



1. Project Data:		Date Posted : 02/04/2002	
PROJ ID: P009921		Appraisal	Actual
Project Name: Shrimp & Fish Culture	Project Costs (US\$M)	95.0	30.6
Country: India	Loan/Credit (US\$M)	85.0	35.0
Sector(s): Board: RDV - Animal production (100%)	Cofinancing (US\$M)		
L/C Number: C2329			
	Board Approval (FY)		92
Partners involved :	Closing Date	06/30/1999	12/31/2000
Prepared by :	Reviewed by :	Group Manager :	Group:
John R. Heath	Madhur Gautam	Alain A. Barbu	OEDST
2. Project Objectives and Components			
a. Objectives			
<p>"The project would increase shrimp and fish production in the participating states *, which would improve the economic and social welfare of some of the poorest sections of the community, also ensuring that project benefits accrue to women. The project would also increase foreign exchange earnings, improve the use of low productivity land, combined with the protection of ecologically vulnerable areas, create employment and foster rural development . The project would improve the livelihood of some 14,000 very poor households..." (Staff Appraisal Report, p. 6).</p> <p>*Participating states: West Bengal, Orissa, Andhra Pradesh, Bihar, Uttar Pradesh .</p>			
b. Components			
<p>Components and costs at appraisal (cited in Annex 2 of Implementation Completion Report)</p> <p>(i) Shrimp (US\$76.0 million, 80 percent of base cost), comprising pond site development, credit and initial working capital;</p> <p>(ii) Inland fisheries (US\$8.0 million, 8 percent of base cost), comprising infrastructure, credit and initial working capital;</p> <p>(iii) Project management (US\$11.0 million, 12 percent of base cost), including environmental management, training of extension staff and beneficiaries, and research .</p>			
c. Comments on Project Cost, Financing and Dates			
<p>Actual costs (cited in Annex 2 of Implementation Completion Report) were as follows:</p> <p>Component (i): US\$21.5 million (28 percent of appraisal estimate);</p> <p>Component (ii): US\$2.8 million (35 percent of appraisal estimate);</p> <p>Component (iii): US\$6.3 million (57 percent of appraisal estimate).</p>			
<p>Fifty-seven percent of the credit was canceled in February 1997 following the mid-term review. Disbursement was suspended from January 1997 to March 1998 owing to: (i) unsatisfactory implementation of guidelines on beneficiary selection; (ii) failure to implement environmental management plan; (iii) inadequate staffing of central project unit; (iv) extension of the contract of technical consultants; (v) lack of an action plan for involving NGOs; and (vi) the unmet need for a shrimp site operational plan. (cited in Preface of Implementation Completion Report).</p>			
3. Achievement of Relevant Objectives:			
<p>The project's development objectives remained unchanged but targets were cut back in line with the cancellation of 57 percent of the credit after the mid-term review. The outcome verdict hinges on the shrimp component, which accounted for 70 percent of actual project costs plus a prorated share of the ---heavy---project management expenses (21 percent of total costs). Annex 1 of the ICR (Outcome/Impact Indicators) shows that, for shrimp, the actual annual income per family (in 2000) was 25 percent of the appraisal target, the area in production was 20 percent of that forecast at appraisal, the number of beneficiaries was 17 percent of the appraisal figure, and only 4 percent of the expected number of women participated . However, shrimp output was 100 percent of the scaled-back mid-term review target, adjusting for the negative impact of white spot disease . For inland fisheries, no family income target was set at appraisal; the number of cooperatives participating, and the number of women participating, was, respectively, 63 percent and 28 percent of the appraisal target. Measured against mid-term review output targets,</p>			

performance of the fish component was mixed . Even if the project performed satisfactorily against its revised shrimp targets, the mid-term restructuring failed to redress the design flaws of the project : the limited relevance of project objectives to poverty reduction; and the questionable efficiency of resource use (see Shortcomings).

4. Significant Outcomes/Impacts:

Inland fisheries fared better than shrimp culture .The inland fisheries component had an economic rate of return of 30 percent, compared to an appraisal estimate of 26 percent.

5. Significant Shortcomings (including non-compliance with safeguard policies):

Project design was weak on relevance and efficiency, issues that were not resolved by mid-term restructuring. **Relevance.** The ICR cites poverty alleviation as the project's main objective; the evidence for this is tenuous. Shrimp farming is a technically-sophisticated, capital-intensive operation that is not the most effective way of benefiting large numbers of rural poor. The organization and management of shrimp farms is known to be very demanding and yet "there is no evidence of a consultation process with the potential beneficiaries to discuss possible options and the nature of their participation in the management of the shrimp farms" (ICR, p. 3). Sites for shrimp ponds were poorly identified, their design was inadequate and there were delays in mobilizing local support. Doubts about the project's relevance to the poor are reinforced by the lax observance of targeting guidelines during implementation. **Efficiency** For the shrimp component, the economic rate of return was estimated at 13 percent, compared to 31 percent at appraisal; thus, actual returns are only slightly above the opportunity cost of capital (which, in India, is 12 percent). Moreover, the re-estimated rate of return is predicated on optimistic assumptions about the rate of recovery from white spot disease and the fuller adoption of disease prevention protocols by farmers (these may only be partially adopted by the poor given their high private discount rates). The complex management involved in shrimp farming raises doubts about whether the beneficiaries will be able to make the enterprise viable (for example, farmers are prone to prematurely harvest shrimp when faced with slightest hint of disease, contrary to the recommended technical protocols). Even if the actual beneficiaries are poor, the number served is likely to be small compared to other project options, given the very high cost per family (US\$19,496)---IFAD's average is about US\$450 per family. The ICR (p. 10) also notes that the project's success was limited by competition from "spontaneous shrimp sector development by private entrepreneurs", cyclone damage, and delays resulting from litigation occasioned by concern about the environmental impact of semi-intensive shrimp culture.

6. Ratings :	ICR	OED Review	Reason for Disagreement /Comments
Outcome :	Satisfactory	Moderately Unsatisfactory	The rating is based on the extent to which relevant objectives were efficiently achieved. Relevance is weak and the evidence for efficient resource use is not convincing. But because resources were saved by the partial cancellation of the loan the outcome rating is softened from unsatisfactory to moderately unsatisfactory.
Institutional Dev .:	Modest	Modest	
Sustainability :	Likely	Non-evaluable	The ICR is confident that white spot disease will be contained but, based on only one year of observation, it is too early to say, casting doubts over the rate of return to shrimp culture (which accounted for 70 percent of the actual investment cost).
Bank Performance :	Satisfactory	Unsatisfactory	Quality at entry was unsatisfactory . Mid-term restructuring and subsequent supervision efforts did not respond to project design flaws . At this stage, cancelation may have been more appropriate: continuing to develop shrimp farm sites was probably not the best use of funds. Also, the decision to scale back the loan was not made in timely fashion : there was a delay of 13 months between the mid-term review and the partial cancelation of the loan .
Borrower Perf .:	Satisfactory	Unsatisfactory	The borrower must share responsibility with the bank for the poor quality at entry; and assume full responsibility for the circumstances that led to the suspension of disbursements.
Quality of ICR :		Satisfactory	

NOTE: ICR rating values flagged with '*' don't comply with OP/BP 13.55, but are listed for completeness.

7. Lessons of Broad Applicability:

The ICR says that the three most important lessons were : (i) Government agencies should avoid direct involvement in commercial operations, focusing on regulatory aspects; (ii) The design complexity of projects should not exceed borrower institutions' and beneficiaries' management capacity; (iii) Aquaculture projects must be guided by appropriate policies and regulations, and supported by institutions capable of addressing the manifold social, technical and environmental problems they pose .

8. Assessment Recommended? ☐ Yes ☒ No

9. Comments on Quality of ICR:

Annex 1 (Key Performance Indicators) is exemplary; but it also tells a story that is not consistent with the outcome rating that is given.