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Investing in rural people

People's Republic of China
Country strategic opportunities programme

Note to Executive Board representatives

Focal points:

Technical questions:

Matteo Marchisio
Country Programme Manager
Asia and the Pacific Division
Tel.: +39 06 5459 2862
e-mail: m.marchisio@ifad.org

Dispatch of documentation:

William Skinner
Chief
Governing Bodies Office
Tel.: +39 06 5459 2974
e-mail: gb_office@ifad.org

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Abbreviations and acronyms

COSOP	country strategic opportunities programme
CPE	country programme evaluation
CPM	country programme manager
GDP	gross domestic product
ICO	IFAD Country Office
KM	knowledge management
M&E	monitoring and evaluation
PBAS	performance-based allocation system

Map of IFAD-funded operations in the country

China

IFAD-funded operations since 1981 and planned operations in 2016-2018



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.
 Map compiled by IFAD | 03-05-2016

Executive summary

1. Purpose. The China country strategic opportunities programme (COSOP) 2016-2020 aims to redefine IFAD's engagement in China in light of the changing context and evolving nature of IFAD/China cooperation.
2. The changing context. (i) China has experienced 30 years of significant economic growth and increased per capita income, which have contributed to drastically reducing poverty and improving human development. However, about 70 million people still live below the poverty line. The Government is committed to bringing these people out of poverty by 2020; (ii) China is experiencing a process of rapid rural transformation. There has been a massive migration from rural areas to urban centres, which will likely continue. There is an ongoing process of land consolidation, a push towards mechanization of agriculture, and the emergence and transformation of agrifood value chains. China's vision for its future agriculture sector is that of a modern, large-scale, mechanized sector; and (iii) thirty years of rapid economic and agricultural development have had a negative impact on China's natural resources. Land and water resources have been polluted and depleted, and today are more vulnerable and less resilient to the increasing effects of climate change. Food has been increasingly contaminated by heavy metals, pesticides and chemical inputs, raising great concern regarding the issue of food safety.
3. The evolving nature of IFAD/China cooperation. (i) China has rapidly developed over the past decades, and it is increasingly positioning itself as a leading player in the development arena, promoting South-South cooperation and significantly increasing its contribution to development cooperation, including to IFAD's replenishments. Thus what China seeks from IFAD today has changed: while concessional financing remains an important element in the IFAD/China partnership, particularly for poor provinces, China values IFAD more and more as a source of global experience and best practices, knowledge and innovation; (ii) similarly, IFAD has evolved as well: it has a new strategic vision; a new strategic framework; a more decentralized operational model; and increased focus on knowledge management (KM), partnership-building, policy engagement and South-South cooperation. In addition, new lending and non-lending products are developed to better address clients' evolving needs, particularly middle-income countries; and (iii) this changing context requires reflection on the partnership. The projects that IFAD helped design and fund are no longer enough. While lending remains fundamental in addressing rural poverty and generating experience and best practices, there is increased demand for IFAD to: engage strategically, bring innovations that could eventually be replicated and scaled up, measure results, generate and consolidate knowledge, facilitate knowledge and South-South cooperation, and inform policymaking.
4. IFAD's role in China. IFAD can play a role in supporting China by: (i) contributing to China's efforts to eradicate rural poverty by 2020; (ii) ensuring that smallholders in poor and marginalized areas are not left out of – and can benefit from – the process of rural transformation and agricultural modernization; and (iii) strengthening the environmental sustainability and climate resilience of rural activities.
5. Goal and strategic objectives. The goal of the IFAD-supported programme in the next five years is "to reduce rural poverty and enable smallholders in poor priority areas to benefit from the rural transformation process". To contribute to this goal, the IFAD-supported programme will focus on pursuing two strategic objectives:
 - (a) Strategic objective 1: Increase smallholders' capacity and opportunities to access markets:

- (i) Thematic area of focus 1.A: Support inclusive and safe value chain development;
 - (ii) Thematic area of focus 1.B: Support inclusive cooperatives; and
 - (iii) Thematic area of focus 1.C: Support inclusive financial services.
- (b) Strategic objective 2: Strengthen environmental sustainability and climate resilience:
- (i) Thematic area of focus 2.A: Support sustainable land management at household and landscape levels, and agrobiodiversity conservation;
 - (ii) Thematic area of focus 2.B: Mainstream environmental and climate resilience considerations in country programme activities; and
 - (iii) Thematic area of focus 2.C: Promote renewable energy and labour-saving technologies.
6. Strategic thrusts
- (a) Innovation. Confronted with the limited resources available, IFAD's value added in China is in its capacity to introduce innovations that can be either replicated on a wider scale and/or mainstreamed in government programmes and policies.
 - (b) Scaling up. IFAD-funded interventions will be designed with the final objective of being eventually scaled up/mainstreamed in government programmes. This will be achieved by creating an implementation framework that facilitates a bottom-up flow of information, experiences and lessons generated by the IFAD-supported interventions.
 - (c) KM to inform policy and support South-South cooperation. The impact of the experiences, lessons, data and information generated by IFAD-supported interventions can be greater and more strategic if used as a source of knowledge to inform policymaking and be shared with other countries through South-South cooperation. KM to facilitate this process will be a key element of the country programme.
7. Programmatic approach. To facilitate the integration of the three strategic thrusts in the operationalization of the country programme, a programmatic approach is proposed: support to broad national reforms or programmes in specific thematic areas, or to projects managed nationally and implemented at the provincial level.
8. Delivery mechanisms. Implementation of the country programme will be pursued through three complementary mechanisms:
- (a) Lending: this would include investment loans;
 - (b) Non-lending activities: analysis, technical assistance, impact assessments, policy engagement and South-South cooperation;
 - (c) Partnerships: with government institutions, non-governmental institutions (e.g. research centres, academia, think-tanks, both within and outside China), financial institutions, the private sector and development partners.

People's Republic of China

Country strategic opportunities programme

I. Country diagnosis

A. Economic performance

1. Thirty years of economic growth. China has experienced unparalleled economic growth since it undertook major reforms in the late 1970s, including the second land reform, a gradual market liberalization, and the opening to international trade and foreign investment. Gross domestic product (GDP) per capita increased from US\$220 in 1980 to US\$7,590 in 2014, and in 2010 China became the world's second largest economy in terms of nominal GDP.

B. Poverty context

2. Poverty in China today. Despite the enormous progress, there are still some 70 million poor people living in rural areas (i.e. about 11 per cent of the total rural population). This gives China the second largest number of poor people in the world, accounting for nearly 10 per cent of poor people globally. Rural poverty in China is mostly concentrated in the remote, mountainous and border areas in the central and western regions, largely characterized by fragile ecological environments. These areas are poorly endowed with natural resources, lack appropriate infrastructure and public services, and are often inhabited by ethnic minorities and other disadvantaged groups, including elderly or disabled people, women and children.
3. Eradicating poverty by 2020. President Xi Jinping has clearly indicated that eliminating poverty by 2020 is the Government's top priority. A strategic plan for achieving this is part of the 13th Five-Year Plan 2016-2020. This plan includes a National Poverty Registration System (NPRS) that identifies and registers all remaining poor people and also identifies the cause of poverty for each individual, and the most appropriate poverty reduction strategy in each case. Under the strategic plan each line ministry/department is given additional responsibility for achieving national poverty targets and the geographical focus has been further deepened with priority now being given to 832 poor counties.

C. Agriculture and rural development context

4. Transformation of China's agriculture and rural sectors:
 - (a) Structural change, from a rural and agriculture-based economy to an industry- and service-based economy. The share of the agriculture sector in GDP decreased from about 30 per cent in 1980 to 10 per cent in 2010 to 9.1 per cent in 2014. The share of employment in the agriculture sector fell from 69 per cent in 1980 to 34 per cent in 2014.
 - (b) Agricultural change, from collective, low-productivity agriculture to modern agriculture. Since 1978, China has been shifting from a collective agriculture production system to individual household production, increasing agricultural productivity and food production. This has created surplus agricultural labour, facilitating China's industrialization and affecting the way farmers engage in agriculture. Farmers began to move to off-farm activities and rent out their land, while a few specialized in full-time farming, which increased farm size and facilitated mechanization. Mechanization of agriculture has further eased the outflow of labour from agricultural production, promoting land circulation and consolidation and, consequently, increasing the scale of production. The agricultural landscape in China is progressively moving towards modern, commercial agriculture (mechanized, standardized, large scale and intensive).

- (c) Demographic change, from rural to urban society. The rural share of the population declined from 81 per cent in 1980 to 45 per cent in 2014. Some 12 million rural residents are projected to move annually from rural to urban areas over the next decade. Most of the migrants are young men, while the elderly, women and children remain in rural areas and take over agricultural activities. Urbanization has increased internal remittance flows and brought changes in food consumption patterns and dietary behaviours, rising demand for high-value products, and for food quality and safety.
5. Future challenges/opportunities in the agriculture and rural sector:
- (a) Current focus and future vision. Forty-five per cent of the population still lives in rural areas and is engaged in the agriculture sector (34 per cent), while the share of agriculture in the GDP (9.1 per cent) is modest. Considering that the rural/urban gap still persists despite the rapid rural transformation, agricultural growth remains central to the pursuit of economic growth and poverty reduction.
- (b) Smallholder farming today. It is estimated that China's 200 million to 250 million smallholder farmers are responsible for the bulk of national crop production and manage 95 per cent of the cultivated land. The average farm size is estimated to be about 0.6 hectares (ha) per household, divided among four to six non-contiguous plots and 95 per cent of the farms are smaller than 2 ha.
- (c) Future of smallholder farming. Due to the rapid decline of the agricultural labour force that followed rural-to-urban migration and the ageing of the rural population, the increasing cost of agricultural production calls into question the sustainability of the current smallholder model. Land consolidation through the fostering of a land rental market is favoured by the Government to achieve a scale suitable for modern, commercial agriculture. However, the transaction costs for aggregating land remain high, especially in mountainous areas characterized by small, scattered plots. Thus the evolution of a dual farming structure is likely, with large-scale, mechanized agriculture in the plains, and small-scale, part-time, labour-intensive agriculture in the mountains.
- (d) Emerging opportunities for smallholder agriculture. The rising demand for high-value agricultural products in urban areas opens opportunities for smallholders, as high-value products are more labour-intensive to produce and generate a higher return per hectare. Similarly, rising consumer demand for food quality and safety offers new market opportunities if smallholders adjust their production systems to the required quality or safety standards.
- D. Natural resources and climate change context
6. Increasing pressure on the natural resource base. About 19.4 per cent of land in China is polluted, and land degradation (soil erosion, salinization and desertification) affects about 40 per cent of the land area. Excessive use of fertilizers and pesticides has affected surface and ground water systems. Overuse of water resources is depleting water tables. Mounting animal waste due to the intensification of livestock production adds environmental concern. Food is increasingly contaminated by heavy metals, pesticides and chemical inputs, raising the issue of food safety.
7. Impact of climate change. The average atmospheric temperature in China has increased by 0.91°C in the past 100 years, and the past 15 years were the warmest period in the last century. It is predicted that climate change will continue to intensify, and that the associated occurrence of extreme weather events and natural disasters will increase. Poor people often live in the most vulnerable areas and will probably suffer most from these events.

II. Previous lessons and results

A. IFAD's evolving contribution in China

8. Development of the IFAD portfolio in China. IFAD has been recognized as an early champion of the development of China's poorest western and central areas, and appreciated for its focus on the most remote and marginalized areas, special attention to women and ethnic minorities, and empowerment of grass-roots organizations. IFAD-funded projects have been mostly characterized by area-based, multisectoral, integrated rural development interventions. Their focus has been on agricultural and livestock development, forestry and natural resource management, community-based infrastructure and rural finance. Over time, support has progressively shifted towards enhancing income opportunities and resilience, emphasizing improved access to markets, value chains and inclusive financial services.
9. Past results, performance, impact and scaling up:
 - (a) Past results. IFAD has contributed to: (i) the first weather index insurance scheme; (ii) a participatory planning process at the community level; (iii) beneficiary-governed and community-based management systems for community facilities and infrastructure; (iv) poverty- and gender-sensitive targeting; and (v) new agricultural technologies.
 - (b) Performance. The Independent Office of Evaluation of IFAD rated the overall performance of the IFAD programme in China satisfactory (1999-2013). Programmes and projects have been considered relevant and well aligned to the Government's strategies and priorities; project objectives and targets have been achieved or exceeded; impact has been significant (particularly in terms of income, assets, agricultural productivity and food security); and results sustainable over time. Performance of non-lending activities (i.e. KM, policy dialogue and partnership-building) was considered improving over time, but rated only moderately satisfactory, although limited resources for delivery were recognized.
 - (c) Impact. The positive impact of IFAD-funded projects on rural poverty reduction has been confirmed by two rigorous independent impact assessments. These studies concluded that the projects have: significantly improved food security, economic mobility and agricultural revenues; empowered women and vulnerable groups; influenced government policies on poverty reduction and rural finance; and strengthened institutional capacities.
 - (d) Scaling up. Due to the absence of an appropriate monitoring mechanism, assessment of the scaling up of past best practices and results is difficult. In general, past projects were not designed to be scaled up, and when scaling up did happen, it was the result of favourable contextual circumstances.

B. Changing nature of the IFAD/China partnership

10. A turning point in IFAD/China partnership:
 - (a) The IFAD/China partnership was founded on a shared vision for and commitment to rural poverty reduction, with IFAD providing financing, innovation, knowledge, global experience and best practices. However, both China and IFAD have evolved, justifying the search for new modes of partnership.
 - (b) China's changed expectations. China has rapidly developed over the past decades, and it is increasingly positioning itself as a leading player in the development arena, promoting South-South cooperation and significantly increasing its contribution to development cooperation, including to IFAD's replenishments. As a result, what China seeks from IFAD today has changed: while concessional financing remains an important element in the

IFAD/China partnership, particularly for poor provinces, China values IFAD more and more as a source of global experience and best practices, knowledge and innovation.

- (c) IFAD's changed vision, strategic framework and operational model. Similarly, IFAD has evolved as well: it has a new strategic vision; a new strategic framework (2016-2025); a more decentralized operational model; and increased focus on KM, partnership-building, policy engagement and South-South cooperation. In addition, new lending and non-lending products are being developed to better address clients' evolving needs, particularly middle-income countries.
- (d) The changing nature of the IFAD/China partnership. This changing context requires reflection on the partnership. The projects that IFAD helped design and fund are no longer enough. While lending remains fundamental to addressing rural poverty and generating experiences/best practices, there is increasing demand for engaging strategically, bringing innovations that could eventually be replicated and scaled up, measuring results, generating and consolidating knowledge, facilitating knowledge and South-South cooperation, and informing policymaking. This COSOP incorporates recommendations from the recent IFAD country programme evaluation (CPE) for China.¹

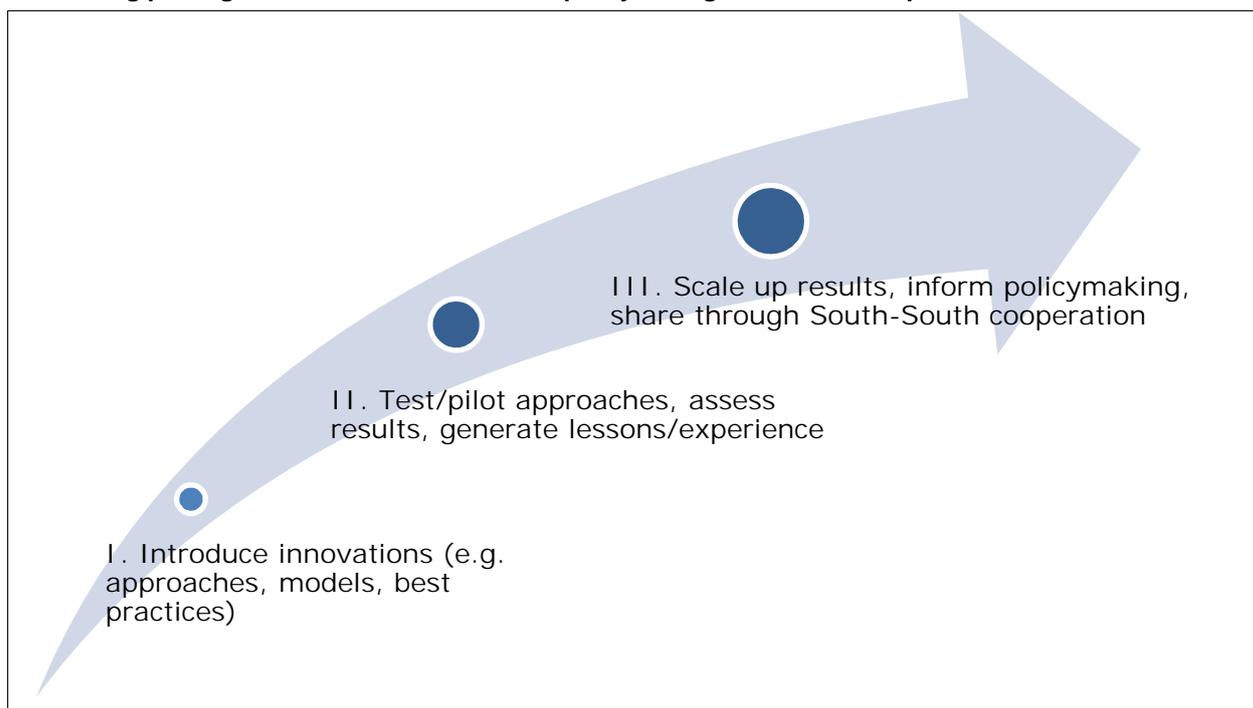
III. Strategic objectives

A. Strategic thrusts

11. Key strategic elements of COSOP 2016-2020:
 - (a) Innovation. Confronted with the limited resources available, IFAD's added value in China is its capacity to introduce innovations (i.e. technologies, approaches, best practices, models) that can be replicated on a wider scale and/or mainstreamed in government programmes and policies.
 - (b) Scaling-up. IFAD-funded interventions will be designed with the final objective of being eventually scaled-up/mainstreamed in government programmes. This will be achieved by setting up an implementation framework that facilitates a bottom-up flow of information, experiences and lessons generated by the IFAD-supported interventions.
 - (c) KM to inform policy and support South-South cooperation. The impact of the experiences, lessons, data and information generated by IFAD-supported interventions can be greater and more strategic if used as a source of knowledge to inform policymaking and be shared with other countries through South-South cooperation. KM to facilitate this process will be a key element of the country programme.
12. These three strategic elements are synergetic and mutually reinforcing: the innovations introduced by IFAD-supported interventions will be the basis for subsequent learning, replication and scaling up; the experience, lessons, data and information generated by IFAD-supported interventions will be used to inform policymaking and be shared with other countries through South-South cooperation.

¹ The main recommendations of the 2014 CPE are that: (i) scaling up should be a priority in the country programme; (ii) the country programme should focus more on non-lending activities (i.e. knowledge management, knowledge cooperation and policy dialogue; and strengthened partnerships with the Ministry of Agriculture, other development partners and in-country stakeholders); (iii) IFAD should continue to facilitate the promotion of South-South cooperation; and (iv) the targeting strategy should focus on poor villages having production potential (not necessarily in remote areas).

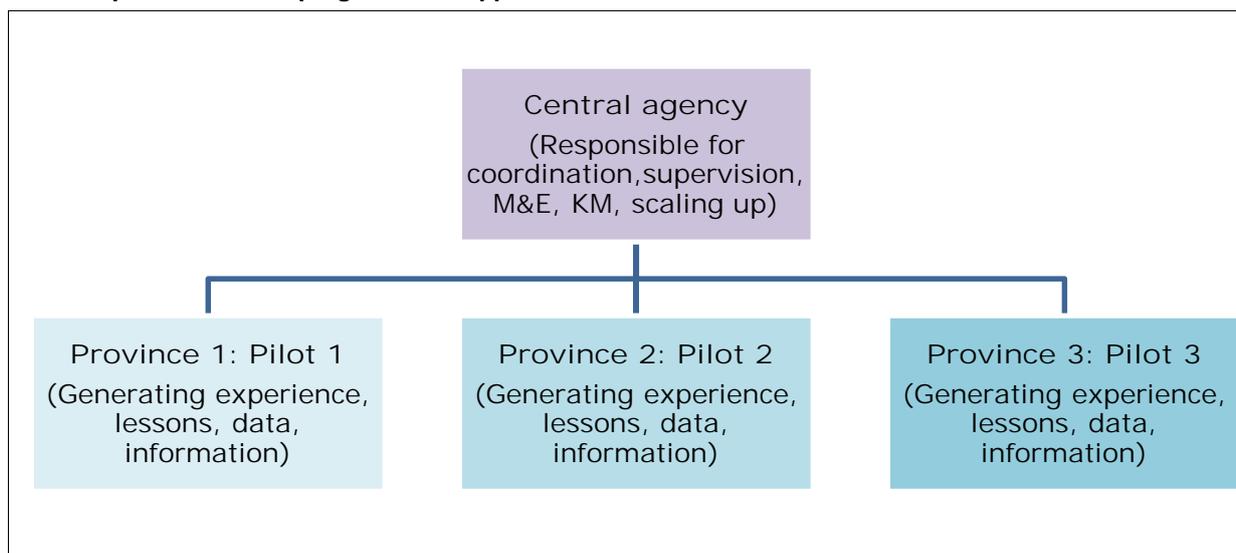
Figure 1

Introducing/piloting innovations that can inform policymaking and be scaled up

13. Programmatic approach. To facilitate the integration of the three strategic elements in the operationalization of the country programme, a programmatic approach is proposed (as opposed to a project approach):² support to broad national reforms or programmes in a specific thematic area, or projects managed nationally and implemented at the provincial level. A programmatic approach is expected to achieve greater scale and greater influence on policy.
14. Implementation of a programmatic approach. The proposed country programme will be managed by a central agency (i.e. programme), which will run pilots at the provincial level. Coordination, supervision, monitoring and evaluation (M&E), KM and, ultimately, scaling up will be the responsibility of a national central agency (selected on the basis of the thematic scope of the operation), while pilot initiatives will be implemented at the provincial level (in one or more provinces).

² Project approach. IFAD has supported China mostly through area-based projects – loans to provincial governments that implement activities in specific geographical areas. Although successful in delivering results on the ground, the drawback of this approach was geographically limited impact (mainly in the project area), limited scaling up (rarely beyond the project area), and thus limited impact/influence on broad national policies.

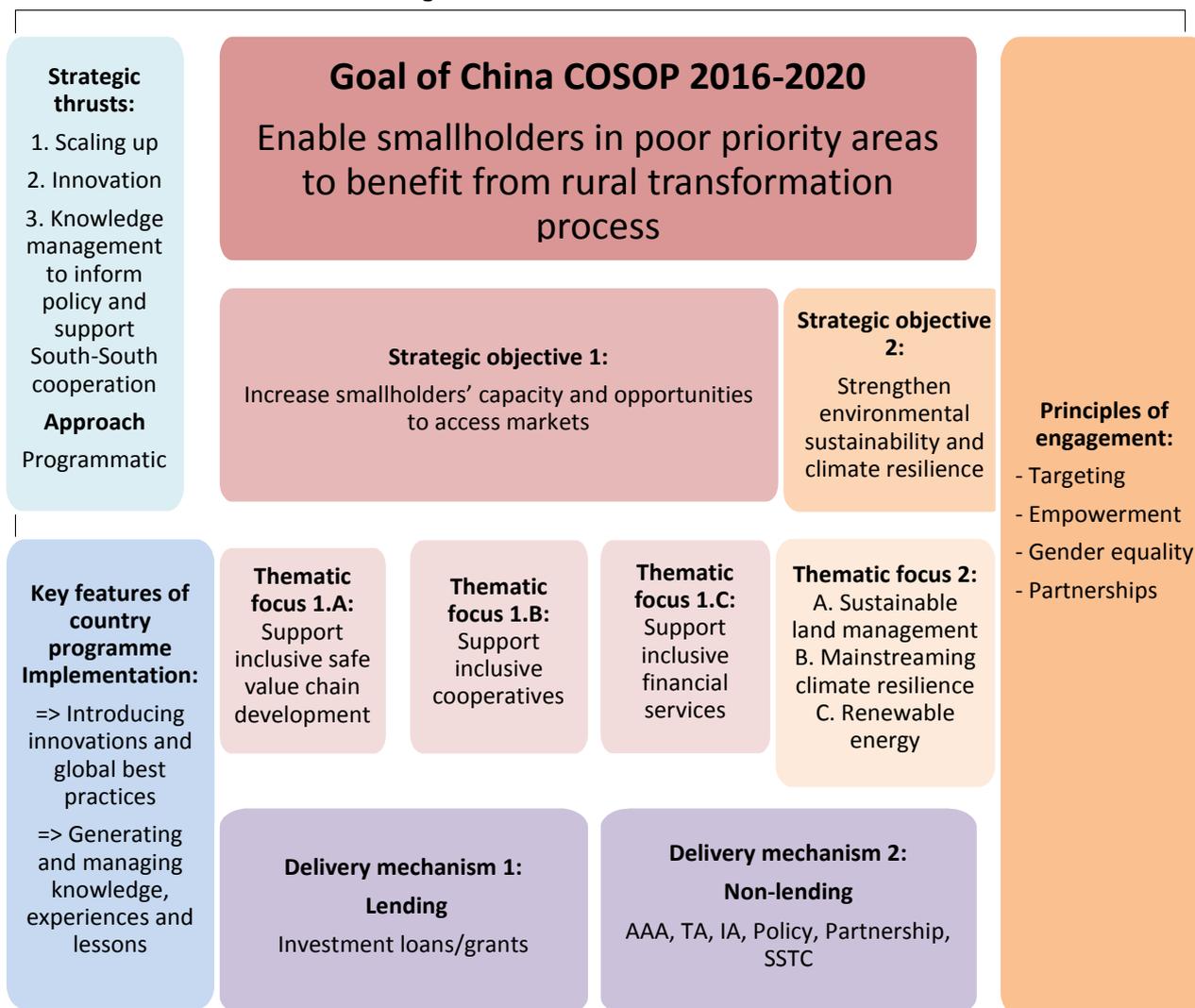
Figure 2
Implementation of programmatic approach



B. Strategic objectives

15. IFAD's potential. China is currently facing two major challenges: first, how to bring the remaining 70 million rural poor out of poverty within a short period of time; and, second, how to ensure that the current rural transformation and modernization of agriculture are inclusive and sustainable.
16. IFAD can play a role in supporting China throughout these processes by:
 - (i) contributing to China's efforts to eradicate rural poverty by 2020; (ii) ensuring that smallholders in poor and marginalized areas are not left out of – and can benefit from – the process of rural transformation and the modernization of agriculture (i.e. inclusiveness); and (iii) strengthening the environmental sustainability and climate resilience of rural activities (i.e. sustainability).

Figure 3
China COSOP 2016-2020 Strategic Framework



Note: AAA: analytical and advisory assistance; TA: technical assistance; IA: impact assessment; SSTC: South-South and triangular cooperation.

17. Goal. The goal of the IFAD-supported programme in the next five years is "to reduce rural poverty and enable smallholders in poor priority areas to benefit from the rural transformation process".
18. Strategic objectives. To contribute to this goal, the IFAD-supported programme will focus on pursuing two strategic objectives, which have been chosen on the basis of IFAD's strategic vision and comparative advantage, its global and in-country experience, and taking into consideration the shift in emphasis in the last COSOP (2011-2015) towards improving access to markets, value chains and financial services, and increasing resilience:
 - (a) Strategic objective 1: Increase smallholders' capacity and opportunities to access markets. This will be achieved by specifically supporting activities in three thematic areas:
 - (i) Thematic area of focus 1.A: Support inclusive and safe value chain development;
 - (ii) Thematic area of focus 1.B: Support inclusive cooperatives; and
 - (iii) Thematic area of focus 1.C: Support inclusive financial services.

- (b) Strategic objective 2: Strengthen environmental sustainability and climate resilience. This will be achieved by specifically supporting activities in three thematic areas:
 - (i) Thematic area of focus 2.A: Support sustainable land management at household and landscape levels, and agrobiodiversity conservation;
 - (ii) Thematic area of focus 2.B: Mainstream environmental and climate resilience considerations in country programme activities; and
 - (iii) Thematic area of focus 2.C: Promote renewable energy and labour-saving technologies.
19. Alignment with national priorities. The strategic objectives and thematic areas are aligned with key government priorities and strategies, and particularly the Outline for Development-oriented Poverty Reduction for China's Rural Areas (2011-2020), the 13th Five Year Plan, and the top concerns of China's No. 1 Central Document, specifically: the overarching goal of eradicating extreme poverty by 2020; focus on 832 nationally designated poor counties; emphasis on enhancing environmental protection; focus on raising farm income; and strengthening rural finance services, among other strategic objectives and priorities.
 20. Alignment with the IFAD Strategic Framework 2016-2025. The strategic objectives and thematic areas of focus are in line with the Strategic Framework goal: "rural people overcome poverty and achieve food security through remunerative, sustainable and resilient livelihoods". They also reflect strategic objectives 2 ("increase poor rural people's benefits from market participation") and 3 ("strengthen the environmental sustainability and climate resilience of poor rural people's economic activities").
 21. Alignment with and contribution to the Sustainable Development Goals (SDGs). The strategic objectives and operations/activities are aligned with and will contribute to Agenda 2030 and, more specifically, to SDGs 1, 2, 5, 10, 13 and 15.

IV. Sustainable results

A. Targeting and gender

22. Government strategy. The 2011-2020 Outline for Poverty Reduction introduced the following five poverty reduction strategies: (i) agribusiness development; (ii) voluntary resettlement programme; (iii) social welfare/safety net programme; (iv) ecological development; and (v) association of individuals with the most appropriate poverty reduction strategy, based on identified causes of poverty. Geographical priority is given to 832 poor counties.
23. Targeting strategy 2016-2020. Consistent with the recent shift in IFAD's targeting strategy towards economically active poor people and with the Government's continuing focus on the 832 nationally designated poor counties and its "poverty reduction through agribusiness development" strategy, and in line with the 2014 CPE recommendations,³ the targeting strategy of the IFAD-supported programme for the period 2016-2020 will focus on:
 - (a) The 832 nationally designated poor counties;
 - (b) Within the 832 nationally designated poor counties, poor villages/households with production and market potential (not necessarily in very remote areas); and

³ IOE's 2014 CPE recommendations on targeting. The CPE recommended that the future targeting strategy should: (i) focus on poor villages, but with production potential (not necessarily in remote areas); (ii) include young farmers that want to make farming a business in the target groups, even if they are not below the poverty line; and (iii) continue supporting ethnic minorities in remote areas, regardless of their poverty status.

- (c) Among the population of the targeted villages: (i) women; (ii) rural youth that want to make farming a business, even if they are not below the poverty line; and (iii) ethnic minorities, regardless of their poverty status.

24. Gender strategy. The targeting strategy on women is aimed at strengthening women's economic power through the country programme, and promoting women's participation in and benefits from the design, implementation and management of country programme activities, in order to improve women's economic and social status, and build gender awareness of project participants.

B. Scaling up

25. Scaling-up strategy 2016-2020. Promoting scaling up of innovations is a major priority in the IFAD/China partnership. Recognizing that this did not happen systematically in the past, but was rather the result of favourable circumstances, the new COSOP emphasizes systematic pursuit/facilitation of scaling up:

- (a) At the project level. (i) Scaling up will be systematically included in underlying principles and expected results in each new project, and a clear scaling-up strategy/mechanism will be defined during design; (ii) progress towards scaling up will be adequately monitored and reported during implementation; and (iii) resources will be allocated to facilitate scaling up;
- (b) At the portfolio level. A programmatic approach will be adopted, i.e. an institutional mechanism/process that facilitates the identification, documentation, assessment and dissemination/replication of scalable innovations generated by activities on the ground. Responsibility will be assigned to a national central agency; and
- (c) Beyond the country programme (through South-South cooperation). Mechanisms to share best practices and scalable innovations between China and other countries through South-South cooperation will be a possible outlet for scaled-up good practices.

C. Policy engagement

26. KM and policy engagement strategy 2016-2020. Enhanced KM and policy engagement in the country programme will be pursued as follows:

- (a) Partnering with Chinese lead research institutions/think tanks to jointly and systematically carry out analysis on relevant themes and inform policymakers through existing national platforms;
- (b) Outposting of the country programme manager (CPM). The outposting of the IFAD CPM to Beijing will enhance the partnership with the Government and other partners in China, and facilitate/enhance policy dialogue and other non-lending activities;
- (c) Upgrading the IFAD Country Office (ICO). IFAD envisions the ICO in Beijing becoming a knowledge hub for rural development (and a South-South cooperation centre). The hub will facilitate and promote knowledge exchanges and cooperation among countries in the region.

D. Natural resources and climate change

27. Natural resources and climate change strategy 2016-2020. Promoting environmental sustainability and sustainable use of natural resources and improving smallholders' resilience to climate change are priorities and represent one of the two strategic objectives of the COSOP. This will be achieved by: (i) mainstreaming environmental and climate resilience considerations in country programme activities; (ii) promoting sustainable agricultural practices; and (iii) introducing mechanisms to enhance the resilience of smallholders to the effects of climate change.

E. Nutrition-sensitive agriculture and rural development

28. Mainstreaming the nutrition strategy 2016-2020. Nutrition considerations will be systematically integrated/mainstreamed in the design of IFAD-supported investments. Given the COSOP's emphasis on increasing smallholder capacity and opportunities to access markets, efforts will particularly be made to ensure that supported value chains are nutrition-sensitive. This will be achieved by including nutrition criteria in the value chain selection; improving the quality of processing, storage and preservation of food; expanding markets for nutrient-rich products and market access for vulnerable groups; and maintaining or improving the agricultural natural resource base, among other interventions.

V. Successful delivery

A. Financing framework

29. Delivery mechanisms. Implementation of the country programme will be pursued through three complementary instruments/delivery mechanisms:
- (a) Lending: this would include investment loans;
 - (b) Non-lending activities: analysis, technical assistance, impact assessments, policy engagement and South-South cooperation; and
 - (c) Partnerships: with government institutions, non-governmental institutions (e.g. research centres, academia, "think-tanks", both within and outside China), financial institutions, the private sector and development partners.
30. Financing/cofinancing: sources of funding would include:
- (a) Financing:
 - (i) Loans: From the IFAD performance-based allocation system (PBAS), Adaptation for Smallholder Agriculture Programme, Global Environment Facility and other climate funds, and possibly from sovereign-guaranteed sources; and
 - (ii) Non-lending instruments: Regional/country grants and alternative innovative instruments (e.g. fee-based advisory services, remittances, etc).⁴
 - (b) Cofinancing:
 - (i) Government cofinancing. IFAD requires that at least an equal amount of government resources be mobilized to match the IFAD loan in new projects (i.e. 1:1), but possibly more, aiming at a cofinancing ratio of approximately 1:1.5. This would be conducive to maximizing project results, ascertaining good alignment with government efforts and paving the way for sustainability and scaling up of project values and best practices. For grants, IFAD expects a cofinancing ratio of approximately 1:2; and
 - (ii) Additional sources of cofinancing. From the private sector (e.g. agribusiness enterprises), commercial banks and other financial institutions, cooperatives and beneficiaries.

⁴ IFAD recognizes that in middle-income countries new financial sources, products and instruments need to be explored/offered. In other countries, implementation of alternative instruments such as fee-based advisory services and remittances, are being piloted.

Table 1
PBAS calculation for COSOP year 1

Indicators	
Rural sector scores	2015
A. Strengthening the capacity of the rural poor and their organizations	4.63
B. Improving equitable access to productive natural resources and technology	4.50
C. Increasing access to financial services and markets	4.58
D. Gender issues	4.59
E. Public resources management and accountability	4.50
Average of combined scores	4.56

Note: Relationship between performance indicators and country score. As China receives the maximum PBAS allocation, it is not possible or relevant to provide different PBAS country scenarios based on changes in rural-sector performance scores or portfolio at risk (PAR) ratings.

31. Pipeline. China will be eligible for two IFAD-funded operations during the period 2016-2018.
 32. Investment loans:
 - (a) The 2016-2018 PBAS cycle. Two operations (one programme and one project)⁵ are proposed under the 2016-2018 PBAS cycle: (i) the poverty reduction through agribusiness development in Sichuan and Ningxia programme, and (ii) the poverty reduction through agribusiness development in Shaanxi project. Each will pilot a different approach to and model of poverty reduction through agribusiness development.
 - (b) The 2019-2021 PBAS cycle. The pipeline for the 2019-2021 cycle will be developed during the COSOP midterm review in 2018.
 33. Non-lending activities. The proposed investments can be complemented by a set of non-lending activities. An indicative list for the next five years in the framework of the COSOP is summarized in appendix VI.
- B. Monitoring and evaluation**
34. COSOP results framework. Progress towards the COSOP strategic objectives will be tracked using the COSOP results framework. Indicators of projects developed under the COSOP will be aligned, to the maximum extent possible, with COSOP indicators to ensure alignment and consistency.
 35. Monitoring of progress. A COSOP midterm review will be undertaken in 2018 to confirm continued relevance and validity of strategic objectives, assess progress against expected outcomes, identify lessons and make recommendations to improve performance and provide a basis for policy dialogue.
- C. Knowledge management**
36. KM strategy 2016-2020:
 - (a) At the project level: (i) promote identification and collection of knowledge; and (ii) ensure proper documentation and dissemination.
 - (b) At the portfolio level: (i) establish and/or systematize horizontal knowledge-sharing mechanisms; (ii) strengthen vertical KM mechanisms; and (iii) foster strategic partnerships with strategic partners and institutions

⁵ Coexistence of programmatic and project-based approach during 2016-2018 PBAS cycle. The Government of China indicated the desire to test the programmatic approach first before shifting entirely to adopting this approach. Thus, the 2016-2018 cycle would include one operation designed using a programmatic approach, and one operation designed following a project-based approach.

(e.g. universities/research centres, International Poverty Reduction Centre in China, Foreign Economic Cooperation Centre, Ministry of Agriculture, etc.).

D. Partnerships

37. Partnership strategy 2016-2020. IFAD will not directly implement its operations, and its resources and in-country presence are limited. Thus the quality of delivery and impact of its operations, and the extent to which results and knowledge generated through implementation of the country programme are scaled up or used to inform policymaking, critically depend on the partners with which IFAD engages. Key elements of the partnership strategy include:
- (a) Outposting of the CPM; and
 - (b) Formalizing partnerships. Efforts will be made to formalize partnerships and types of collaboration through memorandums of understanding, letters of intent, etc.

E. Innovations

38. Key innovative elements at the country programme level: (i) shift from a project-based to a programmatic approach; (ii) introduction of a performance/results-based system of implementation; (iii) greater emphasis on the non-lending agenda; and (iv) exploring the scope for alternative/innovative instruments.

F. South-South and triangular cooperation

39. Potential for South-South cooperation. China is not only a recipient of IFAD support, but also a potential source of knowledge that can be shared with other developing countries. It has been actively seeking new channels to share such know-how. IFAD has brokered exchanges and is well positioned to further deepen its approach to South-South cooperation.
40. South-South cooperation strategy 2016-2020:
- (a) Access to IFAD South-South cooperation initiatives. IFAD will provide China access to all corporate resources, initiatives, networks and platforms for South-South cooperation;
 - (b) Upgrading the ICO as a knowledge hub and a South-South cooperation centre.

COSOP results management framework

Country strategy alignment	Key results for RB-COSOP			Indicative lending and non-lending activities for the 2016-2020
	Strategic objectives	Key indicators	Milestone indicators	
<p>Overall goal:</p> <ul style="list-style-type: none"> By 2020, GDP and per capita income will double the level of 2010 <p>Poverty reduction:</p> <ul style="list-style-type: none"> 56.3 million registered poor population get rid of poverty by 2020 Income growth rate of poor households exceeds national average by 2020 Income level of poor population will double the level of that at 2010 by 2020 <ul style="list-style-type: none"> Access/coverage of basic public services to poor households maintained at a level close to national average by 2020 Compulsory education accessible for all poor population by 2020 Basic medical services coverage for all poor population by 2020 Safe housing for all poor population by 2020 <p>Agriculture:</p> <ul style="list-style-type: none"> Food security for all poor population by 2020 Establish and maintain 0.8 ~ 1 billion mu high yield and ecological friendly farm land Maintain effectively irrigated farmland to 1 billion mu, increase efficiency to 0.55 Increase forest coverage to above 23% by 2020 	<p>Goal:</p> <p>To reduce rural poverty and enable smallholders in poor priority areas to benefit from the rural transformation process</p>	<ul style="list-style-type: none"> (i) 25% Increase of small farmers' per capita net income (both in absolute terms and as % increase) (ii) 30% Reduction of total number of registered poor people 		
	<p>Strategic Objective 1:</p> <p>Increase smallholders' capacity and opportunities to access markets</p> <ul style="list-style-type: none"> (i) Thematic area of focus 1.A: Support inclusive and safe value chain development (ii) Thematic area of focus 1.B: Support inclusive cooperatives (iii) Thematic area of focus 1.C: Support inclusive financial services 	<ul style="list-style-type: none"> (i) 20% increase in volume of small farmers' produce sold through cooperatives/agribusiness enterprises or directly to supermarkets (ii) Volume of small farmers' produce sold through e-commerce (iii) 30% Increase in cooperatives volume of products sold (iv) 20% Increase cooperatives profits (alt. new RIMS 2.5.3: "Number/% of enterprises reporting increase in profit" (v) 25% Increase in average number of small farmers within cooperatives (vi) 25% Increase in small farmers and cooperatives with access to financial services 	<p>1a: number of HH actively participate in commercial farming.^{a b c e f}</p> <p>1a: Income of X (number) HHs increased by 20% through inclusion in agric value chains^{a b c e f}</p> <p>1a: Number of smallholders benefit from cooperatives as members or through supplier contracts.^{a c e f}</p> <p>1b: Number of cooperatives and/or agribusiness increase turnover by 20%.^{a c e f}</p> <p>1b: number of cooperative federations established^{a c e f}</p> <p>1c: Number of cooperatives/agribusiness have improved access to finance.^{a c e f}</p>	<p>A) Lending/investment activities:</p> <p>^aSSADeP (till 03/2019)</p> <p>^bJiMAAPP (till 03/2020)</p> <p>^cLMAPRP (till 03/2020)</p> <p>^ePRAD Sichuan</p> <p>^f PRAD Shaanxi</p> <p>B) Non-lending activities:</p> <p>^dXinjiang Urban-Rural project</p>

<ul style="list-style-type: none"> Over 30 million poor people will get rid of poverty mainly through agricultural industry development by 2020. Specialize agricultural production and related agro-industry will be promoted Nurture and enhance all types of agribusiness entities. Provide agribusiness training to poor households, aim to have 5-7 leading farmers in each poor village for agribusiness, with 600,000 such leading farmers trained and developed in poor villages by 2020 Improve rural water conservancy and hydraulic facilities to improve/increase irrigation to 32.25 million mu, benefiting 15.8 million poor people in 24,000 villages Enhance e-commerce in poor areas <p>Rural finance:</p> <ul style="list-style-type: none"> Promote and innovate rural financial service to support poverty reduction, with participation of all types of financial institutions 	<p>Strategic Objective 2: Strengthen environmental sustainability and climate resilience</p> <p>(i) Thematic area of focus 2.A: Support sustainable land management at household and landscape level, and agrobiodiversity conservation</p> <p>(ii) Thematic area of focus 2.B: Mainstreaming environmental and climate resilience considerations into the country program activities</p> <p>(iii) Thematic area of focus 2.C: Promote renewable energy and labour saving technologies</p>		<p>(i) At least 100,000 hectares under sustainable land and water management (e.g. agricultural land area under sustainable agricultural practices; non-farm land rehabilitated and/or converted into forested area, sustainable forest management, increased water availability and water-use efficiency etc)</p> <p>(ii) Number of policy recommendations presented to county or regional administration and endorsed by authorities.</p> <p>(iii) At least 85,000 HHs and SMEs adopting renewable energy and/or labour saving technologies</p>	
<p>Rural infrastructure:</p> <ul style="list-style-type: none"> Increase internet coverage to rural areas, with 90% poor households accessible to broadband internet, by 2020 Improve rural roads to natural villages, with 1.4 million km to 104,500 villages; roads to households at 926,000 KM for 88,600 villages; on-farm roads 1.467 million KM for 88,600 villages, by 2020 <p>Ecological Environment:</p> <ul style="list-style-type: none"> Enhance natural protection and ecological rehabilitation of poor areas, increase their capacity and potential of sustainable development Establish diversified Payment for Environment Service (PES) system, enable employment and subsidy derived income increase for poor population 	<p>Strategic thrusts:</p> <p>(i) Scaling-up</p> <p>(ii) Innovation</p> <p>(iii) Knowledge Management to inform policy and support South-South cooperation</p>	<p>(i) partnering with Chinese lead research institutions/think tanks to jointly and systematically carry-out analytical work.</p> <p>(ii) Outpost the IFAD country program manager for China.</p> <p>(iii) Upgrade the IFAD country Office in Beijing as Knowledge Hub for rural development and South-South Cooperation Centre.</p>	<p>(i) x events organised jointly with leading scientific institutions.</p> <p>(ii) x policy oriented publications published and shared with relevant stakeholders.</p> <p>(iii) Analyse, compile and present findings from pilot programmes to central level agencies.</p> <p>(iv) Involved private sector in design process of pipeline projects through consultation and participation/review.</p>	

Agreement at completion point of last country programme evaluation

Agreement at Completion Point

People's Republic of China

Country Programme Evaluation

A. Introduction

1. This is the first Country Programme Evaluation (CPE) undertaken by the Independent Office of Evaluation of IFAD (IOE) for China since the inception of the Fund's operations in 1978 and its engagement in China in 1981. The CPE covers the period 1999-2013, which includes an assessment of three Country Strategic Opportunities Programme (COSOP) for China dated 1999, 2005 and 2011. The main CPE mission was undertaken in August-September 2013. A CPE National Roundtable Workshop was held in Beijing on 17 July 2014 to discuss the findings and recommendations of the evaluation.
2. The two main objectives of the CPE were to: (i) assess the performance and impact of IFAD-funded operations in China during the period 1999-2013; and (ii) generate a series of findings and recommendations to serve as building blocks for formulation of the next results-based COSOP, to be prepared by IFAD and the Government of China following completion of the CPE.
3. The Agreement at Completion Point (ACP), reflects the understanding between the Government of China (represented by the Ministry of Finance) and IFAD Management (represented by the Programme Management Department). It comprises the summary of the main evaluation findings (Section B below), as well as the commitment by IFAD and the Government to adopt and implement the CPE recommendations within specific timeframes (Section C below). The implementation of the recommendations agreed upon will be tracked through the President's Report on the Implementation Status of Evaluation Recommendations and Management Actions, which is presented to the IFAD Executive Board on an annual basis by the Fund's Management.
4. This ACP will be submitted to the Executive Board of IFAD as an annex of the new COSOP for China. The ACP will also be incorporated in the final China CPE report, which will be discussed both by the Evaluation Committee and Executive Board¹ of IFAD.

B. Main evaluation findings

5. The CPE concluded that the strongest points in the IFAD-financed project portfolio in China includes a generally high achievement of targets and efficiency, and valuable contributions to sustainable improvements in household income and assets as well as in food security and agricultural productivity. Additionally, IFAD has supported China in introducing more participatory and demand-driven approaches to grassroots development. However, the impact on developing sustainable rural organizations, and contribution to government policies and institutions has been less strong. Similarly, opportunities exist for greater achievements in natural resources and environmental management as well as rural financial services.
6. The CPE found some contributions in the promotion and scaling up of innovative approaches to smallholder agriculture development, especially at the local level. For instance, some innovations have been replicated and scaled up within the project areas and sometimes within the project provinces, but limited evaluative evidence was found that successful innovations travelled across provincial borders. The CPE offers two main explanations for this: (i) projects are implemented and financed by sub-national governments, who have little incentive to engage in and finance activities beyond their provinces; and (ii) partnership with other in-country partners

¹ The China CPE report will be discussed by the Evaluation Committee in November 2014, and by Executive Board at the same time when the latter considers the new China COSOP in 2015.

including international financial institutions, who have the potential to scale up successful innovations is weak. The CPE also concludes that promoting and scaling up innovative approaches to smallholder agriculture development should be at the core of the IFAD-China partnership.

7. The performance of non-lending activities (partnership building, policy dialogue and knowledge management) is assessed as moderately satisfactory. There have been some achievements in policy dialogue at the sub-national level, such as scaling up of participatory village development plans, although more can be achieved in the future at the national level. Similarly, while partnership with sub-national authorities and the Ministry of Finance is strong, there are opportunities to expand partnership with other (technical) institutions at the national level (e.g., Ministry of Agriculture) as well as other multilateral development agencies.
8. Within the broader realm of south-south cooperation, which IFAD has recently been supporting, China has been sharing experiences and technologies to other developing countries. In the latter part of the CPE period, IFAD also increased its efforts in knowledge management within and outside the portfolio. These are positive developments. Yet, overall, more resources will be needed to ramp up its engagement in non-lending activities and south-south and triangular cooperation in the future.
9. All country strategies (i.e., COSOPs) were generally aligned to IFAD's overall mandate, the needs of the poor, and government policies. They were also relevant to the rural context at the time of issue. The 1999 COSOP was essentially a joint IFAD/WFP strategy, whereas the 2011 COSOP was prepared according to the guidelines for Result-Based COSOPs introduced in 2006. The 2011 COSOP is particularly relevant, as it includes knowledge management and south-south cooperation as objectives, which is consistent with Government priorities. However, the CPE finds that more attention could have been given to assessing the consequences of out-migration and to the targeting strategies in order to ensure that poorer segments of the rural population are the main beneficiaries of IFAD's support. Furthermore, strategic objectives for policy dialogue, knowledge management, partnership building and promotion of innovation and scaling up are not adequately supported by plans and budgets.
10. Overall, the CPE concludes that the China-IFAD partnership is strong and the aggregate performance of loan portfolio, non-lending activities and COSOPs is satisfactory. The main challenge in the future partnership is to enhance the emphasis on non-lending activities, which will need to be linked to an adequate investment project portfolio that focuses on promoting innovation and scaling up.
11. In general, the CPE also concludes that the IFAD-China partnership is very important for both IFAD and the Government. It merits being strengthened with necessary adjustments as it moves forward, by taking into account the social-economic developments and growth in the country over time. In this regard, it is particularly significant that income per capita has risen overtime. Yet, a large number of rural people (around 150 million) still live on less than US\$1.25 per day, inequality remains significant, and market reforms need further intensification. This therefore provides the imperative for IFAD's continued engagement in China for the foreseeable future, taking into account the Fund's overall mandate and responsibility of rural poverty reduction in its developing Member States in all regions.

C. Agreement at completion point

12. The CPE makes an overarching recommendation that IFAD and the Government move forward to prepare a new COSOP for China, which will build on the findings and recommendation of this CPE and provide the foundations of the main areas of intervention in the context of a renewed partnership and cooperation between the Fund and China. The CPE makes six overarching recommendations that should be

included into the new COSOP: (i) Targeting the portfolio in a changed rural context; (ii) Strengthen knowledge cooperation; (iii) Sharpen focusing on scaling up impact; (iv) Promote South-South and triangular cooperation; (v) Strengthen partnerships with Government and other in-country stakeholders; and (vi) Enhancing IFAD presence and capacity in the country including out-posting of the China CPM.

13. **Recommendation 1: Targeting in a changed rural context**

- (a) **Geographical targeting – the middle way:** The new COSOP should carefully consider the provinces, counties and villages to include in future IFAD-supported programmes, ensuring they are fully relevant both with IFAD's corporate policy on targeting and Government's priorities for rural poverty reduction. Particular attention should be devoted to villages with poverty and a production potential, which younger people are willing to exploit, making farming a business. These are not all necessarily very remote villages but villages with challenges in their natural resource environment while having production potential. An additional selection criterion should be the status and plans for village infrastructure. When identifying beneficiary villages/areas during design and/or implementation, a careful assessment would need to be made of the migration trends so as to avoid ending up with almost empty villages at project completion.
- (b) **Socio-economic targeting – flexibility:** Rural-urban migration is accompanied by two other trends. First, land consolidation with farm units getting bigger, thereby raising labour productivity and reducing the acceleration in the rural-urban income gap. Second, agricultural commercialization is growing with increased productivity to meet the demand of the rapidly growing population. This trend tends to favour scale – either large production units or smaller units, which join in cooperatives that assemble (and process) the produce and meet the quality and delivery requirements of buyers. There are large private or state corporations entering this process but they do not need to be assisted by the IFAD-supported portfolio. However, there are also younger farmers who wish to make farming a business. Some may be returning migrants who have accumulated some savings, which they now want to invest. They may start micro, with 15-25 mu, but with the ambition to grow small or perhaps medium size (50-200 mu). Even though they most likely are not below the poverty line, they need support for developing their production, financial management and marketing skills, and they need access to finance for inputs and farm equipment. If they succeed, they will create employment on-farm as well as off-farm in the local cooperative and processing entities. And poor households, retired farmers or households who have left obtain income from leasing their contract rights. This CPE recommends that the portfolio apply a flexible socio-economic targeting approach, ensuring these groups are not excluded as well in future programmes, but with somewhat differentiated packages. When supporting cooperative development it is also important to engage with the younger business-oriented farmers who are likely to be the leaders in development of cooperatives. It is seldom the poorest households who lead.
- (c) **Supporting ethnic minorities.** The other leg in the targeting strategy would be to continue supporting ethnic minorities in remote mountain and forest areas, which have not yet been integrated into the mainstream agricultural commercialization process. Their production systems are diverse (crops, forest products, fisheries, livestock) and largely organic. Productivity is low, but can be raised with organic methods, requiring knowledge more than inputs and hardware. And, there are niche markets for some of their products but market access can usually be a constraint. In such more stable homogenous communities, it would be appropriate to work with all community members, regardless of their poverty status.

14. Recommendation 2: Strengthen knowledge cooperation

The future IFAD-supported country strategy and activities should continue to include a specific objective and significant emphasis to knowledge cooperation. To ensure success and credibility in this area, IFAD will need to maintain an adequate lending programme in China, which will provide the basis for learning lessons and identifying good practices in promoting poverty reduction in remote rural areas. A programme of knowledge cooperation would also include attention to documenting and sharing experiences and lessons from China that can help towards scaling up success stories in the country and elsewhere, as well as proactively supporting activities and organizing events that will promote the transfer of IFAD's accumulated knowledge, good practices, and lessons in smallholder agriculture and rural development from other countries to China. With regard to the latter, one concrete area is rural finance, where IFAD's rich global experience can be of use in developing sustainable rural financial service instruments and products to support the poor in China gain reliable access to required levels of capital for both investments and consumption purposes. Finally, the new country strategy should clearly specify the human and financial resources that will be allocated to knowledge cooperation, especially the administrative budget that will be mobilized to satisfactorily achieve this priority.

15. Recommendation 3: Sharpen focusing on scaling up impact

IFAD's resources allocated to China are relatively limited as compared to the financial resources of the central Government, the private sector, and other donors. Therefore, to ensure that successful innovations promoted in the context of IFAD operations have a wider sustainable impact on rural poverty in the country, scaling up beyond individual counties and provinces/regions by others (e.g., the national Government, donors and the private sector) should represent a priority for the future. Attention to scaling up will also contribute to ensuring the sustainability of the benefits generated through IFAD operations. This will require both IFAD and the Government (both at central and provincial level) to: (i) pay attention and allocate dedicated resources to non-lending activities (knowledge management, partnerships and policy dialogue) in China; and (ii) ensure that scaling up objectives are clearly specified in the COSOP and project design, and progress assessed and reported in all supervision, mid-term review and project completion reports.

16. Recommendation 4: Promote South-South and triangular cooperation

IFAD should continue to play a facilitation role in promoting South-South and triangular cooperation between China and other Member States, in cooperation with other major development partners working in agriculture in the country. This would include, inter alia, activities related to knowledge sharing; facilitation of partnerships between China and other governments that have technical expertise needed for smallholder agriculture development in China; facilitating visits and training of Chinese officials and project staff in other countries and pertinent international/regional platforms; promoting investment cooperation in the context of IFAD operations; and identifying opportunities to promote the transfer of technology and experiences from China to other IFAD Member States, and vice-versa. It is further recommended that the next China COSOP clearly articulate the specific activities and measures of success, together with the required estimated budget in relation to South-South and triangular cooperation that IFAD will promote in line with the priorities of the country. The CPE further recommends that the IFAD Management, in consultation with the Government, explore opportunities for establishing within IFAD a dedicated facility for South-South and Triangular cooperation.

17. Recommendation 5: Strengthen partnership with Government and other in-country stakeholders

The future country strategy and operations should ensure a strengthened partnership with other relevant government institutions at the national level. Opportunities for a greater involvement of the private sector as well as academic and research institutions should also be proactively explored. Investing in developing concrete partnerships with international organizations – in particular the AsDB, FAO and the World Bank – should be a priority, for example, in co-financing activities, knowledge sharing, policy dialogue, scaling up, and south-south cooperation. Partnerships with international organizations would not only add value and lead to better effectiveness of IFAD operations in China, but also contribute to lowering transactions costs in general for IFAD, the Government and others concerned.

18. Recommendation 6: Enhancing IFAD presence and capacity in the country including out-posting the China CPM

Given the size and scope of the country programme, IFAD Country Office (ICO) in Beijing should be strengthened in general, so that the ICO could adequately support both project work and non-lending activities, including policy dialogue, partnerships building, and knowledge management as well as south-south and triangular cooperation. In particular, the CPE recommends that the China CPM be out-posted from Rome to Beijing at the latest by end 2015. A resident CPM will not only contribute towards improving IFAD's visibility and brand, but also help strengthen project supervision and implementation support, monitoring and evaluation, dialogue with Government and other in-country partners, partnerships for scaling up impact, as well as knowledge sharing within and beyond the China programme.

Signed by:

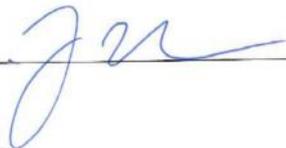
Mr Ziqian Liang
Deputy Director General
International Department
Ministry of Finance
Government of People's Republic
of China



Date: October 21, 2014

and

John M. McIntire
Associate Vice President
Programme Management Department
IFAD



Date: October 9, 2014

COSOP preparation process including preparatory studies, stakeholder consultation and events

1. **Design Team.** The COSOP was developed by a core team led by Matteo Marchisio (Country Program Manager, Asia and Pacific Division, IFAD) and comprising Sun Yinhong (Country Program Officer, Asia and Pacific Division, IFAD), Liu Ke (Associate Country Program Officer, Asia and Pacific Division, IFAD), Han Lei (Associate Country Program Officer, Asia and Pacific Division, IFAD), Carlo Bravi (Senior Economist, FAO), Rouja Johnstone (Value Chain Specialist, FAO), Alan Piazza (Adjunct Professor of China Studies, Johns Hopkins School of Advanced International Studies), Liu Yonggong (Professor, College of Humanities and Development, China Agricultural University), Enjiang Cheng (Director, Adjunct Professor, Centre for Rural Finance and Management, China Academy for Rural Development, Zhejiang University), Jin Leshan (Professor, China Agricultural University), Zhao Jun (Cooperative Specialist), and Dang Libin (Third Secretary, China Permanent Representation to the UN Agencies in Rome), with contribution from Ed Heinemann (Lead Technical Specialist - Policy and Lead Advisor for the COSOP, Policy and Technical Advisory Division, IFAD), Fabrizio Bresciani (Regional Economist, Asia and the Pacific Division, IFAD), Mylene Kherallah (Lead Technical Specialist - Rural Markets and Enterprises, Policy and Technical Advisory Division, IFAD), Francesco Rispoli (Senior Technical Specialist - Inclusive Rural Financial Services, Policy and Technical Advisory Division, IFAD), Mattia Prayer-Galletti (Lead Technical Specialist - Rural Development and Institutions, Policy and Technical Advisory Division, IFAD), Monica Romano (Institutional Specialist, IFAD), Philipp Baumgartner (Program Officer, Asia and Pacific Division, IFAD), Miyuki Mizunoya (Program Analyst, Asia and Pacific Division, IFAD), Thomas Chalmers (Economist, Asia and Pacific Division, IFAD), Michael Marx (Sr. Rural Finance Specialist, FAO), and Mr. Josef Ernstberg (Sr. Value Chain Specialist) and the support of Jeszel Topacio (Program Assistant, Asia and Pacific Division, IFAD), and Patricia Piccone (Program Assistant, Asia and Pacific Division, IFAD).
2. **In-house Country Program Management Team (CPMT).** The design team benefited from the support of an extended in-house Country Program Management Team which included, in addition to the IFAD staff who were part of the Design Team: Nigel Brett (Portfolio Advisor, APR), Tawfiq El-Zabri (Program Officer, APR), Roshan Cooke (Regional Climate and Environment Specialist, ECD), Sunae Kim (Environment Officer, APR/ECD), Antonio Rota (Lead Technical Specialist - Livestock, PTA), James Garrett (Lead Technical Specialist - Nutrition, PTA), Harold Liversage (Lead Technical Specialist - Land Tenure, PTA), Pedro De Vasconcelos (Senior Technical Specialist, Financing Facility for Remittances, PTA), Mauro Martini (Remittances and Development Officer, Financing Facility for Remittances, PTA), Beatrice Gerli (Gender Specialist, PTA), Kris Hamel (Senior Knowledge and South-South Cooperation Specialist, GKS), Irene Li (Senior Finance Officer, CFS), and Charles Forrest (Senior Legal Officer, LEG).
3. **In-country Country Program Management Team.** In developing the COSOP, the design team benefited from consultation/guidance from officials/representatives of the following institutions/organizations:
 - (a) **Government:** Ministry of Finance (MOF); National Development and Reform Commission (NDRC); The State Council Leading Group Office of Poverty Alleviation and Development (LGOP); Ministry of Agriculture (MOA); China Banking Regulatory Commission (CBRC); International Poverty Reduction Centre (IPRCC); Foreign Economic Cooperation Center, MOA (FECC); Permanent Representation of China to the UN Agencies for Food and Agriculture, Rome;
 - (b) **Universities and research centers:** Development Research Centre of the State Council (DRC); China Agricultural University (CAU); Chinese Academy of Social Sciences (CASS);
 - (c) **Development partners:** World Bank (WB); Asian Development Bank (AsDB); Asian Infrastructure Investment Bank (AIIB); Food and Agriculture Organization (FAO); World Food Programme (WFP); United Nations Development Programme (UNDP); International Food Policy Research Institute (IFPRI);
 - (d) **Private sector and cooperatives:** Unilever; Mars; COFCO; TenCent; Jindong; Beijing Xinfadi Agricultural Products Co.; Beijing Tian'An Agricultural Development Co.; LuiAo Cooperative.

4. **Independent peer reviewing.** The COSOP has been independently reviewed by Professor Li Xiaoyun, Professor and former Dean of China Agricultural University's College of Humanities and Development, President of the China International Development Research Network (CIDRN), and former Chief Senior Advisor, International Poverty Reduction Center in China (IPRCC).
5. **COSOP Mid-Term Review and Country Program Evaluation.** The COSOP 2016-2020 builds on the findings, assessment, and recommendations of the COSOP 2011-2015 Mid-Term Review (2014) and of the Independent Office of Evaluation's Country Program Evaluation (2014) (ref. Appendix II).
6. **Preparatory studies, background documentation, and key references.**
 - (a) **Preparatory studies/background papers:** A series of preparatory studies and issue/discussion papers were prepared as background documents and inputs to the COSOP. These included:
 - Background Paper on Agriculture, Rural Development and Poverty Alleviation: Analysis and Outlook, by Xu Xiaoqing, Research Fellow and former Deputy Director, Department of Rural Economy, Development Research Centre of the State Council (DRC)
 - Preliminary Results on Rural Transformation in China from the 'Towards Inclusive Rural Transformation' study, by Jikun Huang, Director of Center for Chinese Agricultural Policy (CCAP), Chinese Academy of Science (CAS)
 - Background Note on Poverty Reduction Strategy and Programs in China, by Alan Piazza, Adjunct Professor of China Studies, Johns Hopkins School of Advanced International Studies (SAIS)
 - Background Note on Programmatic Approach, by Fabrizio Bresciani, Regional Economist, Asia and the Pacific Division, IFAD
 - Discussion Paper on IFAD's Evolving Priorities and Operational Agenda, by Ed Heinemann, Lead Technical Advisor, Policy and Technical Advisory Division, IFAD
 - Discussion Paper on Market Access and Value Chains Development, by Mylene Kherallah, Lead Technical Advisor, Policy and Technical Advisory Division, IFAD
 - Discussion Paper on Rural Finance, by Francesco Rispoli, Senior Technical Advisor, Policy and Technical Advisory Division, IFAD
 - Discussion Paper on Targeting by Mattia Prayer-Galletti, Lead Technical Advisor, Policy and Technical Advisory Division, IFAD, and Monica Romano, Institutional Specialist, IFAD
 - Environmental and Climate Assessment by Lin Erda, Chief Scientist and former Director General Agro-environment and Sustainable Development Institute, Chinese Academy of Agricultural Sciences (CAAS), reviewed by Jin Leshan, Professor, China Agricultural University (CAU)
 - Option Paper on Increase smallholders' capacity and opportunities to access markets, by Carlo Bravi, Senior Economist, FAO, Rouja Johnstone, Value Chain Specialist, FAO, Liu Yonggong, Professor, College of Humanities and Development, China Agricultural University (CAU), and Enjiang Cheng, Director, Adjunct Professor, Centre for Rural Finance and Management, China Academy for Rural Development, Zhejiang University
 - Background Note on Eco-labeling agro-production and institutionalization with Sustainable Agriculture by Yuhui Qiao, Agronomy, Soil Science, Agricultural Plant Science, China Agricultural University (CAU)
 - (b) **Additional working papers:** The preparation of the COSOP also benefited from the working papers carried-out in preparation of the IOE's Country Program Evaluation, and particularly:
 - Agribusiness and Poverty Reduction Strategies by Chuanmin Shuai, Professor, School of Economics and Management, China University of Geosciences

- Agricultural Production and Marketing by Xiaoying Jian
 - Report on Mapping Evaluation Capacity in China by Liu Yonggong, Professor, College of Humanities and Development, China Agricultural University (CAU), and Luo Pan, Center for Integrated Agricultural Development
- (c) **Main references:** Finally, the preparation of the COSOP benefited from an extensive literature review, which included, among other studies, research and papers:
- Draft ‘Structural and Rural Transformation in Asia and the Pacific’ (2015) - Technical Working Paper for the preparation of the Rural Development Report: Fostering Inclusive Rural Transformation (2016), IFAD
 - Impact Evaluation on IFAD-supported projects in rural China closed/closing between 2010-2015 (2016), by a Research Team of School of Economics & Management, China University of Geosciences led by Prof. Shuai
 - IFAD projects: results and impact on poverty reduction in rural China (2011), in Outlook on AGRICULTURE, Vol 40, No 4, 2011, by Chuanmin Shuai, Zhou Li and Ruomei Sun
 - Small-scale farmers in China in the face of modernisation and globalisation (2012) by Jikun Huang, Xiaobing Wang and Huanguang Qiu, Center for Chinese Agricultural Policy, Chinese Academy of Science (CAS)
 - The Role of Agriculture in a Modernizing Society: Food, Farms and Fields in China 2030 (2012), by Luc Christiaensen, World Bank
 - Linking Smallholders with Rapidly Transforming Markets: Modernizing Smallholder Agriculture through Value Chain Development in China (2013) by Kevin Chen, Senior Research Fellow and China Program Leader, International Food Policy Research Institute (IFPRI); Thomas Reardon, Professor, Michigan State University and Renmin University; and Dinghuan Hu, Emeritus Research Fellow, Institute of Agricultural Economics and Development
 - Land Governance in China (2014) by Yongjun Zhao, Tiejun Wen, Jinming Yan, Tsui Sit, Shuai Yang, Fangzhou Xia, International Land Coalition (ILC)
 - China: A New Paradigm in Branchless Banking? (2014) by Leesa Shrader and Eric Duflos, CGAP
 - Financial Inclusion in the People’s Republic of China: An analysis of existing research and public data (2012), by Pete Sparreboom and Eric Duflos, CGAP

7. **Preparation process.** The design process followed the following steps and milestones:

- April 2014 **COSOP Mid-Term Review (MTR)**
- July 2014 **Country Program Evaluation (CPE) Final Workshop**
- October 2014 **Signing of the CPE’s Agreement at Completion Point (ACP)**
- January-April 2015 Informal consultations with Government and development partners to identify Government’s key development priorities and discuss possible thematic and geographic scope and overall approach of IFAD support in China during the 2016-2020 period.

In-house discussion, through CPMT, on thematic inputs to inform/guide discussion on IFAD approach/engagement in the country for the next five years, and objectives, thematic and geographic scope of the country program.

Preparation of preparatory studies/background papers.
- 29 May 2015 **COSOP Inception Workshop:** Broad stakeholder consultation to define the overall approach and thematic/geographical scope of COSOP 2016-2020. The Workshop was attended by IFAD AVP/PMD.

- June-September 2015 Informal follow-up discussions with Government and development partners to define how to operationalize the outcomes/recommendations of the Inception Workshop.
- 19 October-3 November 2015 **Sectoral Consultations:** More in-depth consultations at central level to confirm the main strategic objectives and thrusts of the COSOP and define a set of options/proposals/criteria for the development of an indicative pipeline of interventions.

Main outputs: (i) COSOP 2016-2020 Strategic Framework, and (ii) Option Paper on Increase smallholders' capacity and opportunities to access markets
- January 2016 Government confirmation of geographical scope of 2016-2018 pipeline of investments.
- 29 March-16 April 2016 **Provincial consultations:** In-depth consultations at provincial level to define/confirm an indicative pipeline of interventions for the 2016-2018 PBAS cycle and ensure their alignment and consistency with COSOP strategic thrusts and objectives.

Main outputs: draft Concept Notes for the pipeline 2016-2018 (ref. Appendix VI).
- May-June 2016 IFAD internal review to enhance and ensure quality of COSOP.
- 5 July 2016 **COSOP Final Consultation/Validation Workshop:** Broad stakeholder consultation to endorse the COSOP at country level.
- 7 July 2016 IFAD Operational Strategy and Policy Guidance Committee (OSC) meeting to ensure IFAD management endorsement.
- 21 September **IFAD Executive Board Meeting:** To approve the COSOP.

Natural resources management and climate change adaptation: Background, national policies and IFAD intervention strategies

A. Introduction

1. China has the largest population and food demand in the world. As a primary sector, agriculture plays a fundamental role in China's economic development, and in sustaining rural people's livelihoods. At present, China is home to more than 1.36 billion people, accounting for 20% of the world's total population; and 45% of them live in rural areas, where living standards are relatively low. Some of the rural areas are in the deteriorated environmental conditions and are very vulnerable to climate change. Most of these rural people are poor, relying on subsistence farming for their livelihoods, especially for those in remote and marginalised areas.

2. China's achievement of food security in recent decades has resulted in damage to the environment. Since the 1980s most of the environmental costs have been related to the intensification of grain production, vegetable production and fruit trees, with the overuse and misuse of chemical nitrogen fertilizer and manure leading to eutrophication, soil acidification and high greenhouse gas emissions (David Norse and Xiaotang Ju, 2015).

3. This Social, Environmental, and Climate Assessment (SECAP) preparatory study has two objectives to contribute to making the on-going process of rural transformation more equitable and sustainable.

- (a) The **scientific objective** is to assess the environmental and climate change challenges and their effects on agriculture development and rural poverty and identify the vulnerable areas to environmental degradation and climate change. The observed impacts of environment and climate change and projections on key agricultural and rural development will be scrutinized.
- (b) **The strategic objective** is to evaluate the country response and strategies coping with the environmental and climate change issues and provide some recommendations on actions, investment opportunities and future project interventions. Monitoring and feedback mechanism will be proposed based on the assessment of related policy responses and institutional framework. Opportunities and strategic and technical measures/options will be identified based on lessons learned from other partners and NGOs.

4. The goal of all the activities is to strengthen environmental sustainability and climate resilience by mainstreaming environmental and climate resilience considerations into the country program activities. This study will focus on the agriculture and rural development in the whole country, but the actions and measures will be different based on sub-regional specificities.

5. The main information on the trends, causes and effects, and challenges of environment and climate change are collected from peer-review papers, government websites and key national reports through desk review. Group discussions and informal consultation meetings are held with experts during the preparation of this report. Field survey experiences of the authors also contribute a lot to the study including the recommendations on coping strategies and actions.

6. However, all the recommendations on strategic and technical measures/options and proposal of activities are suggested based on the current social and economic development. As China is very huge, the natural and social conditions are very different in different provinces and regions, it is difficult to provide very detailed suggestions for individual sub areas.

B. Socio-economic, Environmental and Climate Change context

B.1 Social and Environmental Setting

7. Agricultural GDP is 6 trillion RMB in 2015 (SSA, 2016)⁶, accounting for 9% of total GDP, with a slight decrease from 11.9% in 2000. There are 2 billion mu⁷ arable land by the end of 2014 in China

⁶ State Statistics Administration (SSA), 2016. China GDP Growth Rate Is 6.9% in 2015. http://www.ce.cn/xwzx/qnsz/gdxw/201601/19/t20160119_8369085_1.shtml

⁷ 1 mu = 1/15 hectare

(MLR, 2015)⁸. China has a target of arable land reserved of at least 1.8 billion mu. The arable land is categorized into 10 quality grades in China, and 8% of them are polluted with heavy metals according to the survey of Ministry of Land and Resources (MLR, 2015)⁹. Land degradation, soil contamination, agricultural land quality reduction, and low agricultural productivity are serious threats to national food security (Wang et al., 2011).

8. Even though there is significant economic development in rural regions, rural people's annual average income is only 37% of the urban's in China (Chen Xiwen, 2016)¹⁰. Poverty areas are often overlapped with climate and ecologically vulnerable areas. It is widely accepted that climate change will disproportionately affect rural, marginalized and natural resource-dependent households who have higher exposure and lower adaptive capacity, increasing overall vulnerability (IPCC 2012).

9. While chemical fertilizers play an important role in increasing agricultural production and ensuring food security in China, research shows that farmers used much more fertilizers per hectare than did farmers in many other countries (Huang et al. 2012). It is believed that chemical nitrogen (N) fertilizer is over-used by at least 30% than needed in China (SAIN 2010).

10. The monthly, annual and inter-annual variations in precipitation and temperature are significant in China, and China is a frequently drought-affected country (Ma and Fu, 2003; Dai et al., 2004; Zou et al., 2005). During the past decade, droughts were common in all parts of China from south to north, and resulted in serious social, economic and environmental consequences (Wang et al., 2012). According to the Ministry of Water Resources of China extreme droughts occurred every 2 years on average during the period 1990–2007, and the average grain loss associated with these droughts is nearly 39.2 billion kg annually, with the average economic loss accounting for 1.47% of the country's gross domestic product (MWRC, 2011).

11. China is one of the most vulnerable countries to climate change (Information Office of the State Council 2008; Wheeler 2011) and the government at the national and provincial level has begun to create an institutional structure to address climate change. The national government issued its *National Plan on Combating Climate Change 2014-2020*, and released its *Annual Progress Report on Policies and Actions to Combat Climate Change* each year (NDRC, 2015)¹¹.

B.2 Environmental challenges and effects on agriculture development and rural poverty

12. Negative environmental impacts result from bad intensification of agriculture, which in turn impose challenges and side effects on agriculture and rural people. (Guo et al, 2010;Liu et al, 2013).

- (a) **Soil nutrient imbalance and excessive chemical inputs:** Soil is the foundation of agricultural production. Its fertility can directly affect crop growth with changes in soil carbon (C), nitrogen (N), and microbial activities, all of which are subject to change with climate change, temperature, and precipitation variations. As the material base of plant growth, soil is also an important media for accumulating and decomposing pollutants. With the development of intensive agriculture, irrational application (especially excessive application) of chemical fertilizers and pesticides, the soil environment in China is becoming increasingly polluted and degraded. About 2.5% of soil is in medium-heavy pollution with heavy metals according to the survey of Ministry of Land and Resources (MLR, 2015)¹².

Although it was projected that chemical nitrogen fertilizer consumption would increase by 142-169% to support a 100-110% increase in global food crop yields from 2005 to 2050 (Tilman et al, 2010; IFA, 2013), China is facing the problem of overuse of chemical fertilizers. The yield of cereal grains is increasing very slowly or is leveling off while the

⁸ Ministry of Land and Resources (MLR), 2015. MLR Survey Report on Arable Land. <http://www.cgs.gov.cn/xwtzgg/jrqngxin/123194.htm>

⁹ Ministry of Land and Resources (MLR), 2015. MLR Survey Report on Arable Land. <http://www.cgs.gov.cn/xwtzgg/jrqngxin/123194.htm>

¹⁰ Chen Xiwen, 2016. Rural People's Disposal Income Increased by 7.5% in 2015. http://news.xinhuanet.com/live/2016-01/28/c_1117920249.htm

¹¹ National Development and Reform Commission (NDRC), 2015. Annual Progress Report on Policies and Actions to Combat Climate Change 2015. http://www.ndrc.gov.cn/tpxw/201511/t20151119_759084.html

¹² Ministry of Land and Resources (MLR), 2015. MLR Survey Report on Arable Land. <http://www.cgs.gov.cn/xwtzgg/jrqngxin/123194.htm>

application rate of chemical fertilizers has increased considerably in the past decade. From 1998 to 2012, China grain yields increased by 18%, while the consumption of chemical fertilizers increased by nearly 43% (IFA, 2013; Guo et al, 2010).

China is the world largest producer and consumer of chemical fertilizers, and it is ever increasing. During 2003 - 2012, the increase in chemical fertilizer consumption (~27 Mt) in China accounted for 39% of the global increase, including 8.3 Mt fertilizer N (41% of the global increase), 1.8 Mt fertilizer P₂O₅ (33% of the global increase) and 0.6 Mt fertilizer potassium (K₂O) (32% of the global increase) (IFA, 2013).

The large volume and ever increasing fertilizer application has resulted in many environmental pollution problems in China including eutrophication - excessive richness of nutrients in a lake or other body of water, frequently due to run-off from the land, which causes a dense growth of plant life (Le et al, 2010), greenhouse gas (GHG) emissions (Zheng et al, 2004), and soil acidification (Guo et al, 2013). In particular, excessive nitrogenous and phosphate fertilizers have been applied in vegetable and flower fields, as a result, massive nitrate and available phosphate have accumulated in the soil. Research showed that excessive N fertilizer application would result in the increase of soil total nitrogen and available nitrogen content, the decrease of soil available phosphorus, and the speeding up of soil acidification. Survey data from the top 0-20cm of the surface soil of 40 vegetable greenhouses in China indicated that 57% of samples has the soil nitrate content of 100-300mg/kg and 31% of samples has the soil nitrate content of >300mg/kg, which are considerably high and hazardous to the ground water and climate (CG, et al., 2004).

Excessive fertilizer application causes soil nutrient imbalance, and reduction of food quality as well. Long-term and fixed position experiments indicated that excessive nitrogenous fertilizer application would cause the instability of crop yield, and the reduction of wheat and corn protein (CG, et al., 2004). Similar research showed that nitrogenous fertilizer or phosphate fertilizer application or excessive application had negative impacts on the quality of rice, wheat, tobacco, rapeseed, and cotton etc (CG, et al., 2004).

- (b) Water scarcity and safety:** Agriculture is the largest water user in China and many other countries. In 2014 in China, out of total water withdrawals agriculture consumed 63.5%, manufacturing 22%, and households and municipalities 13% (MWR, 2015)¹³. Population growth, improved and diversified diets, industrialisation, and economic development increase the pressure on limited water resources (Peng, 2000). Irrigated agriculture is likely to experience substantial future reductions in water availability. China has set a target for agricultural water use, which is no more than 372 billion m³ of water use in agriculture by 2020 (MOA, 2015)¹⁴. Nevertheless, irrigation will continue to be a substantial component of water demand (Xu and Kang, 2002), and keeping water use without significant increase in this sector remains a high priority (MOA, 2015a)¹⁵.

Water safety had been a problem in many rural areas for many years, since many rural people draw water directly without purification and disinfection from water courses, lakes, reservoirs, ponds and shallow. The pollution of Kuisui River in Anhui province, for example, has caused water shortage to 250,000 people living on the riversides. Close to pollution sources or polluted by industrial wastewater, existing shallow wells and water cellars in rural areas are largely polluted. Toilets, cesspools, barnyard and wastewater ditches are often found within a distance of 10m around many wells, and some wells are even polluted by industrial wastewater. By the end of 2015, 24% of rural

¹³ Ministry of Water Resources (MWR), 2015. China Water Resources Bulletin 2014. http://www.mwr.gov.cn/zwzc/hygb/szygb/qgszygb/201508/t20150828_719423.html

¹⁴ Ministry of Agriculture (MOA), 2015. China National Plan for Sustainable Development of Agriculture 2015-3030. http://www.moa.gov.cn/sjzz/jgs/cfc/yw/201505/t20150528_4620635.htm

¹⁵ Ministry of Agriculture (MOA), 2015a. Campaign on agriculture non-source pollution in China. http://www.agri.cn/V20/ZX/tzgg_1/tz/201504/t20150414_4525628.htm

people still have no access to potable drinking water on tap in China (Li Hualin, 2016)¹⁶. Some people have to drink water with high fluoride, arsenic or saline concentrations.

(c) Agricultural wastes: With increasing crop and livestock production in China, crop residues and animal wastes have increased year by year. The existing intensive farming system cuts the traditional circular connection between crop farming and animal raising. Nutrient resources become a source of pollution rather than an input to farming. Large waste piles are abandoned, or set on fire, which not only is a waste of resources, but cause soil fertility degradation, environmental pollution, and possible fire and traffic incidents. Agriculture is the largest source of pollution according to China's First Census on Pollution Sources (MEP, 2011)¹⁷. Organic matter from agriculture and rural households make up 43% of China's Chemical Oxygen Demand (COD), 57% of total nitrogen (TN), and 67% of total phosphorus (TP) (MEP, 2011)¹⁸.

(i) Waste from crop farming: Where there is 1 ton of grain production, there will be more than 1 ton of crop straw produced. China has abundant farming wastes, which are about 0.78 billion tons per year. There are 20 kinds of crop straw, including 0.23 billion tons of rice straw, 0.22 billion tons of maize stems, 0.1 billion tons of stems and leaves of soybean and food grain other than wheat and rice, and 0.2 billion tons of vegetable, peanut and potato waste. Other crop residues include oilseed residues, spent grains, sugar beet residues, sugar cane residues, deposed sugar residues, clippings of food industry and plant waste, such as grass and leaves.

Crop residue has a high content organic matter, primarily fibrin cellulose and semi-fibrincellulose, lignin, protein, amino acid, colophony and tannin. These are resources which should be utilized. For example, these crop residues could generate 85 billion Nm³ of methane per year if they are used to generate gas. But about 50% of crop straw either pile up in the yard or are set on fire without utilization or returning to the field (Li Ji, 2016)¹⁹. Chinese government has set a target of crop residue utilization - at least 85% of crop residues should be utilized by 2020 (MOA, 2015)²⁰.

Biomass energy (wood and crop residues, etc.) used to provide 57% of total household energy in the past in China. However, it is very inefficient and dirty to burn wood and crop residues directly, since emits soot and ashes resulting in air pollution and respiratory and eye diseases disproportionately impacting women.

(ii) Waste and wastewater from animal farming: In past 20 years, livestock production in China has increased at an average rate of 9.9% leading to an acute increase of livestock waste. There were 406 million tons of waste produced from animal raising in China each year according to China's First Census on Pollution Sources (MEP, SSA and MOA, 2010)²¹. Presently, about 30-50% of livestock waste has been returned to fields. Diffuse feces without safe treatment are threatening water sources, environment and food safety as a result of runoff, air pollution (odorous gases such as, H₂S, NH₃ and dimethyl dithiol), nutrients (nitrogen and phosphorus), microelement and heavy metal pollution, residues of veterinary drugs, and pathogenic pollution.

¹⁶ Li Hualin, 2016. Drinking Water Problem in Rural Areas and Achievements in the 12th FYP in China.

http://www.gov.cn/xinwen/2016-01/11/content_5031970.htm

¹⁷ Ministry of Environmental Protection (MEP), 2011. Half of pollution is emitted from agriculture in China.

http://news.xinhuanet.com/2011-06/03/c_121494133.htm

¹⁸ Ministry of Environmental Protection (MEP), 2011. Half of pollution is emitted from agriculture in China.

http://news.xinhuanet.com/2011-06/03/c_121494133.htm

¹⁹ Li Ji, 2016. Successful cases of crop stwaw utilization. http://news.ifeng.com/a/20160122/47188228_0.shtml

²⁰ Ministry of Agriculture (MOA), 2015a. Campaign on agriculture non-source pollution in China.

http://www.agri.cn/V20/ZX/tzgg_1/tz/201504/t20150414_4525628.htm

²¹ Ministry of Environmental Protection (MEP), State Statistics Administration (SSA) and Ministry of Agriculture (MOA), 2010.

http://www.stats.gov.cn/tjsj/tjgb/qtjgb/qgqtjgb/201002/t20100211_30641.html

Major pollutants of livestock waste are manure containing solid organic materials and source of methane gas. The former includes carbohydrate, protein, organic acid, enzyme, etc. and the latter includes ammonia, sulfured hydrogen, volatile fatty acid, hydroxybenzene, quinine, dithiol, etc. Intergrowth includes pathogenic microorganism (bacterium, epiphyte and virus) and parasites, etc.

Livestock wastewater is also an important pollution source for water environment and rural sanitation. It is estimated that Chemical Oxygen Demand (COD) from livestock husbandry has exceeded the emission of that from manufacture and municipal households. Presently, 80% of wastewater coming from more than 160,000 medium and large scale livestock farms is discharged directly into surface waters.

Livestock (including poultry) wastewater contains large amounts of manure and urine, feed residues, residues of veterinary drugs, heavy metal ion and pathogens. This kind of wastewater is called "Four High Wastewater", i.e. high content of ammonia nitrogen, phosphorus, organic matter and suspended solids. Livestock wastewater has become dominant pollution source for rural water environment, soil environment and groundwater. Furthermore, Most of the intensive livestock production is in east China and/or in the suburb of big cities where there is high density of population.

The exiting livestock production pattern and scale is the root cause of severe pollution of livestock waste. Currently, too many animals are housed in a limited space, high rate of increase, excessive waste discharge beyond the environmental assimilative capacity, and limited reuse or recycling of livestock waste due to the simple animal structure and the disconnect of farming and feeding. Most livestock farmers adopt outdated production and waste treatment technologies. For example, they do not separate manure and urine, wash animal manure with large quantity of water, add illegal additive into feed, and high volume of feed waste washed into wastewater. This increases the volume of wastewater discharge and makes the treatment difficult and treatment costs high.

Organic matter, nitrogen and phosphorus in livestock waste are all nutrients for crops and aquatic flora and fauna. If the waste was recycled back to farm fields, for crop production, it will be beneficial both to the crops and the environment. But the reality is that farmers prefer chemical fertilizers. Manure and organic fertilizers are replaced by chemical fertilizers, and livestock wastes are discharged to the environment, being one of the major sources of pollution.

This situation arouses a lot of concerns and the Chinese government has strived to deal with it. A target has been set in the China National Plan for Sustainable Development of Agriculture 2015-2030 that at least 75% of livestock wastes will be safely treated by 2020 (MOA, 2015)²².

- (d) **Agro-biodiversity:** About 5,000 types of plants have been used as food by humans, among which about 150 types have become economic crops and 30 grain crops. Livestock and aquaculture products are all domesticated or bred from wild animals. China has a long history of agricultural development and is rich in agricultural biological resources, which are biological foundation supporting the sustainable development of agriculture in both China and the world. But conventional agricultural modernization is reducing agro-biodiversity.
- (i) **Species extinction when seeking high yield:** The "Green Revolution" and pursuit of high-yielding varieties of crops and livestock have led to extinction of some local varieties and breeds. Since 1950s, about 40% of vegetable varieties have disappeared. Miscellaneous grain crops have been discarded and some species such as millet, buckwheat and small beans are almost extinct. Some species of livestock, such as red cattle and downy goat in Jiacyou in Henan and

²² Ministry of Agriculture (MOA), 2015. China National Plan for Sustainable Development of Agriculture 2015-3030. http://www.moa.gov.cn/sjzz/jgs/cfc/yw/201505/t20150528_4620635.htm

domestic goat in Ningxia, have crossbred and degenerated in quality and some of them are even on the edge of extinction.

- (ii) **Simplicity, instability and low efficiency of agricultural ecosystem:** Traditional crop species and crop rotation have been gradually abandoned with the modern way of farming. Intensive and mechanized farming prefers a single crop grown in a large area, which is convenient for management and harvest. This need makes the agricultural ecosystem more and more simple which reduces effective resistance of crops greatly. On average the life of a single crop species with effective resistance is only about 5 - 10 years.

Agricultural disasters due to drought, floods, insect and pest infestations, and diseases are frequently experienced with serious damage and losses. In the recent 10 years, the disasters in China have brought about a reduction of 40 million tons of grain every year, and the economic loss is estimated about 70 billion RMB. Mono-culture and reduced agro-biodiversity might play a role in the disasters.

B.3 Climate change challenges and impacts on agriculture development and rural poverty

13. **Climate change and projections.** The average atmospheric temperature has increased by 0.91°C from 1909 to 2011 in China, and the most recent 15 years was the warmest period in the last 100 years. This warming trend in China is consistent with or even higher than the global situation. It is more obvious during the most recent 50 years (Yu et al 2011). The average territorial temperature increased by 1.38°C during 1951-2009 according to China's Second National Evaluation on Climate Change (MOST, 2011)²³. The ascending trend of temperature is more obvious in winter and more noticeable in northern China.

14. National level precipitation in China showed no significant trend changes in the last 100 years, but regional changes are being experienced. The precipitation changes varied in different river basins. In recent decades, the Yellow River region and the Haihe River basin have seen precipitation decrease, but in the Northwest China precipitation showed an increasing trend. In other areas, the trend of precipitation changes is not obvious, but it shows erratic fluctuation.

15. China is huge in geography and different areas might have different patterns of climate change and its impacts. In North China, the temperature has increased with the rate of 0.22°C/10a (per decade) in the past 50 years. The precipitation has been decreasing. In Northeast China, the temperature has increased with the rate of 0.3°C/10a in the past 50 years, and the precipitation decreased with the rate of 15 mm. In East China, the temperature has increased by 0.21°C/10a during 1961-2005, and the precipitation showed no trend changes. In South China, the temperature has increased by 0.16°C/10a in the past 50 years and precipitation has not showed systemic changes. In Northwest China, the temperature has increased by 0.37°C/10a in the past 50 years, and 82% of glacier is shrinking. The crop yield increased by 10% - 20% in the irrigated farmland, but decreased by 10% - 20% in the rain-fed farm (MOST, 2011).

16. **Challenges and opportunities on agriculture development and rural poverty.**

(a) Agriculture sector:

- (i) **Opportunities:** higher temperature in colder climates might enable farmers to grow one more crop in a year than before. China's long-term agricultural structure and patterns have changed due to climate warming, making it possible to develop multi-cropping systems in middle/high latitude regions. Compared with the cropping systems in the 1950-1980's, the northern frontier of the double-cropping system (DCS) from 1981 to 2007 has significantly moved to north in North China such as in Shanxi, Hebei and Beijing. The northern frontier of the triple-cropping system (TCS) also moved to north in Central and East China such as Hubei, Jiangsu and Zhejiang. Regardless of crop varieties and changing socio-economic conditions, grain yield per hectare could increase by about 54-106% if the single cropping system (SCS) changed to DCS, and increases about 27-58% if the

²³ The Ministry of Science and Technology (MOST), 2011. The Second National Evaluation Report on Climate Change. Beijing: Science Press.

DCS changed to TCS (Yang et al. 2010). During 1986 to 1995, the multiple-cropping index of China's arable land has increased by 9.5%, and the index in Northeast China has reached 102% (Du and Guan 2007).

- (ii) **Challenges:** Rice, maize and wheat are the top three crops grown by Chinese farmers. The particular crops and regions that have been most affected and should be priorities for adaptation are maize and wheat in arid and semi-arid areas of northern and northeast China, where droughts induced by increases in temperature could limit the benefits of improved thermal conditions. For example, wheat, maize and soybean yields reduced by 1.27%, 1.73% and 0.41% respectively from 1980–2008 though rice yields increased by 0.56%. As a result, climate trends as a whole reduced wheat and maize production by 0.36 million tons and 1.53 million tons, respectively (Tao et al 2012).

Applying SRES A2 and B2 scenarios from PRECIS and in combination with CERES crop models, researchers found that rain-fed wheat, corn and rice output will decrease on average by 11.4–20.4%, 14.5–22.8% and 8.5–13.6% respectively, if the current level of technologies is still in use by 2050s (which is unlikely). If irrigation water is guaranteed, then the output of wheat, corn, and rice will have a lower reduction of 2.2–6.7%, 0.4–11.9% and 4.3–12.4% respectively. In the 2080s, the reduction in the production of all the three crops will be more significant (Lin et al 2005). Irrigation can increase the yields of the three major crops, lowering the loss of corn and wheat outputs by 5–15% and rice by 5% (Xiong et al 2007). If atmospheric CO₂ concentration reaches 600 ppm, wheat and maize yields will increase by 38% and 12%, and water use efficiencies will improve by 40% and 25% respectively in North China, compared with those without CO₂ fertilization (Ruiping et al 2010). The contribution of CO₂ fertilization is a factor to determine the future grain production in China however it needs to be looked at in context of all the other necessary conditions such as water availability, temperature and extreme events.

- (b) **Forestry sector:** As one of the main terrestrial ecosystems, forest ecosystems are extremely sensitive to climate change, and climate change impacts are very significant. The latest 8th investigation on national forest resources (2009-2013) showed that the forest area of China is 208 million ha, and forest coverage rate is 21.6% (SFA, 2014)²⁴. Most of the forest resources are located in the remote mountainous areas of northeast and southwest China, and hilly areas in southeast China.

- (i) **Opportunities:** The most significant increase of temperature in China in the past 50 years has been in Northeast China (MOST, 2011), which is one of the most important forest areas of China. In the context of global and regional warming, the growing season of coniferous forests has been increasing at an average rate of 3.9 days per decade (Wang et al 2013). Overall, the net primary productivity (NPP) of forest in Northeast China has increased. The NPP in 1981 was around 0.27 PgC, and it increased to approximately 0.40 Pg C in 2002. With the current climate, the broad-leaved Korean pine forest ecosystem acts as a carbon sink, with a carbon sink capacity of 2.7 Mg C ha. Although the carbon sink capacity of the forest ecosystems in Northeast China has been weakened since 2003, the total carbon sequestration will still increase (Wang et al 2013).
- (ii) **Challenges:** Regional warming favors the growth of temperate broad-leaved forests and has a detrimental effect on the growth of boreal coniferous forests. Over the past hundred years, the forest frontier of the cool temperate zone in the southern Daxing'anling region has retreated 140 km northward. From 1896 to 1986, the northern frontier of broad-leaved forests in Heilongjiang province has extended northwestward about 290 km. Future climatic changes (until 2060) may lead to the northern deciduous needle forests frontier moving out of China's territory altogether (Wang et al 2013). Natural zones of forest in the plateaus

²⁴ State Forestry Administration (SFA), 2014. The 8th Investigation of National Forest Resources Report. <http://www.forestry.gov.cn/main/72/content-659780.html>

moved to higher altitudes. The forest-line moved upward at a rate of 8.5 m per decade in the arid valley region of Yunnan province (Moseley 2006).

The occurrence cycles of pests and diseases have shortened; their distribution ranges have expanded. The life cycle of tent caterpillars (*Malacosoma neustria testacea* Motschulsky) has shortened from 14-15 years in the past to 8-10 years now. The pine caterpillar (*Dendrolimus tabulaeformis* Tsai et Liu), which has spread within western Liaoning province and the nearby areas, can now be found in the north and west China (Wang et al 2013). Lightning fires in the Daxing'anling region have significantly increased since 1987, and August has become the month when lightning fires occur most frequently (Wang et al 2013).

Southwest China is one of the most typical and concentrated areas of diversified species. During 1960-2010, forest fires and forest pests increased due to climate warming and the droughts. The annual area of forest fires was as high as 250,000 ha. From the 1950s to the 1980s, the pest and disease hit area in Southwest China doubled every 10 years – i.e. from average 860,000 ha/year in 1950s to 1,440,000 ha in 1960s, 3,650,000 ha in 1970s and 8,470,000 in 1980s.

- (c) **Disasters:** China is among the most disaster-prone countries in the world (Nie 2011), as agro-meteorological disasters alone affect 50 million ha and 400 million people, and result in Chinese Yuan Renminbi (CNY) 200 billion (1-3 percent of GDP) in damages annually in China (MOST, 2011)²⁵. Agriculture is among the sectors most vulnerable to natural disasters (Wang et al 2008; Tu et al 2011), and during 1996 - 2007, the crop areas afflicted by disaster-related production loss with a rate of at least 10 percent reached 31 percent of total sown areas and 17 percent of the total sown areas experienced disaster-related production loss with a rate of more than 30 percent (Nie 2011). Such meteorological disaster loss translated into roughly 51 million tons of average annual grain losses and approximately 100 billion CNY in average annual direct economic losses from 1996 to 2003 (Li et al 2007).

In addition, Ye et al (2013) found that climate extremes and natural disasters during 2000-2003 resulted in such severe production losses that China's food security index values dropped to their second lowest level since the great leap forward (1958). Furthermore, as agriculture remains crucial in terms of production and employment in China's transitional economy, China is all the more vulnerable to climate-related risks (MOST, 2011; Xiong et al 2009; Tu et al 2011). China's agricultural production has historically been afflicted by extreme weather events, research has highlighted increasing frequency and intensity of these events in the past decades (Cruz et al 2007).

Various research show that climate change will continue to intensify in China and that the occurrence of extreme weather events will continue to increase (Lang and Sui 2013). Due to insufficient investment in agriculture, the sector's ability to resist meteorological disasters and climate change risk is inadequate (Committee of China's National Assessment Report on Climate Change 2015); which is especially troubling as adapting to extreme weather events is considered to be at the core of agricultural climate change adaptation in China. Efforts at agricultural climate change adaptation will be critical to ensuring that the tremendous gains made in recent years are not lost. The formulation of sound adaptation measures will require a comprehensive understanding of the interaction between climate change, risk, and adaptation options.

C. Country responses, coping strategies and priorities

C.1 Policy framework

17. From 2008, Chinese government released a China's Policies and Actions on Climate Change each year to update the new progress to cope with the climate change in China. On 30 June 2015, the Chinese government submitted the Enhanced Actions on Climate Change: China's intended nationally

²⁵ The Ministry of Science and Technology (MOST), 2011. The Second National Evaluation Report on Climate Change. Beijing: Science Press.

determined contributions to UNFCCC Secretariat (INDC), and it summarized the main achievements in the past and clarified the action goal by 2020 and 2030.

18. In this report, China has set its goals by 2030, based on China's national circumstances, development stage, sustainable development strategy and international responsibility, as follows:

- (i) To reach the peak of carbon dioxide emissions by 2030 and making best efforts to peak earlier;
- (ii) To lower carbon dioxide emissions per unit of GDP by 60% to 65% from the 2005 level by 2030;
- (iii) To increase the share of non-fossil fuels in primary energy consumption to around 20%; and
- (iv) To increase the forest stock volume by around 4.5 billion cubic meters from the 2005 level.

19. To act on climate change in terms of mitigating greenhouse gas emissions and enhancing climate resilience, is not only driven by China's domestic needs for sustainable development in ensuring its economic security, energy security, ecological security, food security as well as the safety of people's life and property and to achieve sustainable development, but also driven by its sense of responsibility to fully engage in global governance, to forge a community of shared destiny for humankind and to promote common development for all human beings.

20. According to the World Bank's latest purchasing power parity poverty line of US\$1.9 per day, China's urban and rural impoverished population numbered more than 114 million in 2012, down by 641.68 million since 1990. This accounted for 60.74% of reduction in the global impoverished population.

21. By the end of 2015 there were still 60 million rural impoverished people in China living below the government's official poverty line of CNY2,300 (\$354) per capita annual net income (equivalent of US\$0.96 per day). China's national government pledged resolute measures to help the remaining 60 million poor people shake off poverty and enjoy essential social services by 2020 (OPALG, 2015)²⁶.

22. In order to reach the goal, Chinese government and Communist Party of China (CPC) puts the poverty alleviation on the top agenda in the economic and social development planning, and drew the roadmap for poverty alleviation (Xinhua, 2015)²⁷. The government urged to identify precisely the poor people and work for them. Five measures will be taken to relieve them out of poverty according to the CPC calls at the CPC Conference on Poverty Alleviation in Beijing on 27-28 November 2015 (Xinhua, 2015):

- (i) For those who are capable, the government will help them in economic development activities with microfinance etc.
- (ii) For those who live in environmentally fragile and disaster prone areas, the government will help them resettle with subsidized housing and other livelihood capitals;
- (iii) For those who live in biodiversity rich and environmentally good areas, the government will help them conserve the ecosystem with payment for ecosystem services (PES) or ecological compensation mechanism;
- (iv) For those who get poor due to burdens of kid schooling, the government will help them with good and cheap education;
- (v) For those who are disabled, the government will help them with social security system such as Live Minimum Guarantee.

23. Although the government is determined to achieve the goal of poverty reduction by 2020, China's on-going economic downturn and climate change are serious challenges among others in the coming years.

²⁶ Office of Poverty Alleviation Leading Group (OPALG), 2015. 2015 National Conference on Poverty Alleviation Held in Beijing. http://www.gov.cn/guowuyuan/vom/2015-12/31/content_5029863.htm

²⁷ Xinhua News Agency, 2015. 2015 CPC Conference on Poverty Alleviation Held in Beijing. <http://www.shanghai.gov.cn/nw2/nw2314/nw2315/nw5827/u21aw1082900.html>

C.2 Related policy responses and institutional framework

24. The No. 1 Policy Paper 2016, *Opinions on Accelerating Agriculture Modernization with New Development Ideology and Achieving the Goal of Xiaokang Completely*²⁸, highlights two aspects of rural development. One is green development and the other is poverty alleviation. The Policy Paper stressed that agricultural development must be environmentally friendly and resource saving. It urged that all the rural poor should be lifted from poverty by 2020.

25. Ministry of Agriculture made plans to carry out the strategies on green development and poverty alleviation. One is the *China National Plan for Sustainable Development of Agriculture* (MOA, 2015)²⁹, and another is *Campaign on Agriculture Non-source Pollution in China* (MOA, 2015)³⁰. In these action plans, a series of policy goals were set as follows:

- (i) Irrigation water use will be limited to no more than 372 billion m³ by 2020 and 373 billion m³ by 2030. No less than 64% of irrigated farmland will be equipped with water-saving facilities by 2020, and it rises to 75% by 2030.
- (ii) By 2020, the technology of soil fertilization testing will be applied in no less than 90% of farmlands. Utilization rate of chemical fertilizers will be raised to 40%. Chemical fertilizer use will peak by 2020.
- (iii) By 2020, coordinated and integrated pest management will be applied in 40% of farmlands, and pesticides use will no longer increase by 2020. Low-toxic pesticides are encouraged.
- (iv) By 2020, 75% of animal farm wastes will be treated or utilized, and it will rise to 90% by 2030. Animal farms will be excluded from drinking water source areas, scenery resorts and other sensitive areas.
- (v) By 2020, 85% of crop straws will be utilized and 80% of agricultural plastic film will be recovered. All the crop straws will be utilized properly by 2030.
- (vi) Forest coverage rate will be increased to 23% by 2020. The wind-break trees on the edges of farmlands will be installed for 90% of farmlands by 2020.

26. To reach these goals on green development of agriculture, a number of projects or programs are proposed in the action plans such as:

- (i) Soil Quality Improvement Project, in which crop rotation, conservation farming, organic fertilizer/manure etc. will be incentivized.
- (ii) Soil Heavy Metal Treatment Project, in which chemical, biological, agronomy and engineering measures will be taken.
- (iii) Water Saving Irrigation Project, in which sprinkler irrigation, drip irrigation, micro irrigation, rain harvesting, fertilizer and water integrated application, pipeline diversion of irrigation water etc are applied.
- (iv) Animal Wastes Management Project, in which organic fertilizer factories will be built, animal wastes treatment demonstration farms will be established, and animal farms will be updated to separate animal feces from urine and water.
- (v) Chemical Fertilizer and Pesticide Control Project, in which soil testing fertilization will be extended, wetlands will be used to capture nitrogen and phosphorous eroded from the farmlands. Coordinated pest management will be extended.
- (vi) Agricultural Plastic Film Recovery Project, in which thick plastic or degradable films will be extended, recycling factories will be set up, and demonstration counties will be established.

²⁸ CPC and the State Council, 2015. *Opinions on Accelerating Agriculture Modernization with New Development Ideology and Achieving the Goal of Xiaokang Completely* http://www.farmer.com.cn/xwpd/tjyd/201601/t20160127_1176259.htm

²⁹ Ministry of Agriculture (MOA), 2015. *China National Plan for Sustainable Development of Agriculture 2015-3030*. http://www.moa.gov.cn/sjzz/jgs/cfc/yw/201505/t20150528_4620635.htm

³⁰ Ministry of Agriculture (MOA), 2015a. *Campaign on agriculture non-source pollution in China*. http://www.agri.cn/V20/ZX/tzgg_1/tz/201504/t20150414_4525628.htm

- (vii) Crop Straw Utilization Project, in which a number of utilization outlets will be demonstrated, such as returning to the field after threshed with machines, producing feeds from the green straws, gasification of straws, producing compressed fuels from straws, etc.
- (viii) Rural Environment and Sanitation Project, in which wastewater and solid wastes from rural households will be treated. Drinking water sources areas will be protected. Fuel-saving hearth/ovens, biogas and other clean energy products will be extended.

D. Lessons Learned

27. Smallholder and intensive agriculture with over-use and/or misuse of agro-chemicals are the main features of China's agriculture. Although irrigation and other technologies are applied, agriculture is still the most vulnerable sector to climate change. Most of China's poor people are in the rural areas. The government formulates strategies, policies and action plans to try to deal with the agricultural non-point source pollution, climate change, and rural poverty. The achievements are varied in different fields and some lessons could be learned so far.

- (i) Consensus has been reached that agricultural non-point source pollution is a serious problem in rural areas, and the national government has drafted policies to deal with the environmental issues. But it seems that the institutional framework to carry out these policies is not strong enough and both public and private sector funds invested in this field are far from sufficient.
- (ii) A lot of technologies such as soil testing and crop straw utilization have been proposed, demonstrated, and/or applied to address these environmental problems, but the effects are mixed. More studies on feasibility and compatibility with farming system and rural livelihoods are needed and more community needs assessments are needed to realize the full potentials of the technologies.
- (iii) Climate change poses challenges for food security in China. It has been demonstrated that climate change is already having adverse impacts on agriculture and livestock, and it is also predicted the impacts are expected to intensify food supply pressures and consequently affect the vulnerability of agriculture to more impacts. Simulations indicate that potential food production may decrease by 5-10% as a result of climate change during 2030–2050 under the present agricultural producing system in China. All together, these trends suggest that climate change has the potential to threaten or even damage the stability of agricultural production in China, and this represents one of the greatest constraints to state economic growth.
- (iv) Future climate change will likely aggravate phenomena such as desertification trends, shrink grassland areas, and potentially increase the rate of pest and disease outbreaks among agriculture and livestock of China. A harsher climate will increase the demand for irrigation water, although water scarcity maybe more serious with climate warming. The water gap could be eliminated entirely by improvements in water supply and efficiency, these increases can be promoted through investments in R&D, improvements to transport and water storage infrastructure, and procurement reforms.
- (v) Spatial variability of impacts is significant. Researchers have assessed agricultural vulnerability to climate change by taking regional irrigated land areas and economic resources into account, and they found that the northeast, northwest, and southwest of China are possibly more vulnerable to severely dry climates. Regions with high vulnerability are usually associated with poor natural and economic resources and environmental problems.
- (vi) Climate change might exacerbate poverty. At national level, spatial pattern of poverty-stricken areas and ecological vulnerable areas are highly overlapped. Poor people heavily depend on incomes of agricultural products, and usually less ability and skills to find other pathway to make a living. Extreme weather and climate-related disasters will make life more difficult, as well as affect long-term economic growth and livelihood of family. The response of both advanced technologies and various financial support to a changing climate will interact in determining how poor people will be able to meet its food needs and enhance their life standards.

- (vii) Future climate change will likely enhance agriculture costs and investment needs, and will make some barriers to achieve the objectives of food self-sufficiency in China. Climate change may impose or exacerbate trade-offs among technologies improvement and China would have to make significant and sustained technical improvements in productivity. To assure food security, efforts need to be undertaken as well as to improve access to international food markets and increase resiliency to food shocks through procurement reform, stockpiling strategies, and financial-risk hedging.
- (viii) In coping with climate change, adaptation is less emphasized than mitigation by the government. There are clear commitments and target on mitigation such as GHG emission peaking by 2030, but adaptation strategy is less clear nor committed with sufficient funds. More work needs to be done on enhancing the adaptation capacity of especially the smallholder farmers.

E. Recommendations

E.1 Analysis of strategic orientation of COSOP

28. There is a strong academic and political agreement that the human toll of climate change impacts is disproportionately felt in less-developed regions, and the populations in these regions are typically exposed to numerous stressors including climate hazards, inaccessible markets, and unstable living supply commodities, which are very vulnerable to the compounding risks and the potential impacts of any given climate event. Climate change also has disproportionate effects on people living in poverty and on vulnerable populations such as women, children, and the elderly. Approximately 60 million people are currently living below China's official poverty line (defined in 2014 as having a per capita yearly net income of CNY2,300), and they are mainly located in more fragile regions and live on agricultural products that are more vulnerable to climate change.

29. Theoretically and empirically, there are relatively lower income and education levels in these rural areas, which may contribute to lower investments in agriculture inputs. Moreover, low education levels will make new or modern technology adoption more difficult.

30. COSOP of China programme will contribute to make the on-going process of rural transformation inclusive and sustainable by specifically supporting smallholders in remote and marginalised areas. The programme targets would be steadily shifted from lifting of poor households living conditions in remote areas to incentivize capacity building on economic activities to exploit multiply economic opportunities. This will be achieved by introducing innovations and global best practices, and generating knowledge, experiences and lessons that can inform decision-makers. Therefore, the goal of IFAD-supported program in the next five years would be "to enable smallholders in poor priority areas to benefit from the rural transformation process".

31. To contribute to this goal, the IFAD-supported country program will focus on pursuing two strategic objectives, which have been chosen on the basis of IFAD strategic vision and comparative advantage, its global and in-country experience, and taking into consideration the shift in emphasis in the last COSOP (2011-2015) towards improving access to markets, value-chains, and financial services, and increasing resilience: Strategic objective 1 aims to increase smallholders' capacity and opportunities to access markets. This will be achieved with specific activities in three thematic areas which involve supporting inclusive and safe value chain development; supporting inclusive cooperatives; and supporting inclusive financial services. Strategic objective 2 focuses on strengthening environmental sustainability and climate resilience. This will be achieved by mainstreaming environmental and climate resilience considerations into the country program activities.

32. The interventions under COSOP intend to make value chain suitable for small-scale agriculture and ensure that value chain development also could contribute to poverty reduction in remote and disadvantaged areas of China. In this process, the likely challenges will include: (i) mitigating the risks related to small-scale agriculture; (ii) increasing productivity of small scale agriculture; (iii) improving governance of producer organizations; (iii) improving access to finance for smallholders and their representative bodies; (iv) building a relationship of trust and confidence between small scale producers and urban consumers; and (v) complying with new food safety standards.

33. Ongoing climate extremes and harsh environments undermine agricultural production in vulnerable regions, and some poor farmers are now making their income mainly through work in urban areas. Off-farm jobs are an important income source for farmers who live in fragile ecological

environments where there is limited cropland and lower production. The adaptive campaign to climate change in poor rural area has several targets which also include to achieve an accelerated growth of high value-added, high productivity agriculture; and reduce poverty in smallholder agriculture producers. These goals are partially consistent with COSOP strategies as “to enable smallholders in poor priority areas to benefit from the rural transformation process”, and could also integrate value chain into rural development process.

E.2 Actions proposed

34. Many actions need to be taken to address the issues of rural environment, poverty and climate change. The government has picked up some of them, but many are still to be done.

- (i) **Coordination of community based spontaneous adaptation to climate change with the government led planned adaptation.** Different groups of farmer’s adaptation strategies are different based on their family labor, household income, and social capital etc. Government top-down adaptation policies are hardly suited for every farmer group. It is quite possible that the government led adaptation policies help the rich farmers while the poor farmers are not able to take part in the top-down adaptation activities.
- (ii) **A study to explore why farmers are not interested in soil fertilization testing,** which seems so promising and is promoted by the government with lots of public funds. Chinese farmers apply more than needed chemical fertilizers especially nitrogen fertilizers, which not only raises costs but also cause environmental pollution. The extension experts and the government prescribe the soil testing fertilization to address this issue, but it seems the farmers are reluctant to buy the idea and products. More studies need to be done to understand the farming system and farmers’ needs in this respect. The study will contribute to improving the national strategy to address the environmental problems.
- (iii) **To build a channel to use the nutrients in the animal wastes in the crop farming.** In traditional Chinese agriculture, animal wastes were used to make manure mixed with crop straws and leaves, and returned to the crop field as fertilizers. It was no waste clean production. But at present, the cycle of nutrients between crop field and animal farm is disconnected. Animal farm scale is getting bigger and bigger with lots of animal wastes left untreated, and crop fields are fertilized with chemical fertilizers. Both ends have environmental pollution problems. Nutrients are wasted. Production of chemical fertilizers would emit a lot carbon and application of nitrogen fertilizers will produce lots of GHG such as N₂O. The connection and nutrient cycle between crop field and animal farm needs to build up in the present time. It is most possibly a new way of connection, not based on households as before. It might involve business, social enterprise, government subsidy, and/or payment for environmental services. The potential benefits of such a connection would include less wastes emitted from animal farms and thus less pollution, less chemical fertilizers bought and used by farmers and thus less costs and pollution, and less GHG emission.
- (iv) **Promoting water quality trading between point source of pollution(PS) and non-point source of pollution (NPS).** Mitigation of PS pollution is becoming very costly in China as more and more wastewater treatment plants have been built in cities and factories. Much of the NPS pollution is not treated. Therefore, the marginal costs of treating one ton of NPS pollutants are much smaller than that of PS pollutants. There are great opportunities of water quality trading as shown in the United States. The potential benefits would be less agricultural NPS pollution and additional income source for farmers.

E.3 Investment opportunities and future project interventions

35. There are enormous investment opportunities in the fields of rural environment protection, climate change, and poverty alleviation. Goals have been set by the government, such as at least 75% of animal wastes have to be treated by 2020, GHG emission will peak by 2030, 60 million rural poor people will be lifted out of poverty by 2020. To achieve these goals the Chinese government has made sector-based policies. Ministry of Agriculture is responsible for sustainable development of agriculture and agricultural pollution control. The Office of Leading Group on Poverty Alleviation is responsible for poverty reduction. The National Development and Reform Commission (NDRC) is responsible for climate change issues.

36. There are also inter-ministerial committees/program to address inter-sector issues. For example, China's Scientific & Technological Actions on Climate Change was launched by 17 ministries in 2007. The program recommended many active and practical measures to address climate issues. There are about CNY 300 million each year to fund on climate change program in recent five years. The research includes global environmental change monitoring and identification of adaptation measures as the priority themes.

37. There are carbon trading opportunities in rural areas. Conservation farming, biogas station/tank, afforestation, soil testing fertilization, and many other practices have potentials to reduce GHG emissions or of carbon sequestration. These reduced carbon emission or increased carbon sequestration could potentially be traded in the carbon markets now that China has a carbon cap and is committed to establish a national carbon market by 2017. Once farmers could earn a profit from these environmentally friendly agriculture practices, it will not only have farmers better off, but also benefit the environment. At present, manufacturing sectors are the main players in the Chinese carbon markets. Farmers as providers of carbon credits is worth being explored.

38. Adaptation to climate change in especially rural areas is less invested by the government than mitigation. This leaves room and opportunities for civil societies, NGOs, private sectors, and development organizations to play and contribute.

39. Soil testing fertilization is becoming a big business in China. Among the three main stakeholders, i.e. the formula fertilizer producers, the government, and the farmers, the first two stakeholders are promoting the soil testing fertilization diligently, but it seems that farmers are not interested in it. The formula fertilizer producers are looking for the profits of the big market. The government is looking for the environmental improvement with less over-use of fertilizers and less pollution. As the government pledged to extend the soil testing fertilization to at least 90% of China's farmlands, and huge public funds are dedicated to do so, there is lot of room to improve this program with more understanding of farmer's needs.

40. Nutrient cycle between animal farms and crop fields is to be built. It has great potentials to reduce pollutions from animal farms, reduce chemical fertilizer over use in crop fields, produce high quality foods, and cut costs of agrochemicals. Animal farm wastes are the major source of water pollution in China. It accounted for 96% of chemical oxygen demands (COD) emission from agriculture, 38% of total nitrogen (TN), and 56% of total phosphorous (TP), according to China's first census on pollution sources (MEP, 2010). Animal wastes (feces and urine) are organic matters, nitrogen and phosphorous, which are exactly what crops need to grow. The nutrient cycle was broken in the past 25 years because: i) rural labor costs are soaring; ii) young rural labors go to cities for jobs; iii) animal farm scale is getting bigger and bigger; and iv) chemical fertilizers are cheap enough. To rebuild this nutrient cycle, these new circumstances have to be considered.

41. Trading of pollution credits between agriculture non-point sources of pollution (NPS) and municipal/industrial point sources of pollution (PS) is worth exploring. Mitigation costs of PS pollution have been very high in China while that of NPS pollution is still low. The big gap between the costs implies huge business opportunities. If such a market is established, the farmers will be able to have incomes from reducing agricultural pollutions.

E.4 Operational considerations

42. **Government policies.** The CPC and the State Council attached great importance on rural development, environmental protection, climate change and poverty alleviation. The individual ministries formulated a series of policies, master plans and action plans to carry out the strategies. The Ministry of Agriculture issued several action plans to deal with the rural development and agricultural environment protection. The National Development and Reform Commission (NDRC) is overseeing the climate change policies and progress. The Office of Leading Group on Poverty Alleviation is responsible for poverty reduction. There are clear goals for each of the fields. There are favorable policy environments for project interventions in these fields.

43. **Farmers' interests in participation.** Farmers are interested in high income and good environment, but the challenge is how to organize them for a collective action. Chinese farmers are small holders, and most of them have a farm which is less than half a hectare. The first challenge is that there are numerous small holder farmers, which raise the costs of organization. The second challenge is that most young people are living a migratory life and in most of their time they are working in towns and cities.

44. **Pilot and demonstration.** The government has already established 4,272 national level demonstration zones for agricultural development by 2014. Government policies are tested, piloted or demonstrated in these dedicated zones. IFAD's project intervention could either take place in the existing government demonstration zones, or be piloted in selected areas outside these zones.

45. **Role of government, farmers, and the market.** The government has clear goals on environment, climate change, and poverty alleviation. IFAD's project interventions will contribute to it. Most of government policies, technological extension, and plans are top-down in nature. Some of them work perfectly, but others do not work well. IFAD should take its advantages of rich international experiences such as participatory approaches to carry out its projects based on full understanding of farmers' needs.

Country at a glance

A. Key socio-economic indicators

Land area (km2 thousand) 2015¹	9 388 211	GNI per capita Atlas method (Current USD) 2014 1/	7 400
Total population (million) 2009¹	1 364	GDP per capita growth (annual %) 2014 1/	6.7
Population density (people per km2) 2014¹	145	Inflation, consumer prices (annual %) 2015 1/	1.4
Local currency Yuan (CNY)		Exchange rate: USD 1 = 6.50 CNY	
Social Indicators		Economic Indicators	
Population growth (annual %) 2014 ¹	0.5	GDP (Current USD million) 2014 ¹	10 354 831
Crude birth rate (per thousand people) 2014 ¹	12.4	GDP growth (annual %) ¹	
Crude death rate (per thousand people) 2014 ¹	7.2	2010	3.3
Infant mortality rate (per thousand live births) 2014 ¹	9.8	2014	7.3
Life expectancy at birth (years) 2014 ¹	75.8		
		Sectorial distribution of GDP 2013 ¹	
Number of rural poor (million) (estimate) ¹	n/a	% agriculture	9.4
Poor as % of total rural population ¹	n/a	% industry	43.7
Total labour force (million) 2014 ¹	806.5	% manufacturing	30.1
Female labour force as % of total 2014 ¹	43.9	% services	46.9
Education		Consumption	
School enrolment, primary (% gross) 2013 ¹	109	General government final consumption expenditure (as % of GDP)	6
Adult illiteracy rate (% age 15 and above) 2010 ¹	93	Household final consumption expenditure, etc. (as % of GDP)	66
		Gross domestic savings (as % of GDP)	28
Nutrition		Balance of Payments (USD million)	
Daily calorie supply per capita	n/a	Merchandise exports 2014 ¹	2 342 306
Malnutrition prevalence, height for age (% of children under 5) 2010 ¹	9.4	Merchandise imports 2009 ¹	1 959 356
Malnutrition prevalence, weight for age (% of children under 5) 2010 ¹	0.7	Balance of merchandise trade	382 950
Health		Current account balances (USD million)	
Health expenditure, total (as % of GDP) 2014 ¹	3.1	before official transfers ¹	219 678
Physicians (per thousand people) 2012 ¹	1.9	after official transfers ¹	n/a
Population using improved water sources (%) 2015 ¹	96	Foreign direct investment, net 2014 ¹	-208 679
Population using adequate sanitation facilities(%) 2015 ¹	77	Government Finance	
Agriculture and Food		Cash surplus/deficit (as % of GDP) 2013 ¹	
Food imports (% of merchandise imports) 2014 ¹	5.8	General government final consumption expenditure (% of GDP) 2013 ¹	-0.6
Fertilizer consumption (kilograms per hectare of arable land) 2013 ¹	364	Present value of external debt (as % of GNI) 2014 ¹	13.6
Food production index (2004-06-01=100) 2013 ¹	130	Total debt service (% of GNI) 2014 ¹	0.8
Cereal yield (kg per ha) 2014 ¹	5 886	Lending interest rate (%) 2014 ¹	0.5
Land Use		Deposit interest rate (%) 2014 ¹	
Arable land as % of land area 2013 ¹	11.3		5.6
Forest area as % of total land area 2015 ¹	22.2		2.8
Irrigated land as % of total agric. land 2011 ¹	10.5		

(1) World Bank, *World Development Indicators* Online database (<http://databank.worldbank.org/data>)

B. Rural sector performance assessments (2011-2015)

Indicators	2011*	2012*	2013*	2014*	2015*
A. Strengthening the capacity of the rural poor and their organizations					
(i) Policy and legal framework for rural organizations	4.25	4.25	4.50	4.50	4.75
(ii) Dialogue between government and rural organizations	4.25	4.25	4.50	4.50	4.50
B. Improving equitable access to productive natural resources and technology					
(i) Access to land	4.19	4.19	4.19	4.50	5.00
(ii) Access to water for agriculture	4.38	4.38	4.44	4.44	4.50
(iii) Access to agricultural research and extension services	4.08	4.08	4.08	4.00	4.00
C. Increasing access to financial services and markets					
(i) Enabling conditions for rural financial services development	4.44	4.44	4.19	4.44	4.75
(ii) Investment climate for rural business	4.17	4.17	4.17	4.25	4.33
(iii) Access to agricultural input and produce markets	4.83	4.83	4.83	4.83	4.67
D. Gender issues					
(i) Access to education in rural areas	5.31	5.31	5.31	5.50	5.50
(ii) Women Representation	3.75	3.75	3.67	3.67	3.67
E. Public resources management and accountability					
(i) Allocation and management of public resources for rural development	4.25	4.25	4.25	4.25	5.00
(ii) Accountability, transparency and corruption in rural areas	3.94	3.94	3.75	3.75	4.00
Sum of combined scores	190.5	190.5	190.8	193.75	202
Average of average scores	4.32	4.32	4.32	4.39	4.56

(*) Average

Score Scale: 6 (Highest) to 1 (Lowest)

C. Overview of current portfolio³¹

I. Ongoing Loans

Project Name	Approval Date	Effective Date	Completion Date	Total Project Cost (US\$)	IFAD		Co-financing
					Loan Amount (US\$)	% Disbursed	Amount (US\$)
Guangxi Integrated Agricultural Development Project (GIADP)	13-Dec-11	20-Jan-12	31-Mar-17	96.8 m	47.0 m	70%	49.8 m
Hunan Agricultural and Rural Infrastructure Improvement Project (HARIIP)	21-Sep-12	21-Sep-12	30-Sep-17	93.2 m	46.0 m	75%	46.2 m
Yunan Agricultural and Rural Improvement Project (YARIP)	13-Dec-12	31-Jan-13	31-Mar-18	94 m	46.7 m	38%	47.3 m
Shiyan Smallholder Agribusiness Development Project (SSADeP)	11-Dec-13	30-Jan-14	31-Mar-19	116.9 m	43.8 m	22%	73.1 m
Jiangxi Mountainous Areas Agribusiness Promotion Project (JiMAAPP)	16-Dec-14	15-Feb-15	31-mar-20	125.2 m	43.0 m	15%	81.4 m
Qinghai Liupan Mountain Area Poverty Reduction Project (LMAAPP)	16-Sep-15	04-Nov-15	31-Dec-20	125.3 m	42.5 m	--	81.8 m

II. Recently completed Loans

Project Name	Approval Date	Effective Date	Completion Date	Total Project Cost (US\$)	IFAD		Co-financing
					Loan Amount (US\$)	% Disbursed	Amount (US\$)
South Gansu Poverty Reduction Program	08-Sep-05	22-Aug-06	30-Sep-12	80.6 m	29.3 m	100%	51.3 m
Sichuan Post-Earthquake Agriculture Rehabilitation Project	30-Apr-09	30-Sep-09	30-Sep-12	77 m	30.5 m	100%	45 m
Xinjiang Uygur Autonomous Region Modular Rural Development Program (MRDP)	14 Dec 2006	29-Apr-08	30-Jun-14	55 m	25.1 m	100%	29.9 m
Inner Mongolia Autonomous Region Rural Advancement Program (IMARRAP)	13-Dec-07	12-Nov-08	31-Dec-14	70.9 m	30.0 m	100%	40.9 m
Dabieshan Area Poverty Reduction Program (DAPRP)	17-Dec-08	19-Aug-09	30-Sep-15	70.8 m	31.9 m	85%	39 m

³¹ As of 1 May 2016.

III. Ongoing Country Grants

Grant Name	Approval Date	Effective Date	Completion Date	IFAD	
				Grant Amount (US\$)	% Disbursed
An IEM approach to the conservation of biodiversity in dryland ecosystems (GEF in-loan grant)		15-Apr-11	15-Apr-16	4 545 000	85%
Hunan Agricultural and Rural Infrastructure Improvement Project (HARIIP) (in-loan grant)	21-Sep-12	21-Sept-12	30-Sep-17	1 000 000	41%
Jiangxi Mountainous Areas Agribusiness Promotion Project (JiMAAPP) (in-loan grant)	16-Dec-14	15-Feb-15	31-Mar-20	800 000	33%
Qinghai Liupan Mountain Area Poverty Reduction Project (LMAAPR) (in-loan grant)	16-Sep-15	04-Nov-15	31-Dec-20	1 000 000	--
Enhancing Knowledge Management & Cooperation and Policy Dialogue (stand-alone grant)	15-Dec-15			300 000	--

IV. Recently completed Country Grants

Grant Name	Approval Date	Effective Date	Completion Date	IFAD	
				Grant Amount (US\$)	% Disbursed
Promoting South-South Cooperation with China in Poverty Reduction through Knowledge Sharing	20-Dec-10	24-May-11	30-Sep-15	338 000	100

V. Country Grants/Technical Assistance in pipeline

Name	Amount (US\$)	Co-financing Amount (US\$)	Comments
Implementing Balanced Urban–Rural Regional Development in Xinjiang Uygur Autonomous Region (XUAR)	400,000	50,000	ADB-funded TA

Concept note(s)

A. Investment loans

A. Pipeline 2016-2018

1. **Pipeline 2016-2018.** It is proposed that two operations (one program in two provinces and one project in one province) be financed under the 2016-2018 PBAS cycle: (i) the Poverty Reduction through Agribusiness Development in Sichuan and Ningxia Program, and (ii) the Poverty Reduction through Agribusiness Development in Shaanxi Project.

B. Key elements of proposed investments under the PBAS 2016-2018 cycle

2. **Contributing to poverty reduction through industrialization effort by piloting/testing different models of poverty reduction through agribusiness development.** In line with the COSOP 2016-2020 strategic objectives and thrusts, the two proposed projects will pilot different approaches/models of poverty reduction through agribusiness development, with the objective of testing their viability/applicability, learning lessons and experience, and ultimately scale them up.
 - (a) **In Shaanxi:** the project will promote the active participation of poor households in production activities and their inclusion in value chains by on the one hand **enhancing the traditional buyer-driven value-chain models**, i.e. directly identifying the target beneficiaries, turning the target group (through infrastructure improvement, capacity building, and organizational development) into suppliers of products and services to the market, and linking them to existing local value chains through various channels (e.g. dragon-head enterprises, small- and micro-agribusiness enterprises, cooperatives) and various types of contractual arrangements that are fair and inclusive; and on the other hand **developing new value-chain models that build on modern market structures, and advanced urban demand characteristics**³² - or a combination of the two methods.
 - (b) **In Sichuan:** the project will **adapt the current SOCAD model of comprehensive agricultural development** (i.e. infrastructure development/enhancement to increase productivity/production and facilitate access to market), which has demonstrated to be successful in plain and low altitude areas with higher agricultural potential, **to higher elevation areas and more remote villages with higher concentrations of poverty**, but still with production and market potential. As for the Shaanxi project, the Sichuan project would pilot and test different market linkages models, including enhancing the traditional buyer-driven value-chain models, and developing new value-chain models that build on modern market structures, and advanced urban demand characteristics - or a combination of the two.
 - (c) **In Ningxia:** the project would test **various models for poverty reduction**, including for poor post-resettled people with an interest in agriculture related activities and/or residing in areas with agriculture potential which combine on-farm and off-farm activities - including revisiting the current practices of poor household-enterprise linkages.
3. **Ecological conservation and rehabilitation, cooperative strengthening, and inclusive financial services.** Additional key, crosscutting features of the two proposed operations include:
 - (a) **Ecological conservation and rehabilitation activities:** including the piloting of ecological compensation programs to compensate local communities for conserving and rehabilitating areas that are ecologically important (e.g. the catchment of the Fengjiashan Reservoir in Qianyang County, Shaanxi, which is the drinking water source area for the Baoji City in the Shaanxi project), or interventions aiming at reducing the salinization of soil (e.g. in large areas on the east bank of the Yellow River in North Ningxia in the Ningxia project).

³² E.g. e-commerce, and preference for safe and/or environmentally and socially sound production methods. This may be the most suited approach in the mountainous or ethnic minorities areas that may have a special/niche product to sell. This could be related to geographic indication branding, organic, green, or specialized "mountain products, etc.

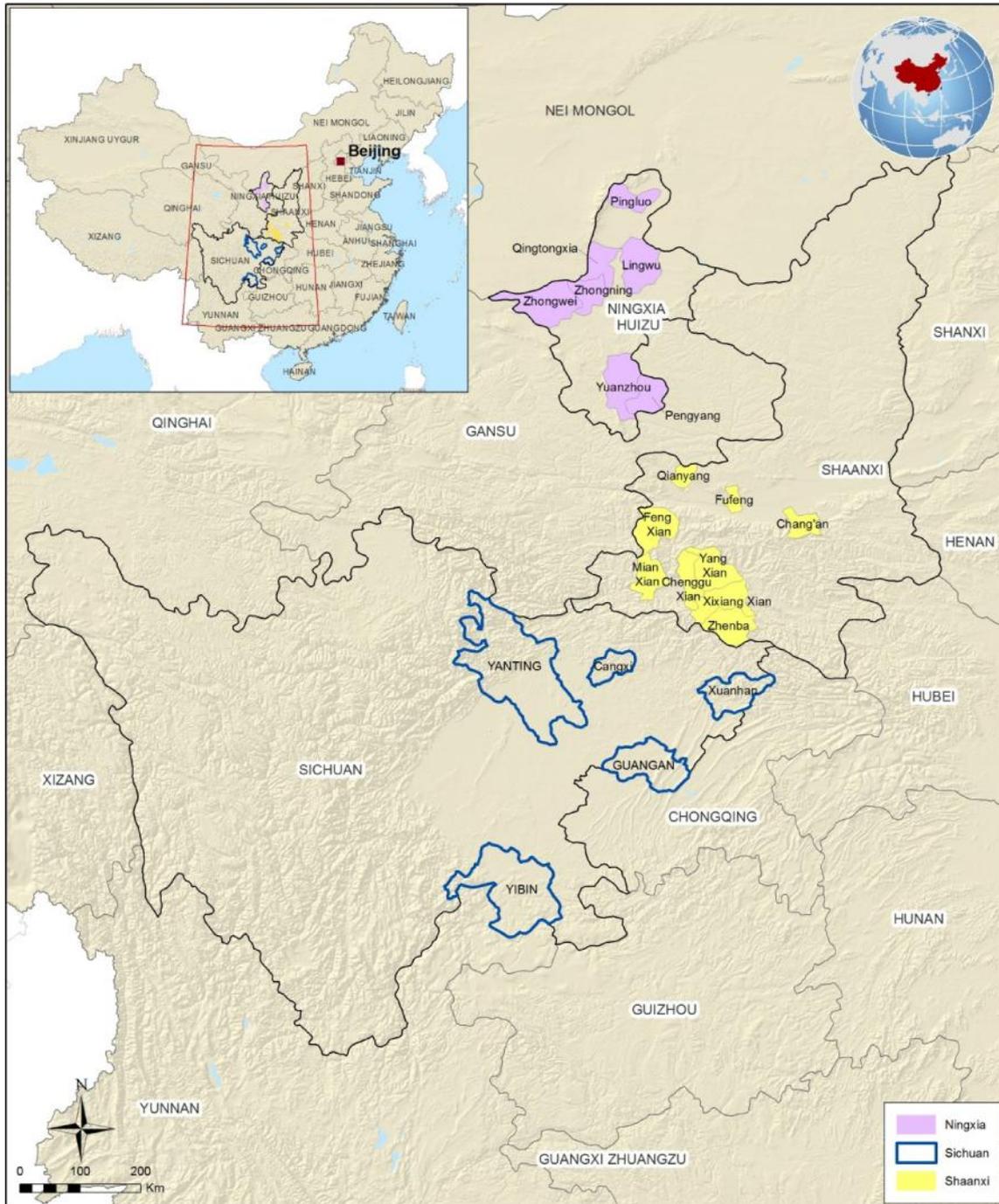
- (b) **Farmer cooperatives development:** the projects would support activities aimed at improving the governance of cooperatives; strengthening their management capacity, and particularly business planning and management skills; strengthening their capacity to enhance the production and marketing ability of its members; and strengthening their capacity to access financial services.
 - (c) **Inclusive financial services:** the projects would support rural households and entities to better access formal financial services, and strengthen the capacity of rural financing institutions to better serve rural financial markets.
4. **Scaling-up mechanisms.** In the Ningxia-Sichuan program, SOCAD, at central level, will have the responsibility for overall coordination, supervision, monitoring and evaluation of the activities implemented at provincial level, and for managing the knowledge, lessons, and experiences generated at provincial level - thus favouring learning, replication, and, ultimately, scaling-up of successful models/results.

C. Pipeline 2019-2021

5. **Pipeline 2019-2021.** The pipeline of investments to be financed under the 2019-2021 cycle will be developed during the COSOP mid-term review (MTR) in 2018.

China

IFAD-planned operations in 2016-2018



 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.
IFAD Map compiled by IFAD | 03-05-2016

Concept Note on: Poverty Reduction through Agri-business Development (PRAD) in Sichuan & Ningxia

A. Strategic context

1. **Economic and rural development.** China has been extremely successful at broad economic growth, and the country is now the second biggest economy in the world. Economic growth triggered rural and agricultural development. The road infrastructure network is extended and in good conditions. The land consolidation process which started at the end of 2014 is on-going with 29% of land user rights having been transferred. Rural labour transfer has been significant. Agricultural mechanization has doubled. Private sector investment is also increasing as a result of government push on agri-food industry and technology parks. Cellphone coverage in rural areas is constantly improving. Innovations such as the use of electronic platforms for marketing (e-commerce, e-payments) are spreading. The Government of China is actively promoting linkages between rural cooperatives and leading private enterprises (supermarkets, agribusinesses, Dragon Head Enterprises) acting as buyers as well as providers of technical knowledge and funding to small farmers.

2. **Poverty reduction: the Government's main priority for 2020.** China has made remarkable progress in reducing poverty over the past 30 years. However, about 56 million people still live below the poverty line. Bringing these people out of poverty by 2020 is the main Government priority for the next five years with the following strategy. First, the poor have been individually identified, registered and classified on the basis of the causes of their poverty. Second, five poverty reduction strategies/measures have been identified on the basis of the causes of poverty and nature/potential of the poor: (i) industrialization (i.e. agribusiness development) (which will target about 45-55% of the remaining poor); (ii) green development (i.e. ecological restoration/compensation) (about 12% of the remaining poor); (iii) employment creation through skill development (i.e. vocational training) (12%); (iv) social welfare/safety-net programs (12%); and (v) voluntary resettlement (12%). Third, while the Leading Group Office on Poverty Alleviation (LGOP) remains the key agency in orchestrating poverty reduction work, each line ministry/department shares this responsibility and has poverty reduction targets.

3. **Poverty reduction in Sichuan.** In the Sichuan Province, under the ongoing 13th five-year plan covering 2016-2020, the target for poverty alleviation is 3.8 million individuals officially registered as poor (as of 2014) to be taken out of poverty by 2018. These poor comprise 4.2% of Sichuan's total population, and some 5.4% of China's total number of poor.

4. **Poverty reduction in Ningxia.** In the Ningxia Province, under the ongoing 13th five-year plan covering 2016-2020, the target for poverty alleviation is 580,000 individuals officially registered as poor to be taken out of poverty by 2018. Of these poor households, 380,000 individuals are located in the uplands of the southern and central part of the Province (80,000 of them are planned to be resettled during this ongoing five-year plan) and 200,000 individuals in the lowland agriculture-suited areas of Northern Ningxia.

B. Justification for the project and rationale for IFAD involvement

5. **Key challenges/opportunities in Sichuan.** The proposed project will be confronted with the challenge of contributing to the provincial poverty alleviation strategy through rural agribusiness development in a context that has already seen significant agricultural investments, urban centres within and outside the province, and a growing demand for employment from non-agricultural activities. In other words, this remaining rural poverty will be the most difficult to eradicate given that it is located in marginal and deprived areas with an aging population in the case of the upland areas. An additional challenge is represented by the risk of "falling back into poverty" for households that, for example, are exposed to price fluctuation of their outputs, are experiencing health problems, and/or bear excessive cost for children education.

6. **Key challenges/opportunities in Ningxia.** The proposed project will be confronted with the challenge of contributing to the provincial poverty alleviation strategy through rural development in a context that has already seen significant agricultural investments, significant migration to resettlement

areas³³, urban centres within and outside the province, and a growing demand for employment from non-agricultural activities. In other words, this remaining rural poverty will be the most difficult to eradicate given that it is located in (a) marginal and deprived areas in the south of the region with a depleted resource basis, very limited access to water and an aging population; and (b) in the central and northern parts of the region affected by (i) limited irrigated land availability for sustainable agriculture; (ii) limited capacity of rural development to alleviate poverty especially in post resettlement areas where the range of non-agricultural income generating activities is significant, and (iii) market-driven agriculture poses more challenges to smallholder farming, as the supply chains become more complex, interdependent and integrated and the drivers (firms who own capital, know-how, and information) exercise stronger market power and control over primary production in terms of quality, safety, price and other contract terms. An additional challenge is represented by the risk of “falling back into poverty” for households that are exposed to price fluctuation of their outputs, experience health problems, and/or bear excessive cost for children education.

7. **IFAD’s niche, comparative advantage, and strategy in the country.** IFAD has contributed to poverty reduction through agricultural and rural development in China since 1981, investing around US\$ 2.19 billion (out of which about US\$ 862 million from IFAD loans and grants) in 28 provinces and autonomous regions, and benefitting around 4.4 million households - or 20 million farmers. IFAD has historically focused on China’s poorest western and central areas, and particularly on the most remote and marginalized ones. IFAD poverty reduction efforts have been mostly characterized by area-based, multi-sectoral, integrated rural development interventions, with specific focus on agricultural and livestock development, forestry and natural resource management, community-based infrastructures, and rural finance. Consistent with the Government’s increasing focus on poverty reduction through industrialization and agriculture development via agribusiness development, in the past few years IFAD’ support has increasingly given more emphasis to increasing the income opportunities of poor farmers by linking them to markets, particularly through agri-business value-chain development. A number of different approaches and models are currently being tested and piloted in the ongoing portfolio³⁴.

8. **IFAD value added in China.** Confronted with limited resources available, compared to those of other international financing institutions and funds from the national budget, the value-added of IFAD in China stands in the capacity of its interventions to introduce innovations (i.e. approaches, models, best practices), generate results that can be later scaled-up and/or mainstreamed in Government programs to possibly inform policy-making and be shared to other countries through south-south cooperation.

9. **Lessons learned from previous interventions.**

- (a) *IFAD’s approach to poverty reduction proved to be effective.* IFAD’s China projects have mostly been effective in achieving their intended objectives and contributing to the radical rural poverty reduction in China. However, despite the government’s ambition to basically eliminate rural poverty by 2020, the task to “crack the remaining hard nuts” is now even more challenging since the remaining poor population are those most difficult to reach and to take advantage of productive opportunities.
- (b) *Community participation remains a relevant approach to determine priorities and monitor results.* Through its implementation in China, IFAD has gained experience and recognition in its particular targeting to the relative poorer by adopting community participatory targeting practices along with the government favoured geographic targeting approach. Despite the availability of the new national poor registration system as result of the new endeavour of the government to ensure precise targeting, the community participatory approach is still a valid means of engaging rural households in collectively determining their priorities, executing project activities and monitoring project results.
- (c) *Integrated development, focus on women and ethnic minorities will remain key features in IFAD funded projects.* Past success of IFAD projects can also be attributed to having adopted an integrated approach to address the diversified development constraints and needs of the rural poor from different angles, with due focus to capacity building to sustain

³³ In the Ningxia region, 328,000 individuals were voluntarily resettled during the previous five-year plan of 2011-2015.

³⁴ Particularly through the Shiyuan Smallholder Agribusiness Development Project (SSADeP); Jiangxi Mountainous Areas Agribusiness Promotion Project (JiMAAPP); and Qinghai Liupan Mountain Area Poverty Reduction Project (QLMPRP).

their own development. Interventions were subsequently deployed to respond to these needs and challenges, from natural resources management to market access promotion, from improvement of various services to collective and individual empowerment. The special focus on women and ethnic minorities proved to be much appreciated and effective in achieving project objectives as well. These approaches will continue to be applied in the new round of IFAD projects.

- (d) *Technical assistance is critical to facilitate poverty reduction through agribusiness development and foster public-private-producer partnerships (4Ps).* Poverty reduction through agribusiness development has proven to be a viable approach to poverty reduction. It however showed some limitations and challenges, especially when out-migration and aging/feminization of the farm labor force tends to be persistent. Special support to the very poor and capacity building of farmers' organization, plus the seizure of both on-farm and rural based off-farm opportunities are effective supplements. In building up a more equitable and sustainable Public-Private-Producer Partnerships (4Ps), which is inevitable for poverty reduction through commercialised farming, farmer cooperatives can be an effective mechanism for the delivery of production and market services for value chain projects, instead of fully relying on government implementing agencies, provided that they receive adequate capacity building and ensure participation of the poor. Such capacity building should primarily focus on their governance, management and business operation. Technical support, facilitation and coaching however should be adequately included to foster the development and nurturing of the PPP partnership in the project. Similarly, the role of government funds, private sector funds and beneficiary contributions should be given clearly distinctive and differentiated roles and expectations.
- (e) *The absence of a national entity responsible for managing the knowledge and experience generated by the projects limited the potential of innovations to be replicated or scaled-up.* While IFAD financing continue to be relevant in China, the added value of IFAD-funded operations stand in the innovations these operations introduce. Localized project implementation without a vertical structure up to the national level to scout and disseminate learning and experience beyond IFAD project areas had however been a limitation to replication and scaling-up.
- (f) *Lessons, good practices and experiences from projects in China may benefit other countries and should be shared through enhanced South-South Cooperation.* Through South-South Cooperation and knowledge sharing that is being given increased emphasis in context of the IFAD-China partnership, good practices and experiences generated from the IFAD China program on smallholder agriculture for rural poverty reduction in the wake of rural transformation is believed to extend their benefit to beyond the country's border. The IFAD country program may need to be embedded within a more clearly articulated South-South strategy/program of IFAD.

C. Possible geographic area of intervention and target groups

10. **Proposed geographical area of intervention in Sichuan.** The proposed project area comprises sections of four counties and one district in eastern Sichuan. Cangxi and Xuanhan counties in northeastern Sichuan are nationally designated poor counties located within the Qinba Mountains poverty block, and had poverty incidence rates of 9.5% and 13.6% respectively in 2015. Guangan District is also a nationally designated poor county, but its reported poverty rate of 4.5% is much lower. The remaining two counties, Yibin and Yanting, are not nationally designated poor counties and have poverty rates of 5.7% and 4.6% respectively. The project proposal elaborated by the Provincial authorities suggests that these counties and district were proposed for inclusion in the project due to (a) their degree of poverty or agriculture's dominant role in the county's economy, (b) strong government support and COCAD capacity, (c) strong agricultural development potential, and (d) importance to water and soil conservation in the upper reaches of the Yangtze River³⁵.

³⁵ While Cangxi and Xuanhan are certainly appropriate choices for the Sichuan project, the low poverty rates in Guangan, Yibin and Yanting suggests that these three locations may not be appropriate. The possibility to switch from one or more of these locations to any of the nationally designated poor counties in the province with much higher poverty rates and greater

11. **Proposed geographical area of intervention in Ningxia.** The proposed project area comprises 2 southern counties (Yuanzhou and Pengyang) designated as national poverty counties, and 8 post-resettlement sites in 8 central and northern counties/districts located in the Yellow river irrigation area (Pingluo, Lingwu, Qingtongxia, Zhongning, Hingsipu, Shapotou, Wuzhong, Qingxing/Yinchuan). The counties/districts where these sites are located do not belong to national as poverty counties though, a high proportion of the households to be targeted there are reported as registered poor households³⁶. Inclusion of these post-resettlement sites will be confirmed during design.

12. **Targeting strategy.** The targeting strategy of the proposed project will align with the IFAD-supported program for the period 2016-2020 which will focus on (i) the 832 national poverty priority counties; (ii) within the 832 national priority counties, poor villages/households, but with production and market potential (not necessarily in very remote areas); (iii) among the population in the targeted villages, to (a) women; (b) rural youth who want to make farming a business, even if they are not below the poverty line; and (c) ethnic minorities, regardless of their poverty status.

13. **Target groups in Sichuan.** Based on the strategy mentioned above, the project intends to cover a total of at least 15 development zones in the four counties and one district. The key characteristics of these development zones were clear in Cangxi, Xuanhan, and Yibin counties, but not in Guangan District or Yanting County. In Cangxi County, the proposed three zones were selected to represent low, medium and higher elevation areas with differing degrees of remoteness and severity of poverty. The Sanchuan zone in Cangxi has a higher elevation, is more remote, and has a much higher poverty rate than the two other proposed zones. Similarly, in Xuanhan County, the Longquan zone is reportedly much poorer, is situated in a higher elevation Karst area, and has a large concentration of Tujia ethnic minority people (representing about 80% of the zone's population). It is suggested that the selection of project development zones should be strongly biased in favor of the poorest zones, particularly in Guangan District and Yanting County (if they are included in the project) since they have such very low poverty rates at present.

14. **Target groups in Ningxia.** The project will focus on the 380,000 rural poor (with the exception of the 80,000 individuals who are planned to be resettled during the ongoing 13th five-year plan) in the Southern part of the Province, as well as on the 200,000 rural poor who were previously resettled during the 12th Five Year Plan, and currently live in post-resettlement sites in the central and northern parts of the region. These individuals still experience a 60% poverty rate, mainly because of limited access to irrigated land and other production assets, lack of off-farm jobs, health problems and excessive cost of children education. Strong focus will be on the Hui Muslim minorities that make up 60% of post-resettlement household.

D. Key project objectives and expected outcomes

15. **Project goal and development objectives.** The overall goal of the proposed project is to contribute to the Government's efforts of poverty eradication. The project development objective is to sustainably increase the income and improve the living conditions of targeted beneficiaries through equitable, safe, nutrition sensitive and environmentally sustainable value chains development, as well as improve environmental conditions and climate resilience in project area.

16. **Alignment with Government strategies/priorities, COSOP objectives, and IFAD Strategic Framework.** The proposed project is aligned with the COSOP 2016-2020 strategic objectives, namely (i) increasing poor smallholders' capacity and opportunities to access markets (which is in line with the Government's 'poverty reduction through industrialization, i.e. 'agribusiness/industrial development' approach), and (ii) strengthening environmental sustainability and climate resilience (which is in line with the Government's 'poverty reduction through green development' approach), and is in line with IFAD strategic vision and comparative advantage (as elaborated in IFAD Strategic Framework 2016-2025).

17. **Expected outcomes.** The expected outcomes of the proposed project include: (a) Improved

concentrations of ethnic minority people (such as counties in the Aba or Ganzi Tibetan Autonomous Prefectures and the Liangshan Yi Autonomous Prefecture) is considered and will be confirmed during project design.

³⁶ It should be noted that of the 328,000 individual poor who were resettled during the 12th five-year plan (2011-2015), 60% (about 200,000 HH) are still registered as poor. This is mainly due lack of job opportunities, poor health condition and excessive cost of children education.

production practices related to agricultural production allowing smallholders to engage effectively with private sector buyers, and, (b) Enhanced capacity and awareness of both smallholder organizations and private buyers allowing to establish effective commercial partnerships.

E. Components and activities

18. **Components and activities.** The proposed project would be organized around four complementary components: (a) Support to production; (b) Strengthening post-production functions; (c) Ecological conservation/rehabilitation and adaptation to climate change; and (d) Program management^{37,38}.

(a) **Support to production:**

- (i) *Construction/rehabilitation of production infrastructures and facilities;*
- (ii) *Extension:* dissemination of knowledge on good agricultural practices (GAP) and agro-ecological systems farming; improvement of soil fertility; soil and water conservation measures; food safety compliance and ability to adhere to relevant market and branding/certification requirements³⁹;
- (iii) *Cooperative support:* developing the capacity of cooperatives to (i) improve democratic governance and management to enable horizontal coordination of small producers; (ii) access to inputs such as high-quality seedlings/livestock and technical knowhow; (iii) engage cooperatives to take the lead in the design and implementation of production activities; and (iv) effectively transmit knowledge across all group members, including to the more disadvantaged;
- (iv) *Support to inclusive rural finance:* improving access to credit to address the investment and operational financial needs of both small scale producers and business partners, through: (i) Use of warehouse receipts, accounts receivable, purchase orders, crop/agrarian receipts and movable assets/equipment as collaterals for loans, and (ii) Cash flow-based lending, an innovation in both financial product and procedures, which have been tested by Rural Financial Institutions (RFIs)⁴⁰ in China's Eastern and central regions, can also be introduced to those institutions in the proposed project area.

(b) **Strengthening post-production functions:**

- (i) *Infrastructure related to post-harvest activities* (e.g. storage and processing facilities, market road access and communication networks, etc.);
- (ii) *Value-adding and post-harvest handling techniques and best practices.* this would include investments on post-harvest processing, handling and value-adding, joint marketing and where applicable, grading, packaging and processing; as well as ensuring compliance on food safety standards and traceability in collaboration with cooperatives, buyers and local government. This would require assistance in improved business planning, technical information and dissemination, market

³⁷ The first two components are consistent with the COSOP SO1 (Increase smallholders' capacity & opportunities to access markets) and Thematic Areas of Focus 1.A, 1.B, and 1.C (Support inclusive & safe value chain development; Support inclusive cooperatives; and Support inclusive financial services). The third component is consistent with the COSOP SO2 (Strengthen environmental sustainability and climate resilience).

³⁸ The production and post-production support components will be developed according to a value-chain and demand-driven development approach. Poverty reduction through partnership establishment for improved pro-poor value chain development can be carried out through four main pathways: (i) Opening up new markets for small-scale producers by linking them with existing local value chain leaders; (ii) Increasing producer's value added or profit through product differentiation and/or value chain restructuring; (iii) Targeting a combination of the first two pathways where increased price margin is passed down to the producer/supplier; and (iv) Obtaining rent from land that is consolidated within cooperatives (for landowners who are exiting agriculture). The choice of pathway is largely product and context specific and a mixture of all three would increase potential economic sustainability of industrialisation and improve the resilience of small-scale farmers.

³⁹ Knowledge dissemination could be promoted through Farmer Field Schools (FFS) and cooperatives.

⁴⁰ RFIs include formal as well as semi-formal institutions (the latter refers to farmers' cooperatives with savings and credit, Village Community Development Funds, agro-oriented micro-credit companies and NGO microfinance institutions).

linkages to trade partners; and ability to link directly to consumers via e-commerce;

- (iii) *Establishing pro-poor public private partnerships (4Ps) business models:* 4Ps will be developed to integrate the commercial small-holder farming system into dynamic value chains through (i) training and capacity building of local authorities to create an enabling environment for business, especially SMEs, including establishing good governance structures; (ii) establishing of county virtual pro-poor business incubation centers to provide/facilitate a wide range of business advisory services, including mentoring and coaching, technical assistance, to the cooperatives and the private firms (especially the Dragon Head Enterprises - DHEs) to effectively engage with poor farmers and local cooperatives and establish effective communication and collaboration that enhances local production volumes and quality; and (iii) value chain financing/contract farming to enable better and more effective integration and coordination of local selected value chains, this may include PPPP funds and implementation arrangements;
- (iv) *Off-farm employment support:* this would include support to off-farm employment for individuals that are registered as poor. This support would be provided through enterprise development services including business plan elaboration for credit access (where applicable), technical training and market linkages facilitation. This sub-component would be implemented in close collaboration with relevant provincial agencies and would cover a large range of off-farm activities.

(c) **Ecological conservation/rehabilitation and adaptation to climate change:**

In Sichuan:

- (i) *Integrated small watershed management:* integrated small watershed management will enhance the ecosystem integrity which supports the local livelihoods. Afforestation, dykes, ponds, canals, and ditches will be upgraded;
- (ii) *Construction of terraced lands:* due to limited low lands, many farmers and especially poor farmers in Sichuan have to farm sloping lands, which leads to severe soil erosion. Terraced farm lands will be built so that soil erosion will be much mitigated;
- (iii) *Water storage ponds and small-scale irrigation systems:* Sichuan has abundant waters, but agriculture in the hilly areas often suffers from drought because rain water runs away soon after it reaches the hill. Water storage and canal systems are very important for hilly areas where poor people live on it for agriculture activities. Water storage facilities and irrigation systems will be built to support the agricultural development and rural livelihoods.

In Ningxia:

- (i) *Soil salinity mitigation in the irrigated lands in the East bank of the Yellow River in north Ningxia,* mainly through drainage⁴¹;
- (ii) *Ecological restoration in the extended agricultural areas in the uplands of central and south Ningxia,* where farmers have to rely on dry land extensive systems; and
- (iii) *Climate change adaptation:* as extreme droughts are more frequent in Ningxia (with the annual precipitation ranging from 200 mm or less in the central and north Ningxia to 400-500 mm in south Ningxia), water management including water harvest, water storage, water saving technologies and water efficient crops and cropping systems will be demonstrated and disseminated throughout the proposed project area.

- (d) **Program management:** This component will aim at supporting the project management office (PMO) on overall project planning, financial management, M&E, knowledge management, and coordination with other government programs and projects. Oversight

⁴¹ In the irrigated land in the west bank of the Yellow River, the salinity problem has been solved through rice-wheat/corn cropping rotation system. In the east bank's irrigated lands, rice farming is not economically viable due to the cost of lift irrigation.

and supervision function will be ensured by SOCAD at central level as well as support for the M&E system and knowledge management.

F. Scaling-up and policy engagement

19. **Scaling-up and policy engagement.** The project would leverage the strength of the State Office of Comprehensive Agricultural Development (SOCAD) system to scale-up its core innovations, and these core innovations are fully embedded within the government's current policy framework and action plan for overcoming remaining poverty by 2020. The project's core innovations will be co-designed by SOCAD and the Provincial Offices of Comprehensive Agricultural Development (POCAD), implemented and tested at the local level by the County Offices of Comprehensive Agricultural Development (COCAD), and then scaled-up through the SOCAD system nationwide. Importantly, the project's core innovations are entirely consistent with, and directly contribute to, China's principal approach of poverty reduction through agribusiness enterprise development (*chanye fupin*). In addition, since the project funding will be provided on a grant basis to the project counties, there should be no incentive for the counties to distort or move away from the project's core strategy and components. In addition, the coverage of more than one province (that is, the inclusion of Sichuan Province and the Ningxia Autonomous Region) defines the project as a central government activity which allows SOCAD to play a key role in leading design, providing support and guidance to implementation and monitoring and evaluation, and scaling-up.

20. **Potential for scaling-up in Ningxia.** The agricultural area of southern Ningxia is located in the transition between semi-arid grassland and the arid areas of the loess plateau and is affected by frequent droughts, wind and soil erosion, cold weather in winter and low soil fertility. For these reason, Ningxia autonomous province has for long time implemented a large resettlement programme towards the northern irrigated lowlands. However, while the first batches of resettled people could be resettled in areas with irrigation potential, and thus brought out of poverty relatively easily, the last batches of resettled people are resettled in areas with limited potential, and found more difficulties in engaging in productive activities that bring them out of poverty. For these reasons the proposed project can pilot a model (support to still poor post-resettled people with an interest in agriculture related activities) that, if successfully implemented, could be replicated for over 10 million registered poor eligible for resettlement in northwest China.

G. Innovation

21. **Innovations.** The project is expected to introduce/pilot/test the following innovations/innovative elements:

- (a) *Introducing a demand-driven value-chain approach to rural poverty reduction* (an innovation in the local Provincial context). Some of the key innovative elements include the introduction of inclusive production decentralization models that will provide an incentive to agribusiness to expand its operations into the target area, some of which located in relatively remote regions. It also proposes to modernise the the 'vision of local agriculture' through bringing to the local level an understanding of modern Chinese market demand values and requirements;
- (b) *Pushing the current Sichuan POCAD model of comprehensive agricultural development* (i.e. infrastructure development/enhancement to increase productivity/production and facilitate access to market) *to higher elevation areas and more remote villages with higher concentrations of poverty*, ensuring that most or all of the poor farmers directly participate and benefit from the opportunity;

Adapting the Ningxia POCAD model of comprehensive agricultural development to small-scale rainfed agriculture areas: This model is well-established and has been very successful in lower lands along the Yellow river through investments in land levelling, irrigation, drainage and soil fertility restoration. This model will have to be adapted to small-scale rainfed agriculture in southern and central Ningxia.

- (c) *Promoting an commercial partnerships between smallholders and private enterprises:* the proposed project will contribute to innovate the model of commercial ventures on which the enterprise/industrial development approach relies by (i) strengthening the overall capacity of producer organizations and cooperatives to participate, (ii) selecting private

- operators that are aware and willing to work with smallholders; (iii) selecting smallholders within clusters that ensures better conditions for effective commercial ventures (see risk section below), (iv) avoiding the use of government subsidies for operations of private firms; and (v) avoiding that small producers only become renters and labourers in these ventures;
- (d) *Piloting business incubation centres at county level:* these centres will be staffed with specialists from private sector and university graduates and will provide a wide range of advisory services to cooperatives, including mentoring, business operation and management, marketing, branding, value chain financing, micro-credit, and business proposal development and renewal;
 - (e) *Promoting the use of new electronic marketing channels:* e-commerce is spreading fast to rural areas of China. Large e-commerce operators are now offering technical assistance on how to set up and maintain e-shops⁴². The proposed project will make use of this marketing channel by (i) setting up e-shops (including both virtual and physical flow of goods) to be managed by cooperatives (if suitable) or specialised service providers with the responsibility to pass on the knowledge to permanent operators on the ground; and (ii) providing training to relevant actors on how to run and maintain these platforms;
 - (f) *Introducing and promoting the use of innovative rural finance products:* the envisaged use of warehouse receipts, accounts receivable, purchase orders, crop/agrarian receipts and movable assets/equipment as collaterals for loans would represent an innovation in China's rural finance; as well as (ii) Cash flow-based lending, an innovation in both financial product and procedures.

H. Preliminary environmental and social category

22. **Preliminary environmental and social category.** The project is classified as Category B since

- (a) Its project activities do not trigger any Category A criteria and are instead consistent with the following criteria and categories for Category B: (a) Rural road construction or rehabilitation is undertaken in "non-sensitive areas"; (b) Rangeland and livestock development; (c) Watershed management or rehabilitation; (d) Only small and micro-enterprises would be developed; (e) Credit operations through financial service providers; (f) Natural resources-based value chain development. Risks associated to the environmental consequences of livestock production intensification activities, if supported by the project, will be carefully assessed during design.
- (b) Resettlement has already been implemented by the Government and IFAD interventions will not induce/lead to or support physical resettlement or economic displacement but include already resettled people among the target beneficiaries. However, during the design mission a social specialist will further assess the issue and confirm the social category.

I. Preliminary climate risk classification

23. **Preliminary climate risk classification**

- (a) Sichuan project climate risk is considered Moderate because its project activities comply with the following criteria of this category: (a) make use of climate-sensitive resources, but do not focus on these resources as a main commodity; and (b) invest in infrastructures which are not directly exposed to extreme weather events, but have potential to become more resilient through the adoption of green technologies. However, carrying-out a climate vulnerability analysis (CVA) for targeting and identifying climate change adaptation (CCA) measures will be considered at design stage.
- (b) Ningxia project is considered High Risk because its project activities would (a) promote

⁴² Both Jindong and Alibaba provide this service. Smaller E-commerce operators such as Tuotuo are also offering these service (to be confirmed). Food wholesale giants such as Walmart and COFKO have their own e-commerce network.

agricultural activity on marginal and/or highly degraded areas; and (b) be carried out in areas in which rural development projects have experienced weather-related losses and damages in the past.

J. **Costs and financing/co-financing**

24. **Project cost and co-financing.** The total project cost is estimated to be approximately US\$240 million. IFAD would contribute with a loan of approximately US\$100 million. SOCAD is expected to contribute by at least matching IFAD financing. Additional co-financing is expected to be mobilized from commercial banks and/or other financial institutions, private enterprises, and the beneficiaries.

K. **Implementation approach and arrangements**

25. **Implementation period.** The project would be implemented over five years.

26. **Implementing agency.** The project will be implemented through the SOCAD system at the central, provincial and county levels⁴³. Project coordination and management would be based on the well-functioning management system proven through SOCAD's extensive undertaking of own national projects as well as many international projects of the World Bank, DFID, and ADB⁴⁴.

27. **Implementation arrangements.**

- (a) *At the central level*, a National Project Management Office (NPMO) will be established and responsible for overall project coordination and supervision, monitoring and ensuring adherence to agreed standards, guidelines and procedures, and providing technical and policy guidance to lower levels during project implementation. The NPMO will take the lead in scouting and managing learning from project innovations and effective practices, conducting policy related activities and making necessary arrangements for replication and upscaling of best practices within and beyond the project.
- (b) *At provincial and county level*, provincial and county Project Management Offices (PPMO and CPMO) will be established within the existing POCAD and COCADs in the two provinces. The Sichuan and Ningxia PPMOs would be responsible for overseeing project design, execution and supervision, as well as for coordination and financing. CPMOs would be responsible for project management and implementation coordination within the counties. Technical expert teams would be established under the PPMOs to directly assist and advise lower level PMOs and farmers on technical and implementation issues.

L. **Monitoring and evaluation**

28. **Monitoring & Evaluation arrangements.** Systematic monitoring and evaluation (M&E) will be carried out to monitor progress, outputs, and outcomes of project activities. Key project outcome indicators will be collected by the Sichuan PPMO in collaboration with the line bureaus. CPMOs will prepare regular M&E reports which will be sent to the PPMO for compiling and verification. These reports would then be forwarded to the NPMO, which will report to IFAD for review and consolidation, in conformity with IFAD required M&E methodologies. Similarly, physical and financial progress will be tracked through the Management Information System that will be set up under the project. The CPMOs and the PPMO will produce semi-annual reports to monitor project progress. Consolidated financial and physical progress reports will be shared with IFAD on an annual basis. In addition, a mid-term review will be conducted half way through project implementation for a comprehensive assessment of project progress and results. Reports of physical and financial progress of activity

⁴³ **SOCAD.** Since its establishment in 1989, SOCAD has demonstrated its ability to design and manage agricultural development projects through its offices at the central, provincial, municipal/prefectural, and county levels. Supported by numerous technical specialists available on a consulting basis at all levels, and with most of its funding coming from the central and provincial governments on a grant basis, the SOCAD system supports a large number of land improvement, water resource development, grassland construction, environmental protection, and agribusiness projects. These investments in production capacity and agribusiness have led to increased production of grain and a range of other agricultural products, greater employment and income levels, as well as stronger ecological preservation throughout rural China.

⁴⁴ Including the Irrigated Agriculture Intensification Projects (I, II and III), Mainstreaming Climate Change Adaptation in Irrigated Agriculture Project, Pro-Poor Rural Water Reform Project, Agricultural Technology Transfer Project, and Integrated Modern Agriculture Development Project.

implementation will be prepared semi-annually and would constitute a key document for review by regular IFAD supervision missions.

29. **Impact evaluation.** In addition, independent research agencies/institutes shall be appointed to undertake an impact evaluation assessment of project interventions on project beneficiaries based on representative surveys to be conducted at three stages of project implementation: a baseline at the onset of the project, a follow-up prior to mid-term, and a final round at project completion. The surveys would be conducted in conformity with IFAD required M&E methodologies (e.g. RIMS or RIMS+). In this regard, IFAD could provide technical back-up, were it necessary.

M. Potential risks and mitigation measures

Risk	Mitigation measure
<p>Poverty alleviation through agribusiness development may marginalize poor rural households. In the majority of cases observed, partnerships between smallholders and private firms generate rent, dividends and laborer salaries for poor smallholders. In these ventures, smallholders are not conducting family farming. It entails that these households who own the productive assets are generally not associated with the production activities (which can be highly capital intensive and mechanized thus unsuited for unskilled poor HH) and they become renters. Although this model ensures quick returns to the poor households and provides a swift contribution to the poverty alleviation target of the Province, the risk is that these households (i) are not eligible for rural development interventions funded by IFAD; and (ii) their number is overestimated as the eligibility criterion are quite loose.</p>	<p>The design of these partnerships can be improved by (i) strengthening the overall capacity of producer organizations and cooperatives to participate, (ii) selecting private operators that are aware and willing to work with smallholders; (iii) selecting smallholder within clusters that ensures better conditions for effective commercial ventures (see risk above), (iv) avoiding the use of government subsidies for operations of private firms; and (v) avoiding that small producers only become renters and laborers in these ventures.</p>
<p>In Ningxia, insufficient poor household number with land and labour capability. In the post-resettlement sites, non-agricultural activities (such as petty trade, labourer in construction and other industries for men; house works and clothes making for women) are preferred means for earning a living. All these factors contribute to making small scale agriculture a second best option for poverty alleviation. There is a risk of not being able to find sufficient labour force for conducting effective commercial agriculture in the project area and around post-resettlement sites.</p>	<p>Request relevant authorities at provincial and county level to conduct a mapping exercise of the project area (possibly through Geographic Information System) along the following lines (i) map the registered poor; (ii) among them, map the registered poor eligible for 'enterprise/industrial development'; (iii) among them, map gender and those with age ranging from 20 to 50; and (iv) identify clusters of poor household that can meet all the above criteria and are thus likely to effectively engage in commercial partnerships with private sector.</p>
<p>Commercial ventures may not always be financially viable/sustainable. Some of the existing commercial ventures between smallholders and private sector are financially unviable as they rely heavily on public funding/subsidies for both capital and operational expenditures. The risk is that the private firms engaged in commercial ventures go out of business or simply that excessive public funds are used for maintaining these venture functioning as compared to more market-driven and financially viable initiatives.</p>	<p>The risk can be mitigated by requesting the conduction of financial analysis of the proposed commercial ventures (from both the smallholder activities and the private firm operations perspective).</p>
<p>Risks related to extending the successful the Sichuan POCAD model to poorer, higher elevation, and more remote areas. The main risks of extending the SOCAD approach to poorer and more remote areas include (a) higher per capita investment costs may undermine economic viability, (b) production increases might saturate markets and reduce prices to the point where financial viability is depressed, and (c) the poor would not gain adequate access to (i) some of the village infrastructure or technical assistance to be provided by the project, and (ii) marketing opportunities for their niche and cash crops.</p>	<p>The risks can be mitigated through (i) Economic analysis would determine standard per capita investment "limits" for roads, water resource development, and other infrastructure above which economic viability would be threatened, and such investments would not take place above these limits⁴⁵; (ii) Private sector engagement would both limit the production of commodities subject to market saturation, extend the market through e-commerce and other marketing measures, and spread the risk among multiple partners; (iii) The project design would include specific and concrete measures to guarantee that all the village registered poor have adequate and voluntary access to farmer cooperatives and private enterprise marketing systems.</p>
<p>Difficulties in aligning with provincial poverty reduction targets. The project does not have sufficient time to</p>	<p>The proposed project calendar is unsuited to contribute to the provincial target but can assist in improving the</p>

⁴⁵ Since no repayment for the investments is required from the farm households, villages, or counties, the investment costs could not undermine farm level financial viability.

significantly contribute to the provincial poverty alleviation target of 3.8 million individuals out of poverty by end of 2018 as the proposed project will start activities on the ground towards the end of 2017.

sustainability of poverty alleviation interventions, thus avoiding the possibility that large numbers of individuals and households fall back into poverty due to unsustainable commercial ventures, unsuited technical development model by SOCAD and lack of poor households with land and labour capabilities.

N. **Sustainability**

30. **Sustainability.** Sustainability of project activities will be pursued through: (i) Economic diversification through product and market diversification, to increase the economic resilience of the target group. The establishment of different parallel market linkages is encouraged; (ii) Economic and financial profitability of the promoted value chain linkages to ensure the basic condition for the sustainability of the developed economic activities and their effective contribution to poverty alleviation. Promoting sustainable land management practices will also contribute to sustainability.

O. **Logframe**

Enclosed at the end of the concept notes.

Concept Note on: Poverty Reduction through Agri-business Development (PRAD) in Shaanxi

A. Strategic context

1. **Economic and rural development.** China has been extremely successful at broad economic growth, and the country is now the second biggest economy in the world. Economic growth triggered rural and agricultural development. The road infrastructure network is extended and in good conditions. The land consolidation process which started at the end of 2014 is on-going with 29% of land user rights having been transferred. Rural labour transfer has been significant. Agricultural mechanization has doubled. Private sector investment is also increasing as a result of government push on agri-food industry and technology parks. Cellphone coverage in rural areas is constantly improving. Innovations such as the use of electronic platforms for marketing (e-commerce, e-payments) are spreading. The Government of China is actively promoting linkages between rural cooperatives and leading private enterprises (supermarkets, agribusinesses, Dragon Head Enterprises) acting as buyers as well as providers of technical knowledge and funding to small farmers.
2. **Poverty reduction: the Government's main priority for 2020.** China has made remarkable progress in reducing poverty over the past 30 years. However, about 56 million people still live below the poverty line. Bringing these people out of poverty by 2020 is the main Government priority for the next five years with the following strategy. First, the poor have been individually identified, registered and classified on the basis of the causes of their poverty. Second, five poverty reduction strategies/measures have been identified on the basis of the causes of poverty and nature/potential of the poor: (i) industrialization (i.e. agribusiness development) (which will target about 45-55% of the remaining poor); (ii) green development (i.e. ecological restoration/compensation) (about 12% of the remaining poor); (iii) employment creation through skill development (i.e. vocational training) (12%); (iv) social welfare/safety-net programs (12%); and (v) voluntary resettlement (12%). Third, while the Leading Group Office on Poverty Alleviation (LGOP) remains the key agency in orchestrating poverty reduction work, each line ministry/department shares this responsibility and has poverty reduction targets.
3. **Poverty reduction in Shaanxi.** In the Shaanxi Province, under the ongoing 13th five-year plan covering 2016-2020, the target for poverty alleviation is 3.2 million individuals officially registered as poor to be taken out of poverty by 2018.

B. Justification for the project and rationale for IFAD involvement

4. **Key challenges/opportunities.** The proposed project will be confronted with the challenge of contributing to the provincial poverty alleviation strategy through rural agribusiness development in a context that has already seen significant agricultural investments, urban centres within and outside the province, and a growing demand for employment from non-agricultural activities. In other words, this remaining rural poverty will be the most difficult to eradicate given that it is located in marginal and deprived areas with an aging population in the case of the upland areas. An additional challenge is represented by the risk of "falling back into poverty" for households that, for example, are exposed to price fluctuation of their outputs, are experiencing health problems, and/or bear excessive cost for children education.
5. **IFAD's niche, comparative advantage, and strategy in the country.** IFAD has contributed to poverty reduction through agricultural and rural development in China since 1981, investing around US\$ 2.19 billion (out of which about US\$ 862 million from IFAD loans and grants) in 28 provinces and autonomous regions, and benefitting around 4.4 million households - or 20 million farmers. IFAD has historically focused on China's poorest western and central areas, and particularly on the most remote and marginalized ones. IFAD poverty reduction efforts have been mostly characterized by area-based, multi-sectoral, integrated rural development interventions, with specific focus on agricultural and livestock development, forestry and natural resource management, community-based infrastructures, and rural finance. Consistent with the Government's increasing focus on poverty reduction through industrialization and agriculture development via agribusiness development, in the past few years IFAD' support has increasingly given more emphasis to increasing the income opportunities of poor farmers by linking them to markets, particularly through agri-business value-

chain development. A number of different approaches and models are currently being tested and piloted in the ongoing portfolio⁴⁶.

6. **IFAD value added in China.** Confronted with limited resources available, compared to those of other international financing institutions and funds from the national budget, the value-added of IFAD in China stands in the capacity of its interventions to introduce innovations (i.e. approaches, models, best practices), generate results that can be later scaled-up and/or mainstreamed in Government programs to possibly inform policy-making and be shared to other countries through south-south cooperation.

7. **Lessons learned from previous interventions.**

- (c) *IFAD's approach to poverty reduction proved to be effective.* IFAD's China projects have mostly been effective in achieving their intended objectives and contributing to the radical rural poverty reduction in China. However, despite the government's ambition to basically eliminate rural poverty by 2020, the task to "crack the remaining hard nuts" is now even more challenging since the remaining poor population are those most difficult to reach and to take advantage of productive opportunities.
- (a) *Community participation remains a relevant approach to determine priorities and monitor results.* Through its implementation in China, IFAD has gained experience and recognition in its particular targeting to the relative poorer by adopting community participatory targeting practices along with the government favoured geographic targeting approach. Despite the availability of the new national poor registration system as result of the new endeavour of the government to ensure precise targeting, the community participatory approach is still a valid means of engaging rural households in collectively determining their priorities, executing project activities and monitoring project results.
- (b) *Integrated development, focus on women and ethnic minorities will remain key features in IFAD funded projects.* Past success of IFAD projects can also be attributed to having adopted an integrated approach to address the diversified development constraints and needs of the rural poor from different angles, with due focus to capacity building to sustain their own development. Interventions were subsequently deployed to respond to these needs and challenges, from natural resources management to market access promotion, from improvement of various services to collective and individual empowerment. The special focus on women and ethnic minorities proved to be much appreciated and effective in achieving project objectives as well. These approaches will continue to be applied in the new round of IFAD projects.
- (c) *Technical assistance is critical to facilitate poverty reduction through agribusiness development and foster public-private-producer partnerships (4Ps).* Poverty reduction through agribusiness development has proven to be a viable approach to poverty reduction. It however showed some limitations and challenges, especially when out-migration and aging/feminization of the farm labor force tends to be persistent. Special support to the very poor and capacity building of farmers' organization, plus the seizure of both on-farm and rural based off-farm opportunities are effective supplements. In building up a more equitable and sustainable Public-Private-Producer Partnerships (4Ps), which is inevitable for poverty reduction through commercialised farming, farmer cooperatives can be an effective mechanism for the delivery of production and market services for value chain projects, instead of fully relying on government implementing agencies, provided that they receive adequate capacity building and ensure participation of the poor. Such capacity building should primarily focus on their governance, management and business operation. Technical support, facilitation and coaching however should be adequately included to foster the development and nurturing of the PPP partnership in the project. Similarly, the role of government funds, private sector funds and beneficiary contributions should be given clearly distinctive and differentiated roles and expectations.
- (d) *The absence of a national entity responsible for managing the knowledge and experience generated by the projects limited the potential of innovations to be replicated or scaled-up.*

⁴⁶ Particularly through the Shiyuan Smallholder Agribusiness Development Project (SSADeP); Jiangxi Mountainous Areas Agribusiness Promotion Project (JiMAAPP); and Qinghai Liupan Mountain Area Poverty Reduction Project (QLMPRP).

While IFAD financing continue to be relevant in China, the added value of IFAD-funded operations stand in the innovations these operations introduce. Localized project implementation without a vertical structure up to the national level to scout and disseminate learning and experience beyond IFAD project areas had however been a limitation to replication and scaling-up.

- (e) *Lessons, good practices and experiences from projects in China may benefit other countries and should be shared through enhanced South-South Cooperation.* Through South-South Cooperation and knowledge sharing that is being given increased emphasis in context of the IFAD-China partnership, good practices and experiences generated from the IFAD China program on smallholder agriculture for rural poverty reduction in the wake of rural transformation is believed to extend their benefit to beyond the country's border. The IFAD country program may need to be embedded within a more clearly articulated South-South strategy/program of IFAD.

C. Possible geographic area of intervention and target groups

8. **Proposed geographical area of intervention.** The proposed project area comprises nine counties and districts in southwestern Shaanxi. These include 53 villages (towns) and 296 administrative villages. Poverty is concentrated in the more remote and higher elevation villages. Five of these counties and districts are in Hanzhong City in the Qinba mountains poverty block, and the remaining four are in Baoji City in the Liupan mountains poverty block. Seven of the counties and districts are nationally designated poor counties/districts, Fengxian County is a provincially designated poor county in Baoji City, and Chencang District in Baoji City is reportedly a provincially designated poor county.

9. **Targeting strategy.** The targeting strategy of the proposed project will align with the IFAD-supported program for the period 2016-2020 which will focus on (i) the 832 national poverty priority counties; (ii) within the 832 national priority counties, poor villages/households, but with production and market potential (not necessarily in very remote areas); (iii) among the population in the targeted villages, to (a) women; (b) rural youth who want to make farming a business, even if they are not below the poverty line; and (c) ethnic minorities, regardless of their poverty status. In addition, the establishment of a National Poor Registration System would allow direct household targeting even in areas that are not predominantly affected by rural poverty.

10. **Target groups.** Consistent with the targeting strategy, the project will target the 265,000 rural poor who live in the project area, and more specifically on these villages and households with production and market potential (not necessarily in very remote areas). Among the population in the targeted villages, particular attention is given to the inclusion of women and rural youth who want to make farming a business, even if they are not below the poverty line; and ethnic minorities, regardless of their poverty status.

D. Key project objectives and expected outcomes

11. **Project goal and development objectives.** The overall goal of the proposed project is to contribute to the Government's efforts of poverty eradication. The project development objective is to sustainably increase the income and improve the living conditions of targeted beneficiaries through equitable, safe, nutrition sensitive and environmentally sustainable value chains development, as well as improve environmental conditions and climate resilience in project area.

12. **Alignment with Government strategies/priorities, COSOP objectives, and IFAD Strategic Framework.** The proposed project is aligned with the COSOP 2016-2020 strategic objectives, namely (i) increasing poor smallholders' capacity and opportunities to access markets (which is in line with the Government's 'poverty reduction through industrialization, i.e. 'agribusiness/industrial development' approach), and (ii) strengthening environmental sustainability and climate resilience (which is in line with the Government's 'poverty reduction through green development' approach), and is in line with IFAD strategic vision and comparative advantage (as elaborated in IFAD Strategic Framework 2016-2025).

13. **Expected outcomes.** The expected outcomes of the proposed project include: (a) Improved production practices related to agricultural production allowing smallholders to engage effectively with private sector buyers, and, (b) Enhanced capacity and awareness of both smallholder organizations

and private buyers allowing to establish effective commercial partnerships.

E. Components and activities

14. **Components and activities.** The proposed project would be organized around four complementary components: (a) Support to production; (b) Strengthening post-production functions; (c) Ecological conservation/rehabilitation and adaptation to climate change; and (d) Program management^{47,48}.

(a) **Support to production:**

- (i) *Construction/rehabilitation of production infrastructures and facilities;*
- (ii) *Extension:* dissemination of knowledge on good agricultural practices (GAP) and agro-ecological systems farming; improvement of soil fertility; soil and water conservation measures; food safety compliance and ability to adhere to relevant market and branding/certification requirements⁴⁹;
- (iii) *Cooperative support:* developing the capacity of cooperatives to (i) improve democratic governance and management to enable horizontal coordination of small producers; (ii) access to inputs such as high-quality seedlings/livestock and technical knowhow; (iii) engage cooperatives to take the lead in the design and implementation of production activities; and (iv) effectively transmit knowledge across all group members, including to the more disadvantaged;
- (iv) *Support to inclusive rural finance:* improving access to credit to address the investment and operational financial needs of both small scale producers and business partners, through: (i) Use of warehouse receipts, accounts receivable, purchase orders, crop/agrarian receipts and movable assets/equipment as collaterals for loans, and (ii) Cash flow-based lending, an innovation in both financial product and procedures, which have been tested by Rural Financial Institutions (RFIs)⁵⁰ in China's Eastern and central regions, can also be introduced to those institutions in the proposed project area.

(b) **Strengthening post-production functions:**

- (i) *Infrastructure related to post-harvest activities* (e.g. storage and processing facilities, market road access and communication networks, etc.);
- (ii) *Value-adding and post-harvest handling techniques and best practices.* this would include investments on post-harvest processing, handling and value-adding, joint marketing and where applicable, grading, packaging and processing; as well as ensuring compliance on food safety standards and traceability in collaboration with cooperatives, buyers and local government. This would require assistance in improved business planning, technical information and dissemination, market linkages to trade partners; and ability to link directly to consumers via e-commerce;
- (iii) *Establishing pro-poor public private partnerships (4Ps) business models:* 4Ps will be

⁴⁷ The first two components are consistent with the COSOP SO1 (Increase smallholders' capacity & opportunities to access markets) and Thematic Areas of Focus 1.A, 1.B, and 1.C (Support inclusive & safe value chain development; Support inclusive cooperatives; and Support inclusive financial services). The third component is consistent with the COSOP SO2 (Strengthen environmental sustainability and climate resilience).

⁴⁸ The production and post-production support components will be developed according to a value-chain and demand-driven development approach. Poverty reduction through partnership establishment for improved pro-poor value chain development can be carried out through four main pathways: (i) Opening up new markets for small-scale producers by linking them with existing local value chain leaders; (ii) Increasing producer's value added or profit through product differentiation and/or value chain restructuring; (iii) Targeting a combination of the first two pathways where increased price margin is passed down to the producer/supplier; and (iv) Obtaining rent from land that is consolidated within cooperatives (for landowners who are exiting agriculture). The choice of pathway is largely product and context specific and a mixture of all three would increase potential economic sustainability of industrialisation and improve the resilience of small-scale farmers.

⁴⁹ Knowledge dissemination could be promoted through Farmer Field Schools (FFS) and cooperatives.

⁵⁰ RFIs include formal as well as semi-formal institutions (the latter refers to farmers' cooperatives with savings and credit, Village Community Development Funds, agro-oriented micro-credit companies and NGO microfinance institutions).

developed to integrate the commercial small-holder farming system into dynamic value chains through (i) training and capacity building of local authorities to create an enabling environment for business, especially SMEs, including establishing good governance structures; (ii) establishing of county virtual pro-poor business incubation centers to provide/facilitate a wide range of business advisory services, including mentoring and coaching, technical assistance, to the cooperatives and the private firms (especially the Dragon Head Enterprises - DHEs) to effectively engage with poor farmers and local cooperatives and establish effective communication and collaboration that enhances local production volumes and quality; and (iii) value chain financing/contract farming to enable better and more effective integration and coordination of local selected value chains, this may include PPPP funds and implementation arrangements;

- (iv) *Off-farm employment support*: this would include support to off-farm employment for individuals that are registered as poor. This support would be provided through enterprise development services including business plan elaboration for credit access (where applicable), technical training and market linkages facilitation. This sub-component would be implemented in close collaboration with relevant provincial agencies and would cover a large range of off-farm activities.
- (c) **Ecological conservation/rehabilitation and adaptation to climate change:**
- (i) *Establishment of a mechanism of payment for environmental services (PES)*. PES is encouraged by the central government of China to be one of the 5 major instruments of poverty reduction. It could be piloted in Qianyang County of Shaanxi, which is the source water areas of the downstream Baoji City. The PES mechanism will enable the poor farmers working in the sloping lands for livelihoods to rehabilitate the catchment ecosystems with the rewards or compensation provided by the downstream beneficiaries and be better off;
 - (ii) *Soil erosion prevention in Loess Plateau areas*: soil erosion prevention activities will be carried out in the Loess Plateau areas, in the middle of and/or north Shaanxi Provinces, where the rain fall is limited but (i) the limited rain fall concentrates in a very short rain season to become floods; and (ii) soil is subject to wind erosion in 5 months of cold seasons. Dykes, ponds, niches, and canals will be built to prevent floods and contain water;
 - (iii) *Integrated small watershed management in south Shaanxi*. integrated small watershed management will be implemented in poor counties in south Shaanxi where rain falls are abundant, and where there are many small watersheds on which local communities live. Rehabilitation activities of afforestation, etc. to increase the vegetation cover will be carried out.
- (d) **Program management**: This component will aim at supporting the project management office (PMO) on overall project planning, financial management, M&E, knowledge management, and coordination with other government programs and projects. Oversight and supervision function will be ensured by SOCAD at central level as well as support for the M&E system and knowledge management.

F. Innovation

15. **Innovations.** The project is expected to introduce/pilot/test the following innovations/innovative elements:

- (a) *Introducing a demand-driven value-chain approach to rural poverty reduction* (an innovation in the local Provincial context). Some of the key innovative elements include the introduction of inclusive production decentralization models that will provide an incentive to agribusiness to expand its operations into the target area, some of which located in relatively remote regions. It also proposes to modernise the the 'vision of local agriculture' through bringing to the local level an understanding of modern Chinese market demand values and requirements;
- (b) *Promoting an commercial partnerships between smallholders and private enterprises*: the

- proposed project will contribute to innovate the model of commercial ventures on which the enterprise/industrial development approach relies by (i) strengthening the overall capacity of producer organizations and cooperatives to participate, (ii) selecting private operators that are aware and willing to work with smallholders; (iii) selecting smallholders within clusters that ensures better conditions for effective commercial ventures (see risk section below), (iv) avoiding the use of government subsidies for operations of private firms; and (v) avoiding that small producers only become renters and labourers in these ventures;
- (c) *Piloting business incubation centres at county level:* these centres will be staffed with specialists from private sector and university graduates and will provide a wide range of advisory services to cooperatives, including mentoring, business operation and management, marketing, branding, value chain financing, micro-credit, and business proposal development and renewal;
 - (d) *Promoting the use of new electronic marketing channels:* e-commerce is spreading fast to rural areas of China. Large e-commerce operators are now offering technical assistance on how to set up and maintain e-shops⁵¹. The proposed project will make use of this marketing channel by (i) setting up e-shops (including both virtual and physical flow of goods) to be managed by cooperatives (if suitable) or specialised service providers with the responsibility to pass on the knowledge to permanent operators on the ground; and (ii) providing training to relevant actors on how to run and maintain these platforms;
 - (e) *Introducing and promoting the use of innovative rural finance products:* the envisaged use of warehouse receipts, accounts receivable, purchase orders, crop/agrarian receipts and movable assets/equipment as collaterals for loans would represent an innovation in China's rural finance; as well as (ii) Cash flow-based lending, an innovation in both financial product and procedures;
 - (f) *Piloting PES as an instrument for poverty reduction in Shaanxi,* where poor people live in the water source areas and rely on the sloping land for their livelihoods and the downstream Baoji City relies heavily on the water from the catchment. If it is well designed, the downstream beneficiaries would realize their willingness to pay for the precious watershed services (clean water, stable water supply) provided by the upstream, and the farmers in the upstream communities will less rely on the sloping land farming and might turn out to be protectors of the catchment ecosystems and to be better off.

G. Preliminary environmental and social category

16. **Preliminary environmental and social category.** The project is classified as Category B since its project activities comply with the following criteria and categories for Category B: (a) rural road construction or rehabilitation is undertaken in "non-sensitive areas"; (b) rangeland and livestock development; (c) watershed management or rehabilitation; (d) only small and micro-enterprises would be developed; (e) credit operations through financial service providers; (f) natural resources-based value chain development. Risks associated to the environmental consequences of livestock production intensification activities, if supported by the project, will be carefully assessed during design.

H. Preliminary climate risk classification

31. **Preliminary climate risk classification.** Shaanxi project climate risk is considered Moderate because its project activities comply with the following criteria of this category: (a) make use of climate-sensitive resources, but do not focus on these resources as a main commodity; and (b) invest in infrastructures which are not directly exposed to extreme weather events, but have potential to become more resilient through the adoption of green technologies. However, carrying-out a climate vulnerability analysis (CVA) for targeting and identifying climate change adaptation (CCA) measures will be considered at design stage.

⁵¹ Both Jindong and Alibaba provide this service. Smaller E-commerce operators such as Tuotuo are also offering these service (to be confirmed). Food wholesale giants such as Walmart and COFKO have their own e-commerce network.

I. Costs and financing/co-financing

17. **Project cost and co-financing.** The total project cost is estimated to be approximately US\$120 million. IFAD would contribute with a loan of approximately US\$50 million. The Government is expected to contribute by at least matching IFAD financing. Additional co-financing is expected to be mobilized from commercial banks and/or other financial institutions, private enterprises, and the beneficiaries.

J. Implementation approach and arrangements

18. **Implementation period.** The project would be implemented over five years.

19. **Implementing agency.** The provincial Development and Reform Commission (DRC) has been proposed to take a lead role in project coordination and management. Specifically, the Shaanxi DRC's Division of Foreign Capital and Overseas Investment would take lead responsibility for project design, supervision, and evaluation. However, since the Division of Foreign Capital and Overseas Investment does not have local offices, the Shaanxi project county and district governments would orchestrate project design, implementation, and evaluation in consultation with the county and district Development and Reform Office, with the de-facto implementation management and coordination responsibilities delegated to the Foreign Loan Support Project Management Office under the DRC.

20. **Implementation arrangements.** Given the multi-sectoral nature of the project, the need to mobilize multiple sources of government counterpart financing to comply with the co-financing requirements, and the fact that DRC has limited implementation and technical capacity, it is likely that related technical bureaus (e.g. Agriculture, Water Resources, etc.) would be tasked to implement some of the project activities/components. This would require a powerful convening county PMO and an effective coordination mechanism in view of the silo structure of the governments to enhance internal cohesion of the project implementation, including other tasks such as knowledge management and learning.

K. Monitoring and evaluation

21. **Monitoring & Evaluation arrangements.** Systematic monitoring and evaluation (M&E) will be carried out to monitor progress, outputs, and outcomes of project activities. Key project outcome indicators will be collected by the Shaanxi PPMO in collaboration with the line bureaus. County PMOs will prepare regular M&E reports which will be sent to the PPMO for review, compiling, verification and reporting. Similarly, physical and financial progress will be tracked through the Management Information System that will be set up under the project. The PPMO will produce semi-annual reports to monitor project progress. Consolidated reports will be shared with IFAD on an annual basis. In addition, a mid-term review will be conducted half way through project implementation for a comprehensive assessment of project progress and results. Reports of physical and financial progress of activity implementation will be prepared semi-annually and would constitute a key document for review by regular IFAD supervision missions.

22. **Impact evaluation.** In addition, independent research agencies/institutes shall be appointed to undertake an impact evaluation assessment of project interventions on project beneficiaries based on representative surveys to be conducted at three stages of project implementation: a baseline at the onset of the project, a follow-up prior to mid-term, and a final round at project completion. The surveys would be conducted in conformity with IFAD required M&E methodologies (e.g. RIMS or RIMS+). In this regard, IFAD could provide technical back-up, were it necessary.

L. Potential risks and mitigation measures

23. Potential risks

- (a) *Institutional coordination and implementation capacity:* The Shaanxi Development and Reform Commission (DRC), the lead implementing agency, is primarily an approval organ of government and does not directly take charge of project implementation. The Shaanxi DRC's Division of Foreign Capital and Overseas Investment would be assigned the lead responsibility for project design, implementation, and evaluation. However, since the

Division of Foreign Capital and Overseas Investment does not have local offices, County PMOs will need to be established within County DRC as ad hoc entity to coordinate project design, implementation, and evaluation, and implementation of technical components will be likely assigned to technical bureaus (Agriculture, Water Resources, etc.). Coordination issues may rise during implementation.

- (b) *Absence of institutional mechanisms to favour scaling-up and policy influence:* Lessons from past experiences showed that projects managed at provincial level, without a central agency responsible for gathering the knowledge generated at provincial level and favour learning and replication, usually fail to have the results of the project scaled-up beyond the project area, and have limited influence on broad national policies. The absence of such a body at central level in the proposed institutional set-up would likely limit the potential of the results of the project beyond the project area or the province.
- (c) *Repayment modalities may limit the incentives for innovation:* The project funds are lent to the province and then on-lent to counties and districts who have the financial responsibility to repay them. These repayment arrangements may result in (a) a strong incentive for the counties to give priority to investments that have the greatest financial viability and security (not necessarily pro-poor), and generate higher county revenues (e.g. infrastructures), and (b) limited incentives to the full adoption of the project's intended innovations, as considered more risky.
- (d) *Possible delays due to time needed to mobilize implementing agencies at county level, and counterpart funds:* As the DRC Division of Foreign Capital and Overseas Investment does not have local offices, there is a risk that more time and resources will be needed to mobilize and engage implementing agencies (i.e. technical bureaus) at local level. Moreover, the weak fiscal capacity at county level will make it difficult for the county government to mobilize the sufficient counterpart funds to co-finance the project activities.

M. Sustainability

24. **Sustainability.** Sustainability of project activities will be pursued through: (i) Economic diversification through product and market diversification, to increase the economic resilience of the target group. The establishment of different parallel market linkages is encouraged; (ii) Economic and financial profitability of the promoted value chain linkages to ensure the basic condition for the sustainability of the developed economic activities and their effective contribution to poverty alleviation.

N. **Logframe**⁵²

Narrative Summary	Key Performance Indicators	Means of Verification	Assumptions (A) / Risks (R)
Goal:			
To contribute to the national poverty alleviation goal of national rural poverty eradication by 2020	<ul style="list-style-type: none"> ▪ Absolute and % reduction in registered number of poor in the project area 	<ul style="list-style-type: none"> ▪ National poverty registration system ▪ Independent monitoring through IFAD RIMS system using HH survey for impact assessment 	<p><i>Risk:</i> The project does not have sufficient time to contribute to the provincial poverty alleviation target of 580,000 individuals out of poverty by end of 2018</p> <p><i>Mitigation:</i> the proposed interventions can assist in improving the sustainability of poverty alleviation interventions, thus avoiding that large number of individual and households fall back into poverty due to unsustainable commercial ventures, unsuited technical development model by SOCAD and lack of poor households with land and labour capabilities (see assumptions related to PDO below).</p>
Project Development Objective:			
To increase the income and improve the living conditions of targeted beneficiaries through equitable, safe, nutrition sensitive and environmentally sustainable value chains development, as well as improve environmental conditions and climate resilience in project area	<ul style="list-style-type: none"> ▪ Absolute and % increase of beneficiary per capita net income in the project-targeted areas compared to baseline ▪ Absolute and % rate of past migrant individuals permanently returning to project area ▪ % of households with improved household asset ownership index compared to baseline 	<ul style="list-style-type: none"> ▪ IFAD RIMS surveys ▪ Impact assessment ▪ National poverty alleviation monitoring system 	<p><i>Assumptions:</i> (i) sufficient poor household number with land and labour capability exist and are targeted in the project area; (ii) poor households are not marginalised and transformed in renters by 'Enterprise/industrial development' poverty alleviation measures; (iii) financial sustainability of commercial ventures is ensured</p>
<p>Outcome 1:</p> <p>Improved production practices related to agricultural production allowing smallholders to engage effectively with private sector buyers</p>	<ul style="list-style-type: none"> ▪ Number of cooperatives strengthened ▪ Number of technical knowledge dissemination events carried out ▪ % increase of loan taken by beneficiaries ▪ % agricultural productivity increase as compared to baseline 	<ul style="list-style-type: none"> ▪ Focus group surveys at cooperative level ▪ FFS monitoring system ▪ Monitoring system at business incubator level ▪ Surveys of private firm involved in partnerships 	<p><i>Assumption:</i> SOCAD development model can be adapted to upland small-scale agriculture</p>

⁵² The logframe is purposely elaborated to fit all three proposed provinces interventions (Ningxia, Shaanxi and Sichuan).

Narrative Summary	Key Performance Indicators	Means of Verification	Assumptions (A) / Risks (R)
<p>Outcome 2: Enhanced capacity and awareness of both smallholder organizations and private buyers allowing to establish effective commercial partnerships</p>	<ul style="list-style-type: none"> ▪ Number of successful private public partnerships established as compared to baseline ▪ Absolute number and % of poor registered HH actively participating to partnerships as compared to baseline ▪ % increase of sales of agricultural products by beneficiaries as compared to baseline ▪ % increase of producer price of agricultural products sold by beneficiaries as compared to baseline 	<ul style="list-style-type: none"> ▪ Focus group surveys at cooperative level ▪ Farmer Field school monitoring system ▪ Monitoring system at business incubator level ▪ Surveys of private firm involved in partnerships 	<ul style="list-style-type: none"> ▪ <i>Assumption:</i> local agribusiness enterprises are Interested and have the ability to engage in genuinely socially inclusive and economically equitable commercial partnerships.

B. Non-lending activities

1. **Non-lending activities.** The proposed investments can be complemented by a set of non-lending activities (i.e. analytical works, technical assistance, impact evaluations, south-south cooperation) that can contribute to inform policy-making and investment decisions, and to create of a conducive policy/regulatory environment for the implementation of the proposed interventions.
2. **Indicative list of possible non-lending activities.** An indicative list of possible non-lending activities that can be carried-out in the next five years in the framework of the COSOP is summarized in the table below.

Instruments	Thematic Areas of Focus	Title	Description	Status
Analytical Works	Rural transformation, agricultural modernization, and modernization of agrifood value chains	The emergence of a modern of farm sector: an analysis of the impact and of the governance issues	<p>A challenge in the current process of transformation of the agriculture sector - characterized by the current small size of its farms, rising of rural wages, rural-urban migration, incentives to mechanization, and yet land policies that hinder this process given the existing limitations on transactions - is the extent and the speed by which large operations, in which farmers will find an opportunity to join as shareholders while continuing working on the farm or moving to other occupations, will emerge.</p> <p>A key question in this process is the extent to which the emergence of such operations will allow to reduce the inefficiencies related to failures in the labour, credit, and land markets. Furthermore, the emergence of new institutions poses the question of which forms of governance will allow smallholders to benefit from the improved efficiencies and to retain a secure title to the compensations to which they would be entitled upon entering such schemes.</p>	Proposed
		Economic and financial viability of the nascent small agrifood enterprises, and implications for the future modernization of the agrifood value chain	<p>Recent empirical evidence suggests that across China the modernization of agrifood value chains has progressed at an accelerated pace. While the reorganization and modernization of food value chains has allowed achieving scale economies, this process has made it increasingly difficult for small and medium scale processors, traders, and retailers to compete. However, the spread of the ICT revolution and the significant investments in logistics made in China during the last decade has opened the possibility for rural-based SMEs to compete against supermarkets and establish new methods of delivering food from the farm to the urban consumer at competitive prices. New opportunities for further improving the efficiency of value chains are emerging by leveraging ICT innovations.</p> <p>The proposed study would therefore examine in more detail the economic and financial viability of such nascent agrifood enterprises and the scope for their expansion across China. Implications for the future modernization of the agrifood value chains would also be addressed.</p>	Proposed
		Challenges and opportunities of implementing a Geographic Indication system in China	<p>The increasing demand for food quality is often associated by urban consumers with credence attributes of food that include environmental purity, culture and ways of life of the rural communities from which food is sourced. To capture such connections, geographic indications (GIs) have emerged as a mean of food labelling. Functioning GIs nevertheless require a well-functioning legal system and enforcement, a credible system of food traceability, and producers organizations capable of managing the marketing and administration of GIs. Experience with the EU's system of GIs suggests that the gains from the development of such labels could be significant for the rural communities benefiting from the scheme. China has understood such potential and has developed during the last decade the legal infrastructure for the development of GIs. Yet, little is known at this stage with regard to the overall strength of the system, the degree to which farmers and rural communities benefit, and the potential this holds for fostering the prosperity of rural communities by stimulating linkages with other sectors such as tourism, services, and manufacturing.</p> <p>The proposed study will examine these issues, including the extent to which GI are managed by producer organization and possible improvements these could require.</p>	Proposed

			Furthermore, the study would examine the extent to which China's GI system can contribute to promote a positive image of China food products and support an expansion of food exports in more mature markets.	
		Rural transformation: pathways, policy sequencing and development outcomes	<p>Rural areas have been experiencing significant transformation in many developing countries and within countries have led to different outcomes in terms of economic growth, social inclusion, reduction of poverty and of inequality, and environmental sustainability. Several questions are raised. What are the pathways of rural transformation? What are the necessary sets of policies that can stimulate and support a successful rural transformation? Do different stages of rural development require different or specific rural transformation policies? For a specific pathway of transformation, is there an optimal sequence for rural development policies? Answers to these questions are critical for policy makers.</p> <p>This study is designed to develop a better understanding of these questions and to provide empirical evidence to inform policy formulation and planning. Three countries in different stages of rural development and transformation in Asia are selected for this study: China, Myanmar and Vietnam. The findings from this study will provide direct policy recommendations to each of these three countries.</p>	Ongoing ⁵³
		The impact of urbanization on food security	<p>70% and 80% of the population is projected to reside in cities by 2030 and 2050, respectively. Approximately 12 million rural residents are projected to move from rural to urban areas each year over the next decade. Most of these migrants are expected to be between 16-35 years old; while the elderly and children are expected to remain in the rural areas to carry out agricultural activities. Such urbanization and demographic trends will affect China's food security through its impact on the availability of natural resources, labour, and remittances.</p> <p>The proposed study will to analyze the impact of urbanization on food security in China. More specifically, the study will investigate: (i) the profile of migrants, returning migrants, and those who remain behind; (ii) the impact of urbanization and demographics on economic growth, food production and consumption, and distribution; (iii) the interactions between urbanization, aging, remittance, and agricultural production; with the overarching goal of providing a set of recommendations to inform the development of food security policies and strategies in the context of rapid urbanization.</p>	Proposed (jointly with IFPRI)
		The impact of land fragmentation on agriculture productivity	The study will assess the impact of land fragmentation on agriculture productivity and the farmers' attitude towards land consolidation drawing from the data and the experience of selected IFAD-funded projects.	Proposed

⁵³ As part of a regional study covering China, Myanmar, and Vietnam.

Impact evaluations	Project impact	<p>Econometric study on the impact of IFAD-supported projects in rural China closed between 2010-2015</p>	<p>IFAD has been active in China since 1981. Since then, IFAD has financed 29 projects in 28 provinces, autonomous regions, and municipalities, benefitting around 4.4 million households. Total investments are around US\$ 2.19 billion, out of which about US\$ 862 million from IFAD loans and grants. What has been the impact of IFAD-supported projects in China? How many people have been moved out of poverty thanks to the support received by IFAD-funded activities? What is the contribution of IFAD-supported projects to food security, agricultural productivity, and empowerment of vulnerable groups?</p> <p>This study does attempt to respond to these questions in a scientific way, i.e. applying quantitative econometric methodologies (strict quasi-experimental methodologies), by reviewing IFAD-supported projects that have been completed in the period 2010-2015.</p>	Ongoing ⁵⁴
Technical Assistance	Inclusive and safe value chain development (food safety, branding, traceability)	<p>Raising consumer awareness of and confidence in the certification process as a means of ensuring food safety and quality</p>	<p>This TA is aimed at supporting government efforts in influencing consumer demand by raising awareness on food safety and quality issues. In order to stimulate the market pull for differentiated products, consumers must be made increasingly aware of the benefits of environmentally, socially and economically sound practices. Importantly, they must also be the subjects of a targeted awareness rising campaign on different government-backed initiatives that provide regulatory and legal guarantees for the authenticity of labelled products and thus increase consumer confidence in brand recognition. These efforts could also be deployed in collaboration with the private sector. They will specifically target more affluent consumers who make their purchase choices on food-product characteristics that go beyond price. Therefore, while production practices are improved and products branded, consumer markets must also gain both awareness and confidence in these initiatives and products in order to provide the needed demand and be ready to accept price differentiation on such basis.</p>	Proposed
		<p>Institutional capacity development for food safety and traceability</p>	<p>The Chinese government has promulgated Agro-Product Quality Safety Law of PRC in 2006 and Food Safety Law of PRC in 2015. The two laws specifically describe value-chain based quality safety surveillance and quarantine for agro-products covering agro-inputs market, quality control of production procedures, quality control in the wholesale and retail markets, product labelling and quality traceability system. According to the new law, China Food and Drug Administration (CFDA), Ministry of Agriculture (MOA) and Ministry of Commerce (MOFCOM) and their line agencies at provincial and county levels are the main governmental bodies in charge of agro-product quality safety (e.g. surveillance of the whole agro-value chain; quality safety during the production procedures and in post-harvest commodity distribution, etc.).</p> <p>In recent years, for the enforcement of the two laws, the three ministries started to establish the institutional framework and provide institutional capacity building at provincial and county levels.</p> <p>IFAD could provide technical support to the three ministries on food safety</p>	Proposed

⁵⁴ With School of Economics & Management, China University of Geosciences, Wuhan.

			institutional capacity building, and food quality standard development. The support in institutional capacity building will focus on establishing product certification and traceability systems at provincial and county levels.	
		Institutional capacity development for promoting a product branding strategy	<p>The PRC Trademark Law enacted in 1982 and amended in 1993, 2001 and 2013 provided a regulatory procedural guidance for registration of trademarks and geo-brands of local agro-produces. The State Administration of Industry and Commerce (SAIC) and its provincial and county agencies are the governmental bodies in charge of the trademark and geo-brand registration. Most of individual producers as well as cooperatives in the remote poor areas lack the capacity for trademark and branding awareness and brand registration for their local niche products and enlarging their niche markets.</p> <p>IFAD could provide technical support to the county governmental agricultural bureaux, and the counties administration of industry and commerce to assist cooperatives and DHE in the selected project areas to register their product as local or geo-brands to ensure the added values of their products. The branding strategy will be combined with organic food, green food certification, food traceability and labelling strategy as well as e-commerce strategy.</p>	Proposed
	Inclusive rural finance	Support to improve the rural finance policy and regulatory framework	<p>There are a number of measures that would allow removing the constraints that are currently constraining the development of the rural finance sector in China. First, the restrictions on the lending rate of interest to rural households should be lifted and the restrictions on wholesale finance to MCCs and other lending institutions imposed by bank regulators should be removed. Second, the Bank of China shall extend its credit bureau services to all the legally registered financial institutions, including all the MCCs and NGO MFIs. Thirdly, bank permits should be issued to private investors to enhance competition on China's rural financial markets to improve the outreach of rural financial services. Finally, legal arrangements should be improved and secondary markets should be developed for farm land operational rights, farm houses and mobile assets to enable RFIs to accept these assets as loan collaterals. In some provinces, RCC federations have the policy of stopping rural household lending when the non-performing loans of RCC's client household in a county reach 5-6% of the total loan portfolio.</p> <p>Technical assistance can be provided to help the financial sector to develop/improve its policy and regulatory framework, thus addressing the current policy and regulatory constraints that limit the development of rural finance.</p>	Proposed
		Support to formal financial institutions to pilot innovative financial products and services for agricultural development	<p>Many commercial banks, including RCCs, accept real estates as collateral for loans. As a result, innovative collateral, such as warehouse receipts, accountant receivable and purchase orders, are excluded from their list of acceptable collateral. Many RFIs in China do not accept mobile assets as collateral due to the difficulties in enforcing the contract (high legal costs and the problems with the registration system for farm machines).</p> <p>Technical support could be provided to those RFIs that are willing to pilot on innovative financial products and services for agricultural development. Support for establishing financial leasing could be a good option under the current legal environment.</p>	Proposed

		<p>Scaling-up index insurance in China to enhance increase smallholder financial inclusion and improve agricultural productivity</p>	<p>China has one of the biggest agricultural insurance markets in the World. The most widely available product is multi-peril crop insurance, which is subsidized by the Government. Multi-peril crop insurance is usually costly to maintain, and it takes longer to provide compensation to farmers in the event of a loss. China is well placed to scale-up innovative index insurance offerings. The country has already developed some expertise in index insurance (building on an initial IFAD-WFP pilot); however the offerings so far are relatively limited in terms of the national context, and for benefitting smallholder agriculture. Scaling-up index insurance further could have benefits not only for the Government, but due to the nature of index insurance being able to provide quicker compensation, it could also improve the productivity of low-income farmers, and the willingness of financial institutions to lend to them (as one current reason for access gaps is presence of risks, and lack of collateral).</p> <p>Technical assistance can be provided to scale-up index insurance. The modalities would need to be refined upon further assessment and consultation with key stakeholders, but innovations for scaling-up to be investigated and possibly invested in could be: replace or supplement MPCl with index insurance using a model similar to Mexico offering coverage at Provincial level; develop index insurance to protect financial institutions at their portfolio level (especially in-line with a strategy to improve access to low-income farmers); use of index insurance within value chains (e.g. connected to input suppliers); linking index insurance with other financial products like credit; increasing outreach, and making administrative processes more efficient through mobile technology; and developing or improving products with satellite technology.</p>	Proposed
		<p>Managing risks: innovations in insurance</p>	<p>One of biggest challenges in financial inclusion for poor rural populations, is the high occurrence of risks. Without tools to address these risks, poor rural households have to find ways to cope with unpredictable and severe income fluctuations - limiting productive investment, reducing consumption, withdrawing children from school, or migrating. Exacerbating this situation is the fact that financial service providers (FSPs) do not want to lend to these segments of the population without guarantee that their operations will be secured despite the inherent risks.</p> <p>A financial product, insurance, can help mitigate against these risks, opening up or improving access to finance, allowing households to better manage income flows and repayment, become more productive and move out of poverty.</p> <p>However, insurance markets in developing countries face constraints in improving and scaling their offerings. To become successful - for both policy-holders and insurers - several elements are important: simple and affordable insurance products reaching large numbers of people; simplified claims; prompt delivery of benefits; and improving access to other products and services. Currently one barrier is that insurance is often approached as a standalone product and not</p>	Proposed ⁵⁵

⁵⁵ As part of a regional grant covering Ethiopia, Kenya, Georgia, Moldova, and China.

			<p>integrated as part of wider market-based or development approaches.</p> <p>The proposed TA would help bridge capacity gaps , develop innovative and sustainable approaches, and create new models for scaling-up. It would promote the inclusion of innovative insurance offerings as a part of wider agricultural and rural development activities, seeing insurance as a cross-cutting tool relevant for approaches in rural finance, value chain development, etc. Knowledge generated and capacity built under the grant will develop in-country insurance markets to benefit poor rural households. Good practices and lessons will be shared and disseminated.</p>	
	Regional rural development strategies	Implementing Balanced Urban-Rural Regional Development in Xinjiang Uygur Autonomous Region	<p>XUAR faces serious urbanization challenges and has poor economic growth due to its distance from major domestic markets and regional markets. Water availability is a critical concern for the fragile ecology and a limit to the extent to which the population can increase and industry can develop. Infrastructure improvement and provision of basic urban services are needed to facilitate economic growth in the province. The Third Plenum of the 18th Party Congress provided a blueprint to a range of comprehensive structural reforms, including integrated development of urban and rural areas.</p> <p>Technical assistance will be provided to XUAR to develop a 10-year (2016-2025) strategy to achieve balanced urban and rural development in the province, looking in particular at the issues of regional connectivity; public service provision; industrialization and job creation; agricultural modernization and agribusiness transformation; and environmental sustainability (treatment of solid waste and polluted water, expand the use of solar, wind, and other renewable energy options). The TA will also support efforts to identify poor counties and devise plans for village poverty reduction and enterprise development.</p>	Planned (with ADB financing)
	Project design and implementation, brokering services, capacity building, and partnership-building	On-demand technical advisory services	<p>Several relatively well-off provinces, that may not eligible to receive ODA, may be interested in receiving technical advisory services in areas where IFAD has specific expertise/experience or a comparative advantage, such as inclusive and equitable rural development, or climate-smart agriculture, among other thematic areas.</p> <p>Technical support may include business planning, investment design, supervision and implementation support, monitoring and evaluation, impact assessments, training and capacity building, facilitating public-private-partnerships (PPPs), brokering/facilitating South-South Cooperation, and thematic studies, research/policy analysis. In line with the new MIC strategy, IFAD can provide such services on a demand-basis.</p>	Proposed
South-South Cooperation		Exchange visits/study-tours	<p>Activities under this category would favour exchange visits from China to other countries, and from other countries to China, to expose the participating officials to successful practices and experience, thus favouring cross-learning and experience-sharing.</p> <p>Within this framework, it is proposed an exposure visit from the Republic of South Africa to China to expose South African officials to best practices of sustainable, pro-poor rural financial services and practices, and exposure visits for Chinese officials to other countries (e.g. Ukraine, Brazil, EU) to familiarize themselves with innovative rural financial tools (e.g. warehouse receipts, accounts receivable, purchase orders, etc. as collateral for loans), and geographic branding, and green-</p>	Proposed

			food and organic certification.	
		International events to promote knowledge sharing	A series of international events (workshops, conferences, etc.) on selected themes in the area of rural development to promote knowledge sharing and south-south cooperation among countries in the region.	Planned ⁵⁶
		Joint-knowledge cooperation activities	Joint-knowledge cooperation activities (e.g. research, studies, exchanges, etc.) with other research centers in the region to promote knowledge sharing and south-south cooperation among countries in the region.	Planned ⁵⁷
		Establishment of a Knowledge Hub and South-South Cooperation Center in China	In recent years, IFAD has undertaken a decentralization process, and has increased its country-presence through the establishment of country offices. The Beijing country office, established in 2005, is envisioned to become a 'knowledge hub' that can facilitate south-south and knowledge cooperation on rural development in the Asia and Pacific and other regions.	Planned

⁵⁶ As part of the Enhancing Knowledge Management & Cooperation and Policy Dialogue Grant.

⁵⁷ As part of the Enhancing Knowledge Management & Cooperation and Policy Dialogue Grant.

Key file 1: Rural poverty and agricultural/rural sector issues

Priority areas	Affected groups	Main issues	Actions needed
Mitigating negative effects of agricultural transformation and rural urban migration	Rural household members staying in rural areas (women; elderly & children); migrant workers	<ul style="list-style-type: none"> The contribution of the agricultural sector dropped below 10% of China's GDP in 2014, indicating that an increasing share of workers will (have to) seek employment in other sectors. Rural-urban migration is widespread and accelerating. It often is a response to poverty, but in some cases household's workforce is affected with men leaving women, children and parents back in rural areas. Aging rural population is seen as one core driver of rural poverty (agricultural workforces is 50 years on average). Facilitate productive use of remittances sent from urban areas to rural areas (investments rather than consumption). Accelerated urbanisation and transformation of the economy, paired with environmental degradation has increase costs of agricultural production factors (land, labour, capital) increasing costs of production. This caused price increases, rendering domestic products less competitive vis-à-vis imports. 	<ul style="list-style-type: none"> Analyse interaction of rural migrants and remaining rural population to better understand positive and negative effects. Introduction/promotion of labour saving technologies and practices/organisation of production. Promotion of appropriate investment opportunities from savings and remittances, including insurance.
Access to remunerative markets and Value Chains	Poor and non-poor rural producers	<ul style="list-style-type: none"> Many small producers lack access to remunerative output markets. This is routed in several reasons: Infrastructure not be well enough developed; producers and their organisations/associations do not have enough understanding of target market requirements in terms of quality, quantity and timing; small producers have difficulties to meet formal requirements/regulations to access certain markets; poor level of organisation along the value chain reduce information flow and coordination and make business less profitable. Logistic costs remain comparatively high in China, market information systems are not yet fully developed and accepted by producers. Innovative ways of introducing R&D into production (e.g. through the Agricultural Science and Technology Parks, ASTPs), still focus predominantly on production and lack innovations regarding marketing. Institutionally, Ministry of Agriculture maintains focus on production, while marketing and processing is considered competency of the Ministry of Commerce. 	<ul style="list-style-type: none"> Improve access to infrastructure for transportation, post-harvest handling and value addition; Improve capacity of producer organisations/associations in the area of management, marketing and coordination; Improve coordination among value chain actors to make value chains more profitable and resilient; Address regulatory obstacles for small producers to enter markets; Support market-oriented extension services that help producers, their organisations and other VC actors to meet market demand / requirements. Analyse governance structure of ASTPs to reveal options for improved market-orientation, and partnering with appropriate R&D initiatives. Reduce transaction and logistical costs through organisation of production (cooperatives; contract farming; etc.) and investments in supportive infrastructure and services (cold chain; market information system; etc.).
Capacity of cooperatives/ producer	Producers organised in cooperatives.	<ul style="list-style-type: none"> There exist a huge variation nationally between various provinces in capacity of producer organisations (cooperatives). In some provinces they operate very functional and with good business and 	<ul style="list-style-type: none"> Review regulations and the compliance with regulations regarding producer organisations/ cooperatives.

organisations.		managerial skills, while in others they are limited to few members and do not really allow participation in decision making of members. Associations/cooperatives should allow economies of scale regarding access to inputs, services, machinery and selling/marketing, but do yet fail to achieve this.	<ul style="list-style-type: none"> • Capacitate members and management of producer organisations to improve internal governance structures that allow participation and effective decisions making. • Strengthen management, business and marketing skills of producer organisations.
Access to good quality rural infrastructure	Rural population in remote and vulnerable areas	<ul style="list-style-type: none"> • While China has made huge progress in constructing rural infrastructure (roads, communication and electricity networks) over the past years (especially through the “Cuncun Tong” project since 1998), several poverty pockets remain lack access to appropriate rural infrastructure. This hinders access to input and output markets and makes production less competitive. E.g. logistical costs of transporting vegetables to final markets are 2 to 3 times above world average. 	<ul style="list-style-type: none"> • Analyse core infrastructure needs in marginalised areas. Promote/Finance provision of appropriate infrastructure addressing identified needs. Strengthen local communities in maintaining infrastructure.
Access to rural finance	Smallholders, Micro Enterprises, Cooperative & other VC actors	<ul style="list-style-type: none"> • Without appropriate collateral, finance is not provided to many rural poor, and small entrepreneurs. • For mechanisation, intensification and commercialisation investments in machinery, infrastructure and improved technology finance is required, which banks do not necessarily provide under acceptable/viable conditions. • In 2014 the Min of Fin delegated interest subsidies for poverty alleviation to lower levels, promoting reform and innovations, which's outcomes are still to be assessed. 	<ul style="list-style-type: none"> • Explore and promote appropriate value chain finance and other means of rural finance. • Explore opportunities to channel income from non-farm activities to boosting rural economy. • Assess outcomes of policy changes vis-à-vis interest subsidies for poverty alleviation and promote good practices.
Access to insurance	Smallholders, Micro Enterprises, Cooperative & other VC actors	<ul style="list-style-type: none"> • Climate variability affects risk pattern of agriculture production. In addition, intensification and mechanisation increase potential loss due to high up-front investments in production. Insuring against these potential losses prevents rural population from falling into poverty, as well as helps poor to avoid starvation. The roll-out of the New Rural Co-operative Medical Care System since 2003 has already resulted in 95% of the rural population covered in 2012, indicating the positive up-take and experience with national level insurance schemes. In 2013, 15 agri-insurance products were provided under a subsidy programme. Still, in times of increase climate change and natural disasters, as well as capital-intensive production, insurance is not only needed to safeguard producers from falling back into poverty, but also as “collateral” for banks/MFIs to improve access to finance. 	<ul style="list-style-type: none"> • Contribute to deepening outreach of agricultural insurance products to rural poor households and their associations. • Assess gaps of existing insurance scheme and fill in with appropriate innovative products.
Supportive business environment	Rural producers and other value chain actors	<ul style="list-style-type: none"> • In addition to above mentioned aspects, small producers, cooperatives and entrepreneurs face difficulties accessing appropriate Business Development Services (BDS). The Technical Envoy System, piloted in 2003 and scale-up thereafter partly meets this demand, as do Agricultural Science and Technology Parks (ARTS). However, to allow poor rural producers to sustainably enter commercial agriculture production, access to a range of affordable 	<ul style="list-style-type: none"> • Assess appropriateness of service provision to poor rural producers and their organisations under the current system and promote ways to deepen service provision. • Support service provision to cooperative and other value chain actors with the objective to render whole value chains more productive and resilient.

		<p>services are required in the area of production, post-harvest handling, business management skills, and marketing. Partly these services are fulfilled by increasing numbers of cooperatives, however, unless they are fully functional, other service provider have to fill the gap.</p>	<ul style="list-style-type: none"> • Explore innovative business models for service provision, including knowledge transfer from other countries (SSTC).
Food safety	Small producers and other value chain actors; consumers	<ul style="list-style-type: none"> • Changing diets, away from staples to more vegetables, fruits and animal products, as well as longer transportation routes, combined with increased availability, yet not always proper application, of chemical inputs (fertiliser and pesticides), has increase concerns around food safety of agricultural products. In 2015, food safety was on the top of China's rural development agenda, indicating the shortcomings to meet required standards. • Big progress has been made in animal disease control over the past decade. Most municipalities have established specialised supervision institutions. Yet, increasing demand for and hence production of animal products will require continuous investment in appropriate services to ensure food safety for animal products. 	<ul style="list-style-type: none"> • Assess existing food safety regulation and small producers understanding and capacity to comply with it. • Promote awareness raising regarding appropriate handling of chemical inputs, as well as post-harvest handling. • Promote regulation that does not crowd out small producers/poor producers while contributing to necessary documentation agricultural products' safety. • Analysis of existing animal health/disease control institutions and supporting services; scaling-up of best practices and piloting of new innovative ways to meet increasing need. • Monitor pollution.
Nutrition		<ul style="list-style-type: none"> • Despite growing wealth and a strengthening commitment from the government to provide quality education, a significant share of students across rural China still have inadequate access to micronutrient-rich regular diets. Such poor diets can lead to nutritional problems, such as iron-deficiency anemia, that can adversely affect attention and learning in school. • At the same time, some 61 million rural children left behind by parents moving to China's booming urban centres are at risk from increased fat and reduced protein in their diets (obesity). • Negative nutritional impact at child age carry big effect on their households and the society as a whole, given the irreversible damage to physical and cognitive development at early age. 	<ul style="list-style-type: none"> • Increase awareness to nutritional aspects in rural areas and long-term costs of malnutrition. • Promote/link with appropriate programmes, such as school feeding initiatives to supplement diets have already shown positive outcomes (e.g. eggs, multivitamin for students). • Partner with institutions/organisations strongly active in the area of nutrition.
Agricultural pollution	Smallholder, fisher folk, herder, rural population	<ul style="list-style-type: none"> • Chinese agricultural resource and environment are confronted with dual challenges – external and internal pollution, which are the shackles of healthy development of agriculture. Urban and industrial pollution is shifted to rural areas and agriculture, which sounds an alarm for the quality of agricultural production. Over-use of fertilizer and pesticide and inappropriate handling of agricultural waste such as excrements of livestock, straws, and used greenhouse film are deteriorating pollution situation and worsening the risks of earth and water pollution. E.g. recent national survey indicate 19.4% of soils polluted beyond safe standards. 	<ul style="list-style-type: none"> • Review regulations and if necessary improve regulatory measures and incentives to comply. • Capacitate relevant stakeholders to comply with regulations and oversee compliance. • Empower rural producers and population to understand health impacts and apply appropriate management practices (land and water management).
Access to natural resources and tenure	Smallholder, herder, fisher folk	<ul style="list-style-type: none"> • While rental markets offer increasing opportunities for farmers to access land and consolidate small, economically un-viable plots to bigger fields, there remain challenges for many to find appropriate 	<ul style="list-style-type: none"> • Improve rental conditions and targeting process to ease access to agricultural land for small producers. • Ensure accelerated land transactions are not adversely

		<p>plots. In addition, conditions for lease are not necessarily ideal, requiring further improvements, and ensuring that rights of poor households transacting their land are respected.</p> <ul style="list-style-type: none"> • Herder relying on grasslands suffer from climate change impacts and deterioration of pastures, increasing pressure on existing/remaining pastures. • In-land fishing is affected by pollution of rivers and lakes. 	<p>affecting rural poor.</p> <ul style="list-style-type: none"> • Assess regulatory frameworks for food processing to reduce its impact on ground water and streams. • Promote and scale-up existing good practices for rangeland management and pasture rehabilitation to balance grazing with re-creation of land.
Natural resource management	Smallholders	<ul style="list-style-type: none"> • Soil fertility management: Over-application of fertiliser, leads to soil acidity. • Over-use of land, and in-appropriate land management causes degradation. • Despite effort to promote protection of forest and ecosystems, progress not yet satisfactory. 	<ul style="list-style-type: none"> • Sensibilisation about appropriate fertiliser application and review of relevant regulations/policies. • Promotion of appropriate land use practices. • Establish and scale-up diversified Payment for Ecosystem Service (PES) schemes. • Enhance natural protection and ecological rehabilitation of severely affected areas to increase their capacity for sustainable development.
Resilience to climate change	Poor population in vulnerable areas	<ul style="list-style-type: none"> • Areas affected by salinity, flood and drought are significantly poorer than other areas. In future they may be vulnerable to worsening environmental conditions for production and livelihoods, and for the security of those who live there. • Natural disasters add further pressure on rural poor's livelihoods. 	<ul style="list-style-type: none"> • Climate-resilient infrastructure. • Livelihood strategies and technologies that are adapted to climate change. This includes saline resistant crops, adapted agronomic practices and switch from crops to aquaculture and livestock.

Key file 2: Organizations matrix (strengths, weaknesses, opportunities and threats analysis)

Organisation	Strengths	Weaknesses	Opportunities/Threats	Remarks
A. Enablers				
Ministry/ Department/ Bureau of Finance	<ul style="list-style-type: none"> Well organised. Strong skills in financial management. Effective coordination and control of budgeting process. Efficient coordination with donors. Represented at all levels. Implementation unit (SOCAD) has extensive experience with agricultural development programmes. 	<ul style="list-style-type: none"> Limited technical capacity for rural development issues. Only represented down to county level. 	<ul style="list-style-type: none"> Highly supportive of IFAD's strategy in China. 	<ul style="list-style-type: none"> MOF is the counterpart Ministry of IFAD in China.
National/Provincial/ Prefecture/County Development and Reform Commission	<ul style="list-style-type: none"> Well organised. Experienced in design and appraisal of large-scale programmes. Effective coordination. Efficient coordination with donors. Responsible for policy formulation, development and approval of new programmes. 	<ul style="list-style-type: none"> Limited technical capacity for rural development issues. Lack of experience for field operational management of development projects. No implementation unit system. Only represented down to county level. 	<ul style="list-style-type: none"> Highly supportive of IFAD's strategy in China. Well aware of the country development needs and priorities. Participated in rural poverty reduction programmes. 	<ul style="list-style-type: none"> NDRC is responsible for approval of IFAD-funded programmes in China.
Ministry/Department/Bureau of Agriculture	<ul style="list-style-type: none"> Responsible for crops development. Strong commitment. Experienced in implementing agricultural projects. Represented at all levels and experienced field staffs. Strong technical skills in relevant sub-sectors. 	<ul style="list-style-type: none"> Top-down extension approach rather than demand responsive. Limited gender focus. Lack of multi-sector orientation. Limited market orientation. Limited resources. 	<ul style="list-style-type: none"> Strong outreach and field presence. Shifting to a more multi-sector approach for rural development. Promote the formation of farmer associations. 	<ul style="list-style-type: none"> Competition from commercial extension and marketing. Ministry of Agriculture was IFAD's counterpart ministry until 2004 when responsibility was transferred to the Ministry of Finance.
National (LGOP)/Provincial (PADO)/County/Township Poverty Alleviation and Development Office	<ul style="list-style-type: none"> Responsible for poverty reduction strategy design. Considerable successful experience in the design and implementation of poverty reduction programmes. Competent staff at most levels. Multi-sectoral orientation. 	<ul style="list-style-type: none"> Limited monitoring and impact assessment capacity. . Limited gender focus. LGOP has largely switched from community empowerment to a top-down planning approach. 	<ul style="list-style-type: none"> Focus on poor villages and rural poor people. Maintains national computerized database of all 70 million rural poor. Link the poor of the rural target villages to their vocational training programs for labour emigration. 	<ul style="list-style-type: none"> LGOP and PADO system orchestrates China's complex program of activities to eliminate all rural poverty by 2020.

Organisation	Strengths	Weaknesses	Opportunities/Threats	Remarks
	<ul style="list-style-type: none"> Facilitate labour migration, linking private sector with the very poor for emigration skills. Implementation and international coordination unit (IPRCC) has extensive experience with rural poverty reduction programmes and growing dialogue with international partners. 		<ul style="list-style-type: none"> International and South-south exchange on lessons learnt for community development. 	
B. Service Providers				
Department/Bureaux of Livestock	<ul style="list-style-type: none"> Responsible for livestock development. Strong commitment. Experienced in implementing livestock development projects. Represented at all levels & experienced field staffs. Strong technical skills in relevant sub-sectors. 	<ul style="list-style-type: none"> Top-down extension approach rather than demand responsive. Limited gender focus. Lack of multi-sector orientation. Limited market orientation. Limited resources. 	<ul style="list-style-type: none"> Strong outreach and field presence. Shifting to a more multi-sector approach to rural development. 	<ul style="list-style-type: none"> Competition from commercial technical services and marketing.
Bureaux of Aquaculture	<ul style="list-style-type: none"> Responsible for aquatic products development. Strong commitment. Represented at all levels. Experienced in implementing aquaculture projects. Strong technical skills in relevant sub-sectors. 	<ul style="list-style-type: none"> Limited gender focus. Lack of multi-sector orientation. Limited market orientation. Limited resources. 	<ul style="list-style-type: none"> Strong outreach and field presence. Shifting to a more multi-sector approach to rural development. 	<ul style="list-style-type: none"> Competition from commercial technical services and marketing.
Department/Bureaux of Science and Technology	<ul style="list-style-type: none"> Responsible for science and technology activities. Actively promotes rural and social development through technology transfer. Multi-sectoral coverage. Innovation oriented. Represented down to county level. 	<ul style="list-style-type: none"> Limited gender focus. Limited resources. 	<ul style="list-style-type: none"> Openness for piloting technology transfer as an instrument for rural development. 	<ul style="list-style-type: none"> Possible overlap with sector Agencies and Department/Bureaux.
All China Women's Federation	<ul style="list-style-type: none"> Promotes the interests of women and poor households in all fields. Notions of poverty reduction focus and strong social focus. Works at very local, decentralised level. 	<ul style="list-style-type: none"> Limited operational resources. Lukewarm cooperation from other Sector agencies. Weakly trained staff at local level. 	<ul style="list-style-type: none"> Focus on poor households. Coaching and informing poor households. Local basic skill training in the villages. Continuously seeking for 	<ul style="list-style-type: none"> Basic training in the villages and coaching of the poorest towards the production and marketing modules. Strategic strengthening of

Organisation	Strengths	Weaknesses	Opportunities/Threats	Remarks
	<ul style="list-style-type: none"> Federated structure from village up to the central level. Dedicated staff. NGO-style working environment. Reasonably effective innovative programmes in critical sectors. 		opportunities of forming women-led groups/ associations/cooperatives.	gender issues.
Rural Credit Cooperative Unions and Rural Credit Cooperatives	<ul style="list-style-type: none"> Nation-wide network. Grassroots branch presence down to township level. Long history of agricultural lending. Experienced credit staffs. 	<ul style="list-style-type: none"> Poor networking capacity. Historical burden of NPL. Narrow line of business in conventional credit and savings. Lack of management system integration. Uneven quality of HR at operational level. Little gender focus. 	<ul style="list-style-type: none"> Ongoing organizational restructuring. Very limited outreach to IFAD target groups. 	<ul style="list-style-type: none"> The most extensive network for rural financial services in the country.
State (SOCAD)/Provincial (POCAD)/County (COCAD) Office of Comprehensive Agricultural Development (within MOF system)	<ul style="list-style-type: none"> Well organised. Extensive experience with agricultural development programmes. Competent staff at all levels down to the county. Large teams of technical experts available "on-call." Programmes are extremely well funded with substantial central and provincial grant funding. 	<ul style="list-style-type: none"> Limited gender focus. Lack of multi-sector orientation. 	<ul style="list-style-type: none"> Receptive to expanding collaboration with private enterprise and strengthening value chain development. 	<ul style="list-style-type: none"> Attaches top priority to establishing a strong relationship with IFAD.
International Poverty Reduction Center of China (IPRCC) at central, provincial, and county levels (within LGOP system)	<ul style="list-style-type: none"> Responsible for supporting poverty reduction strategy design and implementation. Considerable successful experience in the design and implementation of poverty reduction programmes. Competent staff at most levels. Multi-sectoral orientation. Extensive and growing collaboration with international partners and South-South exchange on poverty reduction work. Facilitate labour migration, linking private sector with the very poor for emigration skills. 	<ul style="list-style-type: none"> Limited monitoring and impact assessment capacity. Limited gender focus. Limited strategic capacity and weak inter-linkage with other departments. 	<ul style="list-style-type: none"> Focus on poor villages and rural poor people. Maintains national computerized database of all 70 million rural poor. Link the poor of the rural target villages to their vocational training programs for labour emigration. Exchange on lessons learnt for community development. 	<ul style="list-style-type: none"> IPRCC is LGOP's operational unit for day-to-day poverty reduction work and international poverty reduction programs. Attaches strong priority to strengthening relationship with IFAD.

Organisation	Strengths	Weaknesses	Opportunities/Threats	Remarks
Foreign Economic Cooperation Center (FECC) (within MOA system)	<ul style="list-style-type: none"> • Responsible for international agricultural development projects within China and China's agricultural development projects overseas. • Exchange of agricultural science and technology with EU. • Research on foreign agriculture policies and regulations. • Competent staff with strong linkages to China's extensive agricultural research system. 	<ul style="list-style-type: none"> • Limited gender focus. • Lack of multi-sector orientation. 	<ul style="list-style-type: none"> • IFAD worked closely and successfully with the Ministry of Agriculture and FECC until 2004 when responsibility was transferred to the Ministry of Finance. 	<ul style="list-style-type: none"> • June, 2016 MOU between Ministry of Finance, Ministry of Agriculture, and IFAD may allow for a resumption of greater collaboration.
C. Client Organisations				
Farmers' associations and cooperatives	<ul style="list-style-type: none"> • Emerging organisations of farmers. • Dynamic growth. • Often well organised value chain actors. • Financial capacity rather good. • Experience in processing, production. • Own network of trainers and know-how. 	<ul style="list-style-type: none"> • Lack of strong governance. • Often dominated by a few member. • Not necessarily created purposefully for the IFAD target group. • Very limited coverage. • Often not yet well structured and operating as cooperative per se. 	<ul style="list-style-type: none"> • Potential to organise poorer rural people in associations. • Potential to strengthen these associations. 	<ul style="list-style-type: none"> • Increasingly important players in agriculture and rural development.

Key file 3: Complementary donor initiatives/partnership potential

Agency	Priority sectors and areas of focus	Period of current country strategy	Complementarities/Potential synergies
World Bank	<ul style="list-style-type: none"> Supporting green growth, shift to a sustainable energy path, promoting sustainable agricultural and natural resources management practices, strengthening mechanism for managing climate change Promoting inclusive development, increase access to quality health services and social protection programmes, strengthen skill development and enhance opportunities in rural areas and small towns, improve transparent connectivity for balanced regional development Advancing mutually beneficial relations with the world, promote south-south exchanges and contribute to global economic governance 	Country Programme Strategy 2013-2016	<ul style="list-style-type: none"> Inclusive development, enhance opportunities in rural areas, and improve access to balanced development. Thematic areas could include advance of inclusive rural finance, and joint works to improve quality of regulatory framework in reducing rural poverty Sustainable agricultural practices and sustainable natural resources management. Specifically, it could include: improve resilience of smallholder farmers to climate risks, sustainable water resources management and pollution control methods World Bank is an important partner to pursue policy dialogue with the government and upscale impacts of technical and institutional innovations
Asian Development Bank	<p>In view of the 13th socioeconomic development plan of China and ADB's Midterm Review of Strategy 2020, and ADB' approach to supporting upper middle income counties, priorities of ADB's Country Partnership Strategy 2016-2020 include:</p> <ul style="list-style-type: none"> Managing climate change and environment Promoting regional cooperation and integration Supporting inclusive economic growth, fostering knowledge cooperation and supporting institutional and governance reform 	Country Partnership Strategy 2016-2020	<ul style="list-style-type: none"> Build balanced development between rural and urban areas, by pursuing enhanced access of smallholder farmers to finance and natural resources Explore and replicate technical and institutional innovations for enhanced smallholder resilience Partnership on knowledge management, extend the scope of knowledge sharing and cross fertilization in the context of South-South cooperation Build partnership with think tanks based on comparative advantages to enhance impacts in front of strategic partners
FAO	<ul style="list-style-type: none"> Improve food security and nutrition, the livelihoods of rural, impoverished populations Strengthen capacities for quality and safety management of agricultural products Promoting sustainable agro-ecological development and agricultural heritage conservation Strengthening capacities for disease and natural disaster prevention and response to climate change 	Country Programme Framework for China 2012-2015	<ul style="list-style-type: none"> Continue to engage FAO as a partner to address technical issues related to food safety and security, agricultural sustainability, smallholder resilience and nutrition Explore synergies with FAO in the context of South-South Triangular Cooperation for collecting and sharing development solutions and innovations

UNDP	<ul style="list-style-type: none"> • Deepen the reforms that address disparities, promote equitable distribution of public resources and foster access to social services and livelihood supports • Empower communities and civil society to participate in shaping China's cultural and socio-economic development • The right women to greater social and political participation ad to live lives free from discrimination and violence and is advanced • The vulnerability of the poor and ecosystem to climate change is reduced • Deepen China's engagement and participation to global and regional development partnership to realize global development goals 	Country Programme Document 2011-2015	<ul style="list-style-type: none"> • Advocacy, policy dialogue, knowledge sharing and south-south cooperation • Enhance impacts of technical and institutional innovations in regard to sustainable rural poverty reduction, and natural resources and environment management
GIZ	<ul style="list-style-type: none"> • Economic and social development, including vocational training • Environment, climate change, natural resources and agriculture • Sustainable urban development, energy and transport • Rule of law, financial system development and quality structure 	23 ongoing projects	<ul style="list-style-type: none"> • Sustainable agriculture and food safety and agro-product tracking system • Reducing vulnerability of smallholder farmers to climate risks • Capacity building for rural youth and advance inclusive rural finance
EU	<ul style="list-style-type: none"> • Sustainable agricultural production, organic farming, rural development and agricultural research • Food security and safety, coordinated urban and rural development, building environmentally-friendly agricultural system • Win-win research and innovation cooperation in the field of food, agriculture and biotechnology 	EU China 2020 Strategic Agenda for Cooperation	<ul style="list-style-type: none"> • Sustainable agriculture and food safety/security • Smallholder resilience to climate and market risks • Policy dialogue, sharing of technical and institutional innovations

Key file 4: Target group identification, priority issues and potential response

Typology	Poverty Levels And Causes	Coping Actions	Priority Issues	Potential Response	
Category A: Non-Poor With an annual per capita net income above national poverty line (CNY 2300 at price level of 2010)	Category A1: Rich and Better Off <ul style="list-style-type: none"> Annual income exceeds the provincial average of rural income level Sources of household income mostly from non-farm sector, OR Household income largely from farm sector as result of good skills, access to various resources and directly engaged in agribusiness/marketing 	<ul style="list-style-type: none"> Stable non-farm income as source of household revenue Farming at above average size (with transferred land or contracted assets) and active participation in agribusiness and value chains Solid and sufficient physical assets With sufficient financial buffer and have access to credit Employ other farmers on farming activities 	<ul style="list-style-type: none"> Seek to consolidate and expand non-farm activities Ready to migrate to cities (short term or long term) Acquire resources to expand production and agribusiness Expand profit margins from value chain 	<ul style="list-style-type: none"> Access to improved community infrastructures and support services. Expand production scale and upgrade facilities Access to loans of larger amount for working capital or asset investment Further integration in value chain 	<ul style="list-style-type: none"> Adopt climate resilient production practices Support the farming households with credit and agribusiness improvement, as demonstrators and agribusiness leaders/incubators to benefit the other farmers;
	Category A2: Better Off and Out of Poverty <ul style="list-style-type: none"> Annual income above provincial poverty line but below provincial average rural income level Farm income important to household and directly engaged in production and/or agribusiness. 	<ul style="list-style-type: none"> With seasonal non-farm income contributing to household revenue, skill level limits further increase of non-farm income; Farming at average size and productivity, with market access potential not fully exploited limiting further income increase; In good health and with adequate labor to farm own land; With some access to credit but limited in amount and substantial asset as collateral Production facility and infrastructure in average condition, but potential cannot be exploited due to limited investment; Risk of falling into poverty if adverse events take place 	<ul style="list-style-type: none"> Improve skills of labor to expand seasonal non-farm income and seek better paid employment; Improve product quality and market access to increase premium; Expand production scale and Improve production facility to consolidate farm income base Better access to technical, marketing and credit services 	<ul style="list-style-type: none"> Specialization of production Skill and knowledge upgrade Access to credit for startup investment of adjusted production, improvement, expansion and upgrading; Further integration into value chain to acquire more premium and better sales Improvement of productive infrastructure Sustainability of production and income 	<ul style="list-style-type: none"> Adopt climate resilient production practices Convert to or further the specialised production; Provide access to improved production technologies, skills and marketing services Provide access to credit or value chain financing Link better with agribusiness and farmer cooperatives Benefit from improved public services and infrastructure Diversify household income sources

Typology		Poverty Levels And Causes	Coping Actions	Priority Issues	Potential Response
Category B: Poor With an annual per capita net income below national poverty line (CNY 2300 at price level of 2010)	Category B1: Capable and Economically Active Poor <ul style="list-style-type: none"> Annual income below provincial poverty line but do not receive welfare assistance Farm income very important to family household and directly engaged in production (or with land transferred but laboring for income); Lack of access to resources and opportunities (capital, market etc.) 	<ul style="list-style-type: none"> With healthy labour (but aged and women) based at home Occasional labor attributed non-farm income contributing to household revenue but farm income is main lifeline Farming on own land for self-sufficiency or at surplus but with limited profitability. Or with land transferred but still engaged in production activities as labor With limited access to credit and without meaningful asset as collateral Production facility and infrastructure in average condition, but potential can not be exploited due to limited investment and capacity; Without direct market access and usually not member of farmer cooperatives In remote, ecologically fragile area with poor natural resources base 	<ul style="list-style-type: none"> Seek better paid seasonal non-farm opportunities; Improve product quantity, quality and market access to increase profit; Expand production scale and Improve production facility to consolidate farm income base Seek access to technical, marketing and credit services Avoid taking risks 	<ul style="list-style-type: none"> Diversify income opportunities Improve access to technology, credit and better skills Improve ecological and natural resources base Improved access to markets, community infrastructures and support services For those with own land: <ul style="list-style-type: none"> Increase productivity and quality of farm produce Improved integration in value chains For those with land transferred: <ul style="list-style-type: none"> Improve labor skills Employment with agribusiness and farmer cooperatives, to prepare for self-management of productive activities 	<ul style="list-style-type: none"> Benefit from improved community services and productive infrastructures and facilities Adopt climate resilient production practices Improve productivity and profitability by engaging in specialised production; Provide access to improved production technologies, skills and marketing services Provide access to credit or value chain financing Link with agribusiness and farmer cooperatives Diversified rural based IGAs Skill development and learning by doing
	Category B2: Incapable and very poor <ul style="list-style-type: none"> Annual income below provincial poverty line and may receive welfare assistance. Farm income important to family household but with limited or no land to directly farm and with limited or no labor. Farming is not likely bring attractive income to household Limited household assets and almost no participation in income generating activities 	<ul style="list-style-type: none"> With very limited labour (disable, aged, sick) based at home With very limited and non-stable off-farm income Farming on own land for self-sufficiency or at surplus but with limited profitability. Or with land transferred receiving rent Without access to credit and without meaningful asset as collateral Without very limited market activities and not member of farmer cooperatives In remote, ecologically fragile area with poor natural resources base With family burden that dry up household cash revenue 	<ul style="list-style-type: none"> Seek stipends and subsidies from government Maintain farm production for food and some cash income; Avoid taking risks 	<ul style="list-style-type: none"> Improve public and community infrastructure and services Minimize risks to production Seek government subsidies and poverty reduction support 	<ul style="list-style-type: none"> Benefit from improved community services and infrastructure Benefit from improved ecological environment