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**REPORT AND RECOMMENDATION OF THE PRESIDENT**

TO THE EXECUTIVE BOARD ON A PROPOSED LOAN TO THE

**PEOPLE'S REPUBLIC OF CHINA**

FOR THE

**QINLING MOUNTAIN AREA POVERTY-ALLEVIATION PROJECT**



## TABLE OF CONTENTS

<b>CURRENCY EQUIVALENTS</b>	<b>iii</b>
<b>WEIGHTS AND MEASURES</b>	<b>iii</b>
<b>ABBREVIATIONS AND ACRONYMS</b>	<b>iii</b>
<b>MAP OF THE PROJECT AREA</b>	<b>iv</b>
<b>LOAN SUMMARY</b>	<b>v</b>
<b>PROJECT BRIEF</b>	<b>vi</b>
<b>PART I THE ECONOMY, SECTORAL CONTEXT AND IFAD STRATEGY</b>	<b>1</b>
A. The Economy and Agricultural Sector	1
B. Lessons Learned from Previous IFAD Experience	2
C. IFAD's Strategy for Collaboration with China	2
<b>PART II THE PROJECT</b>	<b>3</b>
A. Project Area and Target Group	3
B. Objectives and Scope	4
C. Components	4
D. Costs and Financing	6
E. Procurement, Disbursement, Accounts and Audit	7
F. Organization and Management	9
G. Economic Justification	10
H. Risks	11
I. Environmental Impact	11
J. Innovative Features	11
<b>PART III LEGAL INSTRUMENTS AND AUTHORITY</b>	<b>12</b>
<b>PART IV RECOMMENDATION</b>	<b>12</b>
<b>ANNEX</b>	
<b>SUMMARY OF IMPORTANT SUPPLEMENTARY ASSURANCES INCLUDED IN THE     NEGOTIATED LOAN AGREEMENT</b>	<b>13</b>



**APPENDIXES**

<b>I.</b>	<b>COUNTRY DATA</b>	<b>1</b>
<b>II.</b>	<b>PREVIOUS IFAD LOANS TO CHINA</b>	<b>2</b>
<b>III.</b>	<b>PROJECT COMPONENTS AND IMPLEMENTATION ARRANGEMENTS</b>	<b>3</b>
<b>IV.</b>	<b>LOGICAL FRAMEWORK</b>	<b>8</b>
<b>V.</b>	<b>COST AND FINANCING</b>	<b>11</b>
<b>VI.</b>	<b>ORGANIZATION AND MANAGEMENT</b>	<b>13</b>
<b>VII.</b>	<b>FINANCIAL AND ECONOMIC ANALYSIS</b>	<b>14</b>



### CURRENCY EQUIVALENTS

Currency Unit	=	Yuan Renminbi (CNY)
USD 1.00	=	CNY 8.30
CNY 1.00	=	USD 0.12

### WEIGHTS AND MEASURES

1 kilogram (kg)	=	2.204 pounds (lb)
1 000 kg	=	1 metric tonne (t)
1 kilometre (km)	=	0.62 miles (mi)
1 metre (m)	=	1.09 yards (yd)
1 square metre (m <sup>2</sup> )	=	10.76 square feet (ft <sup>2</sup> )
1 acre (ac)	=	0.405 ha
1 hectare (ha)	=	15 mu
1 mu	=	0.066 ha
1 mu	=	667 m <sup>2</sup>

### ABBREVIATIONS AND ACRONYMS

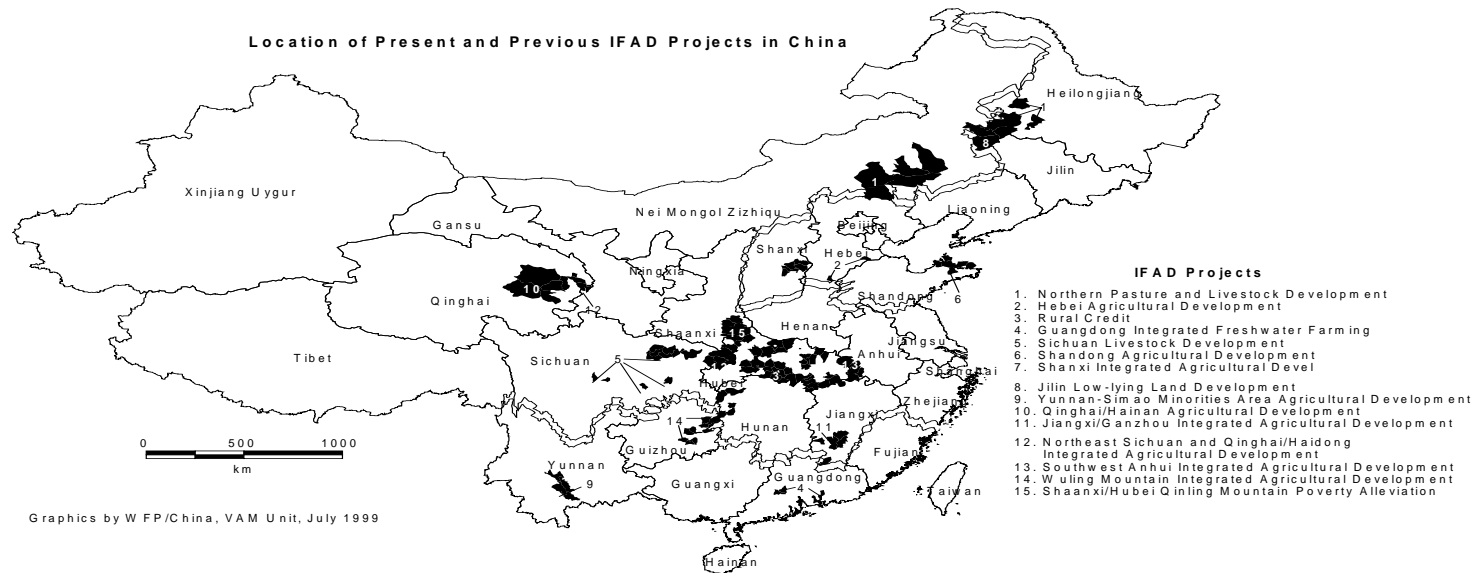
ABC	Agricultural Bank of China
AWPB	Annual workplan and budget
M&E	Monitoring and evaluation
PBC	People's Bank of China
PLG	Project leading group
PMO	Project management office
PRA	Participatory rural appraisal
RCC	Rural credit cooperative
RCCU	Rural credit cooperative union
UNOPS	United Nations Office for Project Services
VAM	Vulnerability analysis and mapping
VDPs	Village development plans
VIGs	Village implementation groups
WCB	Water conservancy bureau
WFP	World Food Programme

### GOVERNMENT OF THE PEOPLE'S REPUBLIC OF CHINA

#### Fiscal Year

1 January - 31 December

## MAP OF THE PROJECT AREA



**Source:** IFAD Appraisal Report

*The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.*



**PEOPLE'S REPUBLIC OF CHINA**

**QINLING MOUNTAIN AREA POVERTY-ALLEVIATION PROJECT**

**LOAN SUMMARY**

<b>INITIATING INSTITUTIONS:</b>	IFAD and the World Food Programme (WFP)
<b>BORROWER:</b>	People's Republic of China
<b>EXECUTING AGENCY:</b>	Ministry of Agriculture and Ministry of Finance
<b>TOTAL PROJECT COST:</b>	USD 106.3 million
<b>AMOUNT OF IFAD LOAN:</b>	SDR 21.0 million (equivalent to approximately USD 29.0 million)
<b>TERMS OF IFAD LOAN:</b>	40 years, including a grace period of ten years, with a service charge of three fourths of one per cent (0.75%) per annum
<b>COFINANCIERS:</b>	World Food Programme
<b>AMOUNT OF COFINANCING:</b>	WFP: USD 10.4 million
<b>TERMS OF COFINANCING:</b>	Grant
<b>CONTRIBUTION OF BORROWER:</b>	USD 62.6 million
<b>CONTRIBUTION OF BENEFICIARIES:</b>	USD 4.1 million
<b>APPRAISING INSTITUTIONS:</b>	IFAD and WFP
<b>COOPERATING INSTITUTION:</b>	United Nations Office for Project Services (UNOPS)



## PROJECT BRIEF

**Who are the beneficiaries?** The target group comprises 310 000 households in the 128 poorest townships of the nine poorest counties of the Qinling mountain range in south-east Shaanxi and north-west Hubei Provinces. Vulnerability analysis and mapping (VAM) methodology was used to select the most disadvantaged townships. At village level, farmers classify themselves in four categories: the better-off, the poor, the very poor and the poorest. The beneficiaries belong to the bottom three categories and represent about 90% of the village population. Women are the most significant part of the target group, since they contribute most to farm production and household tasks. Many women suffer from health disorders and have less access to education and training than men. Average income per capita ranges from USD 75 to 90 and is derived from an average arable area of 650 to 800 m<sup>2</sup> and some off-farm activities.

**Why are they poor?** Most villages are in remote areas without access roads or adequate health and education facilities. Arable land is limited and low-yielding, and extension services are weak. Living conditions are harsh, with a lack of drinking water and few local opportunities for off-farm income. Almost 80% of the arable land is rainfed, and about 50% of it is on slopes. Rainfall is unreliable with regular droughts and floods. Access to improved technology is limited due to the lack of both funds and education. As a result of these conditions, most households suffer food deficiencies for two to four months a year, forcing them to migrate in search of off-farm employment. Out-migration, mainly for seasonal labour, generates additional cash income but reduces availability of farm labour. Most households use intensive inter-cropping systems to offset the risks of rainfed farming. The large areas of sloping land require substantial investments in terms of resources and family labour for successful agroforestry, tree or cash crop production.

**What do they expect from the project?** Through participatory rural appraisal (PRA) techniques and intensive field surveys it has been determined that the targeted households have the following priority needs: (a) more food and immediate access to safe drinking water in drought-prone areas; (b) more money; and (c) better education and health facilities. The findings indicate strong expectations for better and improved health, education and extension services. Most households also sought assistance for investments in production activities to raise their incomes and improve food security.

**How will they participate?** A PRA workshop was conducted to train township-level project management officers in the use of the PRA methodology to prepare the village development plans (VDPs) with the participation of the target group. A vast functional literacy and training programme targeting mainly women will pave the way for higher participation in technical skills training and related productive activities. The target group will provide labour for community-based civil works. Poor farmers will undertake on-farm demonstrations with guidance from relevant extension services and thus become farmer-technicians. Beneficiaries will be represented in the village implementation groups (VIGs), which will monitor the VDPs and organize maintenance and user groups, especially for irrigation, drinking water, primary schools and access roads. In a process of self-monitoring, beneficiaries will assess project services and contribute inputs for the biannual reports.



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I submit the following Report and Recommendation on a proposed loan to the People's Republic of China for SDR 21.0 million (equivalent to approximately USD 29.0 million) on highly concessional terms to help finance the Qinling Mountain Area Poverty-Alleviation Project. The loan will have a term of 40 years, including a grace period of ten years, with a service charge of three fourths of one per cent (0.75%) per annum. It will be administered by the United Nations Office for Project Services (UNOPS) as IFAD's cooperating institution.

**PART I - THE ECONOMY, SECTORAL CONTEXT AND IFAD STRATEGY<sup>1</sup>**

**A. The Economy and Agricultural Sector**

1. The People's Republic of China covers an area of 9.6 million km<sup>2</sup> and is the most populous country in the world. At the end of 1997, the population was estimated at 1.24 billion people, with increases from 14 to 17 million annually. In spite of the recent economic downturn in the region, China continues to enjoy one of the fastest economic growth rates in the world. In 1997, gross domestic product (GDP) was estimated to have increased by 8.8% in real terms. Private consumption per capita is reported to have increased at an annual rate of over 7% throughout the period 1993-1997. Industry remains the largest productive sector, accounting for roughly half of GDP, generating 80% of the country's exports and employing well over 100 million workers. Services account for about 30% of GDP, and agriculture about 20%. Inflation on a per year basis declined from over 20% in 1994 to an average 2.8% in 1998. The year 1999 may actually witness deflation.

2. Over the period 1993-1997, agricultural GDP is reported to have increased at 4.3% per annum, a rate that is substantially above the population growth rate. The sector continues to play a dominant role in terms of employment and constitutes an important income source for some 190 million rural households. Grain production in 1996 was 505 million tonnes, the largest figure on record, dropping in both 1997 and 1998 to approximately 494 million tonnes. Annual crops dominate the production pattern of agriculture (55%), followed by animal husbandry (30%) and fisheries (10%).

3. The rural financial system has in recent years undergone considerable changes as part of the overall financial reform process. In 1995, rural policy lending was transferred from the Agricultural Bank of China (ABC) to the Agricultural Development Bank of China, which became the country's top poverty-alleviation creditor. Rural credit cooperatives (RCCs) are now the main financial intermediaries in rural China, and they have an extensive network that is present in all townships throughout the country. They also make use of a dense network of independent credit agents working in the villages. They no longer operate under the supervision of the ABC, but are directly supervised by the People's Bank of China (PBC), the central bank. The cooperative nature of RCCs will be strengthened.

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<sup>1</sup> See Appendix I for additional information.





## B. Lessons Learned from Previous IFAD Experience

4. Since 1980 IFAD has financed 14 loans to China, for a total of about USD 345 million. Performance of projects has been good: objectives have normally been achieved ahead of time; poor households have had effective access to project investments and support; and loan distribution has been timely or sometimes ahead of schedule. A major part of the IFAD loans has been used for the provision of microcredit to poor farmers.

5. **IFAD/WFP joint operations** started in 1996 and have provided added value to design and implementation. WFP has benefited from IFAD's financial analysis of project proposals. IFAD has been able to reach the poorer households who, because of food shortages, normally lack access to credit. WFP food aid helps them to become self-sufficient in food, so that credit can be used in full to undertake cash-generating activities and build up assets for further development. Experience has shown that efficiency is improved if the project cycle, especially at design stage, is synchronized.

6. A number of lessons for project management and organization can be highlighted: (a) the findings from the participatory rural appraisal (PRA) confirm that the multisectoral development approach to poverty alleviation meets the requirements of poor communities and households; (b) progress reports show that coordination between the different sectoral agencies is effectively and efficiently ensured, with the assistance of the project management offices (PMOs) and project leading groups (PLGs) at provincial, prefecture, county and township levels; (c) the village development plans (VDPs) are the main tool for effective target group participation using PRA methodologies; (d) the vulnerability analysis and mapping (VAM) has provided a more analytical approach to food security for project area selection; (e) monitoring and evaluation (M&E) systems gather large amounts of statistical data, making their analysis rather cumbersome; VAM methodologies will be introduced for more effective use and impact monitoring; and (f) local designs of infrastructure works are very satisfactory, but supervision of construction itself requires more attention to ensure correct execution.

7. Further improvement of targeting, beneficiary participation and gender mainstreaming will require the following measures: (a) credit packages should be flexible to meet the requirements of the poorer farmers at all times, and ceilings should be used for better targeting; (b) to ensure that poor women are priority beneficiaries, functional literacy and special skills training are required for special income-generating activities tailored to women's interests and potential; (c) the assistance of the Women's Federation has been instrumental in the achievement of goals, and collaboration with the Federation should be strengthened; (d) organization of beneficiaries in user groups under guidance and support from the village committees has generally worked well and should be maintained. Most irrigation systems are fully operational, and beneficiaries maintain terraces and other dryland structures entirely on their own; (e) projects should specifically identify women as major beneficiaries and set specific targets to ensure that microcredit reaches them; and (f) since women undertake a major part of agricultural activities, in addition to household work and child care, their needs should be taken into account in a more explicit manner through more self-targeting activities, such as those related to the health status of women and their education level, using food-for-training and awareness-building.

## C. IFAD's Strategy for Collaboration with China

8. **China's policy for poverty eradication.** China's definition of absolute poverty rests on four criteria: (a) annual per capita income of USD 53 or less, expressed in values of 1990; (b) food deficit for at least three months each year; (c) lack of drinking water at less than 2 km horizontal or 100 m vertical distance from the home; and (d) lack of irrigation water for at least six months annually. As a result of overall economic growth and the strong commitment of the Government to improving standards of social services such as education, health and nutrition, the number of absolute rural poor declined from about 260 million in 1978 to some 100 million in 1985. In 1998, the Government estimated that 50 million people were still living in absolute poverty. Over time, absolute poverty is increasingly concentrated in the resource-poor, densely populated mountain and loess plateau areas of the centre,



north-west and the south-south-west. The central government currently earmarks USD 1.3 billion for poverty relief annually, a sum that has increased by USD 180 million annually since 1997. These funds will be used to construct roads, improve farmlands and build water facilities in poor areas and to support projects in the farming, livestock and agro-processing sectors. Despite these tremendous achievements and efforts, some 300 million people live on 1 USD per day and many others risk falling into poverty. These figures underscore the need for sustainability in any poverty eradication strategy. Efforts, moreover, will need to be continuous and extend far beyond the year 2000.

9. **The poverty eradication activities of other major donors.** The World Bank supports broad-based economic development in the pursuit of poverty alleviation. To this end, it has allocated 28% of all loans to the agriculture sector, especially for agricultural and rural development, poverty alleviation, agricultural marketing and investments in agro-processing. The Asian Development Bank (AsDB) focuses on enhancing economic efficiency, promoting growth to reduce poverty in poor inland provinces and improving the management of natural resources. The United Nations Development Programme (UNDP) supports pilot projects to develop sustainable and replicable models for poverty eradication, and is sponsoring the preparation of a new poverty-alleviation programme in 2000.

10. **IFAD's strategy in China.** The country strategic opportunities paper of February 1999 focuses on three processes: targeting of poorest townships using VAM; beneficiary participation in planning and implementation at all levels using VDPs; and development of sustainable as well as poverty-sensitive and gender-sensitive micro-finance institutions using RCCs. The basic strategy includes: (a) strengthening infrastructure for agriculture production in order to expand productivity and therefore potentially increase food security, create cash-generating activities in livestock and other cash crops and promote off-farm income-generating activities; (b) providing technical support and training to build productive capacity and to improve the creditworthiness of the beneficiaries; (c) enabling better access to credit for viable productive activities; and (d) improving access to health and education facilities in order to increase labour availability and heighten learning capacity.

11. **Project rationale.** Limited natural resources, low levels of grain and other food production, limited opportunities for livestock rearing, and the small number of economic trees are among the root causes for the high poverty levels. These factors are exacerbated by the isolation of many villages in the project area, which results in a lack of government services, especially in health and education, and limited infrastructure. Women suffer particularly from the lack of these facilities. To overcome these constraints, the project will carry out multisectoral activities. It will: (a) directly invest in rural production infrastructure, such as irrigation and terracing, to create the basis for economic production; and in socio-economic infrastructure, such as roads, drinking water, electricity and health facilities, to improve productive capacity and raise living conditions; (b) facilitate access to financial services and especially credit, thus allowing farmers to obtain the necessary capital inputs for productive activities; and (c) reinforce human development through grass-roots organizations to help farmers and especially women enter the market economy and use credit more effectively.

## PART II - THE PROJECT

### A. Project Area and Target Group

12. The project area is located in the south-eastern part of Shaanxi Province and the north-western part of Hubei Province, covering parts of the Qinling mountain range, which forms part of the northern watershed of the Yangtze. The total population of the 128 selected townships, which are divided into 1 952 administrative villages, is about 1.6 million. The population is homogeneous, with virtually no representatives of ethnic minorities. The climate is characterized by four distinct seasons. The annual average temperature is 11 to 16° C; the frost-free period varies from 195 to 254 days.



Rainfall varies from 709 mm in Shanyang to 837 mm in Shangnan. The rainfall distribution is uneven, with 40–60% from July to September. Floods and droughts occur frequently. The soil profile is thin. The climate is suitable for a wide range of annual crops and economic trees. Arable land is only about 9% of the total area and per capita farmland is very limited, varying from 650 to 800 m<sup>2</sup>. Of the arable land, about 10% is irrigated; the balance is rainfed, mainly in sloping fields. The majority of the arable land is classified as low to middle-yielding. Winter wheat and summer maize provide the basic family diet and are grown in mixed stands with small portions of cash crops, including rapeseed, vegetables, soybean, potatoes, herbs and tobacco.

13. The average annual per capita rural income in the project area in Hubei in 1998 was about USD 75 and in Shaanxi around USD 90 compared to USD 163 for rural China. Annual per capita grain availability is only 209 and 266 kg in Shaanxi and Hubei, respectively, compared to a national average of 400 kg. Almost all households are very poor, live in extremely harsh conditions and have limited food availability. During mission fieldwork, farmers classified themselves in four categories: the better-off, the poor, the very poor and the poorest. The target group will be about 310 000 households from the bottom three socio-economic groupings and physically able to participate. Households in more remote villages, which are poorer than those nearer roads, will receive top priority. The poorest of the poor, usually with family members who are sick or have disabilities, face difficulties in participating in productive activities, but will be targeted with food-for-training, support for school-age children, mainly girls who have dropped out of school, and easier access to household-level income activities.

## **B. Objectives and Scope**

14. The goal of the project is to enable food and income security for vulnerable rural households living in an environment with degraded natural resources. The project's objective is to achieve a sustainable increase in productive capacity, both on-farm and off-farm, and to offer increased access to economic and social resources, including education, health, sanitation and social networks. A more stable lifestyle will mitigate the devastating effects of recurring natural disasters on the beneficiary population.

15. The specific outputs of the project activities will be to: (a) establish participatory and gender-sensitive VDPs and make them operational; (b) provide responsive extension services, using poor farmers as demonstrators; (c) implement flat and sloping land development programmes; (d) make RCC financial services poverty and gender-sensitive and driven by the target group, and substantially increase lending to poor women and men for a variety of activities; (e) implement women's support programmes; (f) implement and maintain an infrastructure programme; and (g) increase household food security by raising land productivity through irrigation development and land levelling, terracing and drainage, through the promotion of improved technologies for sustained increases in production and productivity, and through increased access to credit, training, extension advice and demonstrations.

## **C. Components**

16. The project components are designed to achieve increased outputs, notably of staple food items and highly marketable fruits, and much-improved access to social services. Credit is seen as the principal instrument to stimulate on and off-farm production and income. For credit to produce its fullest potential, it is necessary to increase the intrinsic productivity of agricultural land through irrigation and dryland improvements, and to strengthen key support mechanisms, notably agricultural, livestock and tree crop input supply and extension services. Also, specific infrastructure increments, principally power, water and road communication, will facilitate full participation in economic and social development among isolated communities. To improve access to social services, especially for women, the facilities and operational capacity of health and education need to be improved. It is equally important to enhance the target population's receptivity to progress. Hence, the project will



include a substantial training and awareness-building programme, addressing the requirements of adult women on a priority basis.

17. **Agricultural development** will transform 8 900 ha into more-productive land through irrigation and dryland improvement, principally terracing. Soil fertility will be enhanced through increased use of organic manure resulting from higher production of crop residues and expanded livestock production. Terracing on up to 25 degrees will reduce soil losses in these areas. Planting of 10 800 ha with economic trees on steeper land and/or low fertility sites will markedly improve the environmental conditions and create substantial income opportunities. These regenerative farming techniques, together with economic-environmental forestry and fuel wood lots, will increase the opportunities for non-timber forest products and further the establishment of a sustainable natural resource management system. The village implementation groups (VIGs) will organize the beneficiaries in water-management groups to ensure operation and maintenance of all works. Technical training and a vast programme of on-farm demonstrations will focus on poor farmers, and will be introduced as replacement for physical collateral to facilitate access to credit. Better facilities and intensive training for extension staff will support a more effective introduction of improved cropping patterns by poor farmers. Agriculture and animal husbandry extension stations will be merged to promote integrated production advice and messages.

18. **Financial services** with a poverty and gender focus are the major instruments to help the target group build assets for sustainable development. The aim is to restructure RCCs into viable rural cooperative banks with farmers as members and eventually share-holders, and with savings collected for additional sustainability. The project will direct special attention to developing RCCs into gender and poverty-sensitive micro-finance institutions. Given that the driving force behind the production activities will be credit, about 64% of the IFAD loan will be for credit. Improved access to credit will directly benefit the poor farmers, including and especially women, and target profitable activities such as cereal grain production, annual and perennial cash crops, economic trees, food processing and income-generating off-farm activities. Before the credit programme starts, a savings and credit-awareness campaign will be mounted at village level to inform the target group about the benefits accruing from membership in and eventual ownership of these rural cooperative banks. Staff training will be provided in management, financial procedures, computer use, loan inspections and training village leaders and agents. The project will provide, at township level, a motorcycle, a desktop computer and, where not already present, a telephone connection.

19. **Social development.** The fact that poor education levels and ill health reinforce poverty justifies action to improve access of the poor to social services. Activities will concentrate on training and will include literacy training, particularly for women, and health and nutritional awareness-building. The reduction of primary school drop-out rates, particularly among girls, will be another major activity. Support to village health workers and the rehabilitation of primary schools at village level to improve access to literacy and skills training will shore up the previous activities. There will also be a large element of skills training in preparation for obtaining loans for income-generation activities. The Women's Federation will organize this training as a complement to ongoing, improved extension activities for crops, livestock and economic trees. Two women per village will be trained as forerunners and will become relay-trainers and demonstrators for ten women-followers. Sanitation development will focus on the introduction and popularization of improved latrines and of fuel-saving stoves. A pilot activity will demonstrate biogas units.

20. **Rural infrastructure.** Improvements in the availability and quality of drinking water, better access roads and more electrification will ease the burden on women and facilitate the development of off-farm income-generating activities. Drinking water will be provided mainly through the construction of more than 15 000 household water tanks of about 25 m<sup>2</sup> each. The most remote and isolated villages will be linked with rural market centres through the construction of about 270 km of



access roads. Moreover, about 1 450 km of electrification grid will enhance the utility of education facilities and the development of small businesses in remote villages.

21. **Project management** will use PLGs and PMOs, the well-trying and proven methodology of previous IFAD/WFP projects. They will use and coordinate the existing technical and social agencies and bureaux at province, prefecture, county and township level. Support will consist in provincial start-up workshops, computer and accounting training, transport facilities, office equipment and associated running costs. Study tours and inter-project PMO workshops will be organized to share experiences. Technical training for productive activities and awareness-building on food security will be a major activity in all components. Training will be provided for trainers, for women and men in the villages and for administrators in PMOs and RCCs. The training programmes are incorporated in the relevant activities, which will demonstrate the integrated nature of the training and emphasize that training must have a purpose and not be a purpose in itself. As the Women's Federation is the primary organization with a mandate to assist women, the project will support it so that it can participate in the implementation of the social development programme. Each PMO will have a representative from the Federation as a full staff member. Small, 200 m<sup>2</sup> training facilities will be provided at county level to enable the Women's Federation to initiate and implement training programmes.

#### **D. Costs and Financing**

22. The total project cost over six years, inclusive of contingencies, taxes and duties, is estimated at USD 105.1 million. The foreign exchange component is estimated at 6% and taxes and duties at less than 8% of project costs. Project costs have been calculated in CNY and are based on May 1999 prices. No physical or price contingencies have been applied to WFP-supported expenditure categories. The same applies to the credit revolving fund. Physical contingencies of 5% have been applied to all material costs related to infrastructure works. Price contingencies have been levied on all cash costs except the credit revolving fund. A constant purchasing power parities exchange rate has been calculated to allow for the difference in foreign and domestic inflation rates. The summary of project costs by component is presented in Table 1.

23. Of the total project cost of USD 106.3 million, including contingencies, WFP will provide 80 000 t of wheat, equivalent to USD 10.4 million or 9.8% of total project costs. An IFAD loan of USD 29.0 million is proposed, which will finance 27.3% of total project costs. The Government will contribute USD 62.8 million, equivalent or 59.1% of total project costs including all taxes and duties. Beneficiary contributions, mainly in kind, will amount to USD 4.1 million, equivalent or about 4% of total project costs. Details of the financing proposal are presented in Table 2. In order to ensure effective project start-up, retroactive financing not exceeding USD 300 000 will be provided for expenditure incurred after 1 January 2000. Such expenditure will include staff training and equipment for PMOs and technical bureaux for agricultural services.

**TABLE 1: SUMMARY OF PROJECT COSTS<sup>a</sup>**  
(USD '000)

Components	Local	Foreign	Total	% Foreign Exchange	% of Base Costs
Agricultural development	32 362	2 746	35 108	8	34
Financial services	22 006	142	22 148	1	22
Social development	12 970	1 386	14 355	10	14
Rural infrastructure	17 090	1 507	18 597	8	18
Project management	11 253	666	11 919	6	12
<b>Total base costs</b>	<b>95 680</b>	<b>6 446</b>	<b>102 126</b>	<b>6</b>	<b>100</b>
Physical contingencies	2 314	194	2 507	8	2
Price contingencies	1 581	126	1 708	7	2
<b>Total project costs</b>	<b>99 575</b>	<b>6 766</b>	<b>106 341</b>	<b>6</b>	<b>104</b>

<sup>a</sup> Discrepancies in totals are due to rounding.

**TABLE 2: FINANCING PLAN<sup>a</sup>**  
(USD million)

Components	IFAD		WFP		Government		Beneficiaries		Total		Foreign Exchange	Local (Excl. Taxes)	Duties and Taxes
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
<b>Agricultural development</b>													
Irrigation	1.48	7.5	2.50	12.6	15.82	79.9	-	-	19.80	18.6	1.65	16.31	1.84
Dryland improvement	-	-	3.18	38.9	5.00	61.1	-	-	8.17	7.7	0.36	7.46	0.36
Field crops	1.31	40.0	0.12	3.6	1.86	56.6	-	-	3.28	3.1	0.47	2.18	0.63
Livestock support	0.29	16.1	0.24	13.3	1.30	70.8	-	-	1.83	1.7	0.17	1.45	0.20
Tree crops	0.98	25.1	0.69	17.8	2.22	57.1	-	-	3.89	3.7	0.25	2.79	0.85
<b>Subtotal</b>	<b>4.05</b>	<b>11.0</b>	<b>6.72</b>	<b>18.2</b>	<b>26.19</b>	<b>70.8</b>	<b>-</b>	<b>-</b>	<b>36.96</b>	<b>34.8</b>	<b>2.90</b>	<b>30.18</b>	<b>3.88</b>
<b>Financial services</b>	<b>18.42</b>	<b>82.6</b>	<b>-</b>	<b>-</b>	<b>0.37</b>	<b>1.7</b>	<b>3.51</b>	<b>15.7</b>	<b>22.30</b>	<b>21.0</b>	<b>0.14</b>	<b>21.95</b>	<b>0.21</b>
<b>Social development</b>	<b>3.90</b>	<b>26.2</b>	<b>1.69</b>	<b>11.3</b>	<b>8.67</b>	<b>58.3</b>	<b>0.63</b>	<b>4.2</b>	<b>14.89</b>	<b>14.0</b>	<b>1.44</b>	<b>11.71</b>	<b>1.74</b>
<b>Rural infrastructure</b>													
Domestic water	-	-	0.79	9.4	7.59	90.6	-	-	8.37	7.9	0.66	7.06	0.66
Access roads	-	-	1.21	23.1	4.02	76.9	-	-	5.22	4.9	0.34	4.54	0.34
Electrification	-	-	-	-	6.19	100.0	-	-	6.19	5.8	0.62	4.95	0.62
<b>Subtotal</b>	<b>-</b>	<b>-</b>	<b>2.00</b>	<b>10.1</b>	<b>17.79</b>	<b>90.0</b>	<b>-</b>	<b>-</b>	<b>19.78</b>	<b>18.6</b>	<b>1.61</b>	<b>16.55</b>	<b>1.61</b>
<b>Project management</b>	<b>2.62</b>	<b>21.1</b>	<b>-</b>	<b>-</b>	<b>9.80</b>	<b>78.9</b>	<b>-</b>	<b>-</b>	<b>12.41</b>	<b>11.7</b>	<b>0.67</b>	<b>10.78</b>	<b>0.96</b>
<b>Total disbursement</b>	<b>28.99</b>	<b>27.3</b>	<b>10.40</b>	<b>9.8</b>	<b>62.82</b>	<b>59.1</b>	<b>4.13</b>	<b>3.9</b>	<b>106.34</b>	<b>100</b>	<b>6.77</b>	<b>91.18</b>	<b>8.40</b>

<sup>a</sup> Discrepancies in totals are due to rounding.





### **E. Procurement, Disbursement, Accounts and Audit**

24. **Procurement.** The main items to be procured under the project are vehicles and equipment. Local competitive bidding (LCB) procedures acceptable to IFAD will be applied. The relevant government agencies will carry out civil works for the construction of irrigation works, roads and drinking water supply, using contractors where necessary with contracts awarded following LCB procedures. Each contract estimated to cost less than USD 20 000 may be awarded on the basis of local shopping procedures.

25. **Disbursement.** The IFAD loan will be disbursed over six years. Withdrawals in respect of expenditure for less than the equivalent of USD 20 000 will be made against certified statements of expenditure. RCC loans to farmers will be pre-financed. For this purpose, RCCs will receive an initial deposit equal to the estimated credit amount required for the first year according to the plan of work and budget agreed by each county PMO in conjunction with the county rural credit cooperative unions (RCCUs). Monthly summaries of credit disbursed and recovered will be maintained on a gender-differentiated basis for periodic review by supervision missions. A special account will be opened in each of the two provinces on terms and conditions acceptable to IFAD.

26. **Accounts and audit.** PMOs will maintain consolidated project accounts, assisted by the finance and credit support unit established with staff seconded from the Finance Bureau (Ministry of Finance). The financial reporting and accounting practices followed by the Finance Bureau are acceptable to IFAD. The accounting sections will be adequately staffed and fully capable of handling the accounting requirements of the project. The State Audit Agency, a fully independent body reporting to the State Council, will be responsible for auditing all project accounts. County, prefectural and provincial PMOs will maintain records of all expenditures on items purchased by the project. The State Audit Agency will review those withdrawals from the project account made on the basis of a statement of expenditure and determine whether such expenditures fully comply with expenditures eligible for IFAD disbursements. It will also review the management aspects of the credit operation and comment on disbursement and recovery and provision for bad debts. The Government will furnish certified copies of the audit reports to IFAD and the cooperating institution not later than six months after the end of each fiscal year. WFP also requires audits of project expenditure and use of food aid as well as confirmation of workdays and rations. Both audits should be performed simultaneously.

### **F. Organization and Management**

27. **Beneficiary participation.** A VIG will be established in each village, composed of the village leader, village accountant, a representative of the Women's Federation, village agriculture and livestock technicians, and three elected beneficiaries, two of whom to be women. The VIG will organize the preparation of the VDP through a participatory process involving the entire village. The process will include: (a) bringing together the members of the village to discuss investment options for the village; (b) formulating the village development plans; (c) disseminating information about the project activities to all households; (d) organizing labour to participate in the food-for-work activities; (e) advising upon credit applications; (f) assisting in loan disbursements, supervision and collection; and (g) ensuring that activities are properly targeted and progress monitored by the beneficiaries themselves. Participation will have been already well established through the village committee and the election of the village leader. Expansion of the village committee with elected beneficiaries into the VIG enhances this participation.

28. **Gender considerations.** Women are a significant part of the target group, since they contribute more than men not only to the farm and livestock raising but also to household management and the care of children and aged family members. However, because they have a subordinate social status and fewer opportunities for education and training, women are disadvantaged socially and economically. Therefore, women are specially targeted for IFAD and WFP support. WFP's focus will be to support poor rural women and children by literacy training, training on



production, and general health education, whereas IFAD support is aimed at the financing of productive activities such as agriculture, income-generating activities and livestock raising following extensive training. All women of poor families are included in the target group, or a total of about 270 000 women. Improvements in infrastructure, particularly drinking water and access roads, development of fuel wood plantations, and higher crop yields from land improvement will reduce women's workloads and increase their productivity. Improved overall health status will increase availability of labour from other family members and reduce the time devoted to attending to sick members of the household. To ensure that the benefits effectively reach women, the Women's Federation will be provided with technical and financial support to improve their operational capacity and their decision-making role.

29. **Rural finance targeting.** Eligible borrowers will be poor individuals, especially women who are economically active but who presently have little or no access to formal financial sources. Functional literacy and skills training will be associated to facilitate access to credit. The type of credit available under the project will be short, medium and long-term, up to five years, for individuals or small groups. No collateral will be required for loans up to CNY 2 000. For larger loans, the borrower will have to provide 10% of the total financing required. Farmers' training and extension support, literacy and special skills training will focus on poorer households and women, and the training certificate will be introduced as substitute collateral. Moreover, the strong solidarity factor within natural villages will allow the village committee to act as credit guarantor. Loans must be used for production-related and/or income-generating projects, and can provide for initial investments and/or working capital. The loan size will depend upon the financial need of the income-generating project. Short-term loans will not exceed CNY 2 000, and medium to long-term loans CNY 4 000. Repayments for six and twelve-month loans will be by one-time repayment with principal and interest in the last month of the term. Yearly repayments will be made at the end of each year for loans lasting two years or longer. RCCs will be requested to consider more flexible (i.e. more frequent) loan recovery schedules that suit the farmers. The interest rates charged will be those practised by the RCCs in the project areas.

30. **Project management.** The Ministries of Agriculture and Finance will have overall responsibility for the project at the national level. A project steering committee will be established to coordinate provincial PMOs. At the provincial level, the Department of Agriculture will assume prime responsibility for project implementation and for coordinating the activities of the technical agencies involved. The provincial departments of finance will be responsible for the management and supervision of the project funds and for ensuring repayment of the IFAD loan. The project management agreement will specify both the implementation procedures and the role and responsibilities of each implementing agency, including the RCCs as financial intermediaries. The PMOs at all levels are already established and staffed, and operate as the executive arm of the PLGs, which provide general guidance and ensure close coordination between executing agencies. The county PMOs will bear most of the responsibility for day-to-day project implementation. The provincial PMOs will have overall responsibility for project implementation and for coordinating the activities of the project counties with the support of the prefecture-level PMOs. PMOs are staffed by personnel from existing units and operating from existing premises. Staffing should be kept to the minimum compatible with efficient discharge of the major tasks: (a) facilitating the work of the implementing technical agencies through providing them with the necessary funding for training, equipment and operating costs; and (b) monitoring their implementation. All attempts will be made to increase staffing by women.

31. **Monitoring.** Annual and biannual progress reports will be prepared by provincial PMOs and will have special sections on beneficiary self-monitoring, the use of workdays and training days, quality assessment of infrastructure and women's participation. A team approach will be fostered, building on WFP's presence in China and IFAD's approach of working with UNOPS, supplemented with annual inter-project PMO workshops and beneficiary-driven reviews. Key indicators will focus on (a) food, cash crop and livestock production; (b) household income or proxy indicators related to





increased food self-sufficiency; (c) income generated by women; (d) access to health and education facilities; and (e) improved livelihood. The VAM unit has amassed and analysed a large volume of government statistics and has built a database that is potentially useful for M&E purposes. The methodology is being developed and M&E criteria examined for impact assessment.

32. **Evaluation** will be conducted jointly by IFAD and WFP. A baseline survey, in conjunction with VAM, will be carried out at the start of the project, focusing on a limited number of gender-sensitive socio-economic indicators, and providing a benchmark to assess the project's overall impact during and after implementation. A mid-term review will be undertaken at the end of project year (PY) 3, jointly by IFAD, WFP and the cooperating institution. The main tasks of the review will be to assess overall progress, including the technical quality of infrastructure works, the adequacy of implementing arrangements, the appropriateness of targeting, the supply of credit through RCCs and its targeting of poor and female households. In addition, the review will assess the effectiveness of the social welfare development activities and improvement in living conditions of the target group. A project completion review will be carried out jointly by IFAD, WFP and UNOPS. After completion of the project, the baseline survey will be repeated, using the same parameters from the same households and villages. To ensure that the project review is objective, non-project staff and consultants will be recruited from the provincial Academy of Agricultural Sciences and the provincial statistical bureau to carry out surveys.

### G. Economic Justification

33. **Production and marketing.** The total annual increment in grain output is estimated to be about 65 000 t by PY7, or including potato output, a grain equivalent of 81 000 t. This converts into an average of 35 kg of grain or 45 kg of grain equivalent per person, in effect lifting the project area from a subsistence level to something close to self-sufficiency. Relatively little trade occurs in these staples, and the main transactions habitually consist of the distribution of relief food. Farms, even the smallest, usually grow some vegetables, mainly for consumption. Livestock production is largely for local consumption. No conceivable level of production output achieved can have a significant impact on market prices: (a) the project area is likely to remain food-deficient, but better able to cope with this situation given a much-improved cash crop and off-farm income situation; and (b) with rapid growth of overall income levels in China, demand for cash crops is likely to outstrip production, leading to improving rather than deteriorating rural-urban terms of trade.

34. **Benefits and beneficiaries.** More than 265 000 households will receive a seasonal loan from the RCC system for on-farm production. Medium to long-term credit will enable them to start income-generating activities for: (a) livestock, including 57 000 pig-raising units and about 25 000 chicken units; (b) economic treecrops, including 30 000 tea plantations and about 100 000 chestnut and walnut plantations; and (c) about 35 000 off-farm enterprises. Projected income of these households is expected to increase from about USD 200–236 per year to USD 407–720. This increased income will enable the households to purchase food to achieve food security, to pay for school fees and health services, and improve housing. Overall, about 90% of all project area households will benefit from project activities, including about 70% of the women.

35. **Economic rate of return (ERR).** The ERR for the whole project is almost 18%. The sensitivity analysis demonstrates the robustness to exogenous perturbation in cost and/or benefit streams and still produces an ERR of 7.8% in case of a simultaneous shortfall of 20%.

### H. Risks

36. There are risks associated with peak climate events, either very heavy rainfall or extended dry periods. The project will seek to attenuate the impact of these risks by providing better water storage, which will reduce the effect of run-off and ensure a more steady supply of water during extended dry periods. Staff and farmer training is to be provided for all food and cash crop, livestock



and fishery production activities, to ensure the adoption of improved technologies and inputs already known and used in the project area. New technologies will be introduced only once the pilot research and development activities show proven results.

### **I. Environmental Impact**

37. Although the project is situated in a mountainous area, vegetative cover is good and there is relatively limited soil erosion. Irrigation and land development will not have any negative consequence and will in fact improve flood protection in some of the project areas, thus reducing erosion and other potentially negative impacts. All road construction under the project will be carried out in conformity with Chinese national standards, and no negative impact on the environment is expected. The proposed water sources for project drinking water activities meet Chinese standards for potable water and will be of much higher quality and accessibility than the present sources.

### **J. Innovative Features**

38. During project inception the project area and target group was pre-identified using the VAM method. Women and other target groups' active participation has been secured through training of township PMO staff in the use of PRA methods for preparing the VDPs, which will also increase their understanding of the living conditions and specificity of the target group. Credit packages will be gender-sensitive, tailor-made and constructed starting from actual landholding and development plans of the individual borrower or borrower group. A beneficiary-initiated self-monitoring programme will be introduced with biannual written reports from the village community on the services and inputs received and the impact achieved. The VAM will be used for processing data regarding impact of project activities. On-farm demonstrations will be used to introduce technology relating to reducing post-harvest losses, improving soil conservation and increasing the level of organic farming together with improved water management techniques. Emphasis on non-timber forestry production will increase financial profitability while simultaneously reducing erosion. Extension with a poverty and gender focus will be the main instrument. Numerous small demonstrations and trials of selected, recommended packages will be carried out on the fields of poor and very poor farmers, women in particular. The demonstration inputs will be provided free of charge to the beneficiary, allowing some of the poorest to improve their asset-building capacity. Savings mobilization and increased beneficiary ownership of the RCCs will be gradually strengthened, and then introduced in ongoing projects through feedback during annual PMO workshops.

## **PART III - LEGAL INSTRUMENTS AND AUTHORITY**

39. A loan agreement between the People's Republic of China and IFAD constitutes the legal instrument for extending the proposed loan to the borrower. A summary of the important supplementary assurances included in the negotiated loan agreement is attached as an annex.

40. The People's Republic of China is empowered under its laws to borrow from IFAD.

41. I am satisfied that the proposed loan will comply with the Agreement Establishing IFAD.



#### **PART IV - RECOMMENDATION**

42. I recommend that the Executive Board approve the proposed loan in terms of the following resolution:

RESOLVED: that the Fund shall make a loan to the People's Republic of China in various currencies in an amount equivalent to twenty one million Special Drawing Rights (SDR 21 000 000) to mature on and prior to 1 December 2039 and to bear a service charge of three fourths of one per cent (0.75%) per annum, and to be upon such terms and conditions as shall be substantially in accordance with the terms and conditions presented to the Executive Board in this Report and Recommendation of the President.

Fawzi H. Al-Sultan  
President

## SUMMARY OF IMPORTANT SUPPLEMENTARY ASSURANCES INCLUDED IN THE NEGOTIATED LOAN AGREEMENT

(Loan negotiations concluded on 5 November 1999)

1. The available funds and other resources called for in the AWPBs will be channelled as provided in accordance with the project management agreements to carry out the project and the subsidiary loan agreements to be entered between the county PMOs and the RCCUs to carry out the financial services component of the project.
2. The Government of the People's Republic of China will cause, at the provincial level in each province, *inter alia*, the Department of Agriculture, the two provincial branches of the PBC, the Department of Finance, the Department of Forests, the Department of Public Health, the Department of Transport, the Department of Water Conservancy, the Education Commission, the Provincial Poverty Alleviation Office, the Planning Commission, the PMOs, and the women's federation (WF) to enter into project management agreements satisfactory to IFAD, regarding the management of the project. The project management agreements will include, *inter alia*, guidelines for implementation of the project and the respective responsibilities of the PMOs and other agencies regarding the implementation of the project. The draft project management agreements will be submitted to IFAD for their respective comments and approval before their signature.
3. As soon as practicable, but in no event later than 30 days after the effective date, the Government will cause the provincial Department of Finance (DOF) to open and thereafter maintain in banks satisfactory to IFAD, in each province, separate project development accounts (PDAs). The provincial PMOs will deposit or cause to be deposited into the PDAs of township and county level PMOs the required local counterpart funds to be provided by the Government.
4. Each RCC will establish and maintain a revolving fund for the project for keeping therein the principal and interest, net of operating and other expenses, received on the credits made to farmers from the proceeds of the loan provided for incremental credit. Amounts available in the revolving funds will be used by each RCC for the expansion of credit facilities to the beneficiaries consistent with the project loan agreement until at least 15 years after the effectiveness date.
5. The Government will ensure that:
  - (a) the WF's prerogatives will not be limited to women, or by extrapolation, gender-related issues;
  - (b) the WF will not financially benefit from marketing women's produce generated under the project through project extended loans beyond recovering costs. Support to WF will include training units, equipment, and training materials. The WF will make the training facilities and equipment available to other project-associated agencies on request;
  - (c) the construction or rehabilitation of the township agricultural and animal husbandry stations will be preceded by a needs assessment and inventory, and common premises will be proposed whenever possible to provide a more efficient use of funds for sites, buildings and services, and to ensure optimal service to farmers;
  - (d) demonstrations will be held in the fields or with the animals of poorer farmers, and demonstration inputs will be supplied by the project without charge to the farmer who will keep the produce of the demonstration in return for it being a training ground for neighbours;



- (e) irrigation infrastructure development will only proceed on the basis of proficient screening and scoping, and that disaster mitigation measures be included whenever necessary, together with the necessary associated monitoring systems. A water availability and demand balance will be carried out prior to commencement of irrigation and drainage works and the design modified if necessary;
- (f) before renovation or construction of primary schools takes place, a parent committee will be formed and commitments will be received that they provide the necessary unskilled and semi-skilled labour;
- (g) all planting material provided under the project will be of high quality;
- (h) special attention will be given to educating farmers, both men and women, in the safe use, handling and storage of agrochemicals so as to minimize acute and chronic toxic effects. When recommending essential chemicals, technical staff will choose the least hazardous effective chemical. Whenever possible, integrated pest management principles will prevail;
- (i) source and use of counterpart funds will be confirmed and become part of the AWPB;
- (j) the provincial Animal Husbandry Bureau will ensure timely provision of animal vaccines and medicines, in sufficient quantity and good quality to the project township stations, to be used for the households which have taken up one of the project loan packages for livestock production;
- (k) where project activities affect the supply or quality of the available land, re-allocation will be carried out as part of the VDP through a participatory process involving the whole village through the village implementation group, which always has women representatives;
- (l) each implementing agency organizes satisfactory operation and maintenance of the works during and after the project period; and
- (m) project activities show coherence throughout the different locations and at any time during project implementation. Concepts, objectives pursued and means applied in project execution will be consistent. A specific issue to be addressed will be the uniformity of training modules and manuals, and data collection and analysis.

6. **Conditions precedent to effectiveness.** The following are the additional conditions precedent to the effectiveness of the project loan agreement:

- (a) the project loan agreement shall have been duly signed, and the signature and performance thereof by the Government shall have been duly authorized and ratified by all necessary administrative and governmental action; and
- (b) the project management agreements shall have been duly signed, and the signature and performance thereof by the parties thereto have been duly authorized or ratified by all necessary administrative and governmental action.



7. **Conditions precedent to withdrawals.** No disbursements shall be made for incremental credit from the loan until the subsidiary loan agreement shall have been approved by IFAD in draft. With respect to each RCC at county level, no withdrawals shall be made until the respective subsidiary loan agreement shall have been signed.

## COUNTRY DATA

## CHINA

<b>Land area (km<sup>2</sup> thousand) 1996 1/</b>	<b>9 326</b>	<b>GNP per capita (USD) 1997 2/</b>	<b>860</b>
<b>Total population (million) 1997 1/</b>	<b>1 227.2</b>	<b>Average annual real rate of growth of GNP per capita, 1990-97 2/</b>	<b>10.0</b>
<b>Population density (people per km<sup>2</sup>) 1996 1/</b>	<b>130</b>	<b>Average annual rate of inflation, 1990-97 2/</b>	<b>11.2</b>
<b>Local currency</b>	<b>Yuan Renminbi (CNY)</b>	<b>Exchange rate: USD 1 =</b>	<b>CNY 8.30</b>
<b>Social Indicators</b>		<b>Economic Indicators</b>	
Population (average annual population growth rate) 1980-97 1/	1.3	GDP (USD million) 1997 1/	901 981
Crude birth rate (per thousand people) 1997 1/	17	Average annual rate of growth of GDP 1/	
Crude death rate (per thousand people) 1997 1/	8	1980-90	10.2
Infant mortality rate (per thousand live births) 1997 1/	32	1990-97	11.6
Life expectancy at birth (years) 1997 1/	70	Sectoral distribution of GDP, 1997 1/	
Number of rural poor (million) (approximate) 1/	66.1	% agriculture	19
Poor as % of total rural population 1/	7.9	% industry	49
Total labour force (million) 1997 1/	736	% manufacturing	37
Female labour force as % of total, 1997 1/	45	% services	32
<b>Education</b>		Consumption, 1997 1/	
Primary school gross enrolment (% of relevant age group) 1996 1/	120	General government consumption (as % of GDP)	12
Adult literacy rate (% of total population) 1995 3/	82	Private consumption (as % of GDP)	46
<b>Nutrition</b>		Gross domestic savings (as % of GDP)	
Daily calorie supply per capita, 1995 3/	2 708	<b>Balance of Payments (USD million)</b>	
Index of daily calorie supply per capita (industrialized countries=100) 1995 3/	86	Merchandise exports, 1997 1/	182 792
Prevalence of child malnutrition (height for age % of children under 5) 1992-97 1/	31	Merchandise imports, 1997 1/	142 370
Prevalence of child malnutrition (weight for age % of children under 5) 1992-97 1/	16	Balance of merchandise trade	40 421
<b>Health</b>		Current account balances (USD million)	
Health expenditure, total (as % of GDP) 1990-97 1/	3.8	before official transfers, 1997 1/	24 574
Physicians (per thousand people) 1990-97 1/	1.6	after official transfers, 1997 1/	29 718
Percentage population without access to safe water 1990-96 3/	33	Foreign direct investment, 1997 1/	44 236
Percentage population without access to health services 1990-95 3/	12	<b>Government Finance</b>	
Percentage population without access to sanitation 1990-96 3/	76	Overall budget surplus/deficit (including grants) (as % of GDP) 1996 1/	-1.6
<b>Agriculture and Food</b>		Total expenditure (% of GDP) 1996 1/	8.0
Food imports as percentage of total merchandise imports 1997 1/	5	Total external debt (USD million) 1997 1/	146 697
Fertilizer consumption (hundreds of grams per ha of arable land) 1995-97 1/	2 732	Present value of debt (as % of GNP) 1997 1/	15
Food production index (1989-91=100) 1995-97 1/	155.8	Total debt service (% of exports of goods and services) 1997 1/	8.6
<b>Land Use</b>		Nominal lending rate of banks, 1997 1/	8.6
Arable land as % of land area, 1996 1/	13.3	Nominal deposit rate of banks, 1997 1/	5.7
Forest area (km <sup>2</sup> thousand) 1995 1/	1 333		
Forest area as % of total land area, 1995 1/	14.3		
Irrigated land as % of cropland, 1994-96 1/	37.0		

n.a. not available.

Figures in italics indicate data that are for years or periods other than those specified.

1/ World Bank, *World Development Report*, 1999

2/ World Bank, *Atlas*, 1999

3/ UNDP, *Human Development Report*, 1998

## PREVIOUS IFAD LOANS TO CHINA

Project Name	Initiating Institution	Cooperating Institution	Lending Terms	Board Approval	Loan Effectiveness	Current Closing Date	Loan/Grant Acronym	Currency	Approved Loan/Grant Amount	Disbursement (as % of approved amount)
Northern Pasture and Livestock Development Project	IFAD	UNOPS	HC	22 Apr 81	20 Jul 81	31 Dec 88	L - I - 62 - CH	SDR	28 700 000	100%
Hebei Agricultural Development Project	IFAD	World Bank: IBRD	I	15 Sep 82	14 Jan 83	31 Dec 88	L - I - 107 - CH	SDR	22 900 000	100%
Rural Credit Project	IFAD	World Bank: IDA	HC	11 Sep 84	22 Jan 85	30 Jun 89	L - I - 153 - CH	SDR	24 250 000	100%
Guangdong Integrated Freshwater Fish Farming Project	IFAD	World Bank: IBRD	I	03 Dec 86	24 Mar 87	31 Dec 92	L - I - 195 - CH	SDR	10 150 000	96.4%
Sichuan Livestock Development Project	IFAD	UNOPS	HC	30 Nov 88	16 May 89	30 Jun 95	L - I - 233 - CH	SDR	13 400 000	100%
Shandong/Yantai Agricultural Development Project	IFAD	UNOPS	HC	07 Dec 89	10 Jul 90	31 Dec 96	L - I - 254 - CH	SDR	16 800 000	100%
Shanxi Integrated Agricultural Development Project	IFAD	UNOPS	HC	04 Apr 91	26 Jul 91	30 Jun 98	L - I - 281 - CH	SDR	17 850 000	99.9%
Jilin Low-lying Land Development Project	IFAD	UNOPS	HC	14 Apr 92	15 Jun 92	30 Jun 98	L - I - 300 - CH	SDR	20 000 000	99.9%
Yunnan-Simao Minorities Area Agricultural Development Project	IFAD	UNOPS	HC	15 Sep 93	10 Dec 93	31 Dec 00	L - I - 335 - CN	SDR	18 400 000	94.5%
Qinghai/Hainan Prefecture Agricultural Development Project	IFAD	UNOPS	HC	05 Dec 94	08 Jun 95	30 Jun 01	G - I - 32 - CN	USD	70	92.8%
Qinghai/Hainan Prefecture Agricultural Development Project	IFAD	UNOPS	HC	05 Dec 94	08 Jun 95	30 Jun 01	G - I - 5 - CN	USD	100 0	57.6%
Qinghai/Hainan Prefecture Agricultural Development Project	IFAD	UNOPS	HC	05 Dec 94	08 Jun 95	30 Jun 01	L - I - 364 - CN	SDR	13 500 000	89.6%
Jiangxi/Ganzhou Integrated Agricultural Development Project	IFAD	UNOPS	HC	06 Dec 95	10 May 96	30 Jun 01	L - I - 395 - CN	SDR	15 950 000	69.0%
North-east Sichuan and Qinghai/Haidong Integrated Agricultural Development Project	IFAD	UNOPS	HC	11 Sep 96	14 May 97	31 Dec 02	L - I - 424 - CN	SDR	19 100 000	59.5%
South-west Anhui Integrated Agricultural Development Project	IFAD	UNOPS	HC	11 Sep 97	12 Dec 97	30 Jun 03	L - I - 451 - CN	SDR	19 100 000	23.3%
Wulin Mountains Minority-Areas Development Project	IFAD	UNOPS	HC	10 Sep 98	21 Apr 99	31 Dec 04	L - I - 483 - CN	SDR	21 100 000	04.8%







## PROJECT COMPONENTS AND IMPLEMENTATION ARRANGEMENTS

### Overall Implementation Structure

1. The Chinese system of government devolves substantial administrative power to the provinces. Within provinces the administrative system is divided into prefectures, counties, townships and administrative villages, consisting of a number of 'natural' villages. All levels have degrees of financial and managerial autonomy. Developmental decisions are usually based on the review of development plans prepared by the village committees. This administrative structure is clearly reflected in project implementation and management. To ensure smooth project implementation, PLGs will be set up at all levels, except at the village level, where VIGs will be responsible for drawing up the long-term and annual VDPs. These PLGs are made up of senior officials to ensure maximum authority to coordinate the actions of all agencies involved, including: Interior, Planning Commission, Agriculture, Animal Husbandry, Water Conservancy, Forestry, Health, Education, Finance, the Women's Federation, senior financial institutions, and supply and marketing enterprises.
2. PMOs will be formed under the responsibility of the Ministry of Agriculture (MOA) at province, prefecture, county and township levels. These PMOs will operate under the immediate supervision of the relevant PLG. Chaired by a senior staff member of MOA, these PMOs will bring together senior technicians of major implementing agencies. Prime responsibilities of the PMOs are to establish the AWPB to provide necessary funding to the implementing agencies, to coordinate programme implementation and to report on project progress. Responsibility for technical implementation will remain with the various technical bureaux. Financial administration and funding arrangements will remain the responsibility of the Department of Finance as head of the financial unit in the PMOs. All PLGs and PMOs have already been established in the project area and their officials have undergone basic training in participatory project development and implementation.
3. As the Government's accountant and banker, the Department of Finance will be responsible for opening and managing the special accounts in each province. It will transfer funds to project accounts opened by the PMOs, in line with the approved AWPB. The finance bureaux will second staff to the PMOs in prefecture and counties to take charge of PMO accounting and fund management and will train staff in accounting and financial procedures as and when required.

### Agricultural Development

4. Four institutions will be responsible for implementing the bulk of the agricultural, livestock and tree crop development activities:
  - (a) The **agricultural bureaux** will support crop production development principally with extension services and with the provision of adequate inputs. Agricultural and livestock technicians operating from the extension and animal husbandry units will advise and train farmers on such matters as the economical use of irrigation water, improved seeds and planting materials, and high-performance animal breeds and their requirements. These subjects will also form the core of the proposed demonstrations programme. The relevant institutions will be upgraded both in terms of physical infrastructure and of staff training.
  - (b) The **animal health bureaux** will support livestock development principally through their animal husbandry stations. These will provide advice on veterinary and livestock



APPENDIX III

development matters and will also assist beneficiaries with selecting suitable animals for the livestock development programmes.

- (c) The **water conservancy bureaux** are primarily responsible for the engineering aspects of civil works needed to achieve efficient irrigation systems. Designs will mainly be carried out by the county bureaux but assisted by specialists from higher echelons, in particular for the larger-scale interventions such as dams. County bureaux will be expected to design and build all domestic drinking water facilities provided under the project. The water conservancy bureaux will also play a pivotal role in forming, training and supporting the village water-users groups.
- (d) The **forestry bureaux** at prefecture and county level will be instrumental in supporting tree crop development mainly through the township forestry workstations and their nurseries and in full collaboration with relevant MOA services. Incremental training will be provided for the agricultural and forestry bureau officials, in particular for all agents operating directly with the farmers at the extension interfaces.

5. Overall opportunities for irrigation are limited but substantial numbers of systems established during the sixties and seventies need serious rehabilitation to increase water efficiency. The project will support the creation or the rehabilitation of a number of different water storage and water management systems including reservoirs, wells, pumps and canals. The infrastructure provided will enable water to reach about 59 000 mu of previously rainfed land as well as providing improved supplies to about 35 600 mu of existing irrigation schemes, directly benefiting 45 000 farming households. All new construction will be carried out in accordance with Chinese national standards. During and following construction, the village head will organize farmers in water management groups, consisting of five farmers, two of whom women. The group will be trained in all aspects of irrigation water management on and off the field, including control of water to the individual fields or sections; and in O&M procedures, including simple construction and repair of canals, pumps, reservoirs and other minor structures. Training and procedures will follow the existing and successful operating systems already functioning in other projects.

6. The county water bureaux have good experience in the management and operation of existing schemes. They have less in the design of a large number of small schemes. Thus, modest technical support from higher levels of the water conservation bureau will be accorded to the county-level technicians to work out all technical planning and designs for the small engineering works. For the few more important schemes, work will be supervised directly by the provincial water conservation bureau.

7. Terracing, the most important dryland improvement technology, will cover about 50 000 mu. Other productivity-increasing techniques are also available. Drainage to remove cold water logging will be applied to 20 000 mu. Dryland conversion or special levelling for irrigation will be carried out on 20 000 mu. Soil deepening will be carried out on 18 000 mu. About 37 000 mu of low productivity rangeland can be replanted and sown with appropriate fodder plants and shrubs. These activities, expected to benefit between 60 000 and 90 000 farming households directly, will be carried out by the relevant technical bureaux.

8. Livestock development will be essentially credit-driven. It is envisaged that about 90 000 family-owned and operated livestock enterprises will be supported during the project life either as new ventures or as upgraded existing livestock activities. The key responsibility will be with the financial institutions in the project area, but substantial technical inputs will be required from veterinary and animal husbandry services, which will be strengthened accordingly.

9. Economic tree crops will be planted on about 140 000 mu of small individually owned and managed plots using project-provided credit facilities. Some of the uncultivated land needs remedial



action if heavy run-off, soil erosion and landslides are to be avoided. The project will assist the establishment of about 20 000 mu of a variety of species of environmental economic trees. Up-to-date techniques are essential for the development of rapid-maturing trees. The project will provide training to county and township staff and to farmers. Food-for-training compensation will encourage women in particular to attend the training sessions. The project will provide training and equipment to the provincial forestry bureaux and the appropriate prefecture services to enable the training of county and township staff.

10. The delivery of technical and extension services will be improved through project support for the rehabilitation, upgrading or construction of about 219 township extension facilities, including 99 animal health stations. In each village, groups of about five selected farmers, including at least two women, will be trained in a range of subjects, including crops, livestock, water use and maintenance, and economic trees, in accordance with their priorities. A substantial programme of small demonstrations in the fields or with the livestock and trees of selected poor farmers will supplement this direct training. This approach represents an innovative development of an existing practice. In order to maintain an appropriate training programme for extension agents, it is necessary to upgrade some formal agricultural training facilities.

### **Financial Services**

11. The proposed financial services are exclusively based on products already offered by RCCs in the project areas. The project will support a rapid and easily accessible financial service for the target clientele and will ensure a more poverty and gender-sensitive system. Poor individuals will be targeted, especially women who are economically active but usually have no access to formal financial sources because they fail to provide collateral or physical guarantees for borrowing. RCCs should continue to mobilize local savings by promoting membership and shareholding by beneficiaries and by encouraging deposits into term savings accounts. This is a certain way to ensure that the incremental project funds will continue to have a long-term impact to strengthen the self-financing capabilities of the rural financial systems they have supported over the project life. The promotion of the various forms of financial savings available within the RCC-system will be an important subject of the awareness campaigns that RCCs will undertake in the early stages of implementation.

12. The provision of loans to rural households constitutes the major project activity on IFAD funding. RCCs, established in every township of the project area, will be responsible for providing credit and for recovering principal and interest from their clients. In the process, and through their existing village agents and credit officers, RCCs will run awareness-building campaigns among the target population and provide specific training to credit takers, in collaboration with the VIGs. A mandatory aim of these activities is to target women on a priority basis in order to increase substantially women's direct access to credit. In these matters RCCs will be required to closely liaise with representatives and officials of the Women's Federation.

13. Township RCCs will receive their funding through the Country RCCU. These existing institutions are responsible for credit supervision and management support for RCCs. RCCUs are provided with specialized staff seconded from People's Bank of China offices for this purpose. Funds will reach the individual RCCUs from the county Finance Bureau through the Finance and Credit Support Units established within each county PMO.

14. Credit will be made available to individuals or small groups of farmers for a wide range of on and off-farm investment activities. Agricultural credit will consist mainly of seasonal loans with maturity of less than one year, to enable farmers to purchase inputs for each season. Livestock credit will enable farmers to start a new livestock activity or to modernize an existing one. Loan maturity will be adapted to each specific livestock cycle and may therefore range from seasonal to medium term, not exceeding three to four years. Tree crop credit will cover the cash investment requirements



of new individual economic plantations. Credit is expected to be used exclusively for the development of non-wood forestry products. Loan maturity will not exceed five years. Finally, credit for income-generation activities will be available. Loan maturity will be adapted to each specific project but is expected to range from seasonal to medium term, not exceeding three years.

15. Eligible borrowers will be poor individuals, especially women who are economically active, but who presently have little or no access to formal financial sources. Skills training will be associated to facilitate access to credit. In all cases, loans can be used for initial physical investment and/or working capital. No collateral will be required for loans up to CNY 2 000, but for larger loans the borrower will have to provide 10% of the total financing required. No grace periods are envisaged because projects are likely to rapidly produce incremental income streams that adequately cover principal and interest payments. In the case of tree crops, for instance, intercropping during early years will fulfil that role. RCC policy is currently to require repayments for six and twelve-month loans by one-time “balloon” repayment of principal and interest in the last month of the term. Yearly repayments are made at the end of each year for longer-term loans. RCCs will be requested to consider more flexible loan recovery schedules that suit the farmers better. The interest rates to be charged will be those practised by the RCCs in the project areas and may include a mark-up of up to 50% of the interest ceilings fixed by PBC.

### Social Development

16. **Education.** The project will provide functional literacy training mainly for women. The training programme will be implemented by the education bureaux with collaboration from the Women’s Federation and will cover about 78 000 persons, or over 50% of all women illiterates. The project will also support the rehabilitation of about 380 inadequately functioning primary schools, through repairs, renovation and the provision of equipment. This activity will be the responsibility of the education bureaux responding to requests made by the VIGs and included in the AWPB. To reduce the number of girls in particular who drop out in the early years of their schooling, the project will provide for each village the equivalent of the annual school cost for five children for the first three years of the project. The VIG will select households that will benefit from either full or partial cost relief.

17. **Technology and Skills Training for Women** will focus on offering women opportunities to absorb on and off-farm practical skills to enhance their capabilities for agricultural production and to participate in project-supported credit schemes. Training will be supported at two levels: two women “forerunners” identified from each village annually will serve as relay-trainers/demonstrators for the “followers”, about 10 women in each village annually. Forerunners will receive rather more advanced training than will followers. Small training units will be built in each project township. These units will be managed by the Women’s Federation, the prime agency in women’s skills and literacy training and will also be made available for training activities undertaken by other agencies in accordance with identified needs and scheduling opportunities. The Women’s Federation will be responsible for coordinating the training, in particular for tapping the knowledge available within the various technical agencies.

18. **Health.** A total of about 58 000 women will be supported to attend health education training. The trainers will be the village health workers who in turn will be trained by county-level health workers. To facilitate the work of the village health workers and enable them to provide the necessary basic services to the village women, the project will provide a basic kit of simple equipment for each village clinic. An average of ten households per village will be supported to construct an improved toilet, with participating households providing manual labour and a small contribution in cash. Implemented by the education bureaux as part of the primary school improvement programme, blocks of toilets will be constructed at primary schools. The biogas generation units introduced on a demonstration basis also include improved toilet facilities to collect human as well as animal waste.



## Rural Infrastructure

19. **Drinking water** is in very short supply, and women in particular have to walk long distances. Depending on local conditions for water harvesting in water-short villages, the project will provide a total of 15 000 households drinking water tanks and 2 200 community tanks, the latter providing water to common faucets. Beneficiaries will receive training in water management. The project will assist the WCB, the implementing agency, to establish suitable-quality monitoring programmes particularly for tank water. The project will construct about 270 km of class-four roads to isolated villages. The road construction will be the responsibility of the transport bureaux. In line with the ongoing **rural electrification** programme, the project will fund works by the electricity supply bureaux for an extension of the electrification grid by about 1 456 km, thus bringing electricity to isolated communities.

## LOGICAL FRAMEWORK

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<b>Goal:</b> 1. Household food and income security sustainably increased in targeted rural townships in project area	1.1 Average per capita income increased by CNY 350 by 2010 1.2 Reduction in the volume of relief grain distributed per capita	1.1 VAM-associated surveys 1.2 Statistical records of relief grain distribution	<b>(Goal to Supergoal ):</b> Other projects aiming at same goal develop successfully
<b>Purpose</b> 1. Productive capacity, on-farm and off-farm, and living conditions of vulnerable households in project area sustainably increased	1.1 Average per capita grain availability increased by 22% by 2010	1.1 Sample household surveys 1.2 Provincial statistical reports	<b>(Purpose to Goal)</b> Households use income to buy food Agriculture prices remain attractive No major floods or droughts occur
<b>Output</b>			<b>(Output to Purpose)</b>
1. Lending to poor farmers and women increased at township RCC level	<b>By end of project:</b> 1.1 Loans reach 89 100 households for livestock, 266 100 for seasonal crops, 157 100 for economic trees and 60 000 for small enterprises 1.2 Lending to women represents 50% of the loans	1.1.1 Project M&E system 1.1.2 RCC reports	Loans are used for defined purposes such as agricultural production and off-farm income-generation
2. Responsive farmer extension services provided to poor farmers, with priority given to women	2.1 80% of project farmers have accepted recommended improved technology 2.2 Demonstrations cover 1 mu per village per year on field of poor farmers, of which 60% women 2.3 In each village five improved packages introduced on 10 mu	2.1.1 Project M&E system 2.1.2 Beneficiary reports 2.2 1 Project M&E system 2.2.2 Beneficiary reports	Credit is linked to agronomic advice and supported by extension services, experience or training in income-generating activities. Technical advice is matched with availability of inputs
3. Participatory and gender-sensitive VDP established and operational	3.1 Total of 1952 VDPs prepared with PRA and established	3.1.1 Project M&E system 3.1.2 Beneficiary reports	Community priorities are in line with project capabilities
4. Land development, irrigation, terracing, drainage, levelling and deepening	4.1 Development of 20 169 mu irrigation, 50 330 mu new terracing, 8 700 mu new cold water drainage, 17 808 mu soil deepening; pumps for 36 500 mu rehabilitated; 162 330 mu planted to economic trees, including 20 000 mu for environmental protection and 2 550 mu fuel wood	4.1.1 Project M&E system	Water users agree to need for cost recovery to sustain irrigation systems



APPENDIX IV

5. Grassland coverage is expanded and improved	5.1 Total of 37 120 mu grassland established or improved	5.1.1 Project M&E system	Communities agree on pasture management
6. Agricultural output increased and off-farm income opportunities promoted	6.1 Short-term loans provided for inputs on 1.1 million mu of food crops annually 6.2 Medium-term loans provided for investment in 89 000 livestock enterprises 6.3 Long-term loans provided for investment in 141 000 mu of tree crops 6.4 Short and medium-term start-up loans provided to 60 000 small enterprises	6.1.1 RCC recording system 6.1.2 Project M&E system 6.1.3 Beneficiary reports	Terms and conditions are considered satisfactory by beneficiaries, and process allows ready access for eligible borrowers
7. Social facilities and infrastructure improved	7.1 Drinking water tanks for 15 165 households, and 2 157 community tanks completed 7.2 Total of 380 village schools upgraded and constructed, equipment in 1 952 village clinics improved, 1 152 pilot biogas units installed, 237 425 fuel-saving stoves distributed, 19 320 household toilets improved	7.1.1 Project M&E system	Households agree to meet ongoing maintenance cost of drinking water supply
8. Female literacy status improved	8.1 Total 78 000 women provided with functional literacy courses 8.2 Total of 10 000 children, mainly girls, continue education	8.1.1 Project M&E system and reports from Women's Federation	Training courses are appropriate and accompanied by incentives for attendance
9. Rural access roads constructed and upgraded	9.1 Total of 271 km road constructed and upgraded	9.1.1 Project M&E system	
10. Electrification grid extended	10.1 Total of 1 456 km of additional connecting power lines	10.1.1 Project M&E system	
<b>Activities</b>	<b>Inputs includes food-for-work and food-for-training</b>	<b>Means of Verification</b>	<b>Important Assumptions</b>
1.1 Provide credit line to RCCs	1.1.1 Credit line of USD 18.24 million	1.1 Project M&E and RCC reports	
1.2 Upgrade RCCs' operating capacity and beneficiary awareness	1.2.1 Training, computer and transport facilities USD 1.01 million	1.2 Project M&E and RCC reports 1.3 Household surveys	Counterpart funds are available on timely basis
2.1 Construct crop and livestock extension stations, and provide equipment/transport	2.1.1 Buildings, equipment and labour USD 4.10 million	2.1 Project M&E system	Beneficiaries use finance available
2.2 Provide training for technical staff and farmer extensionists	2.2.1 Training and teaching material and food-for-training USD 0.47 million	2.2 Project M&E system	Counterpart funds and cofinancing are available on time
2.3 Provide training for farmers in crops livestock and economic trees	2.3.1 Food-for-training USD 0.12 million	2.3.1 Project M&E system 2.3.2 Beneficiary reports	Training is appropriate
2.4 Establish on-farm demonstrations, for crops, livestock and economic trees	2.4.1 Materials for on-farm trial and demonstrations USD 1.62 million	2.4.1 Project M&E, beneficiary reports	Demonstrations are attractive and appropriate



## APPENDIX IV

3.1 Strengthen PMOs	3.1.1 Materials, training, workshops USD 1.30 million 3.1.2 Rehabilitate training centres USD 0.35 million 3.1.3 Equipment and vehicles USD 2.82 million	3.1 Project M&E system	Counterpart funds and cofinancing are available on time
4.1 Construct and rehabilitate ponds and reservoirs, canal and ditches and drains; train farmers in water use	4.1.1 Materials, skilled and unskilled labour, design and supervision food-for-work USD 19.80 million	4.1 Project M&E system	Counterpart funds and cofinancing are available on time Water balance confirms design
4.2 Construct terraces, level land, soil deepening, and dryland conversion	4.1.2 Materials, skilled and unskilled labour, design and supervision food-for-work USD 8.17 million	4.2 Project M&E system	Beneficiaries are prepared to build terraces for food-for-work
4.3 Plant ecological environmental trees	4.1.3 Materials, labour, food-for-work USD 2.38 million	4.3 Project M&E system	Suitable sites are identified
5.1 Grassland resources improved	5.1.1 Materials, unskilled labour, food-for-work USD 0.32 million	5.1 Project M&E system	Farmers will cooperate
6.1 Construct and rehabilitate drinking water schemes, health and education facilities	6.1.1 Materials and labour for drinking water USD 8.37 million 6.1.2 Materials, equipment and labour for health/sanitation USD 2.13 million 6.1.3 Materials, equipment and labour for primary schools USD 7.23 million	6.1 Project M&E system 6.2 Project M&E system 6.3 Project M&E system	Households use the improved facilities Counterpart funds and cofinancing are available on time
7.1 Construct training units for the Women's Federation	7.1.1 Materials and labour USD 2.47 million	7.1 Project M&E system	Women's Federation supervises and uses the centres
7.2 Organize female literacy courses	7.2.1 Materials and incentives USD 1.62 million	7.2 Project M&E system	Women's Federation instruction booklet is revised and issued
7.3 Organize health care and nutrition education training	7.3.1 Materials and incentives USD 0.37 million	7.3 Project M&E system	Incentives for attendance are sufficient
7.4 Organize skills training for women	7.1.4 Materials and incentives USD 0.28 million	7.4 Project M&E system	Courses are appropriate and attractive; incentives are sufficient
7.5 Organize reintegration of drop-out girls in primary schools	7.5.1 USD 1.05 million	7.5 Project M&E system	Incentives are sufficient but do not encourage drop-out
8.1 Construction of village roads	8.1.1 Materials, labour, design and food-for-work USD 5.22 million	8.1 Project M&E system	
9.1 Extension of electrification	9.1.1 Lines erected, materials, labour and supervision USD 6.19 million	9.1 Project M&E system	Electrification programme is completed on time



## COST AND FINANCING

### Disbursement Accounts by Financiers (USD '000)

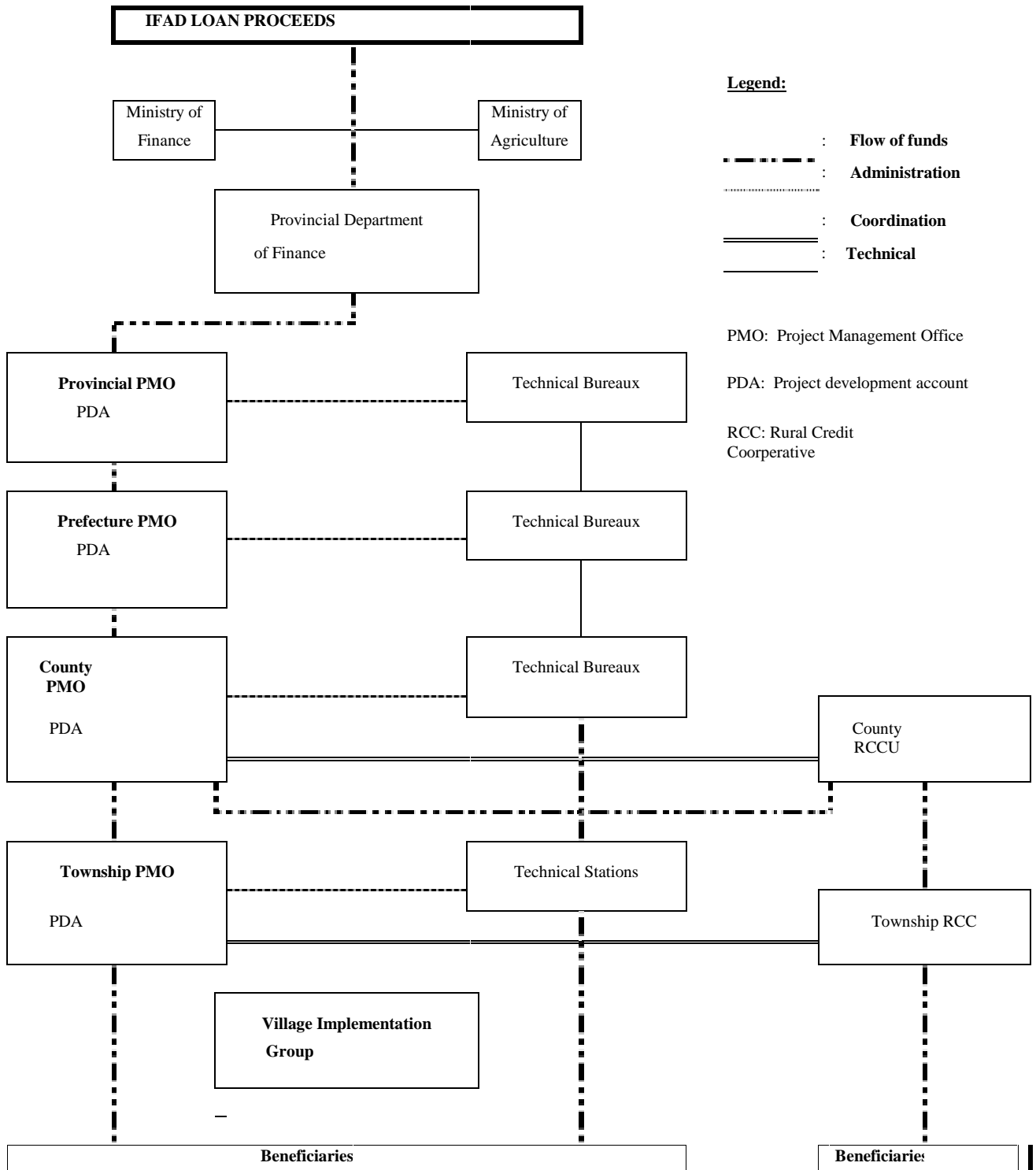
	IFAD		WFP		Government		Beneficiaries		Total		Foreign Exchange	Local (Excl. Taxes)	Duties And Taxes
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
<b>Building supplies</b>	-	-	-	-	41 632	98.5	627	1.5	42 259	39.7	4 226	33 807	4 226
<b>Equipment and supplies</b>													
Vehicles	-	-	-	-	1 043	100.0	-	-	1 043	1.0	209	532	302
Technical	7 163	71.0	-	-	2 923	29.0	-	-	10 086	9.5	2 016	5 147	2 923
Demonstrations	1 093	71.0	-	-	446	29.0	-	-	1 539	1.4	308	785	446
Other farm inputs	-	-	-	-	1 692	100.0	-	-	1 692	1.6	-	1 201	491
Training	406	97.1	-	-	12	2.9	-	-	418	0.4	8	398	12
<b>Subtotal</b>	<b>8 662</b>	<b>58.6</b>	-	-	<b>6 116</b>	<b>41.4</b>	-	-	<b>14 777</b>	<b>13.9</b>	<b>2 541</b>	<b>8 063</b>	<b>4 174</b>
<b>Staff training</b>	<b>918</b>	<b>50.0</b>	-	-	<b>918</b>	<b>50.0</b>	-	-	<b>1 837</b>	<b>1.7</b>	-	<b>1 827</b>	-
<b>Beneficiary training</b>	-	-	1 723	100.0	-	-	-	-	1 723	1.6	-	1 723	-
<b>School drop-outs</b>	<b>1 061</b>	<b>100.0</b>	-	-	-	-	-	-	1 061	1.0	-	1 061	-
<b>Leader training (credit)</b>	<b>112</b>	<b>100.0</b>	-	-	-	-	-	-	112	0.1	-	112	-
<b>VIG Training</b>	-	-	-	-	354	100.0	-	-	354	0.3	-	354	-
<b>Labour</b>													
Unskilled (cash)	-	-	-	-	665	100.0	-	-	665	0.6	-	665	-
Unskilled (food)	-	-	8 677	100.0	-	-	-	-	8 677	8.2	-	8 677	-
Skilled	-	-	-	-	6 044	100.0	-	-	6 044	5.7	-	6 044	-
Family labour	-	-	-	-	-	-	3 507	100.0	3 507	3.3	-	3 507	-
<b>Subtotal</b>	-	-	<b>8 677</b>	<b>45.9</b>	<b>6 709</b>	<b>35.5</b>	<b>3 507</b>	<b>18.6</b>	<b>18 893</b>	<b>17.8</b>	-	<b>18 893</b>	-
<b>Credit revolving fund</b>	<b>18 237</b>	<b>100.0</b>	-	-	-	-	-	-	18 237	17.1	-	18 237	-
<b>Food handling</b>	-	-	-	-	3 746	100.0	-	-	3 746	3.5	-	3 746	-
<b>Incremental O&amp;M</b>	-	-	-	-	3 343	100.0	-	-	3 343	3.1	-	3 343	-
<b>Total</b>	<b>28 990</b>	<b>27.3</b>	<b>10 400</b>	<b>9.8</b>	<b>62 818</b>	<b>59.1</b>	<b>4 133</b>	<b>3.9</b>	<b>106 341</b>	<b>100.0</b>	<b>6 766</b>	<b>91 175</b>	<b>8 400</b>

**Expenditure Accounts by Components**  
(USD '000)

	AGRICULTURAL DEVELOPMENT					FINANC. SERV.	SOCIAL DEV.	RURAL INFRASTRUCTURE			PROJECT MANAGEMENT	Total
	Irrigation	Dryland improvement	Field crops	Livestock Support	Tree Crops			Domestic water	Access Roads	Electrification		
<b>Investment costs</b>												
<b>Building materials</b>	12 342	3 548	1 197	1 068	-	-	7 604	6 559	3 399	6 187	355	42 259
<b>Equipment and supplies</b>												
Vehicles	-	-	-	-	-	106	-	-	-	-	890	996
Technical	2 084	-	1 598	169	40	606	3 371	-	-	-	2 297	10 166
Demonstrations	-	-	164	164	1 211	-	-	-	-	-	1	1 541
Other farm inputs	-	-	-	-	1 692	-	-	-	-	-	-	1 692
Training materials	-	-	-	-	-	-	226	-	-	-	157	383
<b>Subtotal</b>	<b>2 084</b>	<b>-</b>	<b>1 762</b>	<b>333</b>	<b>2 943</b>	<b>712</b>	<b>3 597</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3 345</b>	<b>14 777</b>
<b>Staff training</b>	-	-	111	111	156	184	438	-	-	-	818	1 819
<b>Beneficiary training</b>	-	-	117	-	18	-	1 607	-	-	-	-	1 741
<b>School drop-outs</b>	-	-	-	-	-	-	1 061	-	-	-	-	1 061
<b>Leader training (credit)</b>	-	-	-	-	-	112	-	-	-	-	-	112
<b>VIG training</b>	-	-	-	-	-	-	-	-	-	-	354	354
<b>Labour</b>												
Unskilled labour (cash)	-	-	91	75	-	-	499	-	-	-	-	665
Unskilled labour (food)	2 498	3 175	-	241	693	-	80	785	1 206	-	-	8 677
Family labour	-	-	-	-	-	3 507	-	-	-	-	-	3 507
Skilled labour	2 871	1 447	-	-	82	-	-	1 028	616	-	-	6 044
<b>Subtotal</b>	<b>5 368</b>	<b>4 622</b>	<b>91</b>	<b>316</b>	<b>775</b>	<b>3 507</b>	<b>579</b>	<b>1 813</b>	<b>1 821</b>	<b>-</b>	<b>-</b>	<b>18 893</b>
<b>Credit revolving fund</b>	-	-	-	-	-	17 787	-	-	-	-	450	18 237
<b>Food handling</b>	-	-	-	-	-	-	-	-	-	-	3 746	3 746
<b>Total investment costs</b>	<b>19 795</b>	<b>8 170</b>	<b>3 278</b>	<b>1 828</b>	<b>3 892</b>	<b>22 302</b>	<b>14 886</b>	<b>8 372</b>	<b>5 220</b>	<b>6 187</b>	<b>9 068</b>	<b>102 998</b>
<b>Recurrent costs</b>												
<b>Incremental O&amp;M</b>	-	-	-	-	-	-	-	-	-	-	3 343	3 343
<b>Total Recurrent Costs</b>	-	-	-	-	-	-	-	-	-	-	3 343	3 343
<b>Total Project Costs</b>	<b>19 795</b>	<b>8 170</b>	<b>3 278</b>	<b>1 828</b>	<b>3 892</b>	<b>22 302</b>	<b>14 886</b>	<b>8 372</b>	<b>5 220</b>	<b>6 187</b>	<b>12 411</b>	<b>106 341</b>
Taxes	1 839	355	631	203	853	207	1 738	656	340	619	960	8 400
Foreign Exchange	1 651	355	472	173	250	142	1 435	656	340	619	673	6 766



### ORGANIZATION AND MANAGEMENT





## FINANCIAL AND ECONOMIC ANALYSIS

1. **Introduction.** The financial and economic analyses are based on data collected in the project area and analysed with Costab and Farmod, producing, respectively, detailed analytical presentations of project costs in financial terms, and farm as well as activity models for development under the project. The financial prices and benefits are farm-gate prices in March-April 1999. Economic prices were generated by the Farmod software on the basis of standard conversion factors (SCF) to capture distortions in financial prices.

2. **Crop and activity models.** Models have been developed for annual food crops, livestock and economic tree crops. The food crop models have been used to reconstruct the related farm models, based on an average farm size of 0.36 ha in Hubei and 0.33 ha in Shaanxi. Five livestock models and six models for economic tree crop development have been studied to represent the potential evolution of on-farm activities.

3. **Farm models and financial analysis.** An average farm model combining food crops, livestock and economic trees has been developed to study the potential income increases of an average household. Other off-farm income has not been included, suggesting that the outcome is the minimum expected benefit for a beneficiary household. The estimated evolution of financial parameters of an average farming system in each province is based on the outcomes of the Farmod analysis, modified as follows:

- (a) In both provinces the annual cropping evolution is combined with improved pig rearing and some form of commercial poultry development (layers or broilers); cattle rearing will be undertaken only by a relative handful of participants and is therefore not considered typical.
- (b) To this crops-livestock model are then added appropriate tree crop developments. In Hubei province, average development will consist of 0.25 mu of tea and about 0.5 mu of citrus and chestnut each. In Shaanxi province, 0.5 mu of chestnut and of walnut plantation will be about average for each participating household.
- (c) Activities other than annual crops carry investment costs. For the purpose of modelling the annual gross and net income at full implementation, it has been assumed that these will be written off in two years for both livestock activities, and in about ten years for all tree crop developments.

4. The results show that net income before labour will increase substantially. At full production of the proposed tree crops, net income in Shaanxi province will increase by more than USD 253 or by 120% compared with the "WITHOUT" project situation, while in Hubei province the increase will be about USD 482 or 204%. Reflecting increased labour productivity, the value of a workday will increase by about 50% in Shaanxi and double in Hubei. These regional differences are principally due to the profitability of high-quality teas that, for climatic reasons, can only be grown in Hubei and not in Shaanxi.

5. **Economic analysis.** The economic analysis at the overall project level assumes an implementation schedule over a six-year period. Household labour has been costed at a uniform CNY 8 per day, which is about equal to the minimum wage rate available with public works and also to what farmers appear to be paying among themselves; semi-skilled labour has been costed at RMB 15 per day. Almost all recurrent costs occur on the farm. Certain public services such as the extension service will require continued funding beyond the six-year horizon. An extension of Costab beyond the project term of six years shows that these annual costs will be of the order of USD 385 000

6. **Economic internal rate of return and sensitivity.** The calculation of the EIRR has been based on financial prices and SCF. The incremental cash flow derived for selected years is shown in Table 1 below. The whole 20-year period has been used to calculate the EIRR, which in the baseline configuration works out at 17.8% per annum.

**Table 1. Project Incremental Cash-flow Analysis**  
(‘000 CNY)

	1	3	5	7	9	11	13 to 20
<b>Incremental Output</b>							
Annual crops	4,355	56,058	138,284	158,724	157,956	157,956	157,956
Livestock	2,681	25,092	62,421	87,512	93,857	98,087	98,087
Tree crops	-	955	24,703	92,212	179,097	235,442	251,550
Miscellaneous	39	480	1,457	2,352	2,678	2,678	2,678
<b>Sub-Total</b>	<b>7,075</b>	<b>82,585</b>	<b>226,865</b>	<b>340,800</b>	<b>433,587</b>	<b>494,162</b>	<b>510,271</b>
<b>Incremental Costs</b>							
From COSTAB	208,429	142,533	75,755	4,262	4,262	4,262	4,262
On-farm investment	7,321	15,577	15,577	-	-	-	-
Purchased farm inputs	5,085	59,319	139,658	176,491	181,358	185,354	185,354
Family labour	6,710	18,308	26,758	20,402	22,916	24,355	24,713
<b>Sub-Total</b>	<b>227,544</b>	<b>235,737</b>	<b>257,749</b>	<b>201,154</b>	<b>208,535</b>	<b>213,970</b>	<b>214,328</b>
<b>Net Incremental Income</b>	<b>- 220,468</b>	<b>- 153,152</b>	<b>- 30,883</b>	<b>139,646</b>	<b>225,052</b>	<b>280,192</b>	<b>295,943</b>
<b>Baseline EIRR is 17.8% p.a.</b>							

7. Traditional sensitivity test results are given in Table 2, and demonstrate that the EIRR is very robust vis-à-vis exogenous perturbation in cost and/or benefit streams. The imposition of a one-year additional lag of benefits on investment costs still yields an EIRR of 13.4% per annum. Introducing a two-year lag, corresponding to a situation that could only arise from a massive disturbance of normal project implementation, still produces an EIRR of 8.1% per annum. Even the latter outcome is of the order of the opportunity cost of capital. This result is comparable to the effect of a simultaneous shortfall of 20% in benefits and an underestimate of costs by 20%, yielding an EIRR of 7.8% per annum.

**Table 2. Sensitivity of the EIRR**

Costs	Benefits		
	Baseline	- 10%	- 20%
<b>Baseline</b>	<b>17.8</b>	14.9	12.6
<b>+ 10%</b>	15.0	11.7	9.7
<b>+ 20%</b>	12.9	10.2	7.8