

**ASIAN DEVELOPMENT BANK
Post-Evaluation Office**

COUNTRY SYNTHESIS OF POSTEVALUATION FINDINGS

IN THE

SOCIALIST REPUBLIC OF VIETNAM

October 1995

ABBREVIATIONS

| | | |
|-------|---|--|
| CSPF | - | Country Synthesis of Postevaluation Findings |
| DFI | - | Development Finance Institutions |
| EIRR | - | Economic Internal Rate of Return |
| HCMC | - | Ho Chi Minh City |
| O&M | - | Operation and Maintenance |
| PEM | - | Postevaluation Mission |
| PEO | - | Post-Evaluation Office |
| PPARs | - | Project Performance Audit Reports |
| TA | - | Technical Assistance |

MEASUREMENTS

| | | |
|-------|---|--|
| kV | - | kilo-volt (1,000 volts) |
| ha | - | hectare |
| lcd | - | liter per capita per day |
| mt | - | metric ton |
| mt/ha | - | metric ton per hectare |
| MVA | - | mega-volt-ampere (million volt-ampere) |

NOTES

In this Report, "\$" refers to US dollars.

I. INTRODUCTION

A. Objective and Approach

1. The Country Synthesis of Postevaluation Findings (CSPF) aims to identify and analyze the key factors affecting the implementation and operation of the Bank-financed projects. Lessons learned from postevaluated projects can be used to improve the design, implementation and operation of future development projects/programs. The CSPF is based primarily on the review of the findings of postevaluation reports prepared by the Post-Evaluation Office (PEO), including Project/Program Performance Audit Reports (PPARs), Impact Evaluation Studies, Country Special Studies, and Technical Assistance Performance Audit Reports. It also takes into account the information and data stored in the PEO's Postevaluation Information System, including the Abstracts of Postevaluation Findings.

II. BANK OPERATIONS IN VIET NAM

2. The Bank began lending to the Socialist Republic of Viet Nam in 1970 with a loan of \$2.5 million for the Fisheries Development Project. In 1975, however, the Bank suspended its lending activities because of the intensifying civil war in the country. Lending remained suspended for about three years. In October 1978, upon the reunification of the country and at the request of the Government, the Bank resumed its lending activities for the suspended loans. Due to the U.S. embargo imposed in 1979, however, no new loans to Viet Nam were made until October 1993. As of 31 August 1995, the Bank had made a total of 19 loans to Viet Nam for 17 projects amounting to \$622.1 million (see Appendix 1, page 1). Bank lending to Viet Nam had been mainly from the Asian Development Fund resources, with only two blend loans amounting to \$3.9 million from the Ordinary Capital Resources. Bank's financing has been provided for projects in a range of subsectors. Agriculture, including agro-industries, accounted for 38 percent of total lending, with the irrigation and rural development subsector being the main recipient of Bank funds. The transport and communications sector received the second largest share of Bank lending at 25 percent, with lending concentrated in road projects. About 22 percent went to the social infrastructure sector, mainly for water supply projects. The electric power subsector under the energy sector received about 14 percent, while the DFI subsector represented 1 percent.

3. As of 31 August 1995 the Bank had approved financing of 49 technical assistance projects amounting to a total of \$25.1 million. Of these TA projects, 13 had been for project preparation and 36 for advisory and operational purposes. By sector, the largest recipients of Bank's TA were agriculture and agro-industries, with a share of 29 percent, followed by social infrastructure (22 percent) and transport and communications (21 percent) (see Appendix 1, page 2).

4. Of the 17 projects financed by the Bank in Viet Nam, nine have been completed and five have been postevaluated. A list of the Postevaluation Reports prepared as of 31 August 1995 is shown in Appendix 2. The five postevaluated projects were approved between 1971 and 1974 and completed during the period 1983-1987. The implementation of these projects remained suspended for three years (1975-1978) due to the civil war and was reactivated in 1978 when the Bank resumed its operations in the country. The postevaluated projects consisted of three projects in the agriculture and agro-industry sector, one project in the energy sector, and one project in the social infrastructure sector, and involved a total investment cost of \$67.7 million with total Bank financing amounting to \$22.9 million.

III. MAJOR FINDINGS AND LESSONS LEARNED

5. This section examines the issues and overall impact of the postevaluated projects by sector and presents the lessons of experience. A summary of postevaluation results for the five projects is given in Appendix 3.

A. Agriculture and Agro-Industry

6. The postevaluated projects in this sector, comprising three projects in the irrigation and rural development subsector, had a total capital cost of \$23.2 million, inclusive of Bank financing of about \$12.0 million. All three projects were assessed as partly successful in achieving their major objectives. Implementation delays, averaging eight years, were experienced by the three projects, mainly as a result of the suspension of the Bank's lending activities in Viet Nam from 1975 to 1978 due to war activities. Other factors which delayed the implementation of these projects were the Government agencies' unfamiliarity with Bank's procedures for procurement and the Government's reluctance in accepting foreign consultants after reactivation in 1978. Among the three projects in this sector, the Binh Dinh Irrigation Project had the largest cost overrun of 136 percent caused by a substantial increase in local currency costs for civil works arising from the long delay in project implementation. Detailed analysis of project costs was made difficult by the fundamental changes in the country's economic system since the time of appraisal. Comparisons between various cost data could not be made because valuation in real terms was impaired by state-regulated pricing and resource allocations. The actual overall project cost for the Tan An Integrated Agricultural Project amounted to only 72 percent of the appraisal estimate, or an underrun of 28 percent, while for the Go Cong Pioneer Agricultural Project, the total actual Project cost in dollar terms could not be estimated in the absence of reliable data.

Irrigation and Rural Development

1 Excluding one project, the Saigon (Ho Chi Minh City) Water Distribution Project, which is expected to be completed in December 1995. The rehabilitation, transmission and distribution components of the Project have been completed; however, the Hoc Mon groundwater development component remains incomplete due to a continued shortage of Government funding. The Bank's funding mainly supported the completed transmission and distribution portions of the Project, while only a small portion of Bank funds went into the Hoc Mon supply component.

7. The first Bank-financed irrigation project in Viet Nam, the Binh Dinh Irrigation Project, was formulated in the context of a five-year rural economic development plan aimed at attaining self-sufficiency in basic foods and diversification of agricultural production, and ultimately increasing incomes and living standards of farm households. The Project provided for the rehabilitation or construction of irrigation structures and related facilities to increase irrigation and drainage capabilities within the Project area. In the course of the prolonged implementation period, however, Project goals were redirected toward the cultivation of rice crops to assure basic food supply, and maximization of national food production was prioritized over maximization of farm incomes.

8. Construction targets were achieved. Workmanship and performance of Project facilities were considered adequate. However, crop yields did not meet expectations, while changes in cropping pattern and the higher cropping intensity, envisaged to provide higher returns for the farmer, were only partially achieved. Overall, the Project was judged partly successful. In the absence of reliable price and cost data at postevaluation, a meaningful economic analysis to determine net gains for the economy could not be undertaken. However, postevaluation indicated that the EIRR, which was originally estimated at 21 percent, was likely to have substantially decreased as a result of a number of factors, namely, (i) the cutback in irrigated area from the originally envisaged 8,500 ha to 8,100 ha during implementation, (ii) the lower yields which resulted in a 40 percent shortfall in rice production, (iii) the 20 percent shortfall in cropping intensity, (iv) the prolonged implementation period, and (v) the 50 percent decline in real terms of the international price of paddy. At Project completion, uncertainties prevailed as to whether the longer-term technical viability of the Project's structures could be sustained without substantial further investments.

9. Experience from this Project provided significant lessons. First, the scope of the Project was too limited to achieve the longer-term objectives. As design and formulation of the Project did not incorporate complementary investments for upstream water resource management nor for drainage and salinity control, the agricultural potential of the Project could not be fully utilized and its long-term viability could not be assured unless substantial additional investments were made. Second, the changed objectives of the Project were not fully taken into account at the time of the reactivation of the Project, affecting the irrigation water requirements. Third, Project experience demonstrated that as cooperation in water management had long been practiced at the farm level, improvements in water availability led to quick improvements in water application in the Project area. Lastly, during the post-war period individual ownership of irrigated lands was abolished and replaced by collective use of the land by cooperatives. Remarkable achievements were made in the mobilization of cultivators for cooperative efforts in construction, maintenance and damage repair, but there was no evidence whether these arrangements were replicable in non-centrally planned economies.

10. The primary focus of the Go Cong Pioneer Agricultural Project was twofold: (i) to increase foodgrain production, particularly of rice, by providing irrigation and drainage networks and strengthening of agricultural support services, and (ii) to provide effective protection of the Project area from flooding and saline water intrusion. Near double cropping was projected at appraisal, with yield of irrigated rice expected to increase to 4 mt/ha compared with the existing yield of rainfed rice of 2 mt/ha. Other Project objectives included creation of employment opportunities, improvement of

farmers' living conditions and testing rice irrigation for possible extension to other parts of the Mekong delta.

11. Project results indicated that in spite of a 40 percent shortfall in the area intended for irrigation and less than envisaged double cropping of irrigated rice, the appraisal expectation of 24,440 mt of incremental rice production was exceeded by about 20 percent mainly as a result of using high yielding varieties of rice. The canals and dikes were generally well constructed, while others, like the lateral canals and some sluice gates were less so. Irrigation infrastructure was not provided in one-third of the original 6,300 ha Project area because Project authorities preferred to improve the standard of previously irrigated area to providing irrigation facilities in the undeveloped area. In terms of operating performance only an average of 3,650 ha were planted to two irrigated crops of rice and a few non-rice crops within only eight months annually, but the pump capacity and water volume intended for irrigating the entire command area were used, resulting in substantial wastage of water. On socioeconomic aspects, the appraisal objective of more than tripling farm income did not materialize in the Project area due to the low prices set by the Government for both rice buying and selling.

12. Lack of reliable data at postevaluation precluded reestimation of economic benefits. However, it was expected that the Project's EIRR would be low, arising from the lower than envisaged international price of rice and the long delays in the achievement of benefits. While irrigated double cropping of rice had been successfully established with moderate productivity, only about half of the target area was receiving benefits. The collective use of land and water, as well as poor maintenance, did not result in more efficient use of water and higher productivity of crops. In view of these, the Project was assessed as partly successful.

13. The Project was a pioneer agricultural project which was the first such project completed in the Mekong delta. Project experience proved that combining double cropping of irrigated rice with protection against floods and salinity intrusion could be replicated under similar environmental conditions in the Mekong delta. However, the absence of incentives to farmers in a cooperative system did not promote productivity and efficiency of water use. The overall sustainability of the Project was affected by poor maintenance. It was felt that the Bank missed an opportunity to improve Project performance at the reactivation of the Project through a thorough reassessment of the design and implementation arrangements, in the light of the country's new socioeconomic environment. In this regard it was suggested that Bank missions should have included experts in institutional and socioeconomic aspects. Experience from this Project highlighted the need for flexibility in design of a pioneer irrigation scheme, such as ensuring that the pump capacity was appropriate for the area to be irrigated and for the capability of the users to manage pumped water efficiently.

14. The Tan An Integrated Agricultural Project was aimed at increasing cropping intensity in an area of about 8,200 ha by improving irrigation and drainage and reducing farming risks due to floods and saline tidal water intrusion. The main infrastructure facilities to be provided by the Project included flood protection dikes and sluices, main and subsidiary drains, electric pump stations with auxiliary facilities, improvement of fresh water creeks, gravity irrigation canal network, large intake sluice with navigation lock, and access roads. By introducing improved water and soil management practices and providing agricultural inputs, the yield of rice crops was expected to increase from 3 to 4.5 mt/ha and improve farm incomes. Although the

Project area constituted only a fraction of the delta area, it was expected that the experience gained and the demonstration effects emanating from the Project would lead to more widespread water resource management and agricultural development in similar areas throughout the delta. After reactivation of the Project, several components were omitted from the Project scope, including the demonstration farm component, 600 ha of problematic soils, as well as the allocations for strengthening Project management, agricultural support institutions and farmer organizations. The substantial reduction in scope removed the intended "integrated" approach of the Project.

15. At the Project's reactivation, the executing agency was changed and a new Project Office was installed. This resulted in more complex coordination within the agricultural sector. More significantly, the Government assumed direct responsibility for undertaking civil works construction, and did not avail of the consultant services for detailed design and construction supervision provided under the loan. Hence, the Bank could only exercise little effective control and monitoring of the Project's implementation. Moreover, only six review missions during the eight-year implementation period since the Project's reactivation were dispatched by the Bank. Inappropriate Project design and the Executing Agency's limited capability to undertake the necessary maintenance work undermined the reliability of the irrigation system. At postevaluation, the pumping stations and the gravity delivery system were underutilized because of inefficient operation, neglect of facilities, and farmers' preference for using privately-owned low lift pump sets.

16. In spite of these limitations, rice production in the Project area exceeded appraisal expectations. Cropping intensity increased from 140 percent to 230 percent in the Project area and yields increased from a range of 2.3 to 3.1 tons per hectare in 1978 to a range of 3.4 to 4.3 tons per hectare in 1988-1989. The Project, however, was considered to have only partially contributed to these production increases, in view of other contributing factors such as the rapid adoption of high-yielding, fast-growing rice varieties and the increased number of cultivators who succeeded in diversifying into high-value subsidiary crops. The Project's other components, i.e., the improvement of creeks, intake canals, and drainage courses proved to be effective in making water available for farmers' mobile pumps. However, the increased costs to the economy of underutilized Project components and the increased number of smaller pump sets contributed to a low Project EIRR of 7 percent.

17. The reevaluation of the Project in 1995, five years after postevaluation, confirmed the postevaluation findings. The Project was found to have partially succeeded in its objectives of controlling floods as well as salinity and acidity intrusion. The Reevaluation Study indicated that the objective of improving surface drainage was not achieved because the sluice gates were not designed properly and not maintained. However, a positive impact of the Project was that it brought fresh water and developed creeks, promoting investment by farmers in small mobile irrigation pumps and on-farm development (see para. 16). Production targets of the Project area were exceeded, but in the reevaluation mission's estimates, only a fraction of the estimated 8,000 ha at appraisal could be attributed to the Project. The major contributory factors were the large number of privately-owned and operated small pumps, the rapid adoption of high yielding varieties throughout the Mekong delta, the privatization of land ownership, and the free markets for farm produce. The recalculated EIRR at reevaluation remained low at 6.5 percent resulting mainly from the partial benefits attributed to the Project,

substantial underutilization of major facilities, and the additional costs incurred by farmers in pumping water to their fields.

18. Project experience demonstrated (i) the inappropriateness of the gravity irrigation distribution system for irrigating generally level land; (ii) the need to consider during the Project's design the requirements for efficient operational management and intensive maintenance; (iii) that disregarding farmers' preferences for pump irrigation resulted in an underutilization of the Project facilities; (iv) the need to build into the design of the Project the identification of possible adverse effects on the environment that may occur, including the necessary mitigating measures, and provision of benchmark data base for comparing environmental conditions before and after the Project; (v) the need for the design of an irrigation project to have a comprehensive approach, covering not only the completion of major works but also the sequential interdependent activities necessary to carry the water to the fields; and (vi) that considerations of expediency, which led to cancellation of several useful components of the Project, deprived the Project of the intended positive demonstration effects.

B. Energy

19. One electric power project with a total project cost of \$10.6 million, inclusive of Bank financing of \$6.3 million, was postevaluated. Forming part of a three-stage power development program intended to provide dependable power supply to existing and new industries by increasing generating capacity and providing additional transmission and distribution facilities, the Saigon Power Project would connect about 200,000 new customers, increase operating reliability, and reduce system losses in the Saigon area. Following the war and the reunification of the country, the new Government requested a change in Project scope, i.e., increase in the length of 66 kV transmission and 15 kV distribution lines and transferring the location of substations away from the city center, in an effort to decongest the Saigon area (renamed Ho Chi Minh City) and to develop agricultural areas called "new economic zones" in the region surrounding the city. These changes were approved by the Bank. However, subsequent to these changes in scope, further changes were made during Project implementation without the Bank's prior approval, which became apparent only when the Project was nearing completion.

20. The Project components actually implemented varied from the revisions approved by the Bank for the reactivation of the Project. The installed capacity of the 66 and 15 kV substation, which was expected to be 20 MVA, was reduced to only 12.5 MVA. Low generating capacity and load growths led to the replacement of 15 MVA and 12.5 MVA transformers at Phu Hoa Dong and Trang Bang by 4 MVA and 2 MVA units, respectively. The major cause of the shortage in generating capacity was the lack of spare parts for US built plants, leading to major breakdowns and consequently disruptions in power supply. At postevaluation system losses remained high at 22 percent. It appeared that the transfer of Project facilities to a "new economic zone" resulted in more substation capacity than what was needed, due to the inadequate generating capacity in the area. At the same time their removal from Ho Chi Minh City may have aggravated the worsening problem of power shortage and system reliability already existing in the city.

21. At completion, the Project's cost was about 18 percent higher, the cost overrun mainly due to the delay of the Project. No meaningful economic and financial evaluation of the Project could be undertaken because of the loss of files during the war, as well as the devaluations and changes in the local currency. The PPAR concluded that the generating capacity did not increase as expected and in fact declined, and the Project's objectives of providing reliable power to about 200,000 new customers and reducing system losses were not achieved. The Project was assessed as partly successful. The weakened impact of the Project was attributed to the maintenance problems caused by a shortage of spare parts, the substantial changes in Project scope and inadequate supervision over the Project. The key issues identified at postevaluation for future Bank action underscored: (i) the need, at the reactivation of the Project after a long suspension due to external factors, to carry out a rigorous and comprehensive Project reappraisal, although this may lead to some delay; and (ii) the need for more frequent review missions, as stipulated by loan administration requirements, which would have apprised the Bank of developments which subsequently led to further changes in Project scope of which the Bank had no prior approval.

C. Social Infrastructure

22. Under the water supply subsector, one project, the Saigon (Ho Chi Minh City) Water Distribution Project was postevaluated. The Project was intended to expand the water supply area in Ho Chi Minh City (HCMC), reduce water losses, increase system operating pressures, and improve the city's fire protection system through the installation of primary and secondary distribution piping, new metered connections, and fire hydrants. The original Project's concept, as reflected in its title, focused on distribution, particularly the reduction of system losses and increase in operating pressures in the distribution system. As reformulated in 1978, however, its scope was modified to include a substantial proportion of water source development and transmission component, in view of the new Government's shift of priorities to water resource development and overall system rehabilitation. This resulted in an entirely different Project comprising two main components: water source development (Hoc Mon component) and rehabilitation (Thu Duc component). At postevaluation, while the Project's rehabilitation, transmission and distribution components had been completed, a large number of outstanding works in the Hoc Mon water source development component were yet to be completed. Several factors accounted for the delay, including the need for additional groundwater explorations at Hoc Mon, land acquisition, and complex implementation and procurement arrangements. The split between general loan administration in Hanoi under a centralized Government system, and Project administration in HCMC, adversely affected the implementation of the Project at all levels. An estimate of the final costs of the ongoing Project at postevaluation amounted to \$33.4, which was 187 percent higher than the appraisal estimate and 130 percent higher than estimated at the Project's reactivation in 1978. The cost overrun was caused, among others, by the changes in Project scope, the cost escalation during the long implementation period, and procurement problems including engagement of foreign experts.

23. The expected reduction of non-revenue water from 32 percent at appraisal to 20 percent at Project completion was not realized. Water losses at postevaluation were at 38 percent. This was attributed to the absence from the Project

of typical components of a water loss reduction program, such as leakage detection equipment. The projected increase of per capita consumption from 170 lcd in 1972 to 196 lcd by 1980 also did not take place. Average consumption at postevaluation was 146 lcd per house connection. Because of the Project's substantially changed scope, as well as its incomplete status which made quantification of benefits difficult, no meaningful cost/benefit assessment could be made. The PPAR indicated that benefits were expected eventually to be derived from incremental water sales, but not from revenues resulting from reduction of water losses. Full benefits would be realized when new supply capacity at Hoc Mon is completed, with adequacy of tariff levels as one condition for sustained benefits. Confining the overall assessment mainly to Bank-financed components, specifically the completed rehabilitation components, the Project was rated as partly successful. It was viewed that these components helped to keep HCMC's water supply system in operation and, together with the supply portion still under construction, will make a significant contribution to HCMC's water supply system.

24. The lessons learned from the Project highlighted (i) the need to carefully re-examine, if a project undergoes substantial changes, whether the original objectives are still valid; (ii) the inadequate attention given to the size of the loan in relation to the substantially larger Project which emerged at the Project's reactivation, vis-a-vis the prevailing Bank policy which precluded supplementary financing; (iii) the appropriateness of stage-wise implementation of large projects as at Hoc Mon, which avoided overstressing the Government's implementation and funding capacity; and (iv) the urgent need to further rehabilitate HCMC's water supply system and reduce the high level of non-revenue water through implementation of well-designed water loss reduction programs.

IV. CONCLUSIONS

A. Overall Assessment

25. The postevaluated Bank-financed projects in Viet Nam must be credited with certain achievements. The Binh Dinh Project helped the Government achieve its objective of attaining self-sufficiency in basic foods. Arable areas in the Go Cong Project which were not intensively used because of flooding and salinity or lack of sufficient water were brought under year-round production. This Project proved that irrigated double cropping, with flood and salinity control, could be replicated in the Mekong delta. The Tan An Project increased the availability of suitable irrigation water, improved drainage and controlled salinity, which resulted in increased cropping intensity and yields. Deepening of the fresh water creeks, new channels and intake basins, which the Project accomplished, made water more widely available and enabled the development of irrigation through the use of low lift pumps which the farmers preferred. In this Project, production increases were achieved in spite of operational shortcomings and the limited utilization of some Project components. The Saigon Power Project erected the necessary infrastructure to contribute to the Government's development of "new economic zones." The completed rehabilitation components of the Saigon (Ho Chi Minh City) Water Distribution Project helped keep the City's water supply system in operation

and, together with the still to be completed water supply component at Hoc Mon, will make an important contribution to HCMC's water supply system.

26. But while there can be no doubt that these projects contributed toward the Government's goals, they did not attain several important objectives. In the Saigon Power Project, generating capacity did not increase as expected and system losses were not reduced. The intended increase of operating pressure in the HCMC water distribution network, as well as water loss reduction, were not achieved. The Binh Dinh Project fell short of meeting expectations with regard to crop varieties and quantities to be produced. In the Go Cong Project, shortfalls in crop production occurred because of lower use efficiency of pumped water. The Tan An Project's contribution was limited by the doubtful operational viability and underutilization of the Project's pumping stations and gravity delivery system. Moreover, with the much scaled down project scope, the Project failed to serve as a model for the introduction of new irrigation technology. The actual average implementation period of the five projects was nearly 12 years compared to four years estimated at appraisal (see Appendix 4), mainly because of the 3-year suspension of the loans. Of the five projects, three incurred cost overruns ranging from 18 percent to 187 percent, and one project a cost underrun (see Appendix 5). The actual cost of one project could not be determined because of unreliable data. Cost overruns reflected the cost escalations during the prolonged implementation period, while the cost underrun stemmed mainly from the difficulties with data and valuation in which current substantially lower free market exchange rate value of the country's currency was used by the PEM. All five projects were rated partly successful.

27. The less than expected achievements of the projects were attributed to several factors which had major impacts on the projects' performance and sustainability. These were (i) institutional changes brought about by the war, (ii) the suitability of project design, (iii) changes in project scope at the reactivation of the projects; and (iv) other issues.

1. Institutional Changes

28. The implementation of the projects took place under extraordinary circumstances which were unprecedented in the Bank's operational experience. Due to conditions of war and following project reactivation, substantial delays arising from slow pace of construction, protracted tendering and selection, and problems in consultants' recruitment were experienced and, with the prolonged implementation, cost overruns were incurred. The underlying reasons for these implementation difficulties were to be found in the massive changes in the political, socioeconomic and institutional environment during the post-war period which led to the severance of trade relations, disruptions of domestic production, and replacement of the mixed economy by a centrally planned, state-controlled system, with corresponding increase in administrative complexity. Altered responsibilities within Government ministries necessitated fundamental changes at the project level. These changes, which often involved new executing agencies who were inexperienced and were unfamiliar with the Bank's policies and procedures, led to implementation difficulties and delays.

29. In the farming sector, a process of collectivization emerged, in which individual ownership of irrigated lands was abolished and replaced by the collective use

of land by cooperatives. Government policies determined resource allocation and prices of agricultural inputs and outputs, which limited the flexibility of project management in responding to contingencies and local needs. With the absence of incentives to individual farmers, which was not conducive to high efficiency of water use and productivity of crops, the cooperative structure hampered the efficiency of irrigated farming, particularly at the farm level. The project objective of increasing farm incomes was not realized because of the low buying and selling prices set by the State for rice, while budgetary allocations for project O&M were low. The issue of credit availability, considered at appraisal to be essential to the effective utilization of the agricultural areas' production potential, was rendered moot by the sociopolitical changes in which agricultural inputs and services were administratively allocated and were no longer tied to financial transactions. Subsequently, however, starting in late 1986 when the reform program (*doi moi*, or renovation, policy) was put in place, further institutional changes saw the discontinuation of compulsory collective farming. Together with the introduction of market mechanisms, such as the abolition of some price regulations and quotas for agricultural produce and for farming inputs, the dissolution of collectivized agriculture has since stimulated farmers' initiatives. However, at postevaluation appropriate support services were yet to be provided to the increasingly active farming sector.

2. Project Design

30. The suitability of project design at appraisal played a crucial part in the projects' performance. The Bank's appraisal of the Tan An Project disregarded the feasibility study's recommendation for the most viable irrigation design which proposed the use of low lift pumps to supply water into creeks and primary canals from which farmers would arrange water distribution using their own mobile pumps. Instead, appraisal adopted a considerably more complex irrigation method by gravity flows, a process requiring efficient operational management and intensive maintenance. However, in the choice of project design, no assessment was made of the capabilities of the executing agency to undertake the required maintenance and operation of the facilities, nor of the preferences of the farmers. In the Go Cong Project, pump and canal system water-carrying capacities were significantly underestimated during design, resulting in substantial wastage of water. The operational performance of the Binh Dinh Project was affected by the failure at the design stage to incorporate complementary investments for upstream water resource management as well as for drainage and salinity control. As a result, agricultural potential could not be fully utilized and the Project's longer-term capability to support increasing agricultural productivity became questionable. The Project failed to meet appraisal expectations with respect to cropping intensity and cropping pattern, as well as to yields and total production, because of overoptimistic projections of cropping intensities and yields.

3. Revisions at the Reactivation Stage

31. In the developments that took place during the implementation of these projects, at issue were neither the implementation delays nor the cost overruns, but several aspects that appeared to have been misjudged at the reassessment and subsequent reactivation of Bank's assistance. It may be said, however, that as the

events in the country were unparalleled in the Bank's operational experience, the unrealistic assessments were to some extent understandable. Nevertheless, project results highlighted the failure at the reactivation stage to assess the likely impact on the projects of the major changes that had taken place, to identify the necessary adaptations to the project designs, and to review the performance expectations of the projects.

31. Under the Saigon Power Project, the significant changes in the Project's scope represented a major departure from the original concept. The removal of the Project facilities from HCMC contributed to the already worsening power supply situation in the city, while they were substantially underutilized at their new location due to the lack of adequate generating capacity. In the Binh Dinh Project, no adjustments in the designs of irrigation facilities were made in response to changes in the originally intended cropping pattern. The changes made in construction technology and material inputs at Project reactivation did not take into account the operational implications for the Project's sustainability arising from the greatly increased maintenance requirements. More importantly, the coastal protection and river control works that were to have supplemented the irrigation Project were not undertaken. The lack of proper management information systems required for pioneer projects like the Go Cong Project reflected the weakness of reassessment of Project objectives at reactivation. A thorough reappraisal at the reactivation stage would have led to changes in irrigation efficiency and crop production parameters in the light of planning and cooperative management capability at the central Government, Project and farm levels, and would have shown also that training of system personnel and members of cooperatives was needed. In the Tan An Project, the Bank missed an opportunity to improve Project performance prior to reactivating the Project by adopting a Project design that reflected the farmers' profit-oriented decisions and their considerations as to what was most practical in the local context. For all these postevaluated projects, the implications of not having identified important requirements at the reactivation stage were considerable in terms of production foregone, investment decisions, and attainment of objectives.

4. Other Issues

32. A number of other issues also affected project results. One issue was the limitations of economic and financial valuations. Difficulties in cost and benefit quantification surfaced after the post-war period with the introduction of administrative pricing under a centrally planned economic system. Record keeping was poor, as quantities and expenditures were not maintained in separate project records. There were substantial constraints in obtaining reliable data for benefit quantification, and the EIRRs resulting from such calculations were often based on inconsistent data provided by the agencies concerned, as well as impressions gained by Bank's missions in the field. The problems related to making realistic quantification for a period characterized by rampant inflation and economic distortions. The EIRRs as measures of the projects' contribution therefore remained largely conjectural. Due to loss of records, the reorganizations of executing agencies, change and devaluations of the local currency and difficulty in obtaining detailed financial data, it had not been possible to make financial evaluations of the projects.

33. Another issue centered on the environmental implications of irrigation projects. While the need for a more systematic approach to land use and water

management in the delta and throughout the entire river basin had been recognized, no study had been undertaken on the effects on the delta environment from irrigation, river diversion and drainage. The need for similar irrigation projects in the future to undergo environmental impact assessment in the large context of the river basin development was highlighted by postevaluation. Lastly, a recurring issue was the lack of executing agency capability. The executing agencies found it difficult to comply with a number of loan covenants, although legal documents were appropriately revised to reflect the change of Government. In most cases the financial, technical and manpower requirements of these investments, assessed to be adequate at the time of appraisal, subsequently proved to be beyond the executing agencies' capacities.

B. Major Lessons Learned

34. A summary of lessons learned from projects postevaluated in Viet Nam is given in Appendix 6.

35. Two main issues loomed large in the Bank's experience in Viet Nam. The first is the impact on project success of drastic changes in the country's socioeconomic and institutional environment. Apparently the Bank as well as the Government underestimated the country's difficulties in the post-reunification period. At the reactivation of the projects, a thorough reassessment of the changed situation facing the projects had become necessary but was only partly effected. With the benefit of hindsight, it appeared that much more thorough review of the projects' concept, scope, design and implementation arrangements was warranted. Hence, opportunities were missed to improve project performance. Inadequate review of the Tan An Project also led to the deletion of critical components related to positive demonstration effects. At reactivation of the Binh Dinh Project, no account was taken of the changes in the Project's objectives and appropriate adjustments were not made, although it was apparent that the measures to be taken by the Government on salinity control were not undertaken.

36. These experiences underscore the need for the Bank to exercise more caution when formulating project objectives. Project experience demonstrates that projects undergoing substantial changes should be carefully re-examined to determine whether their original objectives were still valid and whether they remained attainable, given the new project concept and scope.

37. The second major issue relates to the role played by the Bank. The Bank responded promptly to the Government's request to reactivate the projects by fielding a reactivation mission to review the projects and attend to the necessary changes in loan documents and implementation arrangements. In order to expedite the preparatory works of the projects being reactivated, the Bank in August 1978 approved an advisory and operational technical assistance amounting to \$55,000.² Numerous events affecting project implementation called for strong Bank involvement, but monitoring was weak. The Bank's apparent inactivity, however, must be seen in the context of its prevailing policies for operations in Viet Nam. As the situation in Viet Nam was

2 T.A. No. 243-VIE, Binh Dinh, Go Cong, Tan An, dated 24 August 1978.

unmatched in the Bank's history, the various executing agencies found themselves without much support from the Bank. This was exemplified by the HCMC Water Distribution Project in which supplementary financing was required but was not allowed under the Bank policy for Viet Nam. Project experience illustrates that careful attention could have been given to the size of the loan in relation to the substantially larger Project it had become at reactivation. The Project's PPAR also stressed the need for stronger Bank involvement in this still ongoing Project through closer monitoring and more frequent review missions.

38. The experience of the projects highlights the need to ensure that adequate supervision is provided for projects with similar difficulties. Project experience showed that Bank missions at that time should have included expertise in the context of Viet Nam's institutions and socioeconomics, and that qualified consultants should have been retained to review the comprehensive proposed changes and if necessary assist in project implementation.

APPENDIXES

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