

IEG

ICR Review

Independent Evaluation Group

1. Project Data:		Date Posted : 09/28/2007	
PROJ ID :	P003594	Appraisal	Actual
Project Name :	Gansu Hexi Corridor	Project Costs (US\$M):	259.2
Country:	China	Loan/Credit (US\$M):	150.0
Sector Board :	RDV	Cofinancing (US\$M):	0
Sector(s):	Irrigation and drainage (65%) General agriculture fishing and forestry sector (15%) Central government administration (10%) General water sanitation and flood protection sector (10%)		
Theme(s):	Other rural development (25% - P) Rural services and infrastructure (25% - P) Pollution management and environmental health (24% - P) Other environment and natural resources management (13% - S) Land administration and management (13% - S)		
L/C Number:	C2870; L4028		
		Board Approval Date :	05/30/1996
Partners involved :	None	Closing Date :	12/31/2006
			12/31/2006
Evaluator :	Panel Reviewer :	Group Manager :	Group :
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2. Project Objectives and Components:

a. Objectives:

The objectives of the project were to:

- (a) alleviate poverty of some 200,000 poor farmers from the resource poor areas of central and southeast Gansu Province by emigrating and settling on newly developed irrigated land in the Hexi Corridor;
- (b) increase agricultural production in Gansu Province, especially in food grains and commodity crops; and
- (c) protect and restore degraded environments.

The scope of the project was revised and the Legal Agreement was amended in 2004. However, the original project

development objectives were not revised. The major revisions were a reduction in the number of voluntary resettlers from 200,000 to 75,000 and a reduction in the area of land to be reclaimed from 54,610 ha to 27,213 ha.

b. Were the project objectives/key associated outcome targets revised during implementation?

No

c. Components (or Key Conditions in the case of DPLs, as appropriate):

A. Irrigation & Drainage (appraisal estimate US\$156.65 million, actual cost US\$147.08 million). Construction of Changma Dam (55 m high) on Shule River to provide effective storage of about 100 Mm³ of water for irrigation and water supply; improve irrigation facilities for an existing area of 43,300 ha and develop 54,600 ha new irrigated land in three irrigation districts.

B. Agricultural Support and Services (appraisal estimate US\$3.04 million, actual cost US\$3.98 million) for agriculture-crop production, support services, and agricultural machinery.

C. Livestock Development (appraisal estimate US\$2.8 million, actual cost US\$1.38 million). Establishment and improvement of livestock extension network, supply and production of improved livestock, fodder production and feed processing, and credit for small farmers to procure livestock.

D and E. Forestry Development and Environment Protection (appraisal estimate US\$8.79 million, actual cost US\$9.83 million) through afforestation, monitoring, soil and water conservation practices.

F. Land Settlement (appraisal estimate US\$36.65 million, actual cost US\$26.07 million) for 200,000 immigrant farmers from resource-poor areas to newly developed irrigated land in 16 new townships and 160 villages.

G. Institutional Development (appraisal estimate US\$12.7 million, actual cost US\$23.12 million) through the provision of training, technical assistance, equipment, vehicles and essential facilities.

Revised Components

The number of project components remained unchanged but their scope and financing amounts were altered during the Mid-Term Review (MTR) process.

d. Comments on Project Cost, Financing, Borrower Contribution, and Dates:

The total project cost was estimated at US\$259.2 million at appraisal and re-estimated at US\$229.8 million at the time of the MTR. The actual cost at project completion was US\$211.46 million. The difference was mainly due to: (i) the exchange rate movements; (ii) the reduced project scope and scale for the voluntary emigration and land settlement (the reduction of the total number of resettlers from 200,000 to 75,000); (iii) the reduction of the area of land reclamation and on-farm works for newly developed irrigated land from 54,610 ha to 27,213 ha; (iv) lower investments for agricultural machinery; (v) reduced numbers of sheep provided to households (because of the lack of the feed in the newly resettled areas; and (vi) difficulty in finding households willing to be responsible for loan repayment for sheep raising).

There were significant delays in counterpart funding. The project closed on schedule.

3. Relevance of Objectives & Design:

The project objectives were consistent with the Country Assistance Strategy (CAS) of 1995 that supported income-generation programs in lagging regions, upgrading of marginal agricultural lands, major water storage, and irrigation and drainage development. Also, the project aimed to promote the Bank's overall goal of poverty reduction as articulated in the 1997 report "Rural Development from Vision to Action" in which China was identified as one of the focal countries. The project's objectives remain relevant to the Bank's Country Partnership Strategy (CPS) 2006-2010 for China that aims to reduce poverty, inequality and social exclusion.

The project suffered from a number of relevance-related design flaws which had significant negative impacts on project implementation. First, inadequate attention was paid to environmental issues during preparation and appraisal although an objective was protection of the environment. No ecological study was carried out. During implementation, Shule Basin Ecological Study was carried out. The study found that the basin-level rate of water utilization (91.7%) agreed upon at appraisal was very high. At MTR this was revised to 65%, which is in accordance with international standards. Second, while a social assessment was carried out in the move-out counties, no such assessment was undertaken in the receiving counties (receiving local governments and communities in Jiuquan Prefecture). Third, relevant to the objective to reduce degradation, the extent of soil salinization in the selected irrigation areas was seriously underestimated during appraisal, which caused significant delays and cost increases for land reclamation.

4. Achievement of Objectives (Efficacy):

Since the project was formally restructured at the point of about 60% disbursement, notwithstanding that the objectives were not changed (they remained broadly appropriate), we give a 60% weight to the original targets and 40% to the revised.

Alleviate poverty of some 200,000 poor farmers from the resource poor areas of central and southeast Gansu Province by emigrating and settling on newly developed irrigated land in the Hexi Corridor : rated **Modest** (aggregated from Modest for the original targets at 60% and Substantial for the revised targets at 40%).

The MTR target was met, the actual number of resettlers at the time of completion was 75,378 compared to MTR target of 75,000. These included 62,000 people directly moved by the project (37,908 people to Changma Irrigation District (ID), 9,419 people to Shuangta ID and 14,673 people to Huahai ID) and 13,378 “self-moved” people under the local authorities’ permission. The self-moved people came from 43 national/provincial level poverty counties in Gansu. The substantial shortfall in achieving the appraisal target was because the initial resettlement target was based on a level of water use which was too high (about 92%). Once this assumption was revised to 65 percent, the resettlement and all associated activities had to be scaled-back, automatically reducing the number of beneficiaries. However, both the appraisal (RMB 1,564) and MTR (RMB 1,830) targets for per capita income were met. At appraisal, the average annual per capita income of the future re-settlers in situ was estimated to be about RMB 248. At completion, the net per capita income in the move-in project villages had increased to about RMB 1,850 (RMB 1,601 in Changma ID, RMB 1,720 in Shuangta ID, and RMB 2,575 in Huahai ID). The project assisted in alleviating poverty of about 75,378 resettled poor farmers, as in 2006, the absolute poverty line in Gansu was RMB 650 per capita and the relatively-poor poverty line was RMB 956.

Increase agricultural production in Gansu Province, especially in food grains and commodity crops : rated **Modest** (in this case we do not weight since both original and revised targets show weakness in per capita impact and there are attribution questions related to output).

The targets of food grain production set at appraisal (677 kg per capita) and revised at MTR (544 kg per capita) were not met. At completion, the per capita food grain production was 404 kg). However, the gross agricultural output (RMB 1,957 million) in the project area exceeded the MTR target (RMB 1,475 million) and was slightly lower than the appraisal target (RMB 1989 million). By project completion cash crops such as higher-value cotton, spices, herbs and vegetables accounted for about 80 percent of total cultivated land.

The actual reclaimed irrigated area of 25,100 ha was much lower compared to 54,600 ha planned at appraisal, and also slightly lower compared to the 27,200 ha planned at MTR.

Protect and restore degraded environments : rated **Substantial**.

The overall vegetation coverage of the area reached 15.3 percent, exceeding both the appraisal (11%) and MTR targets (15%).

5. Efficiency (not applicable to DPLs):

At appraisal, the Economic Rate of Return (ERR) was estimated at 18.8%. For irrigation and drainage component the ERR was 18.2%, 21.4% for forestry development and 29% for livestock development. At completion, the overall ERR was 12.2% and the irrigation and drainage ERR was 11.9%, forestry was 10.9% and livestock development was 21%. The ERR at completion were much lower than the appraisal estimate because of the reduction in project scale. However, the ex-post ERR are slightly higher than the MTR ERR of 10.6%.

a. If available, enter the Economic Rate of Return (ERR)/Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation :

	Rate Available?	Point Value	Coverage/Scope*
Appraisal	Yes	18.8%	65%
ICR estimate	Yes	12.2%	75%

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome:

Based on an assessment of relevance, efficacy and efficiency project outcome is rated moderately satisfactory. This is in agreement with the ICR.

a. Outcome Rating : Moderately Satisfactory

7. Rationale for Risk to Development Outcome Rating:

The project established 87 WUAs which at project closing were managing the operation and maintenance (O&M) of the irrigation systems in the three irrigation districts under the project. The water fees collected by the WUAs are adequate to cover the O&M expenses. The main risk to the development outcome is related to slower than expected soil desalinization of the reclaimed land. About 60 percent of the new reclaimed lands in the project area have required three to five years leaching, with some land plots where the salinity conditions proved much worse than expected needing up to eight years for adequate desalinization. Even though the SRBWRMB has prepared a plan aiming to use RMB 107 million of collected water fees annually for soil leaching, many post-project investments will need to be financed by local public funds and the households themselves. The risk to the development outcome is therefore rated moderate.

a. Risk to Development Outcome Rating : Moderate

8. Assessment of Bank Performance:

Although the project was consistent with the Bank's CAS, its design had several major shortcomings as discussed in section 3 above. The quality at entry is therefore rated unsatisfactory. The quality of supervision is rated Satisfactory. The Bank was successful in establishing a Provincial level Shule River Basin Water Resource Management Bureau the Bank's supervision team tried to correct the initial design problems, however, the design flaws had significant negative impacts on project implementation especially poor attention to social development of resettlers. Overall, the Borrower Performance is rated Moderately Satisfactory.

a. Ensuring Quality -at-Entry:Unsatisfactory

b. Quality of Supervision :Satisfactory

c. Overall Bank Performance :Moderately Satisfactory

9. Assessment of Borrower Performance:

Although the Government was committed to the project and a Provincial level Shule River Basin Water Resource Management Bureau was established, the Government Performance is rated unsatisfactory because of the following reasons: (i) The project suffered from major design flaws as discussed in section 3 above; (ii) The project implementation was severely constrained due to shortfall in counterpart funding especially before the MTR. After the MTR, the problem of the counterpart funds was eased, however, even with the additional funds project implementation was severely hampered by the untimely/uncertain allocations and the slow release of counterpart funds. The planned infrastructure works were slowed down, resulting in delayed resettlement and consequently delayed agricultural growth and human development; and (iii) The provincial government exhibited weak coordination on resettlement and social issues. The registration of many resettlers had not been completed by project closing. The performance of the implementing agency is rated satisfactory. Overall, the Borrower Performance is rated Moderately Satisfactory.

a. Government Performance :Unsatisfactory

b. Implementing Agency Performance :Satisfactory

c. Overall Borrower Performance :Moderately Satisfactory

10. M&E Design, Implementation, & Utilization:

Design: M&E design was satisfactory. At appraisal Key Performance Indicators (KPIs) to monitor the achievement of the PDOs were specified into three broad groups: increased agricultural production, poverty reduction and environment protection. Specific indicators included: (a) changes in per capita income; (b) total production of grain and cash crops; (c) *per capita* grain production; (d) distribution system efficiency of irrigation canals and water cost

recovery; (e) rehabilitated and newly reclaimed, irrigated areas; and (f) overall vegetative cover. Baseline data was provided and targets were set. The appraisal document also stated that a M&E Division (MED) was to be established under Shule River Project Management Bureau (PMB) to coordinate the M&E of the project progress, performance, and impacts of various subcomponents.

Implementation: M&E of the Voluntary Resettlement Program was conducted by Lanzhou University in Gansu in accordance with the project's voluntary resettlement plan. The annual surveys and reporting lasted for ten years until project closing. Physical construction, social services and production arrangements in the new sites were examined. Also, a sample of about 2,000 resettlers (500 households) was annually selected for surveys of incomes and expenditures (from agriculture and labor out-migration, and in the new sites and old move-out villages) and, living environment and satisfaction indexes. A computerized Management Information System (MIS) was set up to collect and monitor financial and physical progress data from technical bureaus and units implementing the various project components.

It is not clear from the ICR if a M&E Division, as envisaged at appraisal was established. Also, an integrated M&E system that would have measured overall project efficiency, performance and outcome was never put in place.

Utilization: The ICR provide no evidence on M&E utilization.

a. M&E Quality Rating : Substantial

11. Other Issues (Safeguards, Fiduciary, Unintended Positive and Negative Impacts):

The project was classified Category A for Environmental Assessment. The safeguard policies on dam safety, resettlement and indigenous people were also triggered. Furthermore, the construction of Changma Reservoir involved involuntary resettlement of 139 households. The National Research Center for Resettlement of Hehai University monitored and evaluated annually the socio-economic well-being of 131 households (involuntary relocated by the construction of the Changma Reservoir and resettled mainly in Huahai ID (and also in Yumen City and Changma ID). The ICR asserts that the involuntary resettlement was carried out according to Bank guidelines but provides little evidence on PAP satisfaction . There were no fiduciary issues or unintended impacts.

12. Ratings:	ICR	IEG Review	Reason for Disagreement /Comments
Outcome:	Moderately Satisfactory	Moderately Satisfactory	
Risk to Development Outcome:	Moderate	Moderate	
Bank Performance :	Moderately Satisfactory	Moderately Satisfactory	
Borrower Performance :	Moderately Satisfactory	Moderately Satisfactory	
Quality of ICR :		Satisfactory	

NOTES:

- When insufficient information is provided by the Bank for IEG to arrive at a clear rating, IEG will downgrade the relevant ratings as warranted beginning July 1, 2006.
- The "Reason for Disagreement/Comments" column could cross-reference other sections of the ICR Review, as appropriate .

13. Lessons:

Based on the ICR the following lessons are highlighted:

- For projects involving settling of persons on newly developed irrigated land, a thorough stakeholder analysis covering both “move-out” and “move-in” areas needs to be carried out during project preparation to assess the differing views of the key stakeholders in “move-out” and “move-in” areas.
- It is important to design evaluation based on the “with and without” rather than the "before and after" concept in order to reach conclusions about incremental benefits and attribution (development in move-out areas is

rarely static). It is also important to integrate different components of the M&E system to allow for consistent and timely use of monitoring information.

- It is important to focus on planning, synchronization and sequencing between infrastructure construction, water mobilization and land development on the one hand and social development on the other hand.

14. Assessment Recommended? Yes No

15. Comments on Quality of ICR:

The ICR is sufficiently informative and provides a detailed discussion on project implementation . The output and outcome indicators are specified clearly . One shortcoming is that the ICR asserts that the involuntary resettlement was carried out according to Bank guidelines but provides little evidence on PAP satisfaction. Whereas incomes of resettled people moving-in are documented, it is not clear how the incomes of the involuntarily resettled people changed. Another shortcoming is that it is not made clear in the ICR whether income data cited is in current or constant RMB, if in current it would reduce the real increments.

a.Quality of ICR Rating : Satisfactory