment and flexibility during project implementation are essential for effective and successful project implementation. While heavy Bank involvement in preparation and supervision is beneficial, the Brazil experience suggests that there might be dangers if this becomes too overwhelming: project proposals need to remain in line with Government thinking and priorities.^{30/}

8.42 The Brazil project also raises the question as to whether Bank projects should be vehicles to experiment with alternative development interventions. It is quite clear that timetables and disbursement schedules were set unrealistically while start-up problems seriously affected project implementation. In retrospect, it is also clear that project design was too complex and ambitious, that coordination posed innumerable problems, and that managerial and institutional capacities were overestimated. In the Brazil case, it was also concluded that the decision to establish a special project implementation unit proved counterproductive, as its existence isolated project activities from the mainstream of the nutrition program.

^{29/} The Second Nutrition and Community Health Project (Credit 2636-IND, in the amount of US\$33.4 million, approved in November 1985). About half the project efforts are aimed at improving coordination and management of five inter-linked community health programs (including nutrition) in 11 provinces; the other half is focused on limited nutritional development interventions, namely improved nutrition manpower development at the paramedical and graduate levels, and developing nutrition surveillance capability in four areas: timely warning and intervention, nutrition monitoring, policy and program studies, and nutrition information.

^{30/} This was complicated in the Brazilian case, not by the fact that the Brazilians were not involved in preparation, but rather by a change in government officials with the result that a new team with a rather different agenda was in place just as the project was being negotiated.

8.43 While PCRs and experience with these two projects have provided valuable lessons, much more has been learned from the continuous review of the ongoing nutrition portfolio and the PHN nutrition study (see paras. 8.33-8.34). Thus, PHN staff have noted other lessons, some of them unexpected:

- (a) While malnutrition is closely linked to the level of a country's economic development, substantial nutrition improvements can be made even during periods of economic decline, and can certainly advance faster than the pace of economic development.
- (b) Even though at the family level malnutrition is closely related to poverty, malnutrition is not always a function of income levels.
- (c) Women's lack of schooling need not have the constraining effect on nutrition and other social improvements that it is widely believed to have.^{31/}
- (d) By increasing efficiencies in the food marketing system, it is possible to reduce substantially the prices that low-income families must pay for food. That is a particularly significant finding from the Brazil project.
- (e) Malnutrition appears to have close links to economic as well as human development. Significant relations between nutrition status and worker productivity have been found in research undertaken in both Kenya, Indonesia and elsewhere. And Bank research in Brazil and elsewhere has shown a link between nutrition and school attendance and performance that will affect future earning capacity and contribution to national growth.

8.44 Experience has also demonstrated that although malnutrition is part of the poverty syndrome, much nutritional improvement is possible without major income increases, and that there are several efficacious, affordable means by which Bank projects can make an important contribution to nutrition. The nutrition projects were an important catalyst in attracting both policy attention and resources to the problems of malnutrition; also, they demonstrated the potential of nutrition projects for contributing substantially to the development of primary health care and family planning programs.

^{31/} While formal education for women has many benefits, the Indonesian experience demonstrates that with highly specific messages, appropriately tailored and delivered, education level does not define how much women are able to learn or achieve in safeguarding or improving their children's nutrition. The Indonesia project also demonstrated for the first time in a large operational setting that nutrition education alone, without food supplements, can do much to improve nutrition status.

PROJECTS EVALUATED: JANUARY-DECEMBER 1985

COUNTRY	NAME OF PROJECTS (BY SECTORS)	LOAN/CREDIT DATA		DATE OF		
		NO.	AMOUNT US\$M.	APPROVAL	AGREE- MENT	FINAL DISBURSE- MENT
	<u>AGRICULTURE</u>					
	<u>Crops/Area Development</u>					
Ethiopia	Drought Areas Rehabilitation	C485	10	Jun. 74	Jun. 74	Nov. 82
Somalia	Drought Rehabilitation	C623	8	Apr. 76	Jul. 76	Sep. 84
Swaziland	Rural Development	L1375	4	Mar. 77	Apr. 77	Dec. 82
Nigeria	Rice	L1103	18	Dec. 74	Apr. 75	Oct. 83
Nigeria	Lafia Agricultural Development	L1454	27	Jun. 77	Jun. 77	Jan. 85
Nigeria	Ayangba Agricultural Development	L1455	35	Jun. 77	Jun. 77	Sep. 84
Fiji	Sugar Development	L1226	12	Mar. 76	Apr. 76	Apr. 84
Malaysia	Western Johore Agriculture Development	L973	45	Sep. 78	Oct. 78	Jun. 84
Philippines	Mindoro Rural Development	L1102	7	Apr. 75	Apr. 75	Apr. 84
Thailand	Northeast Rural Development	L1198	21	Jan. 76	Feb. 76	Aug. 84
Bangladesh	Jute	C765	21	Jan. 78	Feb. 78	Mar. 84
Cyprus	Pitsilia Integrated Rural Development	L1483	6	Aug. 77	Sep. 81	Jun. 84
Greece	Vegetable Production and Marketing	L1588	30	May 78	Jul. 78	Mar. 85
Haiti	Rural Development in the Northern Department	C675	10	Dec. 76	Jan. 77	Mar. 84
Mexico	Integrated Rural Development Papaloapan Basin	L1053	29	Oct. 74	Nov. 74	Oct. 83
Mexico	Tropical Agricultural Development	L1553	12	Apr. 78	Sep. 78	Apr. 81
	<u>Livestock</u>					
Tanzania	Dairy Development	C580	10	Jul. 75	Aug. 75	Jul. 83
Nigeria	Livestock Development	L1091	21	Dec. 74	Mar. 75	Apr. 84
Romania	Livestock II	L1669	75	Mar. 79	Apr. 79	Dec. 83
	<u>Treecrops/Estates</u>					
Cameroon	CAMDEV	L1508	15	Dec. 77	Feb. 78	Apr. 83
Cameroon	Second HEVECAM Rubber	C975/L1791	32	Jan. 80	Apr. 80	Jan. 86
Cameroon	Second SOCAPALM	L1391	7	Mar. 77	Aug. 77	Jun. 82
C. d'Ivoire	Second Grand Bereby Rubber	L1575	20	May 78	Jun. 78	Dec. 83
Malaysia	Coconut Smallholders	L1618	13	Sep. 78	Oct. 78	Dec. 83
Morocco	Second Sebou Development	L1018	32	Jun. 74	Jun. 74	Aug. 83
	<u>Irrigation</u>					
Indonesia	Irrigation VII	L1268	22	May 76	Jun. 76	Aug. 84
Malaysia	North Kelantan Rural Development	L1294	21	Jun. 76	Jul. 76	Sep. 83
Philippines	Jaluar Irrigation	L1367	8	Feb. 77	Feb. 77	May 81
Philippines	Tarlac Irrigation Systems Improvement	L1080	14	Dec. 74	Jan. 75	Dec. 83
India	Haryana Irrigation	C843	111	Aug. 78	Aug. 78	Apr. 83
India	First Maharashtra Composite Irrigation	C736	70	Jul. 77	Oct. 77	May 84
India	Orissa Irrigation	C740	58	Sep. 77	Oct. 77	Apr. 83
India	West Bengal Agricultural Development	C541	34	Apr. 75	Apr. 75	Jul. 81
Sri Lanka	Tank Irrigation Modernization	C666	5	Nov. 76	Jan. 77	Mar. 84
Greece	Yannitsa Irrigation	L991	30	Apr. 74	Jun. 74	Dec. 82
Yugoslavia	Macedonia Strezevo Irrigation	L1616	82	Aug. 78	Aug. 78	Sep. 83
Brazil	Lower Sao Francisco Polders	L1153	23	Jun. 75	Aug. 75	Sep. 83
	<u>Credit</u>					
Kenya	Third Agricultural Credit	L1390	25	Mar. 77	Apr. 77	Jun. 82
Kenya	Group Farms Rehabilitation	L1093	16	Mar. 75	Mar. 75	Aug. 83
Philippines	Rural Credit IV	L1399	25	Apr. 77	Apr. 77	Apr. 84
India	Agricultural Refinance III & Development Corporation	C947	250	Jul. 79	Aug. 79	Mar. 82
Yugoslavia	Agricultural Credit II	L1477	75	Jul. 77	Jul. 77	Mar. 84
Costa Rica	Agricultural Credit Development	L1410	18	Apr. 77	Jun. 77	Mar. 85
Honduras	Agricultural Credit	C628	14	May 76	Jul. 76	Feb. 84

PROJECTS EVALUATED: JANUARY-DECEMBER 1985

COUNTRY	NAME OF PROJECTS (BY SECTORS)	LOAN/CREDIT DATA		DATE OF		
		NO.	AMOUNT US\$M.	APPROVAL	AGREE- MENT	FINAL DISBURSE- MENT
	<u>Fisheries</u>					
Burundi	Fisheries Development	C626	6	Apr. 76	Jun. 76	May 83
Maldives	Fisheries	C907	3	May 79	Jun. 79	Jul. 83
	<u>Agro-Industry</u>					
Philippines	Second Grain Processing	L1269	12	May 76	Jul. 76	Nov. 83
Yugoslavia	Agriculture and Agro-Industries	L1370	26	Feb. 77	Mar. 77	Mar. 84
Yugoslavia	Agriculture and Agro Industries II	L1371	24	Feb. 77	Mar. 77	Jan. 84
	<u>Others</u>					
Zambia	Industrial Forestry Phase II	L1424	17	May 77	Jun. 77	Feb. 84
Malaysia	Keratong Land Settlement	L1044	36	Sep. 74	Oct. 74	Jun. 83
India	Rajasthan Agricultural Extension and Research	C737	13	Jul. 77	Nov. 77	Dec. 83
Algeria	Technical Assistance Rural Development	L1159	8	Jun. 75	Sep. 75	Aug. 84
Brazil	First Agricultural Research	L1249	40	Apr. 76	Jun. 76	Oct. 83
Haiti	Post-Hurricane Agricultural Rehabilitation	C1106	3	Mar. 81	Apr. 81	Apr. 84
	<u>INDUSTRY</u>					
Zaire	GECAMINES Mining Expansion	L1090	100	Jan. 75	Mar. 75	Apr. 81
Indonesia	P.T. Jakarta Industrial Estate Pulogadung	C428	17	Sep. 73	Sep. 73	May 83
Indonesia	Fertilizer Expansion II PUSRI III	L1089	115	Feb. 75	Feb. 75	Dec. 79
Indonesia	Fertilizer Expansion III PUSRI IV	L1254	83	May 76	May 76	May 81
Egypt	Tourah Cement Expansion	L1085	40	Jan. 75	Feb. 75	Feb. 83
Romania	Bacau Fertilizer	L1020	60	Jun. 74	Jun. 74	Sep. 80
Romania	Bucharest Glass Fiber	L1447	18	Jun. 77	Jun. 77	Feb. 81
Romania	Cimpulung-Muscel Polyester	L1448	50	Jun. 77	Jun. 77	Jun. 82
Romania	Otelinox Special Steel	L1027	70	May 76	May 76	Mar. 80
Turkey	Balikesir Newsprint	L1258	70	May 76	May 76	Sep. 83
Brazil	Valefertil Phosphate Fertilizer	L1411	82	Apr. 77	Apr. 77	Jan. 85
Brazil	VALESUL Aluminum	L1660	98	Mar. 79	Mar. 79	Dec. 83
Peru	Centromin Expansion	L1281	40	Jun. 76	Dec. 76	Feb. 83
	<u>DEVELOPMENT FINANCE COMPANIES</u>					
Somalia	Somali Development Bank	C698	5	Apr. 77	Jun. 77	Aug. 83
C. d'Ivoire	Banque Ivoirienne de Developpement Industriel	L1177	8	Nov. 75	Dec. 75	Jan. 85
C. d'Ivoire	Small Scale Enterprise	L1162	6	Aug. 75	Sep. 75	Jun. 82
Liberia	Liberian Bank for Development and Investment II	L1055	4	Dec. 74	Dec. 74	Jan. 85
Liberia	Liberian Bank for Development & Investment III	L1323	7	Sep. 76	Oct. 76	Apr. 85
Indonesia	Private Development Finance Company of Indonesia	L1363	2	Jan. 77	Jan. 77	Apr. 82
Philippines	Development Bank of the Philippines I	L998	50	Jun. 74	Jun. 74	Jan. 82
Philippines	Development Bank of the Philippines II	L1190	75	Dec. 75	Jan. 76	Apr. 82
Philippines	PISO Development Bank	L1555	15	Apr. 78	May 78	Apr. 84
Bolivia	Banco Industrial S.A. I	C455	6	Jan. 74	Jan. 74	Jul. 81
Bolivia	Banco Industrial S.A. II	L1290	10	Jun. 76	Oct. 76	Sep. 82
Bolivia	Small Scale Mining Development	L1331	19	Sep. 76	Oct. 76	Jan. 81
Brazil	Development Banking I	L1206	85	Feb. 76	Mar. 76	Aug. 80
Ecuador	Development Banking III	L1359	26	Dec. 76	Feb. 77	Jun. 82
Ecuador	Development Banking IV	L1731	40	Jun. 79	Dec. 79	Sep. 83
Paraguay	Industrial Credit	L1419	10	May 77	May 77	Dec. 83

PROJECTS EVALUATED: JANUARY-DECEMBER 1985

COUNTRY	NAME OF PROJECTS (BY SECTORS)	LOAN/CREDIT DATA		DATE OF		
		NO.	AMOUNT US\$M.	APPROVAL	AGREE- MENT	FINAL DISBURSE- MENT
	<u>TRANSPORTATION</u>					
	<u>Highways</u>					
Botswana	Roads III	L1174	6	Nov. 75	Nov. 75	Feb. 83
Botswana	Roads IV	L1408	20	Apr. 77	May 77	Dec. 84
Benin	Highway III	C746	10	Nov. 77	Nov. 77	Nov. 83
Chad	Highways II	C490	4	Jun. 74	Jun. 74	Mar. 80
Chad	Highways III	C840	8	Jul. 78	Sep. 78	Cancelled
Guinea Rep.	Highway II	C953	13	Sep. 79	Nov. 79	May 85
Indonesia	Highways IV	L1236	84	Apr. 76	Apr. 76	Jul. 83
Korea	Highway IV	L1640	143	Dec. 78	Dec. 78	Sep. 84
Papua NG	Highlands Road Improvement II	C677	19	Jan. 77	Jan. 77	Jun. 82
Algeria	Highway II	L1407	42	Apr. 77	May 77	Jun. 83
Greece	Highway I	L1240	30	Apr. 76	May 76	Mar. 84
Lebanon	Highway	L944	33	Apr. 73	Nov. 73	Jan. 85
Syria AR	Highway II	C298	14	Mar. 72	Apr. 72	Jun. 83
Tunisia	Highway II	L1188	28	Dec. 75	Jan. 76	May 84
Yemen PDR	Highway II	C560	16	May 75	Jun. 75	Jul. 82
Domin. Rep.	Emergency Road Reconstruction	L1783	25	Dec. 79	Jan. 80	Jul. 83
Jamaica	Highway IV	L1740	16	Jun. 79	Jul. 79	Jun. 84
Paraguay	Highway V	L1529	33	Mar. 78	Mar. 78	Aug. 83
	<u>Railways</u>					
Madagascar	Railway I	C488	6	Jan. 74	Jun. 74	Nov. 79
Sudan	Railway IV	L1467/C727	20	Jun. 77	Jul. 77	Aug. 83
C. d'Ivoire	Cote d'Ivoire and Burkina Faso - Regional Railway	L1490/C744	28	Oct. 77	Nov. 77	Oct. 84
Pakistan	Railway X	L1372/C684	60	Feb. 77	Mar. 77	Jun. 83
Algeria	Railway I	L996	49	May 74	Jun. 74	Nov. 81
Turkey	Railway I	L893	47	Apr. 73	May 73	Aug. 81
Yugoslavia	Railway IV	L1026	93	Jul. 74	Jul. 74	Jul. 81
Mexico	Railway III	L1232	100	Mar. 76	Apr. 76	Mar. 82
	<u>Ports and Water Transport</u>					
Mauritius	Revised Port	L976/C1339	14	Nov. 76	Dec. 76	Feb. 84
Sudan	Port I	C781	22	Mar. 78	Jun. 78	Feb. 84
Indonesia	Shipping II	L1250	17	May 76	May 76	Nov. 83
Korea	Ports I	L917	80	Jun. 73	Jun. 73	Sep. 80
Korea	Ports II	L1401	67	Apr. 77	Apr. 77	Jun. 84
Philippines	Port II	L939	6	Oct. 73	Oct. 73	Jul. 80
Bangladesh	Inland Water Transport II	C735	5	Jul. 77	Sep. 77	Mar. 84
Yemen AR	Port Development	C714	6	May 77	Jun. 77	May 84
Yemen PDR	Aden Port Rehabilitation	C584	3	Aug. 75	Sep. 75	Jun. 82
Honduras	Port III	L1395/C1396	12	Apr. 77	Apr. 77	Sep. 84
	<u>Aviation</u>					
Bolivia	Aviation Development	L1423	25	May 77	Jun. 77	Oct. 84
Jamaica	Airport Development	L1043	13	Sep. 74	Oct. 74	Apr. 81
	<u>ENERGY AND PUBLIC UTILITIES</u>					
	<u>Energy</u>					
Thailand	Second Natural Gas Pipeline	L1773	107	Dec. 79	Feb. 80	Oct. 83
Pakistan	Fourth Sui Northern Gas Pipeline	L1107	60	May 75	May 75	Jun. 82

PROJECTS EVALUATED: JANUARY-DECEMBER 1985

COUNTRY	NAME OF PROJECTS (BY SECTORS)	LOAN/CREDIT DATA		DATE OF		
		NO.	AMOUNT US\$M.	APPROVAL	AGREE- MENT	FINAL DISBURSE- MENT
	<u>Power</u>					
Zambia	Kafue Hydroelectric Stage II	L919	115	Jul. 73	Jul. 73	Apr. 83
Ghana	Kpong Hydroelectric	L1380	39	Mar. 77	Mar. 77	Dec. 82
Ghana	Third Power	L1381/C689	18	Mar. 77	Mar. 77	Feb. 82
Nigeria	Fourth Power	L 847	76	Jun. 72	Jun. 72	Apr. 80
Malaysia	Seventh Power Project	L1178	35	Dec. 75	Dec. 75	Oct. 83
Philippines	First Rural Electrification	L1547	59	Apr. 78	May 78	Mar. 83
Thailand	Pattani Hydroelectric	L1485	50	Aug. 77	Sep. 77	Jun. 83
Pakistan	Second WAPDA Power	L1208	50	Feb. 76	Feb. 76	Feb. 83
Cyprus	Fifth Power Transmission & Distribution	L1873	14	Jun. 80	Sep. 81	Jan. 85
Romania	First Turceni Thermal Power	L1028	60	Jul. 74	Jul. 74	Jul. 79
Syria	Regional Electrification	L1531	40	Mar. 78	May 78	Sep. 84
Brazil	Northeast Power Distribution	L1300	50	Jun. 76	Aug. 76	Nov. 82
Brazil	ELETROSUL Transmission	L1343	82	Nov. 76	Feb. 77	Jul. 83
Chile	Sixth Power	L1351	35	Dec. 76	Feb. 77	Jan. 82
Honduras	Nispero Power	L1629	31	Nov. 78	Dec. 78	Nov. 84
	<u>Telecommunications</u>					
Bangladesh	First Telecommunications	C343	7	Nov. 72	Nov. 72	Jul. 80
Bangladesh	Second Telecommunications	C487	20	Jun. 74	Jun. 74	Jan. 84
India	Sixth Telecommunications	L1313	80	Jul. 76	Jul. 76	Aug. 83
	<u>Water Supply and Waste Disposal</u>					
Kenya	Mombasa and Coastal Water Supply	L1167	35	Oct. 75	Oct. 75	Mar. 82
Somalia	Mogadishu Water Supply	C822	6	Jun. 78	Jun. 78	Jun. 83
Liberia	Monrovia Water Supply	C859	8	Dec. 78	Jan. 79	Oct. 83
India	First Bombay Water Supply and Sewerage	C390	55	May 73	Jan. 74	May 81
Jordan	Third Amman Water Supply and Sewerage	C780	14	Mar. 78	May 78	Mar. 83
Yugoslavia	Morava Region Water Supply Development	L1262	20	May 76	Jun. 76	Jul. 83
Brazil	Second Minas Gerais Water Supply and Sewerage	L1309	40	Jun. 76	Aug. 76	Apr. 82
	<u>Air Pollution Control</u>					
Turkey	Ankara Air Pollution Control Engineering	L15	6	Oct. 79	Dec. 79	Oct. 84
	<u>HUMAN RESOURCES</u>					
	<u>Education</u>					
Sudan	Second Education	C547	10	Apr. 75	May 75	Aug. 84
Tanzania	Fifth Education	C607	11	Dec. 75	Jan. 76	Dec. 83
Zaire	Second Education	C624	21	Apr. 76	Dec. 76	Feb. 83
Zambia	Third Education	L900	33	May 73	Jun. 73	Nov. 83
Zambia	Fourth Education	L1356	13	Dec. 76	Jan. 77	Oct. 83
Korea	Vocational Training	L1474	23	Jul. 77	Jul. 77	Mar. 84
Thailand	Fourth Education	L1271	31	May 76	Sep. 76	Sep. 84
India	First Education	C342	12	Oct. 72	Nov. 72	Feb. 83
Algeria	Third Education	L1378	49	Mar. 77	May 77	Jan. 85
Syria	First Education	L1480	20	Jul. 77	Sep. 77	Oct. 84
Tunisia	Third Education	L1155	9	Jul. 75	Aug. 75	Nov. 83
Brazil	Second Education	L1067	24	Nov. 74	Dec. 74	Aug. 83
Domin. Rep.	Second Education	L1142	8	Apr. 75	Jul. 75	Jan. 84
Guatemala	Second Education	L1212	15	Feb. 76	Mar. 76	Mar. 84
Trin. & Tob.	Third Education	L1722	20	Jun. 79	Jul. 79	Mar. 84

PROJECTS EVALUATED: JANUARY-DECEMBER 1985

COUNTRY	NAME OF PROJECTS (BY SECTORS)	LOAN/CREDIT DATA		DATE OF		
		NO.	AMOUNT US\$M.	APPROVAL	AGREE- MENT	FINAL DISBURSE- MENT
	<u>Population and Nutrition</u>					
Indonesia	First Population	C300	13	Mar. 72	Apr. 72	Apr. 82
Indonesia	Nutrition Development	L1373	3	Mar. 77	Mar. 77	Aug. 83
Malaysia	Population	L880	5	Jan. 73	Feb. 73	Apr. 82
Philippines	First Population	L1035	16	Jul. 74	Jul. 74	May 83
Brazil	Nutrition Research and Development	L1302	19	Jun. 76	Oct. 76	Jul. 83
Domin. Rep.	Population and Family Health	L1325	5	Sep. 76	Sep. 76	Aug. 82
Jamaica	Second Population	L1284	7	Jun 76	Jun. 76	Sep. 83
	<u>OTHER SECTORS</u>					
	<u>Urban Development</u>					
Korea	Secondary Cities Regional	L1070	15	Jan. 75	Jan. 75	Oct. 80
Malaysia	Second Kuala Lumpur Urban Transport	L1214	26	Feb. 76	Mar. 76	Mar. 83
Jamaica	Sites and Services	L1003	15	May 74	Jun. 74	Jan. 83
	<u>Tourism</u>					
Indonesia	Bali Tourism	C479	16	Jun. 74	Jun. 74	Jul. 84
Korea	Kyongju Tourism	L953	25	Dec. 73	Jan. 74	Jan. 81
Jordan	Tourism	C639	6	Jun. 76	Aug. 76	Aug. 83
Mexico	Baja California Tourism	L1420	21	May 77	Mar. 81	Apr. 81
	<u>NON-SECTOR SPECIFIC</u>					
	<u>Structural Adjustment Lending</u>					
Kenya	Second Structural Adjustment Loan and Credit	L2190/C1276	131	Jul. 82	Jul. 82	Feb. 84
C. d'Ivoire	First Structural Adjustment Loan	L2058	150	Nov. 81	Dec. 81	Dec. 82
Senegal	Structural Adjustment Loan and Credit	L1931/C1084	60	Dec. 80	Jan. 81	Oct. 84
Philippines	First Structural Adjustment Loan	L1903	200	Sep. 80	Sep. 80	Jan. 86
Philippines	Second Structural Adjustment Loan	L2266	302	Apr. 83	Apr. 83	Dec. 83
Turkey	Second Structural Adjustment Loan	L1987	300	May 81	May 81	Nov. 82
Turkey	Third Structural Adjustment Loan	L2158	305	May 82	May 82	Jun. 83
Jamaica	Structural Adjustment Loan	L2105	76	Mar. 82	Mar. 82	Jan. 83
	<u>Reconstruction Projects</u>					
Uganda	First Reconstruction Credit	C983	73	Feb. 80	Apr. 80	Jun. 83
Fiji	Cyclone Reconstruction	L1921	18	Nov. 80	Jan. 81	Sep. 84
	<u>Multi-Sector Technical Assistance</u>					
Mauritania	First Technical Assistance	C665	3	Nov. 76	Dec. 76	Oct. 82
Senegal	Technical Assistance, Parapublic Sector	C764	6	Jan. 78	Mar. 78	Nov. 82
Nepal	First Technical Assistance	C659	3	Sep. 76	Sep. 76	Mar. 84

STATISTICAL APPENDIX

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Note: Percentage figures in tables may not add to 100 because of rounding.

Appendix Table 1.1: NUMBER OF PROJECTS EVALUATED BY YEAR
AND TYPE OF EVALUATION

Evaluation Year	No. of Projects Evaluated			Audit Ratio
	Audited	Not Audited	Total	
Through 1975	107	-	107	100
1976	70	-	70	100
1977	109	-	109	100
1978	98	-	98	100
1979	130	-	130	100
1980	87	-	87	100
1981	108	-	108	100
1982	107	20	127	84
1983	88	90	178	49
1984	97	77	174	56
1985	<u>99</u>	<u>93</u>	<u>192</u>	<u>52</u> /a
TOTAL	<u>1,100</u>	<u>280</u>	<u>1,380</u>	<u>80</u>

/a Audit ratios by major sectors were: Agriculture: 69%, Human Resources: 50%, DFCs: 44%, Transportation: 39%, Public Utilities: 30%, Industry: 23%, and Other Sectors: 50%.

Appendix Table 1.2: NUMBER OF PROJECTS EVALUATED EACH YEAR
BY YEAR OF LOAN/CREDIT APPROVAL

Evaluation Year	Year of Loan/Credit Approval						Total	Median Year
	Before FY65	FY65-69	FY70-74	FY75-79	FY80-84			
Through 1975	11	72	24	-	-	107	1968	
1976	2	40	27	1	-	70	1969	
1977	2	45	59	3	-	109	1970	
1978	1	26	68	3	-	98	1970	
1979	-	15	107	8	-	130	1972	
1980	-	6	60	21	-	87	1973	
1981	-	6	73	28	1	108	1973	
1982	-	3	73	48	3	127	1974	
1983	1	3	92	79	3	178	1974	
1984	-	-	44	121	9	174	1976	
1985	-	-	<u>30</u>	<u>145</u>	<u>17</u>	<u>192</u>	1977	
TOTAL	<u>17</u>	<u>216</u>	<u>657</u>	<u>457</u>	<u>33</u>	<u>1,380</u>		

Appendix Table 1.3: DISTRIBUTION OF PROJECTS EVALUATED BY SECTOR

Sector	Evaluation Years							
	Through 1979		1980-84		1985		Total	
	No.	%	No.	%	No.	%	No.	%
<u>Agriculture</u>								
Crop/Area Dev.	18		41		16		75	
Livestock	25		31		3		59	
Treecrops/Estates	16		25		6		47	
Irrigation	15		47		12		74	
Credit	30		21		7		58	
Other	25		66		11		102	
	<u>129</u>	<u>25.1</u>	<u>231</u>	<u>34.3</u>	<u>55</u>	<u>28.6</u>	<u>415</u>	<u>30.1</u>
<u>Industry</u>	<u>13</u>	<u>2.5</u>	<u>27</u>	<u>4.0</u>	<u>13</u>	<u>6.8</u>	<u>53</u>	<u>3.8</u>
<u>DFCs</u>	<u>50</u>	<u>9.7</u>	<u>53</u>	<u>7.9</u>	<u>16</u>	<u>8.3</u>	<u>119</u>	<u>8.6</u>
<u>Transportation</u>								
Highways	89		81		18		188	
Railways	22		17		8		47	
Port & Water Transport	25		25		10		60	
Other	6		2		2		10	
	<u>142</u>	<u>27.6</u>	<u>125</u>	<u>18.5</u>	<u>38</u>	<u>19.8</u>	<u>305</u>	<u>22.1</u>
<u>Public Utilities</u>								
Power	70		58		15		143	
Energy/a	4		3		2		9	
Telecommunications	25		19		3		47	
Water Supply & Waste Disposal	19		31		7		57	
Others	-		-		1		1	
	<u>118</u>	<u>23.0</u>	<u>111</u>	<u>16.5</u>	<u>28</u>	<u>14.6</u>	<u>257</u>	<u>18.6</u>
<u>Human Resources</u>								
Education			81		15		132	
Population, Health and Nutrition	1		6		7		14	
	<u>37</u>	<u>7.2</u>	<u>87</u>	<u>12.9</u>	<u>22</u>	<u>11.5</u>	<u>146</u>	<u>10.6</u>
<u>Other Sectors</u>								
Urban	-		8		3		11	
Tourism	2		7		4		13	
	<u>2</u>	<u>0.4</u>	<u>15</u>	<u>2.2</u>	<u>7</u>	<u>3.6</u>	<u>24</u>	<u>1.7</u>
<u>Non-Sector Specific</u>								
SALs	-		3		8		11	
Program Loans	12		4		-		16	
Industrial Imports	8		9		-		17	
Emergency Reconstruction	-		2		2		4	
Technical Assistance	3		7		3		13	
	<u>23</u>	<u>4.5</u>	<u>25</u>	<u>3.7</u>	<u>13</u>	<u>6.8</u>	<u>61</u>	<u>4.4</u>
TOTAL	<u>514</u>	<u>100.0</u>	<u>674</u>	<u>100.0</u>	<u>192</u>	<u>100.0</u>	<u>1,380</u>	<u>100.0</u>

/a Including oil pipe lines.

Appendix Table 1.4: NUMBER OF PROJECTS EVALUATED BY REGION

<u>Region</u>	<u>Projects Evaluated</u>							
	<u>Through 1979</u>		<u>1980-84</u>		<u>1985</u>		<u>Total</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Eastern Africa	78	15.2	116	17.3	26	13.5	220	15.9
Western Africa	78	15.2	115	17.0	25	13.0	218	15.9
East Asia	73	14.2	104	15.4	43	22.4	221	16.0
South Asia	58	11.3	73	10.8	19	10.0	149	10.8
EMENA	88	17.1	136	20.2	39	20.3	263	19.0
LAC	<u>139</u>	<u>27.0</u>	<u>130</u>	<u>19.3</u>	<u>40</u>	<u>20.8</u>	<u>309</u>	<u>22.4</u>
TOTAL	<u>514</u>	<u>100.0</u>	<u>674</u>	<u>100.0</u>	<u>192</u>	<u>100.0</u>	<u>1,380</u>	<u>100.0</u>

Appendix Table 1.5: DISTRIBUTION OF PROJECTS BY SIZE OF LOAN OR CREDIT

<u>Size of Loan/Credit (US\$ million)</u>	<u>Through 1979</u>		<u>1980-84</u>		<u>1985</u>		<u>Total</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Less than 5	106	20.6	85	12.6	10	5.2	201	14.6
5- 9.9	122	23.7	149	22.1	29	15.1	300	21.7
10-19.9	120	23.3	154	22.9	47	24.5	321	23.2
20-29.9	65	12.7	100	14.8	31	16.1	196	14.2
30-39.9	31	6.0	58	8.6	17	8.9	106	7.7
40-49.9	21	4.1	34	5.0	11	5.7	66	4.8
50-99.9	41	8.0	79	11.7	33	17.2	153	11.1
100 or more	<u>8</u>	<u>1.6</u>	<u>15</u>	<u>2.2</u>	<u>14</u>	<u>7.3</u>	<u>37</u>	<u>2.7</u>
TOTAL	<u>514</u>	<u>100.0</u>	<u>674</u>	<u>100.0</u>	<u>192</u>	<u>100.0</u>	<u>1,380</u>	<u>100.0</u>

Appendix Table 1.6: DISTRIBUTION OF PROJECTS BY SIZE
OF TIME OVERRUN OR UNDERRUN

<u>Percentage Overrun/Underrun</u>	<u>Through 1979</u>		<u>1980-84</u>		<u>1985</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Overruns						
200% or more	13	2.9	30	4.6	8	4.4
100-199.9%	53	12.0	129	19.6	34	18.6
50-99.9%	118	26.8	176	26.8	57	31.1
20-49.9%	116	26.4	172	26.2	49	26.8
Under 20%	61	13.9	77	11.7	17	9.3
	<u>361</u>	<u>82.0</u>	<u>584</u>	<u>88.9</u>	<u>165</u>	<u>90.2</u>
Implemented on time	<u>44</u>	<u>10.0</u>	<u>31</u>	<u>4.7</u>	<u>12</u>	<u>6.5</u>
Underruns	<u>35</u>	<u>8.0</u>	<u>42</u>	<u>6.4</u>	<u>6</u>	<u>3.3</u>
TOTAL <u>/a</u>	<u>440</u>	<u>100.0</u>	<u>657</u>	<u>100.0</u>	<u>183</u>	<u>100.0</u>

/a Excluding 9 projects for which no data were available.

Appendix Table 1.7: ESTIMATED AND ACTUAL COMPLETION TIMES,
BY SECTOR AND REGION, 1985

<u>Sector/Region</u>	<u>No. of Projects</u>	<u>Average Estimated Completion Times (months)</u>	<u>Average Actual Completion Times (months)</u>	<u>Average Overrun</u>	
				Months	%
(i) <u>by Sector</u>					
Agriculture	54	56	81	25	45
Industry	13	38	68	30	79
DFCs	16	51	73	22	43
Transportation	36	45	81	36	80
Public Utilities	28	45	73	28	62
Education	15	57	88	31	54
Population	7	46	84	38	83
Others	14	39	63	24	62
(ii) <u>by Region</u>					
Eastern Africa	26	51	76	25	49
Western Africa	21	55	73	18	33
East Asia	42	52	78	26	50
South Asia	19	48	77	29	60
EMENA	36	47	85	38	81
LAC	<u>39</u>	<u>44</u>	<u>74</u>	<u>30</u>	<u>68</u>
TOTAL <u>/a</u>	<u>183</u>	<u>49</u>	<u>78</u>	<u>29</u>	<u>59</u>

/a Excluding 9 projects for which data were unavailable.

Appendix Table 1.8: ESTIMATED AND ACTUAL PROJECT COSTS, BY SECTOR AND REGION, 1985

Sector/Region	No. of Projects	Est. Cost at Appraisal (US\$ million)		Actual Cost (US\$ million)		Cost Underrun (-) or Cost Overrun (+) (US\$ million)		
		Total	Average	Total	Average	Total	Average	%
<u>(i) By Sector</u>								
Agriculture	53	4,323	82	4,515	85	+192	+3	+4.4
Industry	13	2,547	196	2,630	202	+83	+6	+3.3
Transportation	35	4,245	121	5,090	145	+845	+24	+19.9
Public Utilities	28	3,838	137	4,105	147	+267	+10	+7.0
Education	15	613	41	597	40	-16	-1	-2.7
Urban and Tourism	7	305	44	395	56	+90	+13	+29.5
Other	10	259	26	248	25	-11	-1	-4.2
<u>(ii) By Region</u>								
Eastern Africa	22	1,263	57	1,179	54	-84	-4	-6.6
Western Africa	16	927	58	1,051	66	+124	+8	+13.3
East Asia	37	3,586	97	3,681	99	+95	+3	+2.6
South Asia	18	2,475	138	2,767	154	+292	+16	+11.8
ENA	36	4,630	129	4,964	138	+334	+9	+7.2
Other	32	3,249	102	3,938	124	+689	+22	+21.2
TOTAL	161/a	16,130	100	17,580	109	1,450	+9	+9.0

Excludes 31 DFCs, SALs and other loans/credits for which the concept of project cost is inapplicable or unquantifiable.

Appendix Table 1.9: REPORTED REASONS FOR SIGNIFICANT COST CHANGES, 1985 /a

	Cost Overruns		Cost Underruns	
	No.	%	No.	%
Changes in Project Scope (size)	29	19.0	22	29.7
Changes in Project Design (component mix)	23	15.0	10	13.5
General Level of Inflation	25	16.3	6	8.1
Changes in Material Prices	17	11.1	8	10.8
Devaluation	10	6.5	13	17.6
Delays in Implementation	39	25.5	7	9.5
Other reasons	10	6.5	8	10.8
TOTAL	153	100.0	74	100.0

/a Cost changes of 10% or more.

Appendix Table 1.10: DISTRIBUTION OF PROJECTS BY SIZE
OF COST OVERRUN OR UNDERRUN

<u>Percentage Cost Change</u>	<u>Through 1979</u>		<u>1980-84</u>		<u>1985</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
<u>Overruns</u>						
100% or more	17	3.6	56	8.8	2	1.2
50-99.9%	56	12.0	68	10.7	9	5.6
40-49.9%	23	4.9	23	3.6	12	7.5
30-39.9%	37	7.9	44	7.0	17	10.6
20-29.9%	47	10.0	62	9.8	10	6.2
10-19.9%	67	14.3	75	11.8	13	8.1
Less than 10%	89	19.0	120	19.0	25	15.5
	<u>336</u>	<u>71.8</u>	<u>448</u>	<u>70.8</u>	<u>88</u>	<u>54.7</u>
No cost change	<u>46</u>	<u>9.8</u>	<u>54</u>	<u>8.5</u>	<u>7</u>	<u>4.3</u>
<u>Underruns:</u>						
Less than 10%	50	10.7	66	10.4	23	14.3
10-19.9%	23	4.9	31	4.9	19	11.8
20% or more	13	2.8	34	5.4	24	14.9
	<u>86</u>	<u>18.4</u>	<u>131</u>	<u>20.7</u>	<u>66</u>	<u>41.0</u>
TOTAL <u>/a</u>	<u>468</u>	<u>100.0</u>	<u>633</u>	<u>100.0</u>	<u>161</u>	<u>100.0</u>
Average Cost Overrun		21%		23%		9%

/a Excluding projects for which no data were available.

Appendix Table 1.11: FREQUENCY DISTRIBUTION OF PROJECTS BY ESTIMATED ECONOMIC RATE OF RETURN AT EVALUATION

Estimated Rate of Return at Evaluation	Through 1979		1980-84		1985	
	No.	%	No.	%	No.	%
Negative	9	3.3	42	12.4	9	9.4
Less than 5%	13	4.7	14	4.1	4	4.2
5-9.9%	19	6.9	37	10.9	9	9.4
	<u>41</u>	<u>15.0</u>	<u>93</u>	<u>27.5</u>	<u>22</u>	<u>22.9</u>
10-14.9%	66	24.1	75	22.2	20	20.8
15-19.9%	65	23.7	58	17.2	24	25.0
20-29.9%	59	21.5	73	21.6	15	15.6
30-39.9%	23	8.4	26	7.7	9	9.4
40-49.9%	11	4.0	7	2.1	5	5.2
50% or more	<u>9</u>	<u>3.3</u>	<u>6</u>	<u>1.8</u>	<u>1</u>	<u>1.0</u>
TOTAL/ <u>a</u>	<u>274</u>	<u>100.0</u>	<u>338</u>	<u>100.0</u>	<u>96</u>	<u>100.0</u>
Weighted Average/ <u>b</u>		18.4%		17.4%		17.7%

/a Excluding projects for which no data were available.

/b Weighted by actual project cost.

Appendix Table 1.12: ESTIMATED ECONOMIC RATES OF RETURN AT EVALUATION, BY MAJOR SECTORS AND REGIONS
(Weighted Average Economic Rates of Return)

<u>Sector/Region</u>	<u>Evaluation Year</u>										
	<u>Through 1975</u>	<u>/a 1976</u>	<u>/a 1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
Agriculture	14.2	16.7	14.4	23.2	20.7	20.7	21.4	22.8	15.2	13.7	15.2
Industry	-	18.7	15.4	22.1	14.7	9.6	11.9	13.4/c	14.5	10.9	14.1
Transport /b	13.2	19.7	18.8	24.1	22.1	25.1	16.8	18.3	19.5	23.0	21.2
Eastern Africa	4.9	0.0	12.2	10.5	14.1	15.2	10.8	6.0	11.9	11.3	12.7
Western Africa	25.0	12.0	25.6	18.1	28.6	12.3	14.7	19.6	18.9	15.4	12.7
East Asia	20.5	16.1	31.5	30.6	19.9	25.8	23.1	16.8	21.2	27.0	25.4
South Asia	17.7	25.2	14.2	39.1	37.3	30.3	19.9	33.6/c	22.0	18.8	22.9
EMENA	11.5	17.6	16.2	17.3	14.4	13.5	14.0	15.7	22.6	16.4	16.3
LAC	<u>15.8</u>	<u>16.4</u>	<u>21.0</u>	<u>20.1</u>	<u>20.1</u>	<u>10.2</u>	<u>12.2</u>	<u>27.9</u>	<u>12.2</u>	<u>13.7</u>	<u>13.7</u>
TOTAL	<u>13.8</u>	<u>18.5</u>	<u>18.0</u>	<u>23.4</u>	<u>20.2</u>	<u>17.3</u>	<u>16.2</u>	<u>21.3/c</u>	<u>17.6</u>	<u>16.1</u>	<u>17.7</u>

/a Includes some projects for which at FRR was used as a proxy for the ERR.

/b Includes urban development and tourism projects.

/c Excludes one very large project that unduly inflates the average.

Appendix Table 1.13: APPRAISAL AND EVALUATION ESTIMATES OF ECONOMIC RATES OF RETURN

<u>Difference between Appraisal and Evaluation Estimates</u>	<u>Through 1979</u>		<u>1980-84</u>		<u>1985</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
<u>Evaluation Estimates Exceeded Appraisal Estimates by:</u>						
20% points and more	14	5.2	1	0.3	2	2.1
15-19.9% points	4	1.5	5	1.5	-	-
10-14.9%	17	6.3	13	3.9	3	3.2
5-9.9% points	31	11.5	30	8.9	4	4.3
Less than 5% points	56	20.8	47	13.9	11	11.7
	<u>122</u>	<u>45.3</u>	<u>96</u>	<u>28.5</u>	<u>20</u>	<u>21.3</u>
<u>Evaluation Estimates Equalled Appraisal Estimates</u>						
	<u>26</u>	<u>9.7</u>	<u>18</u>	<u>5.3</u>	<u>7</u>	<u>7.4</u>
<u>Evaluation Estimates Fell Short of Appraisal Estimates by:</u>						
Less than 5% points	38	14.1	55	16.3	18	19.1
5-9.9% points	41	15.2	60	17.8	14	14.9
10-14.9% points	10	3.7	32	9.5	14	14.9
15-19.9% points	14	5.2	26	7.7	7	7.4
20% points or more	18	6.7	50	14.8	14	14.9
	<u>121</u>	<u>45.0</u>	<u>223</u>	<u>66.2</u>	<u>67</u>	<u>71.3</u>
TOTAL <u>/a</u>	<u>269</u>	<u>100.0</u>	<u>337</u>	<u>100.0</u>	<u>94</u>	<u>100.0</u>

/a Excluding 5 projects through CY79, 1 in CY80-84 and 2 in CY85 for ERRs were estimated after completion but not at appraisal.

Appendix Table 1.14: OVERALL ASSESSMENT OF PROJECT ACHIEVEMENTS, 1985,
BY SECTOR AND REGION

<u>Sector/Region</u>	<u>Overall Percent Rating at Evaluation /a</u>									
	<u>Highest</u>		<u>Second</u>		<u>Third</u>		<u>Lowest</u>		<u>Total</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
<u>(i) By Sector</u>										
Agriculture	7	13	15	27	15	27	18	33	55	100
Industry	7	54	3	23	1	7	2	15	13	100
DFCs	-	-	6	37	6	38	4	25	16	100
Transportation	1	3	9	24	23	62	4	11	37	100
Public Utilities	3	11	15	53	7	25	3	11	28	100
Education	4	31	4	31	-	-	5	38	13	100
SALs	-	-	3	37	5	63	-	-	8	100
Others	3	16	2	10	12	63	2	11	19	100
<u>(ii) By Region</u>										
East Africa	-	-	6	24	9	36	10	40	25	100
West Africa	2	8	3	13	10	42	9	37	24	100
East Asia	11	25	9	21	17	40	6	14	43	100
South Asia	1	5	12	63	4	21	2	11	19	100
EMENA	6	15	14	36	13	33	6	15	39	100
LAC	5	13	13	33	16	41	5	13	39	100
TOTAL /b	25	13	57	30	69	37	38	20	189	100

/a The projects were rated according to the following categories:

- Highest: Project achieves or exceeds all its major objectives, achieves substantial results in all respects, and looks like being sustainable.
- Second: Project achieves most of its objectives and satisfactory results with no major shortcomings.
- Third: Project reveals major shortcomings in meeting objectives and/or achievements but is still considered worthwhile.
- Lowest: Project achieves few objectives, and has no foreseeable worthwhile results, or its outcome is uncertain.

/b Excluding three projects that were not completed.

Appendix Table 2.1: SUMMARY OF AGRICULTURAL PROJECTS EVALUATED DURING 1980-85
(Completed Projects Only)

Evaluation Year	Number of Projects Reviewed	Total Project Cost /a (US\$ million)	Total Bank Group Lending /b (US\$ million)		
			Bank	IDA	Total
1980	30	1,588	221	289	510
1981	39	1,920	252	505	757
1982	53	3,301	801	373	1,174
1983	43	1,848	499	263	762
1984	56	4,351	772	499	1,271
1980-84	44	2,602	509	386	895
1985	55	4,515	1,075	676	1,751

/a Actual costs at project completion in current dollars. Data were not available for one project evaluated in 1980 and two projects evaluated in 1985.

/b Before cancellations.

Appendix Table 2.2: BREAKDOWN OF AGRICULTURAL PROJECTS BY SUBSECTOR AND REGION

Subsector	Evaluated in 1985						TOTAL	Annual Average 1980-84
	Eastern Africa	Western Africa	East Asia	South Asia	EMENA	LAC		
Irrigation	-	-	4	5	2	1	12	9
Credit	2	-	1	1	1	2	7	4
Crop/Area								
Development	3	3	4	1	2	3	16	8
Livestock	1	1	-	-	1	-	3	6
Treecrops/Estates	-	4	1	-	1	-	6	5
Forestry	1	-	-	-	-	-	1	1
Fisheries	1	-	-	1	-	-	2	2
Processing/Support								
Services	-	-	1	-	2	-	3	2
Land Settlement	-	-	1	-	-	-	1	2
Miscellaneous /a	-	-	-	1	1	2	4	5
TOTAL	8	8	12	9	10	8	55	44
Annual Average 1980-84	7	10	7	7	7	6	45	

/a These included, for 1985, one project for emergency rehabilitation following hurricane damage, two projects for research/extension, and one project for technical assistance.

Appendix Table 2.3: BOARD APPROVAL DATES OF AGRICULTURAL PROJECTS
EVALUATED IN 1985

<u>Fiscal Year of Approval</u>	<u>No. of Projects</u>
1974	5
1975	10
1976	9
1977	13
1978	10
1979	5
1980	2
1981	1
	<u>55</u>

Appendix Table 2.4: RATES OF RETURN OF AGRICULTURAL PROJECTS
BY YEARS, 1980-85

<u>Evaluation Years</u>	<u>No. of Projects with ERRs Calculated</u>	<u>Average Economic Rates of Return</u>	
		<u>Weighted /a</u>	<u>Unweighted</u>
1980	24	20.7	17.9
1981	38	21.4	15.3
1982	49	22.8	14.0
1983	37	15.2	13.2
1984	48	13.7	10.9
1980-84	196	18.4	13.8
1985	45	15.1	13.7

/a Weighted by actual project cost.

Appendix Table 2.5: AVERAGE ECONOMIC RATES OF RETURN OF AGRICULTURAL PROJECTS BY SUBSECTOR

<u>Sub-Sector</u>	<u>Weighted /a</u>		<u>Unweighted 1985</u>
	<u>1980-84</u>	<u>1985</u>	
Area Development	10.6	12.7	10.8
Livestock	10.8	10.8	2.7
Tree Crops/Estates	12.4	8.4	8.3
Irrigation	17.7	18.4	18.1
Credit	28.1	19.1	16.4
Other	<u>16.3</u>	<u>17.3</u>	<u>18.4</u>
TOTAL	<u>18.4</u>	<u>15.1</u>	<u>13.7</u>

/a Weighted by actual project cost.

Appendix Table 2.6: AVERAGE ECONOMIC RATES OF RETURN OF AGRICULTURAL PROJECTS BY REGION

<u>Region</u>	<u>Weighted /a</u>		<u>Unweighted 1985</u>
	<u>1980-84</u>	<u>1985</u>	
Eastern Africa	8.7	5.5	0.0
Western Africa	12.3	4.8	4.9
East Asia	21.1	16.6	17.6
South Asia	27.7	22.9	25.7
EMENA	15.4	14.3	14.7
LAC	<u>20.1</u>	<u>16.5</u>	<u>14.5</u>
TOTAL	<u>18.4</u>	<u>15.1</u>	<u>13.7</u>

/a Weighted by actual project cost.

Appendix Table 2.7: SUCCESS RATES OF AGRICULTURAL PROJECTS BY YEARS

<u>Evaluation Year</u>	<u>Number of Projects</u>	<u>Number of Successes</u>	<u>Project Success Rate</u> %	<u>Investment Success Rate</u> /a %
1980	30	25	83	93
1981	39	30	77	94
1982	53	37	70	86
1983	43	29	67	71
1984	56	35	63	89
1980-84	221	156	71	87
1985	55	37	67	86

/a Costs of successful projects as proportion of total project costs.

Appendix Table 2.8: SUCCESS RATES OF AGRICULTURAL PROJECTS BY SUBSECTOR

<u>Sub-Sector</u>	<u>Number of Projects</u>		<u>Number of Successes</u>		<u>Success Rates</u>	
	<u>1980-84</u>	<u>1985</u>	<u>1980-84</u>	<u>1985</u>	<u>1980-84</u> %	<u>1985</u> %
Area Dev.	39	16	20	8	51	50
Livestock	30	3	14	1	47	33
Treecrops	25	6	18	3	72	50
Irrigation	46	12	41	11	89	92
Credit	19	7	18	5	95	71
Other	<u>62</u>	<u>11</u>	<u>45</u>	<u>9</u>	<u>73</u>	<u>82</u>
TOTAL	<u>221</u>	<u>55</u>	<u>156</u>	<u>37</u>	<u>71</u>	<u>67</u>

Appendix Table 2.9: SUCCESS RATES OF AGRICULTURAL PROJECTS BY REGION

<u>Region</u>	<u>Number of Projects</u>		<u>Number of Successes</u>		<u>Success Rates</u>	
	<u>1980-84</u>	<u>1985</u>	<u>1980-84</u>	<u>1985</u>	<u>1980-84</u> %	<u>1985</u> %
Eastern Africa	36	8	12	1	33	13
Western Africa	52	8	34	3	65	38
East Asia	36	12	32	10	89	83
South Asia	35	9	29	8	83	89
EMENA	33	10	28	8	85	80
LAC	<u>29</u>	<u>8</u>	<u>21</u>	<u>7</u>	<u>72</u>	<u>88</u>
TOTAL	<u>221</u>	<u>55</u>	<u>156</u>	<u>37</u>	<u>71</u>	<u>67</u>

Appendix Table 2.10: APPRAISAL AND EVALUATION ESTIMATES OF AGRICULTURAL PROJECT ERRs (UNWEIGHTED)

<u>Evaluation Year</u>	<u>No. of Projects</u> /a	<u>Average Appraisal Estimate</u> %	<u>Average Evaluation Estimate</u> %	<u>Average Overestimate (Appraisal minus Reestimated)</u> %
1980	24	23.9	17.9	6.0
1981	38	21.1	15.3	5.7
1982	49	21.5	14.0	7.5
1983	37	25.8	13.2	12.6
1984	48	25.7	10.9	14.9
1979-80	196	23.6	14.3	9.7
1985	45	24.4	13.7	10.7

/a Number of projects for which an ERR was estimated at both appraisal and evaluation.

Appendix Table 2.11: FOOD PRODUCTION: PROJECTS EVALUATED DURING 1980-85

Evaluation Year	Number of Projects with		Projects with Information on Incremental Food Production			
	Food Production Objectives	Indirect Effects on Food Production	Number	Achieved or Exceeded Appraisal Targets		Estimated Food Production (million tons)
		No.		%		
1980	22	2	16	11	69	8.5
1981	35	3	33	16	48	5.3
1982	46	4	37	15	41	12.5
1983	35	3	26	4	15	1.9
1984	44	9	26	15	58	3.5
1980-84	<u>182</u>	<u>21</u>	<u>138</u>	<u>61</u>	<u>44</u>	<u>31.7</u>
1985	<u>42</u>	<u>8</u>	<u>22</u>	<u>12</u>	<u>55</u>	<u>2.8</u>

Appendix Table 2.12: AGRICULTURAL PROJECT COST PER BENEFICIARY, BY SUBSECTOR

Subsector	Projects with Information on Beneficiaries		Total Number of Beneficiaries ('000)		Average Number of Beneficiaries Per Project ('000)		Project Cost per Individual Beneficiary (Current US\$)	
	1980-84	1985	1980-84	1985	1980-84	1985	1980-84	1985
	Area Development	33	12	12,559	6,856	381	571	94
Livestock	19	-	1,180	-	62	-	677	-
Treecrops	18	2	2,473	93	137	47	288	878
Irrigation	38	9	11,991	4,960	316	551	315	223
Credit	15	7	9,363	4,816	624	688	279	240
Fisheries	3	2	48	8	16	4	694	1,167
Forestry	2	-	33	-	17	-	1,903	-
Processing/Support	6	1	372	13	62	407	780	3,825
Settlement	7	1	220	28	31	222	1,893	4,393
Other	4	1	36	55	9	62	3,335	93
TOTAL	<u>145</u>	<u>35</u>	<u>38,275</u>	<u>16,829</u>	<u>264</u>	<u>481</u>	<u>255</u>	<u>178</u>

Appendix Table 2.17: REASONS FOR SATISFACTORY PERFORMANCE OF AGRICULTURAL PROJECTS, 1985 AND 1984/a

<u>Contributory Factor</u>	Percentage of Projects Affected by This Factor		Percentage of Projects Where This Factor Was					
	1985	1984	The Most Important		Second Most Important		Third Most Important	
			1985	1984	1985	1984	1985	1984
Design Merits:								
Appropriate Project Content (simplicity, sufficient local resources, or suitable technology)	73	54	30	29	8	17	24	6
Appropriate Institutional Arrangements	65	51	14	9	27	29	11	9
Strong Borrower support (for project goals and, during implementation, for providing adequate local finance, input supplies)	73	57	30	26	22	14	3	11
Successful Procurement	8	6	5	-	8	-	-	-
Successful Execution of Civil Works	35	23	5	6	3	6	8	3
Good Institutional Performance	51	37	5	11	16	6	16	11
Good Performance by Consultants or Technical Assistance	14	14	-	3	5	3	3	3
Favorable Economic Conditions	8	17	3	3	3	6	-	3
Favorable Support of Pricing and Other Government Policies	11	6	3	3	-	-	-	-

/a The figures relate to 37 agricultural projects reviewed in 1985 and 34 in 1984.

Appendix Table 2.18: REASONS FOR UNSATISFACTORY PERFORMANCE OF AGRICULTURAL PROJECTS 1985 and 1979-84 /a

<u>Contributory Factor</u>	Percentage of Projects Affected by This Problem		Percentage of Projects Where This Problem Was					
	1985	1979-84	The Most Important		Second Most Important		Third Most Important	
			1985	1979-84	1985	1979-84	1985	1979-84
Design Problems:								
Inappropriate Project Content (too complex, insufficient local resources, or unsuitable technology)	100	86	50	41	22	18	11	14
Inappropriate Institutional Arrangements	89	86	28	20	17	28	22	15
Insufficient Borrower support (for project goals and, during implementation, providing inadequate local finance, input supplies)	50	69	6	22	22	8	6	11
Problems with Procurement	6	34	-	-	-	4	-	8
Difficulty in Executing Civil Works	11	22	-	-	-	1	-	-
Poor Institutional Performance	50	51	6	3	11	8	6	15
Poor Performance by Consultants or Technical Assistance	11	22	-	-	6	4	-	1
Adverse Economic Conditions	67	61	11	5	17	9	17	11
Political Difficulties	17	31	-	7	-	4	11	3
Natural Calamities	-	12	-	-	-	3	-	1
Adverse Effect of Pricing and Other Government Policies	28	54	-	3	-	11	-	8

/a The figures relate to 18 projects reviewed in 1985 at 74 in 1979-84.

Appendix Table 2.19: ESTIMATED AND ACTUAL COMPLETION TIMES, AGRICULTURAL PROJECTS EVALUATED DURING 1980-85

Evaluation Year	Number of Projects/a	Average Completion Times (months)			Percentage Overrun	
		Appraisal Estimate	Actual	Overrun	Average	Range
1980	30	49	70	+21	+44	-49 to 277
1981	39	56	81	+25	+45	-18 to 157
1982	53	58	78	+20	+34	-38 to 220
1983	43	58	74	+16	+28	-21 to 133
1984	56	58	83	+25	+43	-30 to 175
1985	54	56	81	+25	+45	-35 to 146

/a Includes only projects for which information on completion time was available.

Appendix Table 2.20: ESTIMATED AND ACTUAL COSTS, AGRICULTURAL PROJECTS EVALUATED DURING 1980-85

Evaluation Year	Number of Projects/a	Average Project Costs (US\$ million)			Percentage Overrun	
		Appraisal Estimate	Actual	Cost Overrun	Average	Range
1980	29	41.7	54.7	+13.0	+31	-32 to 124
1981	39	39.3	49.2	+ 9.9	+25	-21 to 186
1982	53	53.6	62.2	+ 8.6	+16	-33 to 173
1983	43	36.7	43.0	+ 6.3	+17	-57 to 173
1984	56	57.3	77.7	+20.4	+36	-66 to 216
1985	53	81.6	85.2	+ 3.6	+ 4	-64 to 45

/a Includes only projects for which information on project cost was available.

Appendix Table 3.1: TIME OVERRUNS OF INDUSTRY PROJECTS, 1985

<u>Project</u>	<u>Implementation Time</u> <u>Months</u>		<u>Time</u>
	<u>Estimated</u>	<u>Actual</u>	<u>Overrun</u> <u>%</u>
Zaire - GECAMINES Mining Expansion	81	105	30
Indonesia - Second Fertilizer Expansion PUSRI III	23	22	-4
Indonesia - Third Fertilizer Expansion PUSRI IV	16	14	-13
Indonesia - P.T. Jakarta Industrial Estate Pulogadung	87	171	97
Egypt - Tourah Cement Expansion	34	106	211
Romania - Bacau Fertilizer	51	70	37
Romania - Bucharest Glass Fiber	30	42	40
Romania - Cimpulung-Muscel Polyester	31	57	83
Romania - Otelinox Special Steel	24	75	213
Turkey - Balikesir Newsprint	32	75	134
Brazil - Valefertil Phosphate Fertilizer	22	37	68
Brazil - VALESUL Aluminum	33	39	18
Peru - Centromin Expansion	34	68	100

Appendix Table 3.2: COST OVERRUNS OF INDUSTRY PROJECTS, 1985

<u>Project</u>	<u>Project Cost (US\$ mil.)</u>		<u>Cost</u>
	<u>Appraisal</u> <u>Estimate</u>	<u>Actual</u>	<u>Overrun</u> <u>%</u>
Zaire - GECAMINES Mining Expansion	460.4	492.5	7
Indonesia - Fertilizer Expansion PUSRI III	192.9	178.3	-8
Indonesia - Fertilizer Expansion PUSRI IV	186.0	142.5	-23
Indonesia - P.T. Jakarta Industrial Estate Pulogadung	32.5	50.1	54
Egypt - Tourah Cement Expansion	81.9	76.1	-7
Romania - Bacau Fertilizer	185.4	189.3	2
Romania - Bucharest Glass Fiber	45.7	38.1	-16
Romania - Cimpulung-Muscel Polyester	136.1	137.6	1
Romania - Otelinox Special Steel	185.3	187.9	1
Turkey - Balikesir Newsprint	200.0	197.8	-1
Brazil - Valefertil Phosphate Fertilizer	294.0	308.6	5
Brazil - VALESUL Aluminum	370.1	376.1	2
Peru - Centromin Expansion	176.2	255.3	45

Appendix Table 3.3: ESTIMATED ECONOMIC AND FINANCIAL RATES OF RETURN OF INDUSTRY PROJECTS, 1985

<u>Project</u>	<u>ERR</u>		<u>FRR</u>	
	<u>Appraisal</u>	<u>Evaluation</u>	<u>Appraisal</u>	<u>Evaluation</u>
Zaire - GECAMINES Mining Expansion	28	14	21	13
Indonesia - Fertilizer Expansion PUSRI III	20	31	14	18
Indonesia - Fertilizer Expansion PUSRI IV	29	41	21	31
Indonesia - P.T. Jakarta Industrial Estate Pulogadung	NA	NA	13	17
Egypt - Tourah Cement Expansion	18	11	11	7
Romania - Bacau Fertilizer	13	4	5	6
Romania - Bucharest Glass Fiber	17	20	11	26
Romania - Cimpulung-Muscel Polyester	16	14	5	7
Romania - Otelinox Special Steel	15	13	13	18
Turkey - Balikesir Newsprint	16	15	5	8
Brazil - Valefertil Phosphate Fertilizer	22	17	14	18
Brazil - VALESUL Aluminum	20	12	11	8
Peru - Centromin Expansion	16	NEG	15	NEG

Appendix Table 4.1: REGIONAL DISTRIBUTION OF DFC PROJECTS REVIEWED IN 1985

	<u>Eastern and Southern Africa</u>	<u>Western Africa</u>	<u>East Asia and Pacific</u>	<u>LAC</u>	<u>Totals</u>
Projects Reviewed:					
Number	1	4	4	7	16
% of Total	6%	25%	25%	44%	100%
Borrowing Institutions: /a					
Number	<u>1</u>	3	3	5	12
% of Total	8%	25%	25%	42%	100%
Countries:					
Number	1	2	2	4	9
% of Total	11%	22%	22%	45%	100%
Total Project Cost:					
US\$ millions					
equivalent	11.7	78.2	812.0	444.8/b	1,346.7/b
% of Total	1%	6%	60%	33%	100%
Total Bank Group Funding:/c					
US\$ millions					
equivalent	5.0	24.6	155.0	189.2	373.8
% of Total	1%	7%	41%	51%	100%
% of Total					
Project Cost	43%	31%	19%	43% /d	28%/d

-
- /a Multiple borrowers under a single project are combined as one borrower.
 /b Data for one project are not available.
 /c Before cancellations, which totalled US\$56.4 million.
 /d Excludes Bank Group funding for which total project cost data are not available.

Appendix Table 4.2: INVESTMENT COST PER JOB CREATED BY DFC PROJECTS /a
(US\$)

	<u>Maximum</u>	<u>Minimum</u>	<u>Mean</u>	<u>Median</u>
Bolivia - BISA I	7,080	1,460	3,340	3,760
Bolivia - BISA II	177,750	4,400	55,990	34,000
Brazil - BNDE I	540,500	600	19,300	15,200
Cote d'Ivoire - BIDI I	95,910	8,980	48,370	n.a.
Cote d'Ivoire - SSE I	16,480	4,780	9,780	9,810
Indonesia - PDFCI II	413,330	2,440	45,900	17,640
Paraguay - Industrial Credit I	81,750	550	6,040	5,860
Philippines - DBP I	294,570	2,040	35,200	20,930
Philippines - DBP II	97,400	1,900	28,670	25,920
Philippines - PISO Dev. Bank I	177,300	2,550	26,400	41,420
Somalia - SDB I	74,400	11,300	33,970	18,250

/a DFCs for which data are not available are excluded. For some DFCs data are available for only some subprojects.

Appendix Table 7.1: SUMMARY OF EDUCATION PROJECTS EVALUATED 1979-1985

Year of Evaluation	Number of Projects Reviewed	Total Estimated Project Cost	Total Actual Project Cost	Total Loan Amount	Total Credit Amount	Total Lending Amount	Average Loan/Credit Amount
(US\$ Millions)							
1979	11	137.2	176.4	41.9	51.4	93.3	8.5
1980	11	157.7	213.8	53.8	34.1	87.9	7.9
1981	5	84.8	162.4	35.1	15.7	50.8	10.2
1982	11	142.4	256.1	51.4	33.1	84.5	7.6
1983	33	694.7	893.7	236.4	294.3	712.9	12.0
1984	20	477.9	756.7	155.7	126.7	282.4	14.12
(Partial Total)	91	1,694.7	2,459.1	574.3	421.0	995.3	—
1985	15	613.6	597.6	243.7	54.0	297.7	19.8
Total	106	2,308.3	3,056.7	818.0	475.0	1,293.0	12.2

Appendix Table 7.2: EDUCATION PROJECT COSTS AND LOANS
AND CREDITS BY REGION

Region	Number of Projects Reviewed	Total Project Cost	Total Bank Loans	Total IDA Credits	Total Bank Group Lending
		(US\$ millions)			
Eastern and Southern Africa	25	365.5	87.0	172.4	259.4
Western Africa	19	574.9	93.5	89.6	183.1
East Asia & Pacific	17	649.8	186.8	80.5	267.3
South Asia	3	40.7	-	28.5	28.5
EMENA	19	791.8	237.8	69.3	307.1
Latin America & the Caribbean	23	634.1	212.9	34.7	247.6
Total	<u>106</u>	<u>3,056.7</u>	<u>818.0</u>	<u>475.0</u>	<u>1,293.0</u>

Appendix Table 7.3: STUDENT PLACES AND ENROLLMENTS /a
BY LEVEL

Years Enrollment Recorded	Project	Primary				Secondary				Post-Secondary /b				Non-Formal /c			
		Places		Enrollment		Places		Enrollment		Places		Enrollment		Places		Enrollment	
		Appraisal	Actual	Appraisal	Actual	Appraisal	Actual	Appraisal	Actual	Appraisal	Actual	Appraisal	Actual	Appraisal	Actual	Appraisal	Actual
1984	Sudan II					600	1,140	600	1,092	160	160	640	n.a.	12,200	6,440	17,460	704
1983	Tanzania V					2,100	900	2,100	412								
1980/83	Zambia III		3,080		3,080					1,219	1,049	1,219	n.a.	224	224	224	79
1983	Zambia IV													158	158	n.a.	292
n.a.	Zaire II/d					4,030	0	4,030	0								
1982	Korea IV									90	90	90	90	3,600	3,600	3,600	3,600
1984	Thailand IV/e					16,000	16,000	16,000	34,000								
n.a.	India I									510	510	510	n.a.				
n.a.	Algeria III/d					16,200	0	16,200						800	0	800	0
1984	Syria I					4,600	3,888	4,600	3,857					1,700	1,700	1,700	n.a.
1983	Tunisia III/d	450	n.a.	n.a.	31,366		1,000		n.a.					1,640		n.a.	
1982	Brazil II	9,310	13,000	23,820	21,615	18,480	18,480	47,760	24,870								
1983	Dominican Rep. II	10,400	9,880	30,000	34,000									770	770	61,000	4,637
1984	Guatemala II					9,790	11,190	17,370	6,691								
1983	Trinidad & Tobago III/d	9,320	0	9,320	0	4,200	330	4,200	n.a.								

/a Additional places/enrollments resulting from the project.

/b Includes: University; post-secondary technical; post-secondary teacher training.

/c Includes: Non-formal skills training; farmer training facilities.

/d Fundamental changes/reductions to project scope during implementation.

/e Large non-formal (adult education) component not quantifiable but very successful.

Appendix Table 8.1: EVOLUTION OF POPULATION,
HEALTH AND NUTRITION LENDING

<u>Year of Approval (Fiscal Year)</u>	<u>Number of Projects</u>	<u>Amount of Lending (US\$ million)</u>
1970	1	2.0
1971	2	7.8
1972	2	34.4
1973	2	21.5
1974	2	17.0
1975	2	40.0
1976	2	25.8
1977	3	42.5
	<u>16</u>	<u>191.0</u>
1978	2	58.1
1979	4	114.0
1980	4	143.0
1981	1	12.5
1982	2	36.0
	<u>13</u>	<u>363.6</u>
1983	7	118.4
1984	7	243.1
	<u>14</u>	<u>361.5</u>
1985	7	191.0
1986	11	404.5
	<u>18</u>	<u>595.5</u>
TOTAL	<u>61</u>	<u>1,511.6</u>

Appendix Table 8.2: POPULATION PROJECTS EVALUATED

A. BY EVALUATION YEAR

<u>Evaluation Year</u>	<u>Number of Projects Evaluated</u>	<u>Total Bank Funding /a</u> (US\$ million)			<u>Actual Project Costs</u> (US\$ million)
		<u>Bank</u>	<u>IDA</u>	<u>Total</u>	
1979	1	2.0	-	2.0	4.6
1981	3	3.0	33.2	36.2	66.9
1982	1/b	-	5.0	5.0	12.5
1984	1	-	4.8	4.8	34.0
	<u>6</u>	<u>5.0</u>	<u>43.0</u>	<u>48.0</u>	<u>118.0</u>
1985	<u>5</u>	<u>41.8</u>	<u>13.2</u>	<u>55.0</u>	<u>114.4</u>
TOTAL	<u>11</u>	<u>46.8</u>	<u>56.2</u>	<u>103.0</u>	<u>232.4</u>

B. BY REGION

<u>Region</u>	<u>Number of Projects</u>	<u>Bank Group Funding</u>	<u>Actual Project Costs</u>
Eastern Africa	1	12.0	17.9
Western Africa	-	-	-
East Asia	3	43.2	94.8
South Asia	1	21.2	31.8
EMENA	2	9.8	46.5
LAC	<u>4</u>	<u>16.8</u>	<u>41.4</u>
Total	<u>11</u>	<u>103.0</u>	<u>232.4</u>

/a Before cancellation.

/b Excludes Iran.

Appendix Table 8.3: ESTIMATED AND ACTUAL AVERAGE POPULATION PROJECT COSTS

Evaluation Year	Number of Projects	Project Costs			Percent Overrun	Range of Overruns
		Appraisal Average	Actual Average	Overrun		
		(US\$ million)			(%)	
1979 (6th)	1	3.3	4.6	1.3	39	-
1981 (8th)	3	17.3	22.3	5.0	29	0 to 274
1982 (9th)	1	10.5	12.5	2.5	24	-
1984 (11th)	<u>1</u>	<u>7.7</u>	<u>34.0</u>	<u>26.3</u>	<u>342</u>	<u>-</u>
Average 79-84	<u>6</u>	<u>12.2</u>	<u>19.7</u>	<u>7.5</u>	<u>61</u>	<u>0 to 342</u>
1985 (12th)	<u>5</u>	<u>23.8</u>	<u>22.9</u>	<u>-0.9</u>	<u>-4</u>	<u>-14 to 34</u>
Average 79-85	<u>11</u>	<u>17.5</u>	<u>21.1</u>	<u>3.6</u>	<u>21</u>	<u>-14 to 342</u>

Appendix Table 8.4: ESTIMATED AND ACTUAL AVERAGE POPULATION PROJECT COMPLETION TIMES

Evaluation Year	Number of Projects	Completion Times			Percent Overrun	Range of Overruns
		Appraisal Average	Actual Average	Overrun		
		(months)			(%)	
1979 (6th)	1	57	81	24	42	-
1981 (8th)	3	61	89	28	45	32 to 69
1982 (9th)	1	49	80	31	63	-
1984 (11th)	<u>1</u>	<u>87</u>	<u>132</u>	<u>45</u>	<u>52</u>	<u>-</u>
Average 79-84	<u>6</u>	<u>63</u>	<u>93</u>	<u>30</u>	<u>49</u>	<u>32 to 69</u>
1985 (12th)	<u>5</u>	<u>48</u>	<u>87</u>	<u>39</u>	<u>84</u>	<u>38 to 121</u>
Average 79-85	<u>11</u>	<u>56</u>	<u>90</u>	<u>34</u>	<u>62</u>	<u>32 to 121</u>

Appendix Table 8.5: SCOPE OF BANK NUTRITION PROJECTS

	<u>Brazil</u> (Loan 1302-BR)	<u>Indonesia</u> (Loan 1373-IND)	<u>Colombia</u> (Loan 1487-CO)	<u>India</u> (Credit 1003-IN)
<u>Region</u>	<u>Northeast</u>	Pilot areas in several provinces	Seven neediest in 22 departments	Tamil Nadu State
<u>Dates</u>	1976-83	1977-83	1977-83	1980-85
<u>Project Cost (US\$ million)</u>	72.0	26.0	68.9	66.4
<u>Loan/Credit Amount (US\$ million):</u>				
<u>Bank</u>	19.0	13.0	25.0	...
<u>IDA</u>	32.0
<u>Components</u>				
Building nutrition-related institutions (including training)	x	x	x	x
Supplementary feeding	x	x	...	x
Food subsidies	x	...	x	...
Health services with nutrition	x	x	x	x
Nutrition education	...	x	x	x
Anemia control	...	x
Small-scale food production (including family gardens)	x	x	x	...
Food technology (including reduction of food loss) and quality control	x	x	x	...
Water supply and sanitation	x	...
Food marketing	x	...	x	...

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