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IMPLEMENTATION COMPLETION REPORT  
(IDA-31690; TF-21759; SCL-44380)

ON A

CREDIT

IN THE AMOUNT OF SDR 28.9 MILLION  
AND A

LOAN

IN THE AMOUNT OF US\$ 40 MILLION

TO THE

PEOPLE'S REPUBLIC OF CHINA

FOR A

YANGTZE FLOOD EMERGENCY REHABILITATION PROJECT

October 31, 2002

**Rural Development and  
Natural Resources Sector Unit  
East Asia and Pacific Region**

## CURRENCY EQUIVALENTS

(Exchange Rate Effective September 1, 2002)

Currency Unit = Yuan

Y 1 = US\$ 0.12

US\$ 1 = Y 8.3

## FISCAL YEAR

January 1 December 31

## ABBREVIATIONS AND ACRONYMS

CAS	Country Assistance Strategy
DCA	Development Credit Agreement
ERL	Emergency Recovery Lending
ERR	Economic Rate of Return
ICR	Implementation Completion Report
MTR	Mid-Term Review
PLG	Project Leading Group
PMO	Project Management Office
QAG	Quality Assessment Group

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**CHINA**  
**YANGTZE FLOOD EMERGENCY REHABILITATION PROJECT**

**CONTENTS**

	<b>Page No.</b>
1. Project Data	1
2. Principal Performance Ratings	1
3. Assessment of Development Objective and Design, and of Quality at Entry	2
4. Achievement of Objective and Outputs	4
5. Major Factors Affecting Implementation and Outcome	5
6. Sustainability	8
7. Bank and Borrower Performance	9
8. Lessons Learned	13
9. Partner Comments	14
10. Additional Information	15
Annex 1. Key Performance Indicators/Log Frame Matrix	16
Annex 2. Project Costs and Financing	18
Annex 3. Economic Costs and Benefits	20
Annex 4. Bank Inputs	22
Annex 5. Ratings for Achievement of Objectives/Outputs of Components	23
Annex 6. Ratings of Bank and Borrower Performance	24
Annex 7. List of Supporting Documents	25
Annex 8. Borrower's ICR Summary	26
Map IBRD 30036	



<i>Project ID:</i> P063123	<i>Project Name:</i> YANGTZE FLOOD EMERGENCY REHABILITATION
<i>Team Leader:</i> Xiaokai Li	<i>TL Unit:</i> EASRD
<i>ICR Type:</i> Core ICR	<i>Report Date:</i> October 30, 2002

## 1. Project Data

*Name:* YANGTZE FLOOD EMERGENCY REHABILITATION  
*Country/Department:* CHINA  
*Sector/subsector:* Irrigation & drainage (2%); General education sector (19%); Health (17%); Roads & highways (51%); Water supply (11%)

*L/C/TF Number:* IDA-31690; TF-21759; SCL-44380  
*Region:* East Asia and Pacific Region

### KEY DATES

	<i>Original</i>	<i>Revised/Actual</i>
<i>PCD:</i> 10/15/1998	<i>Effective:</i> 06/09/1999	07/09/1999
<i>Appraisal:</i> 11/11/1998	<i>MTR:</i> 01/15/2000	01/15/2000
<i>Approval:</i> 02/09/1999	<i>Closing:</i> 06/30/2002	06/30/2002

*Borrower/Implementing Agency:* PRC/HUBEI; HUNAN & JIANGXI PROV. GOV.  
*Other Partners:*

STAFF	Current	At Appraisal
<i>Vice President:</i>	Jemal-ud-din Kassum	Jean Michel Severino
<i>Country Manager:</i>	Yukon Huang	Yukon Huang
<i>Sector Manager:</i>	Mark D. Wilson	Geoffrey Fox
<i>Team Leader at ICR:</i>	Xiaokai Li	Lang Seng Tay
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## 2. Principal Performance Ratings

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HL=Highly Likely, L=Likely, UN=Unlikely, HUN=Highly Unlikely, HU=Highly Unsatisfactory, H=High, SU=Substantial, M=Modest, N=Negligible)

*Outcome:* S

*Sustainability:* HL

*Institutional Development Impact:* M

*Bank Performance:* S

*Borrower Performance:* S

*Quality at Entry:* QAG (if available) ICR  
S

*Project at Risk at Any Time:* No

### **3. Assessment of Development Objective and Design, and of Quality at Entry**

#### **3.1 Original Objective:**

*Background.* Widespread unprecedented rainstorms occurred during June and July 1998 in the Yangtze's middle reach, causing severe flooding especially in the provinces of Hubei, Hunan and Jiangxi. Rivers and lakes were rapidly filled. Torrential floods in the hilly regions, coupled with mudslides, caused devastating damages to villages along the rivers and killed many people. Flooding of lake and poldered areas was further aggravated by the upstream floodwater that arrived during August and early September. Consequently, vast areas behind the Yangtze River dikes were inundated for almost three months due to back flow of the Yangtze flood. The 1998-floodwater levels recorded in the Yangtze exceeded the 1954 levels, the highest recorded in the 20th century. In the three provinces, the flood affected some 79.6 million people, of whom 10.2 million were evacuated to safety, and 1,384 people lost their lives. At project identification, some 21.1 million people were still homeless and staying in temporary shelters. Total direct economic losses estimated for Hubei, Hunan and Jiangxi were about \$6.6, \$4.0 and \$4.6 billion respectively, not including the enormous cost of flood evacuation, flood fighting and relief. The areas affected by the 1998 flood in Hubei, Hunan and Jiangxi are shown in Map IBRD 30036.

Following the flood, the government immediately undertook massive evacuation of flood victims. Relief and health services were provided and maintained during and after the flood. The various international organizations and communities also provided relief and aid. Responding to a request for assistance from China, the Bank Group mounted an emergency recovery operation to assist in the restoration and reconstruction of infrastructure and social service facilities damaged by the flood so as to restore economic production and social services, thereby provide more long-term and permanent benefits than the temporary relief and aid provided by other international agencies.

*Project Objectives.* The primary objective was to assist in the restoration of social and economic infrastructure damaged by the devastating flood in Hubei, Hunan and Jiangxi provinces, thereby, rapidly restoring economic production and social services. Priorities were given to restoration and reconstruction of water supply and health facilities to prevent spread of diseases after the floods, primary and secondary schools for students to continue their studies and roads to restore key access to flooded areas so as to resume economic activities.

*Evaluation of Objectives:* The project objectives were very relevant and well-targeted in meeting the urgent needs of a large number of flood victims after the flood. The Bank Group involvement in the project has accelerated the restoration of economic and social activities through the rebuilding of water supply systems, roads, schools, health centers and irrigation works. The project was consistent with the Bank Group's CAS for China (Report No.1632) focusing on poverty alleviation and the reconstruction of essential infrastructure. Without the Bank Group assistance, many of the flood-affected counties and townships would have faced many and prolonged difficulties in the after-flood rehabilitation. Large number of flood victims would be deprived of their social services and economic production means for quite a while.

#### **3.2 Revised Objective:**

There was no revision of the project objectives throughout the project implementation period.

#### **3.3 Original Components:**

The Yangtze Flood Emergency Rehabilitation Project supported emergency reconstruction, repair and rehabilitation programs to be carried out in Hubei, Hunan and Jiangxi Provinces. The components and

costs were as follows:

- a) *Roads*: Restoration and reconstruction of 84 county and rural roads totaling 945 km (\$49.4 million);
- b) *Water Supply*: Restoration and reconstruction of 55 damaged county and township water supply systems, serving a total population of about 2.5 million people (\$30.2 million);
- c) *Schools*: Restoration and reconstruction of 199 county and township secondary and primary schools serving a total student population of about 222,540 (\$18.8 million);
- d) *Hospitals and Clinics*: Reconstruction and restoration of 143 county and township hospitals, health centers and clinics, serving a total population of about 4.0 million people (\$16.1 million);
- e) *Irrigation*: Restoring 18 irrigation areas covering a total of about 44,200 hectares (\$7.5 million); and
- f) *Studies and Technical Assistance*: Provision for each province to upgrade existing or develop flood forecasting, simulation and dispatch systems, taking into account the recent flood experiences (\$1.3 million).

*Assessment of Design*: The scope and components were carefully studied and selected by the government and the Bank Group as the most deserving in view of the great demands for assistance from so many sectors and sub-sectors. The components of the project were appropriate to meet the objectives of the project, and were clear and in line with other Bank Group emergency operations and in China and similar projects in other countries. As this was the Bank Group first flood emergency rehabilitation project in China, the project design could only take into account lessons learned from other emergency earthquake relief interventions in China such as: (a) sub-projects should be simple and suitable for rapid implementation; (b) the need for local government support and participation in project implementation; and (c) the benefits of using "fast track" project processing by the Bank Group.

As flooding was most severe around the Dongting Lake in Hunan and the Poyang Lake in Jiangxi, both the provinces targeted the badly affected counties in both the lake areas. Hubei had more widespread flooding and the project counties were scattered over the province. Due to limitation of Bank Loan and Credit and inexperience of many counties in Bank-supported project implementation, the number of project counties and sub-projects in each province was limited to a manageable size with priority given to those which fit best in the selection criteria agreed with the Borrower - urgency of needs, large number of beneficiaries served, optimum costs and capable of being implemented promptly (See Project Agreement: Schedule 2 Section 3 (a) (i)).

#### 3.4 Revised Components:

There was no revision of the project components except for the Studies and Technical Assistance component which was deleted during the Mid-Term Review (MTR). The provision for the studies in each province was too limited for any meaningful studies to be carried out for the flood forecasting, simulation and dispatch systems. The funds were reallocated to the other components that have more pressing demands for sub-projects. However, Jiangxi and Hunan did carry out the two flood management studies using the funds from the UK Grant (TF021759) during the project implementation.

### 3.5 *Quality at Entry:*

There was no Quality at Entry assessment or QAG analysis during the course of the project implementation. However, the entry quality was considered to be adequate and satisfactory as all sub-projects proposed were screened and reviewed by the PMOs at each level (county, prefecture/city and province) according to a set of criteria agreed between the Bank Group and the government. To ensure quality at entry the Bank Group also reviewed samples of the representative sub-project proposals in each province and agreed on the format and key contents of proposals as well as approval procedures.

In addition, qualified design offices and institutions at the city, provincial and national levels, depending on the value and complexity of the works and building, undertook engineering designs for works and building. Buildings for schools and health facilities were made more resilient to flooding by relocating to higher grounds and designed to higher construction standards. New schools were built according to the Education Commission's plan for the locality and approved by the County Education Commission. Roads were made more flood-tolerant and all-weather with either concrete or macadam tarred surface.

## 4. Achievement of Objective and Outputs

### 4.1 *Outcome/achievement of objective:*

The project achieved its objectives and reached or exceeded its expected outcome. Therefore, the project is **rated satisfactory**. The project's main objective of restoring essential facilities and services and economic production was achieved in a rapid and consistent manner. Out of the total 521 sub-projects, 448 sub-projects (85%) were completed within the first two years and 160 sub-projects (31%) within the first year of implementation. The completed sub-projects restored the social services and economic production within the shortest possible time after the flood. The new facilities were made more flood resilient and also designed to meet the near-term expansion needs (e.g. schools and water supply systems). The project benefited a total of 9.1 million people and was fully appreciated and highly valued by the local governments and the general public in the project area.

### 4.2 *Outputs by components:*

*Roads:* The road component has fully achieved its targets with good performance. A total of 835 km of provincial and county roads were completed under 101 sub-projects compared to 946 km under 84 sub-projects at appraisal. The number of sub-projects and road length were reviewed and adjusted during the mid-term review, taking into consideration the actual needs and justifications. The number of road sub-projects was reduced by 2 in Hubei and 5 in Hunan, and increased by 24 in Jiangxi, resulting in a net reduction of about 110 km in length. Two major bridges were also added for Hunan. One of the two major bridges, Maojiacha Bridge in Hunan, is being delayed due to funding constraint and unexpected high water level conditions encountered during construction. Completion is expected by the end of 2002. Assurance has been obtained from Hunan government to complete the bridge as designed. These completed roads cater to traffic volume of some 69,250 vehicles/day and provide flood-proof and all weather access to flood-prone areas for evacuation and flood relief of flood victims. The improved road access and traffic capacity also facilitate transportation of inputs and outputs of rural and agricultural produce, thereby contributing to a more efficient rural economy.

*Water Supply:* A total of 42 sub-projects have been completed on time, out of the original planned 55 sub-projects (44 sub-projects under Mid-Term Review). Twelve small plants were deleted in Jiangxi as they were completed with other sources of funding. The major water supply plant at ShiShou City of Hubei Province was completed late due to lack of counterpart funding and technical problems

encountered in the construction of the twin pipe intake located on the southern bank of the Yangtze River. The completed sub-projects serve a total of 2.54 million people in 35 counties and 73 townships with clean drinking water.

*Schools:* The education component is highly successful and fully appreciated by the local people. A total of 215 secondary and primary schools were built compared to 199 proposed at appraisal, with the biggest share of 145 in Jiangxi province. The total built-up area was 307,000 m<sup>2</sup> compared to 293,000 m<sup>2</sup> estimated at appraisal, serving about 213,000 students (222,540 estimated at appraisal). The school buildings were designed and constructed according to the Education Commission plan and standards, and made more flood resilient by locating buildings on sites less prone to flooding. Most of the schools also included provision for near-term capacity expansion. These newly constructed schools have largely solved the urgent problems of over-crowding at schools accommodating students from flooded areas as well as students attending classes under temporary tents and shelters. The new schools, complete with ancillary facilities, provide better teaching and studying environment for higher standards of education for the local areas concerned. Many of these new schools also received student desk-chair sets and other educational materials donated by the United Kingdom (TF-021759) and other domestic and overseas donors.

*Health:* This component, comprising county and township hospitals and health clinics, is also satisfactorily completed. A total of 142 sub-projects were completed with adjustments made at Mid-term review in contrast to the 143 planned at appraisal. The completed health facilities serve a total population of about 5.9 million people compared to 4.1 million estimated at appraisal. These new facilities replacing the old ones damaged or destroyed by the flood, and those rehabilitated provide better health services to a larger rural population. Some of these facilities completed in poor counties also received health equipment donated by the United Kingdom (TF-021759).

*Irrigation:* This sole component in Hubei Province covers 21 sub-projects in 18 irrigation areas for irrigation and drainage facility rehabilitation. It was fully completed and achieved its designed targets. Irrigation and drainage facilities were restored or rehabilitated to command some 44,000 ha of irrigated farmland benefiting some 442,000 farmers. Production was resumed as soon as each sub-project was completed, thereby ensuring the economic well being of the people affected.

*Overall Project:* Under the project a total of 521 sub-projects were completed successfully in comparison with the 497 planned at appraisal. The overall performance is rated as satisfactory, judging by the reaction and appreciation of the targeted beneficiaries as well as the key performance indicators. Annex 1 shows the outcome and output for each component.

#### 4.3 *Net Present Value/Economic rate of return:*

As an emergency recovery operation there was no economic rate of return (ERR) determined at appraisal and project completion. However, the project has a significant positive impact on beneficiaries deriving from the recovery and rehabilitation works completed. The project is estimated to have directly benefited some 9.1 million people in the three provinces. (See Annex 3 for more details).

#### 4.4 *Financial rate of return:*

This is not required for an emergency recovery operation.

#### 4.5 *Institutional development impact:*

Although institutional development was not included as an objective in this emergency operation, there was considerable institutional impact spin-off. Exposure and participation of project counties with no

prior experience of Bank-supported projects were provided with opportunity of acquiring valuable project implementation and management skills, and capability building. Project staff at all levels benefited from training in various aspects of project management – planning, supervision, monitoring and evaluation, procurement, financial management, and computer applications, etc. The training received by the project staff amounts to a total of 38,097 man-days in the three provinces. Project staff from the three provinces also visited the project management offices of Yunnan Earthquake Rehabilitation Project and Hebei Earthquake Rehabilitation Project to exchange experiences in project implementation. Due to the experiences and skills acquired, quite a number of these county project staff have now been promoted to higher positions with greater responsibilities. Through interactions with the Bank Group staff and consultants, county agencies were able to acquire many new technologies for designing and operating their facilities constructed under the project, especially for the water supply systems and roads. The Studies and Technical Assistance component to upgrade/develop a flood forecasting, simulation and dispatching system in each province had to be omitted due to the fact that the very limited funds allocated at appraisal were not adequate for any meaningful studies to be carried out. Otherwise, the technical capacity in flood management of each province would have been strengthened to a larger extent. Overall, the institutional development impact is rated as moderate.

## **5. Major Factors Affecting Implementation and Outcome**

### *5.1 Factors outside the control of government or implementing agency:*

There are essentially no major factors outside the control of government or implementing agency that affected implementation. Macro-economic factors (inflation, foreign exchange fluctuation, etc) have hardly affected the project as the implementation period was relatively short at three years and the project required very little imported equipment and materials. Weather was also quite favorable for project implementation except for some flooding encountered in 1999 and 2002 in Hunan Province.

### *5.2 Factors generally subject to government control:*

One of the most positive factors contributing to the project success was the firm commitment to the project by the governments at all levels and the end-users reflected by the efforts they made in raising the required counterpart funds for the project. The Project Leading Groups (PLGs) and Project Management Offices (PMOs) at all levels were rapidly established with good coordination and functioned effectively. Active participation by local government leadership with good knowledge of the local priority needs has greatly facilitated quick sub-projects selection and their smooth implementation. This was important because the demand for assistance far exceeded the Bank funds available. Project counties were required to bear the project overhead costs of supervision and management, which posed extra financial burden on the counties already impoverished by the flood damages. Ideally, the provincial government should have provided some financial assistance to those counties concerned.

### *5.3 Factors generally subject to implementing agency control:*

The project was fortunate to have a Provincial PMO in each province that has prior experience with implementation of Bank-supported projects. After the project identification, the Provincial PMOs promptly organized PMOs at the city/prefecture and county levels for project preparation and implementation. Many of the city/prefecture and county PMOs were new to Bank-supported projects and the Provincial PMOs organized a series of training sessions for them in procurement, disbursement, project supervision and financial management. Written manuals were also issued to project staff to guide their operations. After an initial setback on procurement and disbursement, all PMOs were able to operate effectively with further training on procurement and disbursement. Project supervision and management at the county level was progressively improved to achieve the desired results. Furthermore, the project was managed by the World Bank Office in Beijing instead of the

Washington Head Office. The PMOs were thus able to keep frequent contact with the Task Manager in Beijing Office. The close coordination and continuous dialogue had a positive impact on the project, as they helped in solving quickly project implementation problems faced by the Provincial PMOs and also enabled the Bank to monitor closely the project progress. Project expenditures were rapidly processed by each Provincial PMO and submitted to World Bank Beijing Office for timely disbursement. The timely disbursement of project funds aided fast flow of funds to the project counties that had made advance payments for the works completed.

A Mid-term Review of the sub-projects was carried out in January 2000 in the three provinces. Consequently some sub-projects were deleted either because they had been completed with other funds, or because they were found to be less viable, or the timing of implementing some sub-projects could not fit with the Bank procurement process, or project owners were unable to raise the required counterpart funds. Those deleted sub-projects were substituted with other new sub-projects, including some major roads and bridges, especially in Hunan and Hubei Provinces. At hindsight, these larger sub-projects, though equally essential and pressing, should have been funded through other appropriate sources. They were more complex and time-consuming in preparation, design, procurement and construction. The funds provided for these larger sub-projects would have better served smaller sub-projects, producing benefits to the local people more rapidly.

Another factor which once affected adversely project implementation was awarding contracts, in several cases, at unduly low bid prices, which ultimately led to some contractors' poor performance and implementation delay. Unexpected site conditions encountered and consequent changes of design by the owner without due compensation to contractors also delayed project when contracts were terminated.

#### 5.4 Costs and financing:

The total project costs were estimated at US\$132.5 million at appraisal, US\$137.8 million at the mid-term review and US\$140.8 million at project completion. The increase/decrease in cost in each province was mainly for the local cost component. The table below summarizes the total costs (unit: US\$ million) in each province at appraisal, mid-term review and completion. The total project costs by components are shown in Annex 2.

Comp.	At Appraisal			Mid-term Review			At Completion			% of Appr
	Local	W. Bank	Total	Local	W. Bank	Total	Local	W. Bank	Total	
Roads	17.02	32.42	49.44	21.08	31.95	53.03	22.40	32.41	54.81	111
Water Supply	11.99	18.27	30.27	11.80	17.50	29.30	11.91	17.56	29.47	97
School	6.36	12.32	18.68	7.78	13.27	21.04	7.74	13.03	20.77	111
Health	5.30	10.78	16.08	7.38	11.86	19.24	7.76	11.83	19.59	122
Irrigation	2.45	5.02	7.47	2.81	4.87	7.68	2.90	4.87	7.76	104
TA	0.50	0.80	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0
Others	8.84	0.00	8.84	0.00	7.25	7.25	8.15	0.00	8.15	92
1% Fee	0.00	0.40	0.40	0.00	0.40	0.40	0.00	0.40	0.40	100
Total	52.48	80.00	132.48	58.09	79.71	137.80	60.68	79.96	140.82	106

Financing of the project at appraisal and completion is summarized below:

Source of Financing	At Appraisal		At Completion	
	Amount (\$million)	Percent of Total	Amount (\$million)	Percent of Total
Hubei Province	18.80	14.40	20.05	14.20
Hunan Province	18.60	14.40	26.38	18.70
Jiangxi Province	15.10	11.30	14.44	10.30
Sub-total	52.50	39.70	60.87	43.20
Bank/IDA	80.00	60.40	79.97	56.80
<b>Total</b>	<b>132.50</b>	<b>100.00</b>	<b>140.84</b>	

## 6. Sustainability

### 6.1 Rationale for sustainability rating:

Sustainability of the project is rated as **highly likely**. The rationale is as follows:

(a) The project components have been completed with sound designs and good quality of construction. Both the design and construction standards are generally higher than the original works or facilities. This would assure long-lasting durability of the project works and their sustainable use by the end-users.

(b) The sub-projects built under the project are mostly to replace those facilities destroyed or damaged by the 1998 flood and provisions for their operation and maintenance already exist including financial and human resources. Because the works and facilities were needed urgently, the end-users have taken them over for operation and maintenance as soon as they were completed. Their continued operation and maintenance is assured institutionally, as the end-users are either existing local government entities or public service agencies providing the basic services to the local people. Reasonable service fees are levied by the end-users to meet operation and maintenance costs. For those non-profit making facilities such as school buildings, the city/county governments concerned will include the funds needed for operating and maintaining those facilities in their annual budgets. The Bank supervision and ICR missions visited many of those completed sub-projects and found their O & M had been satisfactory.

(c) Moreover, both the central and the provincial governments have committed to very firm policy supports and strategies for flood protection of these three provinces. Massive investment in strengthening the Yangtze River dikes in the three provinces is currently underway, using the state bonds and the World Bank loan of US\$210 million under the Yangtze River Dikes Strengthening Project (Loan No. 4570-CHA). Works and facilities completed under this emergency operation will be protected and secured for long-term operation.

(d) Although the project has been completed and the loan/credit closed, the respective Provincial PMOs will be maintained for a certain period, at least with some core staff, to monitor the post-project operation and performance of the completed works and facilities. The Provincial PMOs would address any post-operation problems and/or sustainability issues accordingly.

### 6.2 Transition arrangement to regular operations:

The buildings reconstructed or rehabilitated under the schools and health components were immediately handed over to the local agencies that were previously operating them. The Bank Group supervision and ICR missions had visited some of these completed buildings and were satisfied with their operation

and maintenance. Reasonable service fees were levied by the end-users to meet operation and maintenance costs for most project facilities. Some of the schools and health facilities also benefited from the materials and equipment donated by the United Kingdom through the U.K. Grant (TF-021759) and other in-country and overseas donors. Similarly, roads, water supply and irrigation systems were construction-managed by the existing operating local agencies and taken over for operation and maintenance after official acceptance. Therefore, there was no need for transitional arrangements to be made for regular operation.

## **7. Bank and Borrower Performance**

### **Bank**

#### ***7.1 Lending:***

Bank performance in **identification** is rated **satisfactory**. In response to the Government request for assistance following the 1998 catastrophic flood, the Bank Group mounted an identification/preparation mission from the Beijing Office to prepare a project under emergency recovery lending (ERL). The Bank mission visited the three provinces and explained to each province the objectives, features and provisions of an ERL. The Bank mission also visited some of the flooded counties to assess the needs. Proposals from each province varied considerably with respect to project scale, components and sectors. Following the Bank policy and procedures for preparing ERL, the Bank mission reached agreement with each province on four or five components (roads, water supply, schools, health facilities and irrigation) with the prime objectives of restoring social services and economic production. Relief, aid and housing assistance to flood victims were excluded as domestic funds were available and were more suitable for such purposes. The project counties were also limited to the most deserving ones, with focus on those in the Dongting Lake (Hunan) and the Poyang Lake (Jiangxi) areas. As flooding in Hubei Province was more widespread, the counties targeted were more spread out. The Bank Group ERL of US\$80 million (50% IBRD Loan and 50% IDA Credit) was more or less equally shared among the three provinces. To ease counterpart funding of the project counties, Bank funded about 60% of the total cost, mostly to finance the civil works. To ensure early start of the project the Bank mission agreed to, after assessment, provide retroactive financing of civil works up to \$16 million (20% of the loan/credit amount) for eligible expenditures incurred from the date of the identification mission to signing of the Loan/Credit. The final ERL package was consistent with both the Bank CAS for China and the government priorities of starting restoration of basic services and infrastructure before the following winter.

Bank Group performance in **preparation and appraisal** is also rated **satisfactory**. The Bank Group attached great importance and urgency to this emergency operation. A preparation mission was sent to the field within one month after the identification mission. Guidelines and tables were provided by the preparation mission to each province to facilitate their project preparation. Before the appraisal mission in mid-November 1998 each province was invited to Beijing Office for discussion of their draft project proposals. This facilitated the smooth and quick appraisal held in November. The appraisal mission included, in addition to the Bank staff from the Beijing Office, local consultant specialists in roads, water supply, education and health services. Detailed consultation with the stakeholders was carried out throughout project preparation and appraisal to address the urgent needs and priorities of the government in the light of the Bank CAS objectives. To speed up project processing, project negotiations with the government were held in Beijing Office in early December 1998. The ERL package was prepared and delivered within the required time frame of three months.

Of particular importance was the flexible approach adopted by the Bank in fulfilling its procurement requirements in view of the emergency nature of the project, and small and scattered numerous

sub-projects to be implemented within a 3-year period. Most of the small civil works were procured through national shopping with the upper ceiling raised to US\$1.0 million prior to September 1, 1999 (US\$300,000 thereafter). Larger civil works were procured through national competitive bidding with ceiling raised to US\$5.0 million. The national shopping method with relaxed ceiling enabled large number of qualified local contractors to take part in the bidding. These concessions have led to rapid implementation of sub-projects as reflected in completion of 160 sub-projects (31%) by the end of 1999 and 448 sub-projects (85%) by the end of 2000. Appropriate legal covenants had also facilitated project implementation. The appraisal mission had also considered the applicability of Bank safeguard policies and found that these policies were not applicable to this emergency recovery operation, except for the policy on resettlement. As the project works and facilities were mostly replacing the existing ones damaged or destroyed by the flood, the resettlement was considered insignificant. Nevertheless, agreement was reached with the government to include a policy framework for land acquisition and resettlement. This policy framework was reviewed and approved by the Bank Group and was followed in screening the sub-projects proposed by different project counties.

### *7.2 Supervision:*

The Bank Group performance in **supervision** is rated **satisfactory**. The project was supervised at roughly 6-month intervals and seven times in all over the 3-year period. Each mission lasted 4 to 5 days in each province and paid site visits to selected project counties in turn. Due to the large number of counties and sub-projects, it was physically impossible for the supervision missions to visit every county every time in the three provinces. Whenever possible, the mission invited all the county PMOs to meet and brief the mission and discuss any existing issues, thereby was always well-informed of the implementation status of all sub-projects. At the end of each mission, the supervision mission left an aide memoir for the Provincial PMO to follow up on the issues identified with the mission's recommendations. The mission aide memoirs were translated by Provincial PMOs and quickly disseminated to PMOs at the lower levels. All PMOs appreciated very much the supervision mission aide memoirs and paid much attention to the issues and recommendations contained therein. These written aide memoirs also served as important supporting documents for the Provincial PMOs to request advice/decision from their respective government authorities.

In order to track implementation progress, each Provincial PMO was required to prepare and submit to the Bank half-yearly physical and financial progress reports together with the performance indicators based on the formats designed by the Task Team. These reports were reviewed prior to and during the supervision missions. To monitor completion of each individual sub-projects, the supervision mission designed and provided to the PMOs a special sub-project completion sheet for completion acceptance. These simple completion reports were reviewed by City and Provincial PMOs before submitting to the Bank Group. The Bank supervision missions and ICR mission had sample-reviewed the sub-project completion reports and found them generally satisfactory and consistent with the physical outcomes.

The project was managed from Beijing Office. This led to very effective and close communications between the three Provincial PMOs and the Bank task team. Many implementation problems were quickly and effectively resolved, sometimes just through telephone and facsimile communications. Provincial PMOs were also encouraged to meet the Task Manager in person for complicated issues. Supervision documents such as post-mission letters, aide memoirs, and project status reports, were adequately prepared and maintained. Project status reports gave realistic and consistent performance ratings throughout implementation.

### *7.3 Overall Bank performance:*

The Bank Group **overall performance** is rated **satisfactory**. The Bank Group responded promptly to

the Borrower's request, adequately prepared and timely appraised the project under ERL, and obtained Board approval within the set timeframe. It undertook effective supervision and maintained close interaction with the client, which contributed to smooth and successful project implementation. The three Provincial PMOs have commended the highly satisfactory overall performance by the Bank.

### **Borrower**

#### ***7.4 Preparation:***

The Borrower performance in project **preparation** is rated **satisfactory**. As soon as the Government had a clear picture of the extent of damage and the recovery and rehabilitation required, following several months of extremely challenging flood-fighting, it promptly requested the Bank Group for assistance. The Central Government through the State Development & Planning Commission and the Ministry of Finance provided guidelines on project objectives and scope for the three provinces to follow in drawing up project proposals for the Bank identification mission. As the project was the first ERL for each province, initial proposals and scope of project varied considerably among the three provinces. However, the three provincial governments were receptive to the Bank identification mission views and suggestions, and soon reached a consensus on project scope and contents. Based on the agreed project objectives and scope, each provincial government mobilized resources at the provincial, city/prefecture and county levels to identify and screen sub-projects for Bank financing. That was not an easy task as flood damages were so extensive that there was a fierce competition for funding. The first set of draft sub-project proposals together with the cost estimates from each province were submitted to the Bank within one month after the initial project identification. After review by the Bank Group, each provincial government revised the draft proposals and submitted them for appraisal by the Bank Group in November. Considering the time constraint and urgency of the project, the government had performed very well in preparing the project.

#### ***7.5 Government implementation performance:***

The Government performance in **implementation** is rated as **satisfactory**. Following project appraisal, each province established project leading groups (PLGs) at the provincial, prefecture/city and county levels. The Provincial PLG was headed by the Vice Governor in-charge of planning and finance. Project implementation management responsibility was assigned to the Provincial Planning Commission in Hubei and Jiangxi, and to the Finance Bureau in Hunan. The key role played by the provincial governments was policy guidance to the implementing agencies, effective inter-agency coordination, adequate and timely counterpart fund allocation, and prompt approval of staffing for the PMOs.

The only area where Government performance could have been better was with respect to on-lending agreements between the central government and the three provincial governments. Protracted signing of the on-lending agreements led to delay in Loan/Credit effectiveness by almost a month beyond the normal norm of 90 days after project approval. However, the delay did not significantly affect the project physical implementation but affected disbursement.

#### ***7.6 Implementing Agency:***

The **performance of the implementing agency** in each of the three provinces is rated **satisfactory**. The three provincial PMOs, with prior experiences of World Bank projects, played a critical role in ensuring successful completion of the project within the three-year period. They provided guidance to the PMOs at prefecture/city and county levels, organized training of project staff and monitored implementation of the sub-projects in accordance with the legal agreements. The PMOs at all the levels collaborated very well in project implementation. This was reflected by the completion of 160

sub-projects in 1999, 288 in 2000 well ahead of the planned schedule.

The provincial PMOs kept close and regular contact with the Task Manager in Beijing Office. Physical and financial progress reports of good quality were prepared and submitted to the Bank regularly and on time. Excellent arrangements were made for the Bank Group supervision missions to visit as many project counties as possible. The management letters and supervision mission aide memoirs from the Bank were taken seriously and disseminated to all the PMOs for necessary follow-up actions. This has helped in keeping implementation issues and problems to the minimum.

The provincial PMOs set strict rules on the procurement of works and goods by the city/prefecture and county PMOs. Procurement of small civil works was mainly through national shopping with at least three price quotations. Procurement was done generally in accordance with the Bank procurement guidelines. However, there were initially a few cases where some county PMOs used the local procedures of bracketing for contract awarding. The Bank supervision mission spotted them and had the PMOs concerned abandon this practice through further further procurement training. Disbursement for a few sub-projects was rejected for not fully complying with the Bank requirements. Initially, there were complaints of slow disbursement from the city and county PMOs. This was mainly due to the lack of experience with disbursement procedures by the county PMOs, incomplete supporting documents, strict processing of disbursement applications by the provincial PMOs, and lack of staff to process large number of disbursement applications accumulated prior to effectiveness of the loan/credit. Disbursement was also withheld until the project counties had signed the on-lending agreements with the provincial PMOs. This has caused cash flow constraint to some project counties and slowed down their project implementation. The situation was progressively improved from the later part of 1999 onwards after further training of county project staff on the disbursement processes. The actual versus planned cumulative disbursement is summarized below:

Cumulative Disbursement: Planned Vs. Actual ( unit: \$ million)

Calendar Year	1999	2000	2001	2002
Planned in SAR	44.40	71.20	80.00	80.00
Actual	28.34	60.61	77.87	80.00
Actual/Planned (%)	64	85	97	100

Construction quality was generally good though it varied among different counties. There were no major structural defects other than some building finishing works, which were remedied before the works were accepted by the entities. Due to some recent engineering work failures in the country from defective designs and materials used and poor supervision, the government had imposed strict quality control and introduced a system of life-long accountability upon those responsible for the works. Conscious of the accountability system, county PMOs have their sub-projects designed by qualified design offices or institutions, construction materials at site checked by the County Material Quality Checking Station, and construction supervised by qualified independent supervising engineers. This ensured that all sub-projects were constructed to the design standard and quality.

Project management under the guidance of the provincial PMOs was generally adequate and effective. Project staff at all levels was, in general, dedicated, competent and adequately maintained. Changes of

staff were minimum and so continuity was maintained throughout the implementation period. Progress reporting, including the monitoring and evaluation of performance and impact, by the three provincial PMOs was of good quality and timely. This reflects the effectiveness and competence of the provincial PMOs in project management. Financial control and management were in accordance with the internal control procedures laid down by the Ministry of Finance. The State Audit Bureau audited project accounts in each province annually. Unqualified audit reports were submitted on time to the Bank Group with minor observations on financial administration. Legal covenants in the Development Credit Agreement were fully complied with or complied without any significant deviations.

#### 7.7 Overall Borrower performance:

Based on the above the Borrower **overall performance** is rated as **satisfactory**. Both the governments and PMOs at all levels were fully committed to achieving the project objectives during project implementation. Despite some initial setback at the project startup, the project has been successfully completed within the three-year period.

### 8. Lessons Learned

Key lessons learned from the project preparation and implementation of the project include:

*Replicability of Experiences:* The project was successfully completed, having achieved the designed objectives, physical targets and benefits. The project scope, components and sub-projects chosen were appropriate and benefited a large number of flood victims in the post-flood recovery and rehabilitation. Valuable experiences and lessons were learned in the project preparation and supervision. Processing and implementing the project under an emergency recovery lending following a "fast track" within three to four years, proved to be realistic and achievable. The practice of this project could be replicated for similar projects in future, if needed, in China and elsewhere.

*Appropriate Sizing of Sub-projects:* In selecting sub-projects from hundreds proposed, more attention should be paid to the size of each sub-project. A few of the sub-projects included in the mid-term review (roads, bridges, water supply systems) were comparatively large and their implementation was less satisfactory due to work complexity and longer time required in project preparation, design, procurement and construction. These larger sub-projects also faced counterpart-funding constraints when there was a cost overrun. On the other hand, too small a sub-project required similar amounts of time and effort in preparation, thereby increased the workload of PMOs in their supervision and management. A large sub-project should not exceed US\$2.0 million in cost and be capable of being completed within 12 to 18 months. This would ensure that benefit targets be achieved within the shortest possible period. In particular, education sub-projects should be reviewed in the light of the development plans of the local government authorities to avoid excessive capacity expansion, leading to under-utilization and waste.

*Procurement Requirements Relaxed:* As an emergency recovery operation, normal Bank procurement requirements have been somewhat relaxed to speed up the procurement process. As most of sub-projects consisted of small and simple civil works, national shopping method was widely used with raised upper ceiling (US\$1.0 million prior to September 1, 1999 and US\$300,000 thereafter). For the few larger sub-projects, national competitive bidding was used for contracts of values up to US\$5.0 million, using the Chinese Model Bidding Document for Procurement of Works developed by the Ministry of Finance for Bank-financed projects in China. The flexible approach adopted in handling procurement, together with a sizeable amount of retroactively financed works started after the Bank identification mission, had facilitated the project to be carried out effectively and quickly. This is an

important lesson learned and could be extended to other emergency projects.

*Adequate and Timely Provision of Counterpart Fund Critical:* Adequate and timely allocation of counterpart funds is critical for smooth project implementation. Promise and assurance of counterpart fund availability are not good enough. Required funds should be included in the annual budgets of the responsible agencies and timely allocated in adequate amount. Counterpart funding constraints had led to project counties dropping some sub-projects selected for implementation. A point in case was the Poyang County in Jiangxi Province where several sub-projects had to be cancelled and the corresponding Bank funds reallocated to some other sub-projects. This was because under the principle of "the beneficiary pays" the provincial governments were reluctant to assist those counties which were unable to raise the required counterpart funds and to service the Bank loan/credit.

*More IDA Credit and Optimum Use:* The project lending was a blend of 50% IBRD Loan and 50% IDA Credit. Many of the project counties were impoverished by the floods and faced serious financial constraints in undertaking the recovery and rehabilitation. A larger percentage of the concessionary IDA Credit would be of great help to those poor counties. Moreover, IDA Credit should preferably be used for non-revenue generating sub-projects like flood protection works, schools and health services. IBRD loan should be used for roads and water supply works for which fees can be collected for loan servicing.

*Active Participation and Effective Coordination:* The project contained many sub-projects under different sectors and spread over a great number of counties in each province. Without the active participation of the local governments and the end-users and effective inter-agency coordination, the project would not have been implemented as smoothly. Guidance and leadership provided by the experienced Provincial PMOs had also greatly facilitated the project implementation despite that many project counties and cities have no prior experience with World Bank projects. Active participation by local governments and end-users, and effective project management organization are therefore one of the key lessons learned from this project.

## **9. Partner Comments**

*(a) Borrower/implementing agency:*

### **1. Comments**

The following comments on the Bank draft ICR were received via a letter dated September 17, 2002 signed by Mr. Liu Zhaolin, PPMO Director, Hubei Province on behalf of the three provincial PMOs.

*We acknowledge the receipt of the draft ICR prepared by the World Bank task team dated June 20, 2002. We have carefully reviewed the draft in relation to the project appraisal documents and have the following comments:*

- *The Bank draft ICR fully reflects the true history of the project;*
- *It provides an objective and fair evaluation of the achievements and benefits of the project, as well as the experiences and lessons learnt from the project;*
- *With the joint efforts of the government and implementing agencies and the World Bank task team, all the project activities under different components have been completed successfully, with profound impact on the local social and economic development, and played an important role in*

*reducing the vulnerability to floods of the local people in the beneficiary areas;*

- *We would like to express our appreciation of help from the World Bank and the task team in the project preparation and implementation, and would definitely incorporate the experiences and lessons learnt into future project operations.*

*I hereby confirm that the above are the collective comments of all three project provinces.*

*Yours sincerely,*

*Liu Zhaolin  
PPMO Director, Hubei Province*

*On behalf of  
Hunan Provincial PMO  
Jiangxi Provincial PMO  
Hubei Provincial PMO*

## 2. Suggestions:

It is recommended that World Bank provide different types of funding for emergency projects in accordance with different projects. For projects that have repayment capabilities such as roads and water supply plants, IBRD loans are more appropriate. These revenue-earning sub-projects can pay for operation and maintenance and service loans through service fee collection. For sub-projects that do not generate revenues, such as middle or primary schools, which come under the national compulsory education system, the schools cannot collect high fees from students and are unable to service any loan. In fact, the loan would be repaid by government finance. Therefore, it is recommended that the World Bank provide soft loan (credit) for education sub-projects or that the repayment be handled at the central level. For county and township hospitals and health clinics, fees can be collected from patients, but rural economy lags behind the urban areas at present. Farmers' income is still low and cannot afford paying high costs of healthcare. Therefore, funding for rural healthcare sub-projects should be an appropriate blend of hard loan and credit. Using this kind of funding arrangements for different nature of sub-projects, it can not only help the Borrower to build infrastructures, but also guarantee repayment of the World Bank loan and credit.

It is further recommended that World Bank provide grants for project preparation. Following the flood disaster, the governments have to bear huge financial burden for flood relief and recovery of the flood victims. If the World Bank could provide some grant for project preparation, it would help reduce the government financial burden and accelerate project preparation work.

*(b) Cofinanciers:*

None

*(c) Other partners (NGOs/private sector):*

None

## 10. Additional Information

## Annex 1. Key Performance Indicators/Log Frame Matrix

### Outcome / Impact Indicators:

Indicator/Matrix	Projected in last PSR	Actual/Latest Estimate
<b>Roads:</b>		
1 No & total length of roads	84 roads/945 6 km	101 roads/836.2 km
2. Traffic volume catered	88,000 vehicles/day	69,250 vehicles/day
<b>Water Supply:</b>		
1. No. of water supply plants	55	42
2. Daily water supply production	1,130,000 tons/day	1,031,000 tons/day
3. No. of counties served	29	35
4. No. of townships served	62	73
5. No. of households served	686,000	662,000
6 Total population served	2.47 million people	2.54 million people
<b>Schools:</b>		
1. No. of primary schools	118	119
2 No. of secondary schools	81	96
3. Total student population served	222,540	213,000
<b>Health</b>		
1. No. of sub-projects completed	143	142
2. Total population served	4,079,000 people	5,899,000 people
<b>Irrigation.</b>		
1. No. of sub-projects completed	18	21
2. Total irrigation area served	44,200 ha	44,200 ha
3. Total drainage area served	38,000 ha	38,000 ha
4. Total no. of farmers served	442,000 farmers	442,000 farmers

Note: Column 2 refers to indicators at appraisal, Column 3 includes changes made under mid-term review in January 2000

### Output Indicators:

Indicator/Matrix	Projected in last PSR	Actual/Latest Estimate
<b>Road:</b>		
1 Total investment	426.7 million yuan	503.6 million yuan
2 Total length reconstructed	945 km	834.7 km
3. Bridges constructed	55	27
4. Road culverts constructed	915	1,149
<b>Water Supply.</b>		
1. Total investment	262.3 million yuan	253.4 million yuan
2. No. of water supply plants	55	42
3 Total daily water production	1,130,000 tons/day	1,031,000 tons/day
<b>Schools.</b>		
1. Total Investment	160 9 million yuan	178.8 million yuan
2 No. of secondary schools	81	96
3. Total built-up floor area	149,000 sq. m.	176,000 sq. m.
4. No. of primary schools	118	119
5 Total built-up floor area	143,500 sq m	128,800 sq. m.
<b>Health.</b>		
1. Total investment	141.1 million yuan	167.6 million yuan
2. Hospitals reconstructed	19	33
3. No. of health centers constr.	29	26
4. No. of health clinics constr.	96	83
5 Total built-up floor area	220,400 sq. m.	212,300 sq. m.
<b>Irrigation</b>		
1 Total investment	403.9 million yuan	501.8 million yuan
2 Total Irrigated areas reconstructed	44,200 ha	44,200 ha

<sup>1</sup> End of project

**Project Costs by Procurement Arrangements**

**A. At Appraisal (Estimates: US\$ million)**

Project Components	Procurement Methods <sup>a</sup>			Total Cost
	N.C.B.	Other <sup>b</sup>	N.B.F.	
1. Works/Buildings	32.5	81.5	0	114.0
	(20.5)	(51.6)	(0)	(72.1)
2. Goods	4.2	3.8	0	8.0
	(4.2)	(2.5)	(0)	(6.7)
3. Studies & TA	0	0.8	0.5	1.30
	(0)	(0.8)	(0)	(0.8)
4. Others	0	0	8.8	8.8
	(0)	(0)	(0)	(0)
5. 1% Front-end Fee	0	0.40	0	0.4
	(0)	(0)	(0)	(0.4)
<b>Total</b>	<b>36.7</b>	<b>86.5</b>	<b>9.3</b>	<b>132.5</b>
	(24.7)	(55.3)	(0)	(80.0)

<sup>a</sup>: Figures in parenthesis are the amounts to be financed by the Bank Loan. All costs include contingencies.

<sup>b</sup>: Includes civil works and goods to be procured through national shopping, consulting services, training, technical assistance services

**B. At Completion (Actual/Latest Estimates: US\$ million)**

Project Components	Procurement Methods <sup>a</sup>			Total Cost
	N.C.B.	Other <sup>b</sup>	N.B.F.	
1. Works/Buildings	39.91	93.07	0	132.98
	(25.69)	(48.74)	(0)	(74.43)
2. Goods	1.49	5.96	0	7.45
	((0.97)	(4.20)	(0)	(5.17)
3. Studies & TA	0	0	0	0
	(0)	(0)	(0)	(0)
4. Others	0	0	0	0
	(0)	(0)	(0)	(0)
5. 1% Upfront Fee	0	0	0	0.40
	(0)	(0)	(0)	(0.40)
<b>Total</b>	<b>41.4</b>	<b>99.42</b>	<b>0</b>	<b>140.83</b>
	(26.66)	(53.34)	(0)	(80.00)

<sup>a</sup>: Figures in parenthesis are the amounts to be financed by the Bank Loan. All costs include contingencies.

<sup>b</sup>: Includes civil works and goods to be procured through national shopping, consulting services, training, technical assistance services

## Annex 2. Project Costs and Financing

### 2A. Project Costs by Components

Project Cost by Component	Appraisal Estimate \$ million	Actual/Latest Estimate \$ million	Percentage of Appraisal (%)
<b>Roads</b>			
Hubei	8.7	7.33	84
Hunan	20.7	25.65	124
Jiangxi	20.0	21.77	108
<i>Sub-total</i>	49.4	54.75	111
<b>WaterSupply</b>			
Hubei	15.2	16.03	105
Hunan	9.3	8.65	93
Jiangxi	5.7	4.71	82
<i>Sub-total</i>	30.2	29.39	97
<b>Schools</b>			
Hubei	4.2	5.18	122
Hunan	6.6	6.44	100
Jiangxi	8.0	9.15	114
<i>Sub-total</i>	18.8	20.77	111
<b>Health</b>			
Hubei	7.2	10.60	145
Hunan	4.0	3.80	94
Jiangxi	4.9	5.19	107
<i>Sub-total</i>	16.1	19.59	122
<b>Irrigation</b>			
Hubei	7.5	7.76	103
Hunan	0.0	0.00	0
Jiangxi	0.0	0.00	0
<i>Sub-total</i>	7.5	7.76	103
<b>Studies/TA</b>			
Hubei	0.4	0.00	0
Hunan	0.5	0.00	0
Jiangxi	0.4	0.00	0
<i>Sub-total</i>	1.3	0.00	0
<b>Other\^a</b>			
Hubei	2.5	0.00	0
Hunan	4.1	8.15	200
Jiangxi	2.2	0.00	0
<i>Sub-total</i>	8.8	8.15	92
<b>1% Loan Fee</b>	0.4	0.4	100

<b>Total Project Cost</b>	132.5	140.82	106
<b>Total Financing Required</b>	132.5	140.82	106

*la: include land acquisition and compensation, engineering, design and project management costs.*

**2B. Project Financing by Component (in US\$ million equivalent)**

Component	Appraisal Estiamte			Actual/Latest Estimate			Percentage of Appraisal		
	Bank	Govt.	CoF	Bank	Govt.	CoF	Bank	Govt.	CoF
<b>Road</b>	32.42	17.02	0.00	32.41	22.34	0.00	100	131	0.00
<b>W. Supply</b>	18.27	12.00	0.00	17.48	11.92	0.00	96	99	0.00
<b>Education</b>	12.32	6.35	0.00	13.03	7.74	0.00	106	122	0.00
<b>Health</b>	10.78	5.30	0.00	11.83	7.76	0.00	110	146	0.00
<b>Irrigation</b>	5.02	2.45	0.00	4.87	2.90	0.00	97	118	0.00
<b>Studies</b>	0.80	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Others</b>	0.00	8.84	0.00	0.00	8.15	0.00	0.00	92	0.00
<b>1% Fee</b>	0.40	0.00	0.00	0.40	0.00	0.00	100	0.00	0.00
<b>Total</b>	80.00	52.34	0.00	80.00	60.81	0.00	100	116	0.00

*Note: Govt. above means provincial governments of Hubei, Hunan and Jiangxi*

### Annex 3. Economic Costs and Benefits

For this emergency recovery operation, no economic analysis was conducted at appraisal and project completion. However, the benefits are described below in terms of performance indicators as far as possible. The project was completed at a cost very close to the cost estimates at appraisal essentially with no cost overrun at the project level.

The completed project as a whole had benefited directly some nine million of beneficiaries in the three project provinces. The projected economic production means and social amenities had been rapidly restored through reconstruction and new construction of some 521 sub-projects of roads, water supply, schools, health and irrigation. The major benefits and impact are summarized below:

Sector/Item	Benefits	Results/Impacts
<b>Roads:</b>		
Total no. of roads restored and constructed	101 sub-projects	The 101 roads (province, city and county class), including two major bridges, were restored and/or constructed with higher standards. Roads were made more flood resilient through raising the height above flood level, concrete or bitumen surfacing with adequate thickness of base course. Some of the roads are also linked to local road networks. The completed roads had restored the vital road access for economic production and ensured access for future flood evacuation and relief.
Total length restored and constructed.	835 km including 27 bridges.	
Total no. of bridges	27 (two are major)	
Vehicle capacity	69,260 vehicles/day	
<b>Water Supply:</b>		
Total no. of plants restored and constructed	42 plants	A total of 42 county and township water supply plants had been completed, including a major plant at the Shishou City damaged by the 1998 flood. These plants served a total population of about 2.54 million people with clean water – a basic need for good public health. The equipment for these plants and their distribution pipelines were either replaced or upgraded to ensure long-term operation.
Total production capacity	1,031,000 tons/day	
Total no. of people served	2.54 million people in 35 counties, 73 townships and 662,000 households.	
<b>Schools:</b>		
Total no. of schools restored and constructed	215 primary and secondary schools	The 215 primary and secondary schools completed serve a total student population of about 213,000. Layout and designs of schools were in line with the local Education Commission requirements. The school capacity also take into account the near-term student population increase. School buildings are made more flood resilient by moving on higher grounds and being constructed with reinforced concrete frames instead of brick and mortar used in the past. These schools now have adequate educational facilities for a large number of students affected by the flood, especially in
Total student population served	213,000 students in the three provinces.	

		the rural areas. The new schools provide better teaching and study environments for teachers and students needed for higher standards of education.
<b>Health:</b>		
Total no. health facilities restored and constructed	142 county hospitals and township health centers	The 142 county hospitals and township health centers, built under the project, benefited a total of estimated 5.9 million people in the project area. The new buildings were constructed with higher standards to meet the increasing demand for better health services in the rural areas. The new facilities include out-patient clinics, additional in-patient beds, analytical laboratories and simple operation rooms.
Total built-up area	212,000 sq.m.	
Total population served	5.8 million estimated.	
<b>Irrigation:</b>		
Total no. of irrigation works restored and rehabilitated	21 subprojects in 18 irrigation areas	The 21 irrigation works, covering some 44,000 ha in 18 irrigation areas, benefited directly 442,000 farmers with their damaged irrigation and drainage facilities restored or rehabilitated. The project help them restore their agricultural production and ensured their economic recovery and well-being.
Total area restored and rehabilitated	44,000 ha	
Total no. of farmers benefited	442,000 farmers	
<b>Total no. of beneficiaries</b>	9,094,000 <sup>a</sup>	

<sup>a</sup>: Beneficiaries from road sector not determined and included.

One particular benefit worth special mentioning is the benefit derived from the two major bridges, Dahukou and Maojiacha Bridges, constructed in the Anxian and Li Counties of Hunan Province. These two bridges were included by Hunan Province during the Mid-Term Review in early 2000 after considering their importance and priority. They replaced the ferry services which could not be operated during flood, and linked up with the existing county roads. During the 1998 flood, some 111,380 people were trapped in the Guanyan Polder Area in Li County and the An Feng Polder Area in Anxian County for days without help and aid, and could not be evacuated for lack of road access. Therefore, the two bridges were regarded as "life-saving bridges" by the local communities. In addition, the two bridges together with the county roads would further promote development of local economy through better road access.

The Bank-financed sub-projects provided much financial relief to the poor counties and townships. They had already suffered huge economic losses due to the flood and it would be difficult for them to finance with their own resources the post-flood recovery and rehabilitation without external assistance. At best, it would take them years to rebuild the facilities. The Bank assistance was considered timely and highly appreciated by the local governments, the beneficiary communities and the general public.

#### Annex 4. Bank Inputs

(a) Missions:

Stage of Project Cycle	No. of Persons and Specialty (e.g. 2 Economists, 1 FMS, etc.)		Performance Rating		
	Month/Year	Count	Specialty	Implementation Progress	Development Objective
<b>Identification/Preparation</b>	Identification: 10/98	2	TM/SIE, AE		
	Preparation: 11/98	3	TM/SIE; WRS, E		
<b>Appraisal/Negotiation</b>	Appraisal: 11/14/98	3	TM/SIE, CA, AE		
	Negotiation: 12/18/98	6	TM/SIE, L, ES, PS, DS, TA		
<b>Supervision</b>	04/22/99	1	TM/SIE	S	S
	09/25/99	5	TM/SIE, ES, RS, HS, WSS	S	S
	05/28/00	2	TM/SIE, SWRS	S	S
	10/25/00	6	TM/SWRS, DS, WSS, ES, RS, HS	S	S
	04/21/01	6	TM/SWRS, WSS, HS, RS, ES, FFS	S	S
	11/22/01	6	TM/SWRS, E, IE, WSS, RS, FFS	S	S
	04/30/02	5	TM/SWRS, WRS, ES, HS, FFS	S	S
<b>ICR</b>	09/15/02		TM/SWRS; SIE		

AE = Agroeconomist

CA = Cost Analyst

DS = Disbursement Specialist

E = Economist

ES = Education Specialist

FFS = Flood Forecasting Specialist

HS = Health Specialist

PS = Procurement Specialist

RS = Road Specialist

SIE = Senior Irrigation Engineer

SWRS = Senior Water Resources Specialist

TA = Task Assistant

TM = Task Manager

WRS = Water Resources Specialist

WWS = Water Supply Specialist

(b) Staff:

Stage of Project Cycle	Actual/Latest Estimate	
	No. Staff weeks	US\$ ('000)
Identification/Preparation	10.4	40.1
Appraisal/Negotiation	16.4	21.8
Supervision	56.3	190.8
ICR	10.1	14.9
Total	93.2	267.6

## Annex 5. Ratings for Achievement of Objectives/Outputs of Components

(H=High, SU=Substantial, M=Modest, N=Negligible, NA=Not Applicable)

	<i>Rating</i>
<input type="checkbox"/> <i>Macro policies</i>	<input type="radio"/> H <input type="radio"/> SU <input type="radio"/> M <input type="radio"/> N <input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Sector Policies</i>	<input type="radio"/> H <input type="radio"/> SU <input type="radio"/> M <input type="radio"/> N <input checked="" type="radio"/> NA
<input checked="" type="checkbox"/> <i>Physical</i>	<input checked="" type="radio"/> H <input type="radio"/> SU <input type="radio"/> M <input type="radio"/> N <input type="radio"/> NA
<input type="checkbox"/> <i>Financial</i>	<input type="radio"/> H <input type="radio"/> SU <input type="radio"/> M <input type="radio"/> N <input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Institutional Development</i>	<input type="radio"/> H <input type="radio"/> SU <input checked="" type="radio"/> M <input type="radio"/> N <input type="radio"/> NA
<input type="checkbox"/> <i>Environmental</i>	<input type="radio"/> H <input type="radio"/> SU <input type="radio"/> M <input type="radio"/> N <input checked="" type="radio"/> NA
<i>Social</i>	
<input type="checkbox"/> <i>Poverty Reduction</i>	<input type="radio"/> H <input type="radio"/> SU <input type="radio"/> M <input type="radio"/> N <input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Gender</i>	<input type="radio"/> H <input type="radio"/> SU <input type="radio"/> M <input type="radio"/> N <input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Other (Please specify)</i>	<input type="radio"/> H <input type="radio"/> SU <input type="radio"/> M <input type="radio"/> N <input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Private sector development</i>	<input type="radio"/> H <input type="radio"/> SU <input type="radio"/> M <input type="radio"/> N <input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Public sector management</i>	<input type="radio"/> H <input type="radio"/> SU <input type="radio"/> M <input type="radio"/> N <input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Other (Please specify)</i>	<input type="radio"/> H <input type="radio"/> SU <input type="radio"/> M <input type="radio"/> N <input checked="" type="radio"/> NA

## Annex 6. Ratings of Bank and Borrower Performance

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HU=Highly Unsatisfactory)

### 6.1 Bank performance

*Rating*

*Lending*

HS  S  U  HU

*Supervision*

HS  S  U  HU

*Overall*

HS  S  U  HU

### 6.2 Borrower performance

*Rating*

*Preparation*

HS  S  U  HU

*Government implementation performance*

HS  S  U  HU

*Implementation agency performance*

HS  S  U  HU

*Overall*

HS  S  U  HU

## **Annex 7. List of Supporting Documents**

Memorandum of the President: Yangtze Flood Emergency Rehabilitation Project, Report No. P-7285-CHA, January 19, 1999

Technical Annex: Yangtze Flood Emergency Rehabilitation Project, Report No. T-7285-CHA, January 19, 1999

Bank Mission Aide Memoires: October 1998 - September 2002

Implementation Progress Reports by Hubei, Hunan and Jiangxi Provinces: 1999-2002

The Borrower's Implementation Completion Report, September, 2002

## **Additional Annex 8. Borrower's ICR Summary**

### **I. Background**

Widespread unprecedented rainstorms occurred during June and July 1998 in the main river systems of the Provinces of Hubei, Hunan and Jiangxi. At the same time, the biggest flood since 1954 occurred in the Yangtze River, causing catastrophic flood in the three provinces.

In Hunan, 14 prefectures/cities, 108 counties and 1438 townships/villages suffered from flood disaster of varying degrees. The flood affected some 28.8 million people and destroyed some 688,600 houses. The total direct economic losses for Hunan were estimated about 32.9 billion Yuan.

In Hubei, the flood affected some 36.52million people and 582 people and 0.27 million heads of livestock were killed. Crop areas affected were estimated at 38.1 million mu, with 27.96 million mu severely damaged and 8.83 million mu totally lost. Some 1.22 million houses collapsed and the flood damaged 2.93 million houses. The total grain loss was 4.86 billion kg, and cotton production was reduced by 3 million tons. The total direct economic losses of Hubei were estimated at 50 billion Yuan.

In Jiangxi, 79 counties,1329 villages and towns and 22.07 million people were affected with 193 people lost their lives due to the flood. Some 1.36 million houses were damaged and 1.23 million houses collapsed. Ten thousand km road and more than 5000 bridges were damaged. Agricultural crops affected were 19.16 million mu with 13 million mu totally lost. The total direct economic losses for Jiangxi were estimated at 38.46 billion Yuan.

After the flood, the Chinese Government requested the World Bank for assistance in rehabilitation and recovery of the flood affected areas.

### **II. Project Objectives and Description**

The primary objective of the project was to provide fund and technical assistance in the restoration of social and economic infrastructure (water supply, road, school, health facilities, irrigation) damaged by the devastating flood in Hubei, Hunan and Jiangxi provinces so as to restore the economic production and social services.

The project contents for each province are as follows:

- (i) Restoration and reconstruction of 30 water supply plants; 49 county and village road totaling 350.91 km; 133 county secondary and primary schools; and 93 all levels hospitals, health centres and clinics in Jiangxi province;
- (ii) Restoration and reconstruction of 7 water supply plants; 10 county and village roads totalling 129.71 km; 38 county secondary and primary schools; and 33 hospitals, health centres and clinics; 18 irrigation areas in Hubei province; and
- (iii) Restoration and reconstruction of 18 water supply plants; 25 county and village road totalling 465 km; 26 county secondary and primary schools; and 18 hospitals, health centres and clinics in Hunan Province

### **III. Assessment of Project Preparation and Project Implementation**

The World Bank had paid great attention in the efficient preparation of the project. From the identification, preparation to the appraisal, negotiation and loan signing, the World Bank had devoted much effort and manpower, so the quality of the preparation was high.

The three provinces attached importance to the project, and established the three-level project management groups with the province, city, county government leaders assuming leadership and included the Planning Commission, Finance Bureau and other relevant leaders. The groups determined the important matter of the project, coordinated the works between the implementing agencies. The groups set up the PMOs to be in charge of the day-to-day management of the project.

Each provincial PMOs, with the assistance of the Provincial Planning Commission, Provincial Finance Bureau, Provincial Education Commission, Provincial Health Bureau, Provincial Construction Bureau and the experts concerned, reviewed and screened the projects proposed by the project district, instituted the managing means and the standards for the project implementation. Thus, the quality of the preparation for the majority of the sub-projects was satisfactory.

**Evaluation of the Project Selection, Design and Implementation:** The implementation of the sub-projects restored rapidly the conditions of production and the livelihood of the people in the disaster areas, making the flood victims confronted with the desperate situation more confident and in seeing the hope to overcome the disaster. This has generated keen participation of the affected people in project designs and construction of the rehabilitation and recovery work

Few sub- projects were rebuilt and remedied according to the original design. Majority of the sub-project were designed according to the new standards. The design units involved in the project have appropriate design certificates issued by the State Construction Ministry. All the designs executed complied with the relevant design criterion and the trade regulations. All completed sub-projects have not shown any design deficiency or defects. The designs of sub-projects also took into consideration the short-term future needs. Thus, the capacity for of the road, water supply, school, hospitals and clinics sub-projects need not be enlarged within the next ten years. The design had fully considered the risk of future floods and how to avoid future damages.

#### **IV. Achievement of Project Objective**

The Yangtze Flood Emergency Rehabilitation Project had achieved the desired objective after three years of implementation, The infrastructure in the project areas destroyed by the 1998 flood have been restored and reconstructed, the production and livelihood of the victims had been restored, the damaged irrigation and drainage systems had been strengthened, the criterion of the flood control and drainage had been resumed and improved, the output of the agricultural production and the income of the farmer restored. The implementation of the project contributed much to the reconstruction work after the disaster, and bring new hope and opportunity to promote economy of the whole project district. The project not only relieves the victims from poverty, rebuild their homeland, but also lend support to the whole state economy construction and the social development.

The Yangtze Flood Emergency Rehabilitation Project was implemented very smoothly, achieving remarkable social benefits and impacts. These sub-projects performed well upon completion, restoring many infrastructures such as road, water supply, school and hospital, enabling the flood victims to rebuild their homeland and resume their normal production and livelihood.

The sub-projects successfully completed are as follows:

(a) Water Supply: Restoration and reconstruction of 42 damaged water supply systems with total daily water supply capacity of 1,031,000 tons/day, serving a total population of about 2.54 million people, and ensuring adequate daily water supply for domestic and industrial use;

(b) Roads: Restoration and reconstruction of 101 county and township roads totalling about 835 km with concrete or bitumen road surfaces, catering to traffic volume of about 69,250 vehicles per day, improving the status of the traffic and the roads, playing an important function in the restoration and reconstruction work of the affected areas.

(c) Schools: The restoration and reconstruction of 215 county and township secondary and primary schools in the education component had all been completed, including 96 secondary schools with total built-up area of about 180,300 square meters and 119 primary schools with about 128,500 square meters of built-up area, resolved the schooling problem for about 213,000 school-going children;

(d) Health: The restoration and reconstruction of 142 county and township hospitals and clinics were completed under the health component with a total built-up area of 212,300 square meters, serving a total population of about 5.9 million people with improved medical and health services, and ensuring that the flood victims are in good health; and

(e) Irrigation: Restoring 18 irrigation areas with 21 sub-projects, covering a total of about 44,000 hectares and benefiting about 0.44 million farmers.

As an urgent project, the project mainly considered the social beneficial result. According to the survey and statistics collected after the completion of the project, it has restored the traffic in the affected areas, provided clean water to cities, towns and villages, restored and improved the condition of the epidemic prevention and disease treatment of the flood affected people. So the project has achieved the objective of stabilizing the society and the people through the social benefits provided. The social benefits and result can be seen with respect to: (i) it can reduce or minimize the flood disaster similar to that of 1998. (ii) The implementation of the project can support the construction of flood control work. (iii) The completed project had begun to play beneficial role in the daily production of the affected population and in developing the local economy.

## **V. Major Factors Affecting Implementation and Outcome**

**Factors outside the control of government or implementing agency:** There were no major factors outside the control of government or implementing agency that affected project implementation, except for an insignificant factor existed. During the implementation, the exchange rate fluctuation of the foreign currency and RMB is outside the control of government or implementing agency, but the exchange rate did not change much during the implementation, so the effect is very small.

**Factors generally subject to government control:** The implementation of the project is under the State macro-policy guidance that focuses on the central task of economic construction. The construction contents are all the basic assets that been encouraged and supported by the State. The objectives of the construction are fully in accordance with the current sector policy. So the project had the recognition by government leaders at all levels and the support of the relevant departments. First, in raising fund for the project, governments and departments all levels incorporated the project into their own plan for the restoration and reconstruction after the disaster. The counterpart funds needed are planned as a whole, thereby resolving the counterpart funds needed for each sub-project. Secondly, when selecting and confirming sub-projects, stick to the guidelines that make overall plans and take all factors into consideration, lay stress on the priority, centralize properly, integrate into one part, plan in unison, overcome the present difficulty, put the investment emphasis at the township level and the small sub-projects that could be restored and reconstructed rapidly, on the small sub-projects that restored

and reconstructed the basic infrastructure such as drinking water, roads, schools and health facilities that were needed urgently by the affected areas. Thirdly, of PMO staff at all levels is conscientious, clean and devoted. The World Bank funds and the domestic counterpart funds are managed strictly according to the World Bank management system and the national financial management system, respectively. Fourthly, the implementation had the support, professional guidance and assistance by the government at all levels and the department concerned. In a word, the policy guarantee, the recognition by the government, the support by the concerned departments, the hard work of the staff and the strict financial management, had all ensured the project implemented and completed smoothly.

**Factors generally subject to implementing agency control:** One important factor that ensured the Yangtze Flood Emergency Rehabilitation Project could be completed with high quality and smoothly, is strengthening of the construction management, use of selected scientific managing model. The three provinces had all carried out the management measures such as the project legal person system, project supervision system, and tender and procurement management system.

In addition, the PMOs established at province, city and county levels are another important factor that ensures smooth project implementation. The PMO staff checked the progress of the project, and during the peak period of the implementation, the city, county PMOs applied for fund disbursement to the provincial PMOs monthly. The provincial PMOs processed and disbursed the fund promptly. The county implementing agencies had considered fund disbursement under this project has been the quickest compared to other foreign-funded projects.

## **VI. Project Sustainability**

**Basis of Sustainable Evaluation:** Each sub-project of Yangtze Flood Emergency Rehabilitation Project has already been completed and achieved the anticipated target. The sustainability of each sub-project is assured.

The government pays close attention to and supports the Project continuously: Chinese Government has always paid attention to infrastructure and social services, and supported through policy, finance, etc. So the Project has good environment for sustainable development. For flood prevention of the Yangtze River, the central and each provincial government issues a series of policies and measures, and increase the investment scale for Yangtze dykes. Meanwhile, each provincial government has planned and implemented resettlement and build new townships along the Yangtze River, relocate population from flooded area to within the dikes, and relocate people within the river and flood plain in order to increase the flood discharge capacity of the Yangtze River and lake storage capacity. In the middle and upper reach areas of the Yangtze River and upstream areas of the main tributaries, hillsides are closed to cultivation and trees planted in order to prevent soil erosion. The main river dikes and water conservancy infrastructure of the middle and upper reach of Yangtze River are strengthened to raise flood prevention ability, and flood and drainage standard.

The Project has good works facilities and effective operation management, produces good economic and social benefits, and possesses the basic conditions and potential for sustainable development. Because of the standardized management of World Bank- financed projects, the Project played a good exemplary role in the construction of the project area. The school and health sub-projects under the Project also get a batch of teaching and health equipment from the British grant. The design of the scale of sub-projects not only meet the current requirement but also meet future planning need, thereby providing conditions for sustainable development.

The on-going implementation of Yangtze Dike Strengthening Project financed by the World Bank will essentially control the floods of the Yangtze River on completion and play a positive role to the safety and continued operation and maintenance of the completed facilities under the project.

Each Provincial PMO is implementing other on-going and follow-up projects financed by the World Bank. Therefore, the provincial PMOs of the Project will continue to be maintained, assuring organizations would be available for the long-term sustainable development.

**Operation and Maintenance Plan:** Effective operation and maintenance plan is an important condition to realize project objective. Each Provincial PMO pays close attention to it and takes effective measures for project operation and maintenance.

The PMO will maintain staff and continuity of the project work; focus on the operation management of the Project. According to the nature and type of the project, the Provincial PMO will establish overall project operation management plan, strengthen the guidance for the operation management work, define the entities responsible for operation management, stipulate the management responsibilities to be carried out by the departments at all levels.

## **VII. Performance of the World Bank and the Borrower**

### **The World Bank**

**Performance of World Bank in Project Preparation Stage:** The work of the World Bank staff and experts is outstanding. They have high efficiency at work during the whole project cycle, and gave guidance and support in technology, economy, organization and management. From project identification in mid-September, 1999 to project appraisal in November 1999, it is obvious that World Bank has displayed high efficiency. During the 2 months, the World Bank sent 5 missions and groups for project identification, preparation, pre-appraisal, appraisal and project launch training, involving some 30 staff/experts on project engineering, management, economy, finance, bidding and procurement. The performance of the World Bank staff has left a deep impression on people of the project area.

**Performance of World Bank in Supervision:** With the project implementation started retroactively on September 18, 1998, the World Bank sent 2 supervision missions regularly every year. Each mission composed of 5 to 6 staff of relevant expertise and the project manager for duration of about 2 weeks. Except for discussion and wrap-up meeting, they spent most of the time visiting project sites, The mission's scientific approach, attitude, rigorous style and hard work set good examples to the PMOs and impressed the project staff and the local people. In addition, the World Bank also sent bidding and procurement missions to check on bidding and procurement work carried out in the project areas.

**Overall Performance of the World Bank:** The World Bank staff had maintained good and close cooperation with the provincial PMOs and the relevant implementation units. The World Bank staff carried out the project implementation and management procedures strictly, reported and discussed any serious deficiency, helped to analyze and solve problems, maintained close communication and cooperation with PMO and project management staffs,

### **The Borrower**

**Preparation Stage:** Each provincial government established the project-leading group in time at the

project preparation stages and appointed experienced staff to establish the PMO. During the short two months, each provincial Government reviewed all sub-projects, completed the project proposals and feasibility reports, and submitted them to relevant state ministries and commissions for approval. The government cooperated with World Bank to complete the project appraisal and negotiation promptly.

**Performance of the Government at Implementation Stage:** Each provincial government appointed one vice-governor as leader of project leading group. Prefecture and county at all levels also follow the provincial model in establishing project leading groups and project management offices. During project implementation, relevant problems are coordinated and solved in time; the required fund of the project was allocated adequately and timely, reflecting the government's commitment and attention to the Project.

**Performance of the Implementation Units:** The Provincial PMO is responsible for implementation and management of the Project. Each relevant department cooperated closely with the Provincial PMO and carried out tasks assigned. With the support and cooperation of the local government and relevant implementation units, the project implementation, supervision, technical support and monitor and evaluation have been generally smooth.

During the project implementation, the Provincial PMOs provided good working and living condition for the World Bank experts. The project management staff cooperated with the experts and understudy them, thereby gaining external expertise and experience for project implementation.

**Overall Performance of Borrower:** Under the great attention and strong support of provincial, prefecture and county government, and the hard work of PMOs at all levels, the Project has been smoothly coordinated and successfully implemented, The Project is one of the best World Bank-financed projects executed in each province.

### **VIII. Experiences and Lessons Learned**

The World Bank-financed project involves large investment with much content covering a wide area. During project preparation process, it involves a number of departments, such as Planning Commission, Finance Bureau, Audit Bureau, Environmental Protection Bureau, Water Resource Department. The close cooperation of these departments is important condition to do the project well. Each dispute over trivial matter will affect and delay the normal implementation of the Project, thereby increase the project cost.

The World Bank-financed project has character of long implementation and fund reimbursement period. Therefore, it is very important to establish a steady and high-efficient project management organization. In the management organization, specialized staff of various fields should be provided, covering planning and statistics, finance, project management, agriculture, forestry and water resource. These staff should be committed and relatively stable.

Establishing relevant regulation and rules is important foundation for good project implementation and management. Relevant management methods should be established in order to ensure smooth project implementation. These should cover project management, finance, and accounting and auditing, project expenditure disbursement, tendering and procurement, monitoring and evaluation, office working regulation. These would provide proper guidelines and procedures for project implementation and management.

The project goal is clear and the design rational and realistic. Resulting in keen and positive participation of project beneficiaries, which is important for successful implementation of the project.

Effective and close cooperation between the World Bank missions and the provincial PMOs throughout the project cycle is an important factor in smooth project implementation.

As an emergency rehabilitation project, the scope and design of each sub-project should not be too large so as to complete and achieve the desired results within the optimal time.

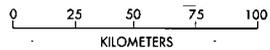
#### **IX. Suggestions and Recommendations:**

It is recommended that the World Bank provide different types of funding in accordance with different projects. For projects that have repayment capabilities, IBRD loan may be provided for sub-projects such as road and water supply. These revenue-earning sub-projects collect fees for services and operation and maintenance on completion and have the capacity to service loan. For sub-projects that have no revenue, such as middle or primary schools, which come under the national compulsory education system, the schools cannot collect high fees from students and are unable to service any loan. In fact, the loan would be repaid by government finance. Therefore, it is recommended that World Bank provide soft loan (credit) for education sub-projects. For county and township hospitals and health clinics, fees can be collected from patient, but rural economy lags behind that of the city at present. Peasant's income is still low and cannot afford paying healthcare cost level charged to urban residents. Therefore, funding for rural healthcare sub-projects could be blend of hard loan and soft credit of appropriate proportion. Using this kind of funding arrangements for different nature of sub-projects, it can not only help the Borrower to develop construction of infrastructures, but also guarantee repayment of the World Bank loan and credit.

It is further recommended that World Bank provide grants for project preparation. During the flood disaster, the governments have to bear huge financial burden for flood relief and well being of the flood victims. If World Bank could arrange grant for project preparation, it would relieve the government financial burden and accelerate project preparation work.



# CHINA YANGTZE FLOOD EMERGENCY REHABILITATION PROJECT



- PROJECT COUNTIES
- PROVINCE CAPITALS
- COUNTY (XIAN) BOUNDARIES
- PROVINCE BOUNDARIES
- INTERNATIONAL BOUNDARIES

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**IMAGING**

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Type: ICR