Independent Office of Evaluation

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People's Republic of China

Hunan Agricultural and Rural Infrastructure Improvement Project

PROJECT PERFORMANCE EVALUATION

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Project Performance Evaluation

July 2020
Report No. 5448-CN
Document of the International Fund for Agricultural Development

Photos of activities supported by Hunan Agricultural and Rural Infrastructure Improvement Project

Front cover: Young cooperative member harvesting celery in Shaodong County.

Back cover: Elderly women processing ginger in Shaodong County (left); Women harvesting celery from greenhouses provided by the project (right).

Preface

This report presents the findings of the project performance evaluation of the Hunan Agricultural and Rural Infrastructure Improvement Project (HARIIP) in the People's Republic of China, undertaken by the Independent Office of Evaluation of IFAD (IOE). The project was implemented between 2012 and 2017, in a period when China's rural economy was growing at a rapid pace. The overall project goal was to achieve "rural development and poverty reduction in targeted areas of Hunan Province." HARIIP's specific objective was to increase incomes and improve food security for 182,000 rural households by improving agricultural production and rural infrastructure.

Overall, HARIIP contributed to rural development and poverty reduction in the targeted remote areas of Hunan Province. This was achieved through the implementation of a rural development strategy which combined rural infrastructure, diversified market-oriented agriculture, and capacity building of villagers in infrastructure operations and maintenance and agriculture. The project demonstrated the effectiveness of an approach to rural development in more remote areas in which solving rural infrastructure gaps was an entry point, in combination with agriculture diversification and capacity building. This strategy responded to the belated development of rural infrastructure in Hunan Province. HARIIP's example also confirms that, under a professional PMO providing advice to decentralized PMOs, coordinated support from technical government offices can be delivered to remote rural areas in an efficient manner, responding to priorities put forward by the communities, local farmer cooperatives, and small entrepreneurs.

HARIIP's achievement in reaching the rural poor, and women among them, through its agricultural component was less successful. Providing benefits through agricultural production to the small remaining proportion of economically active poor in Hunan was a challenge that would have required a dedicated approach. In addition, when lower-income families did benefit from the agricultural component, it was mostly in the form of low-paid unskilled jobs. These families are much less likely to have developed their "economic and self-development capacities, to take full advantage of improved technologies, resources and services to be made available in the project area," as was called for at the time of project design. This raises questions about the sustainability of income generation for the poor which will largely depend on the performance of the cooperative or lead farmer with whom they are working.

This project performance evaluation was conducted by Chitra Deshpande, Senior Evaluation Officer, IOE, with contributions from Claude Saint-Pierre, IOE senior consultant, and Xuexiong Wang, national consultant. Internal peer reviewers from IOE (Fabrizio Felloni, Interim Officer-in-Charge, Johanna Pennarz, Lead Evaluation Officer, and Suppiramaniam Nanthikesan, Lead Evaluation Officer) provided comments on the draft report. Maria Cristina Spagnolo, IOE Evaluation Assistant, provided administrative support throughout the evaluation process.

IOE is grateful to IFAD's Asia and the Pacific Division, the Government of the People's Republic of China, in particular the Foreign Economic and Technical Cooperation Office of the Hunan Province Department of Agriculture and Rural Affairs, and the in-country stakeholders and partners for their insightful inputs at various stages of the evaluation process and the support they provided to the mission. I hope the results generated will be of use to help improve IFAD operations and activities in the People's Republic of China for enhanced development effectiveness.

Fabrizio Felloni
Interim Officer-in-Charge
Independent Office of Evaluation of IFAD

Cooperative manager with son in cooperative e-commerce shop in Xingnong, Luxi County

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Annexes

Currency equivalent, weights and measures

Currency equivalent

Currency unit = Chinese Yuan (CNY)
US$1.0 = CNY 6.4 (2011)
US$1.0 = CNY 6.3 (March 2018)

Weights and measures

International metric system, unless specifically described in text; except:
1 Ha = 15 mu
1 mu = 0.067 Ha
1 kg = 2 jin
1 jin = 0.5 kg

Abbreviations and acronyms

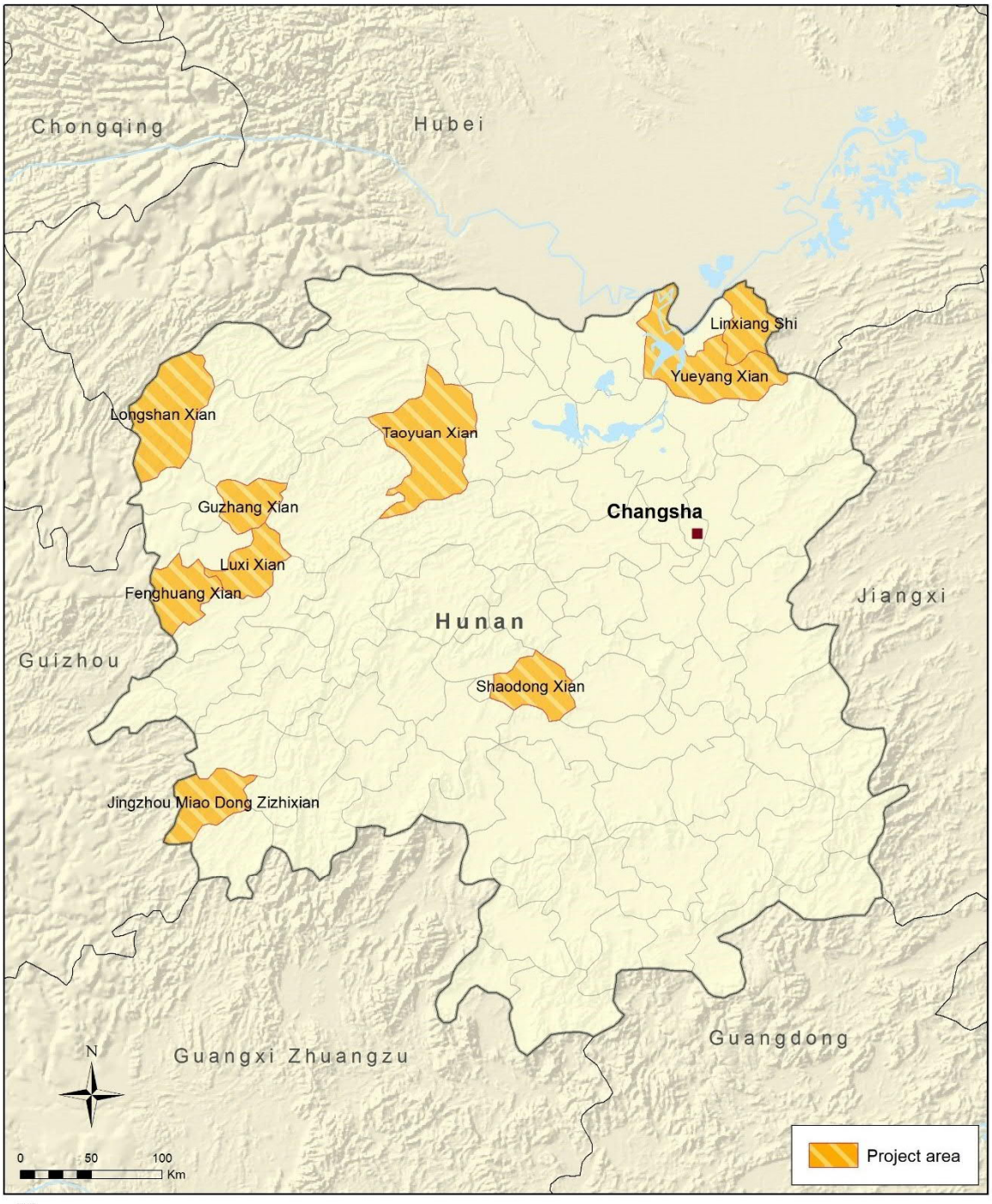
ACWF	All-China Women's Federation
CIP	International Potato Center
COSOP	country strategic opportunities programme
CPMO	county project management office
CSPE	country strategy and programme evaluation
H2RDP	Hunan Rural Revitalization Demonstration Project
HARIIP	Hunan Agricultural and Rural Infrastructure Improvement Project
IOE	Independent Office of Evaluation of IFAD
M&E	monitoring and evaluation
MTR	mid-term review
O&M	operations and maintenance
PADO	Poverty Alleviation and Development Office
PCR	project completion report
PMO	project management office
PPE	project performance evaluation
PPMO	provincial project management office
R&D	research and development
RIMS	Results and Impact Management System (IFAD)
ToC	theory of change
VIG	village implementation group

Map of the project area

China

Hunan Agricultural and Rural Infrastructure Improvement Project

Project performance evaluation



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* | 13-01-2020

Executive summary

Background

1. The Independent Office of Evaluation of IFAD undertook a project performance evaluation (PPE) of the Hunan Agricultural and Rural Infrastructure Improvement Project (HARIIP) in the People's Republic of China. The main objectives of the PPE were to: (i) assess the performance of HARIIP, (ii) generate findings and recommendations for ongoing and future IFAD-supported operations in the country, and (iii) provide project-level evidence for the planned country strategy and programme evaluation. This PPE is based on a review of project-related documents and a mission to Hunan Province, China in November 2019, which visited the project areas and held interviews and discussions with various key stakeholders, including beneficiaries.

The project

2. The overall project goal was to achieve "rural development and poverty reduction in targeted areas of Hunan Province." HARIIP's specific objective was to increase incomes and improve food security for 182,000 rural households by improving agricultural production and rural infrastructure. Specifically the project was to result in: (i) increased incomes for the rural poor in targeted areas by approximately 25 per cent; and (ii) improved food security reported by 70 per cent of households in project villages, compared to the baseline.

3. Approved in 2012 and completed in 2017, HARIIP included a preparatory phase in the first year, implementation of project activities until the fourth year, and a one-year consolidation phase in the fifth and final year. The HARIIP project area was located in nine counties in or adjacent to the Wuling Mountains of Hunan Province. Five of these counties were part of Hunan's state-designated national poverty counties. Four of them (Longshan, Guzhang, Luxi and Fenghuang) were located in Xiangxi Ethnic Autonomous Prefecture with Miao and Tujia ethnic groups, while Jingzhou, was an ethnic autonomous county outside the prefecture. The five non-poor project counties were Lingxiang, Yueyang, Taoyuan and Shaodong.

4. The project area was defined as townships and villages with higher incidences of poverty and rural infrastructure needs. The target group, 182,000 rural households (760,000 people), was defined as the whole population of the 589 project villages. Within these villages, priority was to be given to poor households whose members were economically active and physically able to participate in project activities. Of these, women and minorities were to receive special attention. Household ranking, based on the nine criteria of the 2011 country strategic opportunities programme (COSOP), was to be used to classify households into three categories: (a) the rich and better-off (16 per cent on average in the project villages); (b) the average (54 per cent); and (c) the poor (30 per cent).

5. HARIIP consisted of three components: (A) Community infrastructure Improvement; (B) Sustainable agricultural development and market access Support; and (C) Project coordination management. Component A, (65.8 per cent of the project cost) aimed to strengthen productive and livelihood assets at community level and consisted initially of four subcomponents: (i) improving irrigation facilities; (ii) building village roads; (iii) constructing community facilities for safe drinking water supply; and (iv) upgrading the rural electricity grid which was later dropped. Component B (24.8 per cent of the project cost) aimed to strengthen capacities of rural men and women and improve their income-generating opportunities by supporting the sustainable development of diversified and adaptive agriculture. A modular approach was adopted consisting of four agricultural production modules and two support service modules (farmer cooperative and technical services support). Finally, component C (9.4 per cent of

project cost) included the establishment and operation of the Project Management Offices.

6. The total project cost at approval was US$93.2 million, of which US$47 million was to be funded by IFAD (US$46 million ordinary loan, US$1 million grant). The Government was to finance US$45.6 million and beneficiaries US$0.6 million. During implementation, the project financing increased to US$94.5 million. The actual cost at completion was US$91.36 million, or 97 per cent of the revised total project cost.

Main findings

7. Relevance. The project design was aligned with national and provincial priorities, as well as IFAD policies broadly. The Government of the People's Republic of China was interested in demonstrating a replicable model of poverty alleviation through rural infrastructure; agricultural development and social capital building were added in response to IFAD interests. Structuring the agricultural component as a set of modules provided flexibility to respond to some changes in the context. The targeting strategy combined geographical targeting and prioritization of poor households by the villages. The household targeting strategy defined for HARIIP was not revisited when the national poverty reduction programme evolved. Within HARIIP's targeting strategy, a gender mainstreaming approach was mentioned, but how to implement it was not clearly defined. While the project approach aligned well with Government policies at design, the targeting strategy required greater clarity on the inclusion of the poor, especially in non-poor counties, and women.

8. Effectiveness. Overall, project outcomes were attained. Critical rural infrastructure needs were resolved in a significant number of villages (outcome 1). Access to water for both domestic and agricultural purposes was significantly improved in the project villages, and an effective operations and maintenance (O&M) system was set up. The scale of capacity building activities was sizeable at 79,975 persons trained, although more limited in scope than expected being only 74 per cent of the target (outcome 2). Market-oriented agricultural production has become more diversified (outcome 3). Poor households have accessed new market opportunities through the two models - farmer cooperatives and lead farmers. The geographical targeting strategy was successful in its outreach, though household coverage was overstated. The total households covered by the project is more likely 104,176 rather than the 154,853 households reported in the project completion report (PCR). All residents in remote poor villages benefited from roads that opened access and small community infrastructure. However, the outreach of the agricultural component was much lower with around 25,000 households receiving agricultural inputs. Household ranking was useful to monitor project activities, less so in including the economically active poor.

9. Efficiency. The IFAD loan was managed efficiently. The total disbursement rate was 97 per cent and the project duration was five years as foreseen. The project cost management ratio was below 10 per cent, in line with other IFAD projects in the People's Republic of China. The IFAD loan was partly used as a catalytic resource to attract other Government programs (e.g. gravel roads created with IFAD funds were later paved by Government). The cost per beneficiary ratio was reasonable at US$212 compared to the average of US$190 in IFAD's Asia and the Pacific Division. Finally, the economic internal rate of return was positive at 35 per cent.

10. Rural poverty impact. The combination of the project's agricultural interventions with rural infrastructure, where it occurred, has created direct and indirect positive impacts. Roads have brought not only convenience to the villages but also new markets. Agricultural extension services showed marked improvement and 90 per cent of respondents to the satisfaction survey stated their production skills had increased. However, this positive impact on human capital was more limited

when women did not attend training. The project has contributed to agricultural productivity changes with increases in staple crop production. Incomes also have improved for the majority of households according to the villager satisfaction survey. However, there was no evidence that the expected trickle-down impact from larger-scale producers to poorer households occurred. Food security improved in part from small-scale irrigation, or root and tuber crops improvement, but mainly from remittances. In terms of human and social capital and empowerment as well as institutions and policies, HARIIP's approach included training and village implementation groups (VIGs) which resulted in limited empowerment of rural communities and no notable policy or institutional impacts.

11. Sustainability of benefits. Benefits generated by project-funded roads and drinking water supply are likely to continue as infrastructure maintenance has aligned with new central Government provisions. Maintenance of small irrigation infrastructure in mountainous areas was less positive. Some paddy fields served by project-renovated irrigation canals were left idle, not only because of outmigration or unprofitable paddy prices, but also because of unclear rights to irrigation water. The Government's policy giving individual responsibility for maintaining canals to those producing paddy is reportedly not working well. In remote areas, providing free agricultural inputs to all is likely to have limited scope for replication. This raises issues with sustainability and poverty targeting effectiveness as HARIIP did not establish a ceiling in the amount or value of agricultural inputs provided.

12. Innovation. Agricultural research and development was organized in partnership with provincial agricultural research institutions. The provincial project management office (PPMO) partnered with researchers from several provincial research institutions and universities who visited the project villages and provided seed from improved varieties. Initially focused on the roots and tuber regional IFAD grant, technical support was broadened to cover the various needs of the project area. The regional grant facilitated direct contacts with a regional research team from International Potato Center, which helped revive interest in sweet potato's market potential as a food crop.

13. Scaling up. According to IFAD, scaling up occurs when other partners (Government, donors, NGOs, or civil society) use their resources to scale up results. In China, IFAD depends on the Government to scale up or replicate any project approaches or results. This requires that IFAD demonstrate to Government positive results from project activities and approaches through knowledge management mechanisms for capturing and disseminating best practices and positive results. While good knowledge management efforts were made, the scaling up of project initiatives by Government or others was not yet evident.

14. Gender equality and women's empowerment. Women represented 47 per cent of participants in training and in agricultural activities. However, HARIIP's gender mainstreaming approach was only partly implemented with no clear follow up to gender issues raised during the mid-term review. Actions outlined in HARIIP's gender mainstreaming approach were not sufficiently implemented (i.e. establish gender coordinators, needs assessment of vulnerable women-headed households). While labour-saving benefits from domestic water supply improvements benefitted both men and women, HARIIP's contribution to women's empowerment was modest.

15. Environment and natural resources management. Road infrastructure and perennial crop establishment were carried out without impacting the vegetation cover. Measures were taken to prevent cutting the vegetation cover or excavating new road alignments. In the mountainous counties, tea and orange plantations were developed on old plantation sites, or on slopes without valuable habitats, and the forestry bureau was tasked with confirming their appropriate location.

16. Adaptation to climate change. Resilience to climate change was strengthened, in line with the project's initial ambition. Small irrigation works were combined with new and more diversified crop varieties to improve resilience of crop production to drought events. Various types of small infrastructure have allowed this diversification, which in turn has increased resilience towards climate risks.

Conclusions

17. Through HARIIP, a strategy for China's rural areas in need of rural infrastructure and new initiatives was tested in a central province. The implementation of HARIIP has demonstrated its effectiveness, especially when investments in rural infrastructure were combined with support to agricultural diversification and with quality capacity building. This approach provided a pull factor for the return of some individuals to their villages (while other push factors remained in place), thereby contributing to efforts to revive a number of rural communities. HARIIP was designed to reach both larger-scale cooperatives and individual farmers often operating at a smaller scale for which successful project examples were evident at completion.

18. IFAD has added value to HARIIP's operational performance rather than to its strategic approach. IFAD brought added value at design stage, by advising balance in HARIIP between investments into rural infrastructure and agriculture, and by raising attention to capacity building methods. During implementation, IFAD support was appreciated by the project management offices since it allowed timely problem-solving in project management. Conversely, opportunities for IFAD and Government of the People's Republic of China to engage in a dialogue on the strategy which was being pursued remained largely unseized.

19. The project brought modest opportunities in agriculture to lower-income farmers. Remote natural villages and ethnic minority communities were reached through HARIIP. Through community infrastructure investments, poorer community members benefitted from new or improved roads and domestic water supply. In contrast, a significant share of the agricultural production component went to larger producers. There was a missed opportunity for IFAD to reinforce its dialogue with Government of the People's Republic of China on the best options to reduce rural poverty through agricultural investments. The good practice being used in Government's on-going poverty reduction programme to prevent this issue, such as subsidy ceilings, was not used. The agricultural modules relied on an expected trickle-down effect for which very limited mechanisms were in place.

20. General principles for gender mainstreaming were defined, rather than clear processes to enhance participation of women in project activities. The PPMO invited the All-China Women's Federation (ACWF) as project partner but its scope of work within the project was not precisely defined. The organization largely implemented its own typical programme through HARIIP. Gender-disaggregated indicators were collected as foreseen, but did not capture the limited scope of opportunities offered to women, especially in capacity building. Overall, attitudes towards women's role in agriculture appear to have remained strongly biased in both ethnic minority areas and Han areas, and HARIIP's contribution to improve this situation was limited.

21. Sound principles were defined for capacity building, but an operational process to deliver them on a large scale was missing. Through HARIIP, IFAD has promoted a needs-based approach to training. Local agricultural extension workers have effectively renovated their working methods, and the project has contributed to this positive change. However, the challenges of delivering training activities to a large number of remote farming communities had not been anticipated. Quality training activities were delivered in some locations, on a limited scale, while most beneficiaries in other localities could only access lower quality training.

22. IFAD also missed an opportunity to explore innovative management methods together with the project management offices. HARIIP implementation benefitted from the experience of the PPMO, a stable organization working for various donor agencies with strong monitoring and evaluation (M&E) capacity, and whose staff serve as technical assistants in China's own international cooperation projects. IFAD could have seized this opportunity to adjust existing project management tools to a changing context in China. Instead, only existing planning, monitoring and knowledge sharing tools were used.

Recommendations

23. Recommendation 1: Continue to support diversified agricultural production investments of appropriate scale through IFAD's follow-up project in Hunan Province. Hunan Province has taken a leading role in the rural revitalization initiative in China. The new project is an opportunity to continue to explore various options for value chain development, within and outside farmer cooperatives. HARIIP's experience points to two priorities for this engagement: resolving remaining obstacles in community infrastructure, and supporting linkages between rural entrepreneurs (through farmer cooperative or lead farmers) and vulnerable people.

24. Recommendation 2: Develop operational tools to increase poor households' access to project activities, aligned with the national poverty reduction programme. The follow-up Hunan project and other IFAD activities in China should closely interact with the Poverty Alleviation and Development Office (PADO) regarding China's post-2020 poverty reduction programme, when its detailed features become available. Project designs should be adjusted accordingly in order to ensure consistency and propose added value from IFAD presence. HARIIP's experience points to the importance of operational tools and processes in this regard. Towards this end, future IFAD projects need to directly access the national poverty reduction programme database and monitoring tools, which may require PADO to be a formal partner, as well as use good practices from the programme, such as ceilings in the value of project support to individuals (or individual proportion of shares in the case of farmer cooperatives). Given IFAD's strong engagement on value chains in China, a new tool to assess and monitor the pro-poor orientation of agricultural value chains could be developed in partnership with the national programme.

25. Recommendation 3: Redefine the approach to gender equality and women's empowerment which is pursued through IFAD projects in China. The 2016 COSOP confirmed that women are a target group for IFAD in China, and highlighted the strengthening of women's economic power as a means to build gender equality awareness. HARIIP shows a need for more detailed guidelines for individual projects in terms of: (i) principles for economic empowerment of poorer women (e.g. promoting and monitoring a reduction of the wage gap in agriculture between men and women), (ii) identification of a supportive institutional setting (e.g. partnership with ACWF with a clearly defined scope of work, gender focal points within Departments of Agriculture and Rural Affairs), and (iii) minimum good practice to ensure effective participation of women in project activities (e.g. appropriate training schedules and childcare during training). Defining a process that takes into account provincial specificities is recommended.

26. Recommendation 4: Orient innovations in IFAD projects in China towards project implementation processes. The launch of rural revitalization in China is an opportunity for IFAD to support, in partnership with provincial project stakeholders, new approaches to agricultural and rural development. IFAD should make full use of experienced PPMOs to adjust project implementation processes and innovate in that field, starting with the follow-up project under preparation in Hunan (e.g. results-based disbursement). Better defined monitoring indicator sets and new templates for knowledge sharing will be useful for such innovations.

IFAD Management's response[1]

1. Management welcomes the overall evaluation findings of the Hunan Agricultural and Rural Infrastructure Improvement Project (HARIIP) project performance evaluation (PPE) conducted by the Independent Office of Evaluation (IOE).

2. Management is pleased to note that the PPE assesses the overall performance of the project as satisfactory, confirming the project attained its objectives, that its implementation has demonstrated its effectiveness – especially when investments in rural infrastructure were combined with support to agricultural diversification and capacity building – and that loan resources were managed efficiently. Management appreciates the findings and assessments of the PPE, particularly those related to IFAD's added value, project sustainability, institutions (i.e. the role of the village implementation groups), and role of the grant in China's context. Management recognizes that the project implementation needs greater clarity and adequate implementation of specific thematic strategies, particularly for targeting and capacity building.

3. Management overall agrees with the PPE recommendations, and will ensure that they are considered in the implementation of the country programme and in design of future projects, particularly the Hunan Rural Revitalization Demonstration Project (H2RDP) currently under design. In this regard, Management would like to acknowledge the following:

4. Recommendation 1: Continue to support diversified agricultural production investments of appropriate scale through IFAD's follow-up project in Hunan Province.

   Agreed. Management is pleased to report that the Hunan follow-up project under design - Hunan Rural Revitalization Demonstration Project (H2RDP) - fully highlights the PPE recommended two priorities for IFAD's engagement in the context of rural development in Hunan and more broadly in China. The proposed interventions will improve livelihood opportunities for vulnerable rural people, particularly youth and women, and increase their resilience to the impacts of climate change through improved climate resilient infrastructure and rural environment. H2RDP well reflects the recent trend of focusing IFAD support towards enhancing income opportunities and increasing resilience by promoting and strengthening cooperatives and agribusiness entities, giving more emphasis to improving access to markets and value-chains, and resilience to climate change. It is to be noted that IFAD financing in H2RDP is expected to mobilize resources from the Government and private sectors in a ratio of about 1:2, and to link smallholder with agro-entities not only for scale of economy, but also for better value chain integration and diversification, and – ultimately – better benefits.

5. Recommendation 2: Develop operational tools to increase poor households' access to project activities, aligned with the national poverty reduction programme.

   Agreed. H2RDP is well aligned with the national priorities and strategies as it will contribute to the Government's objective of sustaining the poverty reduction achievements beyond 2020, in line with the principles of the Government's rural revitalization strategy, where "sustaining poverty eradication efforts" represents a key priority in the strategy. The project will demonstrate, on a pilot basis, that the new rural development business investment model promoted by the Government's rural revitalization strategy can be inclusive, i.e. ensuring that vulnerable households, women and youth are included and benefit from the economic opportunities generated in rural areas. Lessons learned from HARIIP has been well

[1] The Programme Management Department sent the final Management's response to the Independent Office of Evaluation of IFAD on 9 June 2020.

incorporated in the new design, thus the proposed intervention, pursuing inclusiveness through agribusiness development, fits in the context of the evolving IFAD-China partnership - IFAD's added value. A coordinating committee comprising at least the Provincial Department of Finance, the Provincial Department of Agriculture and Rural Affairs, the Provincial Development and Reform Commission, and the Provincial Office of Poverty Alleviation is foreseen to provide overall guidance and coordination of the project implementation. The Committee can be mobilized as per need.

6. Recommendation 3: Redefine the approach to gender equality and women's empowerment which is pursued through IFAD projects in China.

Agreed. Following the Yunnan Rural Revitalization Demonstration Project (Y2RDP), approved in May 2020, which was considered 'gender transformative', H2RDP also aims to be gender transformative. The H2RDP will contribute to empower women in the rural economy by (i) creating new employment opportunities, with a priority on women; (ii) providing business services and stimulating women entrepreneurship potential and capacities; and (iii) enhancing the participation of women farmer in imparting on-farm/off-farm skills training in professional. To increase the percentage of women beneficiaries, incremental number of women completing the New Professional Farmer Development training programme is set as one of the indicators to trigger disbursement of IFAD financing, according to the proposed result-based lending approach. A supportive institutional setting will be ensured through ACWF's full involvement in project management and equipped gender focal point at all levels. UN Women has also indicated interest to collaborate with the project to jointly pursue gender transformation.

7. Recommendation 4: Orient innovations in IFAD projects in China towards project implementation processes

Agreed. The project is conceived as a "demonstration" project, which will introduce several innovations, e.g. inclusive private sector investment models, business incubation centers, disbursement against results, climate-proofed design of infrastructure, etc., to test their applicability in the project context, learn lessons, and promote replication of the models and approaches that demonstrate themselves successful. IFAD and the Agricultural Information Institute, Center of International Agricultural Research of the Chinese Academy of Agricultural Science (AII-CAAS) are entering into an agreement by which AII-CAAS will provide support to IFAD in monitoring and evaluating the IFAD portfolio in China, extracting relevant knowledge from IFAD portfolio, and utilizing it to inform policy making.

8. Management thanks IOE for the fruitful process and will ensure that lessons learned from this exercise are internalized to further improve the performance of IFAD-funded projects in China and elsewhere.

Household and village maintenance staff with water tap in Yanmenxi, Luxi County

People's Republic of China
Hunan Agricultural and Rural Infrastructure Improvement Project
Project Performance Evaluation

I. Evaluation objectives, methodology and process

1. Background. The Independent Office of Evaluation of IFAD (IOE) undertakes project performance evaluations (PPEs) for a selection of completed projects.[1] As approved by the 122nd Session of the IFAD Executive Board, the Hunan Agricultural and Rural Infrastructure Improvement Project (HARIIP) in the People's Republic of China was selected for a PPE based on a number of considerations, in particular to provide inputs to the country strategy and programme evaluation (CSPE) to be conducted in 2021.

2. Evaluation objectives. The main objectives of the PPE are to: (i) assess the performance of HARIIP; (ii) generate findings and recommendations for ongoing and future IFAD-supported operations in China; and (iii) provide project-level evidence to feed into the CSPE.

3. Methodology. The PPE follows IFAD's Evaluation Policy, the IFAD/IOE Evaluation Manual (second edition)[2] and the Guidelines for project completion report validation and project performance assessment.[3] It adopts a set of internationally recognised evaluation criteria (annex II) and a six-point rating system (annex III, footnote a). A desk review of available data and documents[4] was combined with a two-week country mission including field visits, and interviews with IFAD staff and consultants.

4. Data collection methods included desk-based research and review, interviews with various stakeholders and key informants, focus group discussions with beneficiaries, and direct observation. The desk review covered project documents from design to completion, a full set of county monitoring and evaluation (M&E) data, and background documents on the project context. Information derived from the various methods was triangulated in a systematic manner. Based on a thorough analysis of outputs and outreach by county, and frequency of supervision, two ethnic minority counties designated as poor counties at the national level (Guzhang and Luxi) and one non-poor county (Shaodong) were selected for the mission. Locations visited in the project areas were chosen based on various considerations including coverage of areas with different characteristics (e.g. poverty status, ethnic minority population, farming systems, and access to markets and services); different project activities; and number of beneficiaries.

5. Focus. Based on the desk review and interviews with IFAD staff, a framework of evaluation questions by evaluation criteria was developed and focus issues were identified. The five issues formulated as focus areas for the PPE were:

   a) Project development strategy: whether a clear strategy was pursued, and how it addressed the development challenges and needs of the target group;

   b) Targeting and social inclusion: the rationale for geographical targeting and actual inclusion of the poor and ethnic minority communities as well as how gender was addressed;

[1] The selection criteria for PPEs include: (i) synergies with forthcoming or ongoing IOE evaluations; (ii) novel approaches; (iii) major information gaps in PCRs; and (iv) geographic balance.
[2] http://www.ifad.org/evaluation/process_methodology/doc/manual.pdf
[3] http://www.ifad.org/evaluation/process_methodology/doc/pr_completion.pdf. See annex IV for an extract from the guidelines, "Methodological note on project performance assessments".
[4] Including supervision mission reports, mid-term review report, project completion report, baseline survey, and project database. See also annex XIII for bibliography.

c) Capacity building: the factors that contributed to mixed training outputs and implications for outcomes and impact;

d) Value of IFAD as a partner: how IFAD has added value to the project, in particular, in relation to promoting innovation, scaling up, and knowledge management;

e) Root and tuber crop research and development (R&D) grant: the strategic value of this regional grant, which was part of HARIIP.

6. Theory of change (ToC). The PPE reconstructed a ToC, describing the development pathways in HARIIP, from project activities to the goal. The first version presented in the PPE Approach Paper showed some unclear linkages, and a large number of critical conditions to allow change along these pathways, for which information was mostly missing (annex X). During the mission, through exchanges with project stakeholders, a simplified version of the ToC was produced (annex XI). The PPE uses the reconstructed ToC to analyse relevance and effectiveness.

7. Process. The PPE mission was undertaken from 10 to 22 November 2019. At the start of the mission, meetings were held in Changsha, the provincial capital, with the Provincial Departments of Agriculture and Rural Affairs, Finance, Reform and Development, Transportation, the All-China Women's Federation (ACWF), the Poverty Alleviation and Development Office (PADO), former provincial-level project staff, and representatives from the Hunan Academy of Agricultural Sciences and Hunan Agricultural University. From 12 to 20 November 2019, the PPE team travelled in the project area and visited eight administrative villages and four farmer cooperatives in the three selected project counties (Guzhang, Luxi and Shaodong). In each visited site, the PPE team conducted in parallel (i) direct observation of civil works, (ii) a focus group discussion with beneficiaries (totalling 107 participants), and (iii) in-depth interviews with village cadres, lead farmers and cooperative managers. Interviews also took place with relevant Government departments, provincial research and agricultural extension stations.[5] Discussions with the project management offices (PMOs) were an important element during the mission. A list of participants is provided in annex V.

8. After the return from the field to Changsha, a wrap-up meeting was held on 21 November 2019, organized by the Department of Agriculture and Rural Affairs, where preliminary findings were presented. Following the mission, further analysis of the data and findings was conducted to prepare the draft PPE report. The draft report was initially peer reviewed within IOE and thereafter, shared with IFAD's Asia and the Pacific Division and the Government of the People's Republic of China for comments. The comments provided were taken into consideration in the report finalization.

9. Data availability and limitations. The project's M&E data was of mixed quality. The Results and Impact Management System (RIMS) surveys at project start, mid-term and completion were carried out by an independent research team and provided solid data. The provincial project management office (PPMO) conducted two satisfaction surveys at completion, one with close to 1000 project beneficiaries, and one with county and township PMOs. Survey results, which were received at the end of the mission, are part of the evidence presented in the PPE (annex X). Unfortunately, the proportion of women, poorer households or ethnic minority people in the beneficiary survey sample was not available.

10. The review of the county M&E datasets received from IFAD's country office confirmed how challenging accounting for beneficiary numbers had been, despite efforts made by the PPMO to prevent double-accounting. The three county project

[5] The Hunan Rural Revitalization Demonstration Project, IFAD's follow-up project to HARIIP, was being prepared at the same time as the PPE, and the counties visited had already applied to participate in the new project. To avoid a bias in responses, the PPE team explained how the evaluation was a separate process from the review of these applications.

management offices (CPMOs) visited provided a village name list showing project activities by village, which reconfirmed this challenge.

11. County PMOs only provided the names of the project villages upon arrival, thus limiting the evaluation team's ability to influence the villages visited. As a result, the majority of field visit sites were successful cases with easy road access. Nonetheless, some less successful activities were also observed. The ethnic minority communities visited were relatively close to the county seats, thus information gained on more remote communities was very limited. Finally, in a context of very rapid economic growth, attribution of impacts is difficult.

II. The project

A. Project context

12. **Country context.** With unparalleled economic growth over the past 30 years and qualitative socio-economic shifts, the People's Republic of China is today an upper middle-income country. Between 2011 and 2017, when HARIIP was designed and completed, GDP per capita in China grew from US$5,500 to US$9,500. During the 2010s, the country also experienced rapid rural transformation. Out of a total population of 1.39 billion people in 2017, 58.5 per cent (813 million people) were urban residents, up from 51 per cent in 2011.[6]

13. Economic growth, combined with a well-funded and proactive national poverty reduction and development strategy, covering the 2011-2020 period, led to rapid decline in absolute rural poverty in China. In the national statistics, the rural poverty rate was 10.2 per cent in 2012, 3.1 per cent in 2017.[7] China's national strategy[8] has long used a geographical targeting approach, concentrating support on 18 mountainous regions in the country, and on counties and villages within them designated as poor. One of the largest programmes under the National Outline for Rural Poverty Alleviation and Development (2011-2020) promoted integrated village development. The National Outline for Rural Poverty Alleviation and Development called for accelerating efforts and combining various instruments, including agribusiness development. In 2014, while a geographical focus on regions and villages was retained, the targeting of individual households registered as poor became dominant. This new approach was implemented through the Targeted Poverty Reduction Programme. This programme set up a deadline to lift the absolute poor out of poverty by end 2020, with earmarked support, which included financial and asset support, training, and individual coaching by local cadres.

14. Seasonal or temporary migration to urban areas of rural residents is a defining feature of China's rural areas. In 2017, approximately 245 million rural people were considered migrants, a number which has been declining since 2015.[9] To some observers, this is a temporary occurrence since migration to cities is correlated with economic growth. To others, this indicates an established trend, with more rural people able to settle permanently in urban areas. What is unquestioned is that the rural population will continue to decline.

15. **Provincial context.** Hunan Province is a province in central China with a population of 73 million people. This province has a strong agricultural sector, concentrated in subtropical sections in the north-eastern and central half of the province, and supported by active agricultural research. Hunan Province had more than 6 million people below the poverty line in 2014, a figure similar to China's south-west provinces. In 2017, the annual net income per capita of the rural population in state-designated poverty counties in the province was CNY 9,048, a more than two-fold increase compared to 2011 when this income was CNY 3,731. Rural areas in the province have benefitted from the tremendous change in infrastructure and services that has occurred over the last ten years. Expressways and high-speed trains are now reaching out to the less developed western part of the province.

16. **IFAD in China and Hunan Province.** The People's Republic of China is one of the largest recipients of IFAD assistance. Since the approval of the country's first loan in 1981, IFAD has financed 32 agriculture and rural development projects in China, totalling US$1.1 billion of IFAD financing. Hunan authorities have been working with IFAD since 2000, starting with the Wuling Mountains Minority-Areas Development Project. HARIIP was designed under IFAD's 2011-2015 Country

[6] National Statistical Bureau, 2018 and 2012 yearbooks, available on line.
[7] National Statistical Bureau, based on 2010 standard.
[8] China's rural poverty reduction efforts fall into four phases: 1978 to 1985; 1986 to 2000; 2000-2010; and 2011-2020.
[9] National Health Commission 2018 cited in China Daily.

Strategic Opportunities Programme (COSOP) in China which consisted of mostly area-based, multi-sectoral and integrated rural development interventions. The 2016-2020 COSOP redefined IFAD's engagement in the country in light of the changing context and evolving nature of the IFAD-China cooperation. With a thematic focus on supporting inclusive value chain development, cooperatives and financial services, the current COSOP has adopted an approach of introducing innovations, piloting approaches and scaling up results to inform policymaking. This new strategy took effect after the mid-term review of HARIIP.

17. Project area. The HARIIP project area was located in nine counties. Five of these counties were part of Hunan's 47 state-designated national poverty counties. They were all located in the Wuling Mountains, a hilly and mountainous area which is one of the main areas in China for the Miao and Tujia ethnic groups, and one of the 18 nationally-designated areas of concentrated geographical poverty. Four of these poor counties (Longshan, Guzhang, Luxi and Fenghuang) were located in Xiangxi Ethnic Autonomous Prefecture and had participated in the Wuling Mountains Minority Area Development Project. The fifth, Jingzhou, was an ethnic autonomous county outside the prefecture. The other five project counties (Lingxiang, Yueyang, Taoyuan and Shaodong) were non-poor counties. The latter two counties are adjacent to the Wuling Mountains.[10]

18. Rural migration in the project area is similar to its occurrence in Hunan Province and the country as a whole, with a mix of seasonal, pluri-annual and permanent migration. A substantial proportion of young adults already worked outside the isolated villages in the project counties when the project started.

19. Changes in context during the project. HARIIP was designed during a period of transition, with growing rural and agricultural development opportunities in the project areas. Smallholders in the project area were overall shifting away from a need for food security and household assets to a demand for more income-generating opportunities and better living conditions in the villages. During the implementation of HARIIP, urbanization was a continuing trend - the share of the rural population in project counties declined from 65 per cent in 2011 to 55 per cent in 2017 in 2011.[11] HARIIP took place under the 12th Five Year Plan (2011-2015). In parallel with the above important adjustment in the national poverty alleviation and development strategy, the national and provincial agenda for agriculture increasingly promoted larger-scale production of commodities in geographically defined sectors. In 2013, the Farmer Cooperative Law was reinforced, granting full economic operator status to cooperatives which are important vehicles for implementing this agenda.

B. Project implementation

20. Project goal and objectives. HARIIP's goal was to achieve "rural development and poverty reduction in targeted areas of Hunan Province." Its specific objective was to increase incomes and improve food security for 182,000 rural households by improving agricultural production and rural infrastructure.[12] Specifically the project was to result in: (i) increased incomes for the rural poor in targeted areas by approximately 25 per cent; and (ii) improved food security reported by 70 per cent of households in project villages, compared to the baseline.

21. Project target. The project area was defined as townships and villages with higher incidences of poverty and rural infrastructure needs. The target group, 182,000 rural households (760,000 people), was defined as the whole population of the 589 project villages.[13] Within these villages, priority was to be given to poor

[10] The two project counties neighbouring the Wuling Mountains are Shaodong County (visited during the PPE) and Taoyuan County.
[11] Hunan Province Statistical Bureau - On-line county data.
[12] This is the project development objective stated in the President's report.
[13] Project villages are administrative villages.

households whose members were economically active and physically able to participate in project activities. Of these, women and minorities were to receive special attention. Household ranking, based on the nine criteria of the 2011 COSOP, was to be used to classify households into three categories: (a) the rich and better-off (16 per cent on average in the project villages); (b) the average (54 per cent); and (c) the poor (30 per cent).[14]

22. Project components. The programme comprised three components:

23. Component A: Community infrastructure improvement (65.8 per cent of estimated project cost). The aim of this component was to strengthen productive and livelihoods assets at community level.[15] There were initially four subcomponents: (i) improving irrigation facilities; (ii) building village roads; (iii) constructing community facilities for safe drinking water supply; and (iv) upgrading the rural electricity grid. Activities consisted of building small infrastructure (new construction or renovation) and household training in irrigation and water supply operations and maintenance (O&M).

24. Component B: Sustainable agricultural development and market access support (24.8 per cent of estimated project cost). This component aimed to strengthen the self-development capacities of the rural men and women and improve their income-generating opportunities by supporting the sustainable development of diversified and adaptive agriculture at the levels of production and service support. IFAD's modular approach in China was to be used to plan project activities. There were four agricultural production modules and two support service modules (table 1). Each module defined a small-scale set of inter-related activities with a shared development purpose. This was to allow a greater degree of flexibility in planning, costing and implementing project activities.

Table 1
The six modules of the HARIIP project

Types of modules	*Modules*	*Main expenses*
Agricultural production modules	Cash crops/ off-farm income generation	Supply of agricultural inputs and equipment, household training
	Orchard-poultry integrated farming	
	Agro-forestry	
	Root and tuber crops R&D	Workshops, trials, agricultural inputs, household training
Support service modules	Farmers cooperatives support	Equipment, cooperative member training
	Technical services support	Township crop production extension equipment and staff training

Source: Project design report.

25. Component C: Project coordination management (9.4 per cent of estimated project cost). This component included the establishment and operation of the project management offices for the coordination, management, monitoring and evaluation of the project.

26. Project costs and financing. The total project cost at approval was US$93.2 million, of which US$47 million was to be funded by IFAD (US$46 million loan under ordinary terms and a US$1 million grant). The Government of the

[14] Ranking criteria are in table 6, annex IV. Percentages are proportions of a, b and c households reported by the CPMOs at project start on the basis of household ranking completed by the village implementation groups (VIGs) (county M&E data).
[15] Statements of outcomes are from the project design report.

People's Republic of China was to finance US$45.6 million and beneficiaries US$0.6 million. During implementation, the project financing increased by US$1.4 million resulting in a revised total financing of US$94.5 million. IFAD was to fund 51 per cent of component A, 57 per cent of component B and 18 per cent of component C. Of the grant financing, 79 per cent was to be used to support roots and tuber research and development (R&D) under component B and 21 per cent for capacity building and monitoring and evaluation (M&E). The reported expenditure at completion was US$91.36 million. The disbursement rate was therefore 97 per cent of the revised financing as shown in table 2. The IFAD loan disbursed at 93 per cent and the IFAD grant at 88 per cent by project completion. The disbursement rate was lower for the activity category "Training, Workshops, Technical assistance and Studies", and for two modules, agroforestry and cooperatives. A complete table presenting planed and actual costs by type of financing and component is presented in annex VII.

Table 2
Project financing: original estimate, revised and actual cost (US$ million)

Components	*Design*	*Revised*	*Actual*	*Actual (% of total budget)*	*Actual (% disbursed of revised budget)*
Component A: Community infrastructure improvement	61 366	62 225	61 847	67.7%	99%
Component B: Sustainable agricultural development and market access support	23 124	23 360	21 441	23.5%	92%
Component C: Project coordination and management	8 708	8 929	8 076	8.8%	90%
Total	93 212	94 515	91 364	100%	97%

Source: HARIIP completion report verification.

27. Time frame. HARIIP was approved on 21 September 2012 and the Financing Agreement was signed the same day, resulting in immediate loan effectiveness. The project was completed as foreseen in September 2017 and closed in March 2018. This five-year project duration included a preparatory phase in the first year, implementation of project activities until the fourth year, and a one-year consolidation phase in the fifth and final year.

28. Implementation arrangements. The Ministry of Finance was the borrower, while the provincial Department of Finance and county-level Bureaus of Finance were responsible for the project's financial management. The PPMO established under Hunan's Department of Agriculture was in charge of management and coordination. This PMO had prior experience with international projects. It had implemented 36 projects from various international organizations. Project implementation was decentralised to CPMOs and township PMOs. A prefecture-level PMO assisted and supervised the CPMOs in Xiangxi. The CPMOs were in charge of coordinating line agencies (transport, water conservancy, agriculture and forestry). Project leadership was assumed by the project leading groups, composed of a senior county government official and representatives from relevant departments as well as partners such as the ACWF and the Poverty Alleviation and Development Office (PADO). Village implementation groups (VIGs) were in place in all the project villages to assist with household applications, supervision and monitoring at that level, together with the township PMOs.

29. Significant changes during project implementation. No amendment of the financing agreement took place for HARIIP. Limited adjustments were made during the mid-term review (MTR). Investments into upgrading of the rural electricity grid were cancelled, as the identified needs were already covered by the State grid programme. Counties' planned targets for agricultural production modules were

adjusted to reflect changes in the perception of local market potential. The IFAD financing allocated to the provincial PMO management budget was delegated to the country PMOs, and expenditures under the category of vehicles were slightly reduced to support the M&E operations.

Key points

- HARIIP was implemented in 2012-2017 in Hunan Province, a central province in China. This was a transition period, with growing rural and agricultural development opportunities in the project areas, and an acceleration of Government poverty reduction programmes and agriculture restructuring policies.
- Half of the selected project area was a hilly and mountainous ethnic minority area, while the other half consisted of more developed agricultural areas. Geographical targeting of poorer villages was to be combined with eligibility of all households in these villages, and priority was to be given to economically active poorer households and women and ethnic minorities among them.
- The project was designed as a combination of two investment activities, small rural infrastructure, both for the improvement of living conditions and agricultural production, and the development of productive agricultural assets coupled with agricultural support services. Capacity building was intended to focus on rural infrastructure maintenance and on the diversification of agriculture.

III. Main evaluation findings

A. Project performance and rural poverty impact

A1. Relevance

30. The project design was aligned with national and provincial priorities, as well as IFAD policies broadly. The concept for HARIIP was outlined in the 2011 COSOP. It was designed to be consistent with the national and Hunan Government's approach to rural development, while also bringing added value from IFAD. The Government was interested in demonstrating a replicable model of poverty alleviation through rural infrastructure. This approach aimed to jointly improve living conditions and production conditions in rural areas, in order to narrow the urban-rural gap, to complement the Government's on-going poverty reduction interventions. Agricultural development and social capital building were added in response to IFAD interests.

31. A consistent project strategy was pursued as presented in the reconstructed theory of change. The reconstructed ToC identifies three development paths, each of them starting from one of the three components: improving access to water and markets through rural infrastructure; building community capacity through infrastructure construction and maintenance; and diversifying agriculture through cooperatives or lead farmers with support from improved extension and technical support services. These development paths were to contribute jointly to the project's development objective - collective improvement of living and production conditions, together with poverty reduction. Within the large number of conditions for effectiveness that were mentioned at the design stage, the reconstructed ToC retains four elements called assumptions that appear to have played a more important role in the delivery of project outcomes: (i) access of poorer households to agricultural inputs and training; (ii) selection of sources of new agricultural incomes with relatively low market risks; (iii) the creation of synergy between infrastructure and agriculture investments; and (iv) the presence of younger people in the otherwise ageing villages with the capacity to develop agriculture.[16]

32. Rural infrastructure was the main entry point in the participatory planning process. The village committees were invited to apply for priority infrastructure needs. The formal village committee consultation process was generally mobilized to confirm these local needs. There is no doubt that the remote villages in the project area were in need of infrastructure. Small irrigation facilities in the project area were in disrepair, limiting the effective irrigation area by more than 50 per cent; around one-third of natural villages did not have safe domestic water supply; and 34 per cent of natural villages were without hardened or paved roads.[17] The needs identified largely responded to poor people's demand according to PPE focus group discussions with beneficiaries. The selection of agricultural activities appears to have responded to county priorities, rather than community priorities, especially in the less developed counties. Each county was developing one main commodity (e.g. tea in Guzhang, orange in Luxi), and this was the main option for component B in the villages participating in HARIIP.

33. The focus on value chains and cooperatives was limited in HARIIP's design, which responded to the provincial context. In 2011, farmer cooperatives in the mountainous sections of the project area were small enterprises driven by local farmer entrepreneurs, often without clear plans to expand membership. During the PPE mission, a largely unchanged situation was observed,

[16] The ToC is available in annex X.
[17] HARIIP design report.

with a few outstanding exceptions.[18] The decision that was made during the design of HARIIP to support a small number of existing and new cooperatives, without focusing on building formal farmer cooperatives, was therefore appropriate. Supporting the development of formal cooperatives, while ensuring that poor farmers secure benefits from this process, would have required a dedicated effort over an adequate period of time. Project management resources would have been insufficient to do so in parallel with the launch of the numerous small infrastructure works that were financed under component A.

34. The project was launched with a detailed design of improvement in agricultural extension services, less so for farmer training. HARIIP supported agricultural extension services, agricultural training and other training with a focus on operations and maintenance of small infrastructure. At the design stage, support to agricultural extension was prepared in full detail, while training activities were only briefly described. This was highlighted as a weakness in the IFAD interviews. An overall approach, needs-based extension and training was defined, which aligned well with the then recently launched effort of the Ministry of Agriculture to build more responsive support services. However, the processes to deliver training programmes in remote villages and reach out to poorer farmers, including women farmers, were not defined. The regional grant for root and tuber crops allowed the combining of county agricultural extension with direct technical assistance and training by provincial experts. The grant was added very late during the design of HARIIP so that linkages between provincial experts and in-county trainers were largely undefined when the project started.

35. Structuring the agricultural component as a set of modules provided flexibility to respond to some of the changes in the context. The modules did not prescribe specific items to be procured. This has allowed adjustments in this changing context. For example, the water user associations that were envisioned when HARIIP was designed were replaced by village infrastructure maintenance groups. These groups were dismantled towards project completion, as the Government reform led to the creation of specific systems for the maintenance of each infrastructure type. However, the significant changes that took place in the policy context, the new approach to poverty alleviation and emphasis on farmer cooperatives, were not taken into account.

36. The targeting strategy combined geographical targeting and prioritization of poorer households by the villages. The Hunan Government selected the project area before the main design mission. The provincial PMO selected the nine project counties. The PMOs then selected more remote townships, and within them villages with a lower income per capita, and/or having demonstrated interest in the proposed project activities. The project design report described this process but did not examine its outcome. As explained in that report, in each village, the VIG was to identify category C households, and the village level participatory planning process was expected to give priority to them in the selection of activities and in access. A detailed list of criteria to rank the households into three categories was provided. This table was extracted from the COSOP, the only noticeable change being the income threshold of category C households, which was CNY 3,000 for HARIIP versus CNY 1,196 in the COSOP (annex IV). The need for a strategy to ensure that cooperatives be inclusive of poor community members was foreseen, and a specific budget line defined to prepare for this. There was otherwise no mention of linkages between the poor and the non-poor in the targeting strategy.

37. The scope and geographical targeting approach of HARIIP was partly aligned with the national poverty reduction programme. The component

[18] Farmer cooperatives in China are one organizational form of private business. They have been increasingly promoted by the government as a successful business model ensuring critical connection to the market. One of the four cooperatives visited, located in the more developed county is an alliance of cooperatives growing protected vegetables on more than 3,000 hectares.

structure of HARIIP, which combined agriculture, rural infrastructure and skill development, was fully consistent with China's 2011-2020 poverty alleviation and development strategy. The selection of project counties was partly consistent with this strategy. Five counties were within a priority poor region, the Wuling Mountains. Within these counties, the project was designed to cover a fair proportion of ethnic minority villages. Poorer communities were included as project villages both within and outside this mountainous area. However, the primary criteria for village selection, as explained during the mission, was the need for rural infrastructure. As a result project villages were a mixed of poor and non-poor villages.

38. The selection of several project counties not designated as poor was partly relevant. The Hunan Government selected the project area before the main design mission. At that time, the rationale provided for the selection of non-poor project counties was the existence of pockets of poverty. Based on the PPE observations in Shaodong County, there were some isolated villages with an ageing, poor population in non-poor counties, rather than pockets of poverty. In this county, the selection of the project area went beyond townships with such villages and was therefore not fully in line with IFAD's targeting strategy. As explained in the PPE discussions, since the non-poor counties had significantly better project management capacity and faced a similar deficiency of community infrastructure in their non-poor rural townships, selecting them as project counties would facilitate exchanges and learning by local government in the poor counties. This was reflected in the project's name in Chinese, "central-western Hunan integrated rural development project", a name that replicates the national strategy of cooperation between better-off and poorer counties. However, this national approach was not clearly reflected in the project design report.

39. The household targeting strategy defined for HARIIP was not revisited when the national poverty reduction programme evolved. IFAD evaluates relevance at design stage and relevance of adjustments during implementation to respond to needs and changes in the national context. At design stage, there was general alignment. The income threshold to define priority households was set at 3,000 CNY per annum to be consistent with the international standard of US$1.25 per day. This was only slightly higher than the national poverty alleviation and development strategy which defined the active poor as those with a per capita income below the national poverty line (CNY 2,300 per annum or US$1.00 per day) and those at risk of falling back into poverty. Over the course of the project, the targeting strategy under HARIIP did not evolve in line with the national strategy. While the notion of Targeted Poverty Reduction was referred to for the first time in September 2013, its actual integration in Hunan Department of Agriculture's own activities only took place in September 2016 when the Ministry of Agriculture issued its guidelines in this regard, just one year before HARIIP's completion. The process to ensure that these households were actually prioritized was not defined, other than as a recommendation, whereas the Targeted Poverty Reduction Programme was setting up a principle of careful prioritization (and household targeting for the PADO's own programme).

40. Within HARIIP's targeting strategy, a gender mainstreaming approach was mentioned, but how to implement it was not clearly defined. As per the 2011 COSOP, the project design called for mainstreaming women's access to project opportunities, and participation indicators disaggregated by gender were defined. Attitudinal changes towards women in the agricultural sector was to be promoted, PMOs were expected to have gender focal points, and gender awareness training was to be organized in the PMOs. The needs of vulnerable women-headed households were also to be specifically assessed. This was a marked changed compared to previous IFAD projects which supported women's entrepreneurship and women farmers through small loans. However, no gender mainstreaming

strategy was developed to translate any gender analysis conducted during project design into the implementation of the activities to ensure equal access to resources. Also in line with the 2011 COSOP, ACWF was selected a project partner to be mobilized for gender awareness raising among technical bureaux, and for capacity building for women. This did not align well with the mandate of ACWF, and the linkage between the proposed gender points and this organization was undefined.[19]

41. In summary, relevance is rated moderately satisfactory (4). While the project approach aligned well with Government policies at design, the targeting strategy required greater clarity on the inclusion of the poor, especially in non-poor counties, and women. An opportunity was also missed to learn how to adjust a project strategy when key events take place during the implementation period, such as the introduction of the Targeted Poverty Programme in the case of HARIIP.

A2. Effectiveness

Project outcomes

42. Overall, project outcomes have been attained. Access to water for both domestic and agricultural purposes was significantly improved in the project villages, and an effective operations and maintenance (O&M) system was set up. Capacities to operate this O&M system have significantly improved, as well as agricultural production skills. Agricultural production has become more diversified. Evidence of progress towards outcomes is overall solid. It was provided by existing reports and confirmed through the PPE field visits. Evidence in relation to the assumptions was mostly missing in the project reports, and this could only partly be compensated for through the PPE mission. Table 3 summarizes availability of evidence for each element of the reconstructed ToC. Details are provided in this section based on outcomes and outputs reported by the counties and collected during the PPE field visit.[20]

Table 3
HARIIP effectiveness against the theory of change

ToC level	*ToC element*	*Beneficiary satisfaction survey*	*PCR*	*PPE*
Outcome1	Access to domestic and irrigation water has sustainably improved	Yes	Yes	Yes
Outcome 2	Market-oriented agricultural production is more diversified	n.a.	n.a.	Yes
Outcome 3	Capacities of village community and farming households have increased	To some extent	Yes	Uneven
Assumption 1	Poorer households have accessed agricultural inputs and training	n.a.	n.a.	Uneven
Assumption 2	The new sources of agricultural incomes have relatively low risks	n.a.	n.a.	Uneven
Assumption 3	Synergy was created between infrastructure and agriculture investments	n.a.	n.a.	Uneven
Assumption 4	Younger people are bringing capacity to develop agriculture, with positive linkages to poorer households	n.a.	n.a.	Uneven

n.a. = not available. Uneven: observed in part of the visited counties or villages, not in others.

43. Household coverage was overstated, as well as some of the outputs, which limits the analysis of effectiveness. Double-counting was not avoided in the M&E system despite efforts to do so. The total number of households covered under the project that was reported in the M&E system and project completion

[19] ACWF is active in supporting women entrepreneurship, in promoting women's access to health, and in awareness raising on women's rights. The ACWF programmes have large variations between provinces.
[20] A summary of HARIIP results by outcome and output indicator as presented in the PCR is presented in annex XI.

report (PCR), 154,853 households, is almost equal to the total number of households in project villages that was reported through household ranking (99 per cent).[21] In the economic analysis annex of the PCR, this number is assessed to be rather 104,176, one-third less. The addition of several modules on the same piece of land appears to have reinforced this issue.[22] The number of project villages is not a solid figure either. A significant proportion of villages were being merged together at the time of project implementation. In one of the counties visited, the number of project villages reported by the CPMO differed significantly from the M&E system. In addition, activities having a different expected contribution were accounted for under a single budget line. For example, the rural roads financed under HARIIP were partly production roads providing easier access to vehicles, not basic road access to an isolated village.

44. Critical rural infrastructure needs have been resolved in a significant number of villages (outcome 1). Despite difficulties in data accuracy, there is no doubt that gaps in road access, irrigation and safe water supply were carefully identified, and that hundreds of small works were commissioned, supervised and handed over to the administrative villages. All physical output targets were met and in some cases exceeded, with the exception of irrigation canal renovation.[23] The project built 129 gravity drinking water supply systems (119 per cent of the appraisal target), mostly in the form of piped village schemes reaching individual homes; 336 small water storage ponds to serve new and renovated orchards (161 per cent of the target); some 622 km of irrigation canals were renovated (78 per cent of the target), mostly to serve paddy fields; and 754 km of roads to administrative and natural villages were newly-constructed or paved (111 per cent of the target).

45. The scale of capacity building activities was sizeable, although more limited in scope than reported in the M&E system (outcome 2). The M&E system reports 79,975 persons trained in agriculture, irrigation or drinking water, from 48,623 households. These are considerable numbers despite being only 74 per cent of the target defined at design. The PPE discussions showed how county reporting of training beneficiaries often did not reflect actual numbers. A common set of procedures (e.g. the use of person or person-day as unit) was missing when reporting on this activity. The use of name lists to confirm participant numbers was required in other programmes such as the Targeted Poverty Reduction Programme, whereas they were only advised in HARIIP. The PPE finds that training activities reached at least one-third of all households in the project area.

46. Four factors appear to have contributed to reduce outcomes related to capacity building. First, county governments were hesitant to use an international loan, for which they perceived repaying as a risk, to finance training.[24] Second, training on irrigation and drinking water have the highest number of reported participants (although below the ambitious target). However, what HARIIP financed under training on these topics was a mix of information meetings, community discussions to prepare for the infrastructure works, and annual professional training courses for a very small number of villagers in charge of operations and maintenance. Third, the PCR reports that the supply of trainers did not match demand for agricultural training. The provincial PMO offered technical support from a provincial expert team[25], which each CPMO could combine with trainers available in township extension stations and county bureau technicians.

[21] 2014 data.
[22] The superposition of modules is discussed in relation to efficiency (section A3).
[23] The reasons for this were not fully explained. The current lack of clarity on responsibilities for maintenance of irrigation canals – individual water users or local government – appears to have been a contributing factor.
[24] In China, repayment of an IFAD loan is under the provincial finance's responsibility if not the central government's, (according to IFAD Asian Pacific Region management).
[25] Details on the provincial expert team are provided under innovation (section B1).

This was insufficient. Fourth, the PMOs were not prepared for the logistical challenges of organizing trainings in remote villages. This issue was alleviated in cases where cooperatives were in place, since training could be organized through them, using their facilities or production base. As explained below, HARIIP did not support farmer-to-farmer horizontal training. Village cross-visits were organized for the PMOs, not for the villagers. Cooperative managers have an existing network of exchanges through the Ministry of Agriculture.

47. The quality of training activities was high in some counties, lower in others. The professional training courses for villagers in charge of operations and maintenance of drinking water supply were quality programmes. Participants described how they are still using the new skills provided and continue to join these courses on an annual basis. In agriculture, there were efforts to deliver quality training in some counties, not others. The PCR reported another interesting multi-topic training scheme, was set up, with a team of technicians travelling to remote counties to offer training courses to the communities. The PPE mission visited Luxi County where this scheme was promoted. Several persons within one household often attended, including female household members. In contrast, in the neighbouring mountainous county visited, Guzhang, HARIIP funded an on-going training scheme for tea production, in which lead farmers could attend courses at county level, while project-financed training for other households was merely in the form of very short sessions for large groups of people. The issue of women's participation in training is analysed in section B3.

48. Market-oriented agricultural production has become more diversified (outcome 3). In the three counties visited, agricultural diversification was promoted during the implementation of HARIIP, with good results. In one of the most advanced counties, Shaodong, the project supported an impressive county-level policy promoting diversified production (vegetables, medicinal herbs, tea oil). In the mountainous counties visited, in spite of an equally diversified environment, the local government was promoting a single crop, which is typical of county governments in less developed areas of China as explained in HARIIP's design report. In some instances, the project supported the introduction of diversified varieties of a single crop, citrus for example, whereas a single variety was produced before the project, and poultry raising in combination with fruit production. In other instances, the project encouraged combining new income generation from the county-supported crop with a secondary source of income, for example, fish production in paddy fields combined with tea production. Before the project, none of these income sources were accessible to poor villages. Although there was no systematic reporting of diversification outcomes, the knowledge management documents describe a broad range of market-oriented crops which were locally developed through project support.

49. Poor households also gained access new market opportunities through the two models - farmer cooperatives and lead farmers. As initially foreseen, farmer cooperatives were supported through HARIIP in some villages, and lead farmers in others. The design report mentioned briefly an opportunity to develop farmer-to-farmer extension outside of cooperatives. While this would have been valuable given the variety of approaches taken, it did not take place. Instead the lead farmers developed their own activity, on a scale generally smaller than the cooperatives, and acted as market access facilitators for nearby smallholders. These two modalities, cooperative and lead farmers, appear to have developed into two value chain development models over the course of project implementation. This is an outcome of HARIIP which was not expected at the time of project design. Both models include positive linkages to poor households: the mid-term review observed that at least some of the project-supported cooperative managers had developed an economic model that comprised poor cooperative members. The PPE

observed that lead farmers worked with their neighbours, including poor households.

50. During the PPE visits, it was clear that both lead farmers and farmer cooperative managers were rural entrepreneurs making extensive use of the internet to identify clients and make logistical arrangements. The cooperative managers were well connected to Government and to private sector partners with whom they had formal contracts. One younger cooperative manager had secured property rights for a certification of geographical origin. During discussions on these two modalities, the researchers and PMOs explained how one lesson learnt from HARIIP is that the appropriate scale of production differed between crop categories or between locations, upland areas being in general more appropriate for production on a smaller scale.

Targeting effectiveness

51. The geographic targeting strategy was successful in its outreach in relation to rural infrastructure. Small community infrastructure reached all residents in remote poor villages, many of them from ethnic minorities. Through HARIIP, previously isolated administrative villages and natural villages with them were reached. In the Wuling Mountains, the vast majority of villages were Miao and Tujia ethnic minority communities.[26] Within an administrative village, the investments went to a broad number of natural villages. The M&E system monitored this outreach, reporting that at least 4,302 natural villages benefitted from at least one activity, and 2,500 at least one improved type of infrastructure. Drinking water improvements served all members within one community. All residents also benefitted from the roads that opened new access to a village. Several villages further targeted the poor during construction works, giving priority to poorer residents to access job opportunities with the contractors, according to PPE interviews.

52. However, the outreach of the agricultural component was much lower than that of infrastructure improvement. Around 25,000 households were counted as direct beneficiaries that received agricultural inputs. As indicated in table 4, around 20 per cent of them were reached through cooperatives; 49 cooperatives were supported, of which 12 were new ones, with an average of 69 households per cooperative.[27] In the cash crop module, beneficiaries other than cooperative members were typically lead famers and their neighbours. In all sites visited during the PPE, lead farmers and core cooperative members accessed project benefits on large areas. They were therefore the main project beneficiaries. As of end 2019, poor households in the cooperatives had mostly benefitted from wage labour. According to the M&E system, 39 per cent of households that took part in technical training for crop production were poor households (C category), a proportion higher than their proportion in the project area population, 30 per cent at project start.

[26] In Luxi County, out of 60 project villages, 38 were fully Miao villages, 9 fully Tujia, 10 mixed, and 3 fully Han. In Guzhang County, all project villages are reportedly from minority ethnic groups. Shaodong is a fully Han county.
[27] County M&E data indicates 49 cooperatives were supported. The RIMs indicator system (annex VIII) provides a different figure, 45.

Table 4
Beneficiary villages and direct beneficiary households in agricultural project activities

Activity	*Number of administrative villages*	*Number of households*
Cash crops inputs	239	21 043
Root and tuber crop inputs	53	2 644
Poultry inputs	60	1 085

Source: county M&E data. Figures do not add up since poultry was often combined with orchards which were accounted for as cash crops.

53. Household ranking was useful to monitor project activities, less so to include the economically active poor. The participatory approach was effective for the selection of priority infrastructure needs. Without IFAD, according to PPE discussions, the poorer villages would have had much less access to the counties' rural infrastructure budgets. However, community participation was much more limited in the selection of agricultural activities. Contrary to what was foreseen, household ranking was not a lever to encourage the inclusion of poorer households. During those years, there was some interaction with the PADOs, who served as members of the leading group to check consistency with official lists of households registered as poor. There was otherwise no discussion of the implications of the massive poverty reduction initiative on HARIIP's targeting strategy, and how HARIIP could either reinforce or complement that project while continuing to focus on the economically active poor. The PPE concludes that there was a missed opportunity to learn how to adjust to rapid change in the policy context.

54. Only part of the grant-funded activities were pro-poor. Under the dedicated root and tuber crop module, the PPMO promoted sweet potato as a resilient, multipurpose crop appropriate for the Wuling Mountains. This led to some adoption of varieties and techniques. However, through project demonstrations, it was confirmed that potato in Hunan is a pro-poor crop only at higher elevations outside the project area. Elsewhere in Hunan, potato is an intensive crop requiring high input levels. At mid-term, the HARIIP grant was redirected from the Wuling Mountains to low elevation counties.[28] The modular approach allowed the use of the grant for any activity related to potato, but this led to support innovation with very limited linkage to the project area and the project objective, as already noted at MTR.[29]

Assumptions in the theory of change

55. The range of supported crops and planned targets, rather than land availability, limited the participation of poorer households (assumption 1). According to the M&E system, lower-income households (category C) accounted for 35 per cent of households covered by project activities, whereas their proportion in the villages was 30 per cent at project start. The PMO satisfaction survey documented good attention to the poor during the project. However, pro-poor activities such as sweet potato cultivation or poultry raising were introduced on a small scale, compared to orchards. They reached a high proportion of category C households (more than 40 per cent), but in modest absolute numbers. Cooperatives and technical extension reached a smaller proportion of C households (less than 30 per cent). Poor households benefitted when they had land pooled as land shares into a project-supported cooperative, or land-use rights near a lead farmer. These areas of land were very small compared to core cooperative members or lead farmers. In the villages visited, these larger producers managed several tens of hectares of orchards. However, had they had land-use rights on a

[28] This was reported by the PPMO at project end.
[29] The research partners introduced germplasm directly from CIP, which will lead to develop new varieties in the near future. Ten percent of the grant have funded a potato seed production company outside the project area.

larger area, it is unlikely that poor households would have developed a large area of orchards due to associated production and market risks.

56. Perennial crops, which are risky by nature, formed the bulk of crops developed under the cash crop module (assumption 2). The cooperatives visited had skilled managers or core members, which gave them capacity to connect to market operators and market information. The same was observed for lead farmers. The lead farmers met during the PPE mission were middle-aged farmers, often couples, who were returning migrants with new skills. The project beneficiaries were trained to cope with the risk factors. In addition, the selection of these crops was consistent with the provincial strategic varieties under sector promotion. There was no evidence at the time of the PPE of implications of developing these commodities for the resilience of agricultural incomes in the project area.

57. Rural infrastructure and agriculture were combined in part of the villages, reportedly generating a synergy effect (assumption 3). The M&E system reports at least one type of rural infrastructure investment in 465 administrative villages, and at least one agricultural module in 348 villages. These are respectively 83 and 62 per cent of the 561 project villages. The successful villages that are described in the knowledge management brochures generally have this combination. However, additional data provided by the counties visited during the PPE mission shows that the proportion of such villages is limited. It is assessed to be one-third of villages: half of villages in Luxi show this combination of activities, but only a minority of villages in the other two counties (table 4). The underlying issue is unlikely to have been coordination between departments since this coordination was listed as a strength of the project (annex X). The small number of villages with both components rather reflects the lack of a strong strategy advocating for combined improvements to achieve a poverty reduction impact.

Table 5
Coverage of rural infrastructure and agricultural development in counties visited

Project villages with:	*Guzhang County*	*Luxi County*	*Shaodong County*
Both rural infrastructure and agriculture	37%	52%	18%
Rural infrastructure only	39%	43%	52%
Agriculture only	24%	5%	30%
Total	100%	100%	100%

Source: Village name lists and activities in three counties.

58. In combination with other Government efforts, the 2011 COSOP approach pairing infrastructure and agricultural development also benefited poor households. The 2011 COSOP introduced three similar projects in different provinces. Each project was an agricultural development project with an infrastructure and agricultural component and variance in engagement in value chains. The impact assessment of the Guangxi project provides quantitative evidence of poverty reduction outcomes through project-supported infrastructure combined with technical and market support.[30] Results from the Guangxi projects cannot be used as evidence for HARIIP since the provincial contexts are different. However, what the Guangxi evaluation demonstrates is that a combination of small rural infrastructure and value chain improvements is useful even for poor households which rely on wages and remittances from their members working as

[30] Garbero and Songsermsawas 2018, for the Guangxi Integrated Agricultural Development Project.

migrants in cities.[31] HARIIP's PCR, supervision reports and PPE observations also indicate similar benefits.

59. The return of some young people to the project villages has contributed to HARIIP's positive outcomes (assumption 4). The project design report, in some of its sections, listed the revival of rural communities as an outcome. The logical framework did not retain this ambition. The PPE has tested whether the return of young people had been a facilitating factor in delivering project outcomes. This was reported in all of the eight villages visited during the PPE (annex X). The returning migrants took the initiative in agricultural diversification. Further, a visible trend of return was observed in four villages, of which three were in the more developed county, Shaodong. Local informants claimed that project investments into roads, drinking water and support to lead farmers had clearly contributed, although evidence is lacking. The PCR and HARIIP's knowledge management brochures have highlighted how this revival of rural communities was an additional positive outcome of the project. While this observation does not change the overall context of a village population that is continuing to age, it is a topic of particular interest in the context of China's rural revitalization strategy.[32]

60. In HARIIP's villager satisfaction survey, migration outside the village is the main source of income for 23 per cent of respondents. Among the beneficiaries interviewed, all received remittances from their children and remittances formed a large portion of their incomes. In qualitative terms, the infrastructure component has contributed to maintaining this source of income by allowing easier seasonal migration: road travel has become easier, and young adults are not required as much to take care of elderly parents when village roads and safe drinking water are available, as explained in the success stories described in HARIIP knowledge sharing documents.

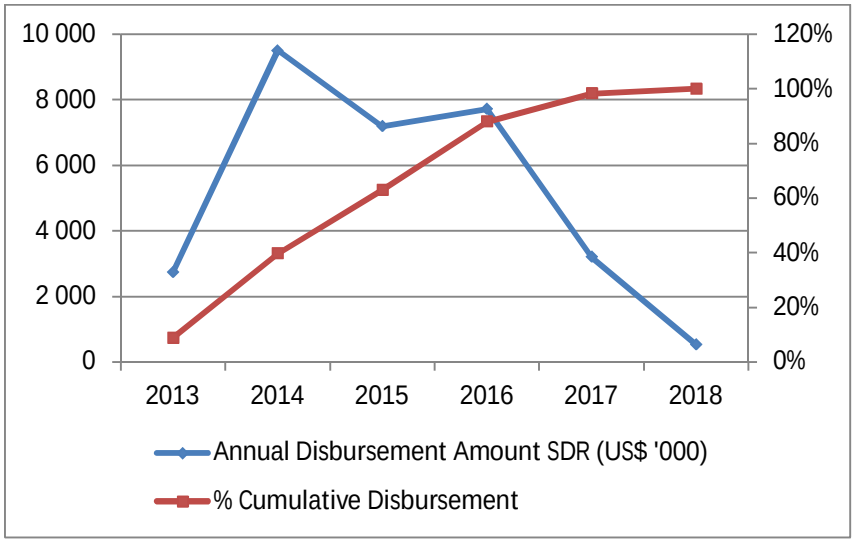
61. In summary, effectiveness is rated satisfactory (5). The project achieved marked progress towards its expected outcomes, and yielded additional positive outcomes. However, the low outreach to category C households through agriculture and uneven contribution of capacity building activities indicate that targeting was not effective and the effectiveness of capacity building was limited.

A3. Efficiency

62. The IFAD loan was managed in an efficient manner. The total disbursement rate was 97 per cent. The project duration was five years as initially foreseen, instead of 6 years on average for IFAD projects in China. After a year of modest disbursement in 2013, IFAD loan disbursements were high and balanced during the 2014-2016 period as shown in figure 1. There was good consistency between annual work plans and budgets and their execution, an indication of sound choices in the allocation of the HARIIP budget to the project area.[33]

[32] The RIMS surveys found that the proportion of households headed by a farmer above 60 years old was 31 per cent in 2011, 35 per cent in 2015, and 40 in 2017. This is the combined result of outmigration to urban areas and of the demographic transition resulting from the baby boom that took place before the one child policy was instituted.
[33] Coherence between the annual work plan and budget and implementation was rated as satisfactory during 2014, 2015 and 2016 supervision missions.

Figure 1
HARIIP IFAD loan disbursement



Source: IFAD database (Oracle Business Intelligence).

63. The project cost management ratio was below 10 per cent, which is efficient, and in line with other IFAD projects in China.[34] High project performance was observed in counties with more PMO staff as well as counties with lean PMOs.[35] This reflects good bottom-up coordination: scattered project villages were managed in an efficient manner through decentralized township PMOs and village or cooperative participation. The township PMOs were an integral part of efficient implementation.[36] In infrastructure improvement, the use of paid labour from the villagers by the construction companies is likely to have optimized the cost of infrastructure.

64. Most phasing decisions by the counties were appropriate. The four more developed counties have used a similar strategy in phasing the use of the IFAD funds. Infrastructure was prioritized in the first three years, while agricultural activities took off gradually. This has probably led to optimize project investments and their returns. The five ethnic minority counties started both infrastructure works and agricultural activities in year 1.[37] The decisions made by individual counties to delay the launch of some infrastructure types or some agricultural modules until year 2 or 3 of the project indicate a sound approach of identifying priority needs first. Phasing of training expenses was less appropriate. Training and technical support started in year 1 in all counties as foreseen, but progress was modest during the first two years, and uneven among project counties, both in the use of the loan and the mobilization of the grant.[38]

65. The IFAD loan was partly used as a catalytic resource. Villages with improved infrastructure funded under the project attracted other Government programs as well as private entrepreneurs. At least one CPMO (Guzhang) chose to use the IFAD loan to open unpaved roads to isolated villages. The Government later invested in a concrete road. The frequency of such cases was not reported. Since HARIIP took place in a context of abundant budget resources being channelled to designated-poor counties for infrastructure, it is likely that additional Government support to

[34] This ratio for HARIIP is 7 percent in the related PCR table, 9 percent in its text. The country programme evaluation reported project management costs of 10 percent or less throughout the portfolio.
[35] The PMO in Shaodong County had 14 staff, while the PMO in Taoyuan County had only 4 staff (HARIIP MTR report).
[36] The township PMOs were not met with during the PPE mission. The 2018 county and township PMO satisfaction survey showed satisfaction above 85 percent for: participation of county and township stakeholders during implementation; cooperation between county and township level departments; and division of labor between these departments.
[37] Annex XII shows county implementation progress.
[38] County M&E implementation progress data, by expenditure category.

project villages was provided without displacing support available to non-project villages.

66. The efficiency of the modular approach was variable. The PMOs appreciated the modular approach because it allowed: (i) flexibility in the selection of agricultural activities vis-a-vis the county plans; (ii) flexibility between procuring agricultural inputs, equipment or support services; and (iii) superposition of investments on the same area. The first feature was favourable in terms of efficiency, preventing investments that did not fit local preferences, even though the PMOs still mostly followed county plans.[39] The second feature was also favourable, although no limit was set regarding the value of equipment sets. The third has conversely reduced project efficiency. In four of the six visited sites with orchards, the PPE mission observed superposition of investments into plantations (under the cash crop module) with chicken raising (under the poultry under orchard module), sweet potato intercropping (under the root and tuber module), an irrigation facility and a road serving the plantation. Cooperatives that managed orchards benefitted in addition from the cooperative and technical extension modules.

67. The cost per beneficiary was reasonable. The cost per beneficiary ratio is US$143 (in total cost) on the basis of the number of direct beneficiaries reported in the M&E system. It is US$212 on the basis of the revised number of direct beneficiaries provided in the economic analysis annex of the PCR, which the PPE finds to be a fair estimation.[40] Given that the average cost per beneficiary of evaluated projects is currently US$190 in IFAD's Asia and the Pacific Division, the cost per beneficiary in HARIIP remained reasonable. The per capita investment by household category is not available.

68. The economic internal rate of return was positive. At 35 per cent, the economic internal rate of return (EIRR) calculated at completion by the PCR team is above the EIRR calculated at project design, 29 per cent. The EIRR is also solid since it remains at 19 per cent under extreme scenarios. This calculation is based on actual number of beneficiaries recorded and actual areas developed, taking into account the market prices of agricultural inputs and irrigation investments. This evaluation concludes that the EIRR is likely to be lower, since the analysis did not consider the superposition of modules, and can be assessed as fair, not high. In addition, all orchards were accounted for as newly developed areas whereas a significant proportion was rehabilitated, not new development of orchards. The loss by farmers of annual payments for environmental services when perennial crops were newly developed on cropped land was also absent from the analysis.

69. Overall, the PPE rates efficiency as satisfactory (5) based on the timeliness of implementation, good disbursement, low project management cost ratio and fair EIRR. However, a more solid M&E system would have been needed to confirm the efficiency of investment per household.

A4. Rural poverty impact

70. This section reports available data at impact level. On all indicators, attribution of change to the project is not demonstrated and is probably limited, given the context of active economic growth and proactive Government interventions for poverty reduction. Data showing how poverty rates have changed during HARIIP's implementation period is available at provincial level only (section II-A, Project context).

[39] Guzhang and Luxi Counties.
[40] 104,176 direct beneficiary households, equivalent to 430,641 individuals. The cost per beneficiary planned at project design stage, US$123, and more than twice the average for IFAD projects in China, US$96 (in total cost).

(i) Household income and assets

71. The rural poor have benefitted from better access to agricultural input and output markets. Roads have improved in at least 237 villages, for at least 52,000 households. IFAD missions repeatedly observed how most of these village roads were linking previously isolated hamlets to the road network, bringing effective benefits to rural residents. Similar direct observation was made during the PPE mission. Roads have brought not only convenience to the villages but also new markets, for example for tea, increased farm gate prices for existing products and lower costs, for example, for construction materials. In addition to roads, the introduction of new varieties and production systems better adapted to market demand (e.g. shift from standard tea to organic tea, from citrus to navel orange), has improved market access.

72. Incomes have improved for the majority of households, but evidence of project attribution related to poorer households is limited. Furthermore, from an evaluation perspective, it is difficult to distinguish project contribution from other Government programs, and information on economically active households below the poverty line within C households is not available. The RIMS impact surveys have documented the increase in household incomes through ownership of household consumer goods (but there was no control group): 88 per cent and 76 per cent of households had respectively access to refrigerators and washing machines in 2015, an increase of 50 percentage points compared to 2011. According to these surveys, households' farmland area remained stable and their animal assets continued to decline rapidly during the 2011-2017 period, a trend to which no contribution from the project was noted. The PPMO's villager satisfaction survey indicates that incomes increased for 75 per cent of respondents, the proportion for an increase in assets being similar. The county M&E data reported a steady annual decrease in the proportion of C households in project villages, from 30 per cent in 2013 to 13 per cent in 2017. During implementation, this indicator was useful to convey the importance of inclusive rural development and paying attention to lower income households. However, it is not possible to assess, to what extent this change in the proportion of C category households can be attributed to the project given exogenous factors (i.e. general economic growth in China). The fact that the increase in access to refrigerators and washing machines mostly took place before 2015 in the RIMS survey indicates that these were purchased through remittances, not project-generated incomes. In the PCR, the economic analysis found that full production from perennial crops, the main source of project-supported agricultural income, was expected in 2024. During the PPE mission, harvesting had started in only some of the villages.

73. A trickle-down impact from larger-scale producers to poorer households was expected but there is no evidence that this has happened. Better-off households that receive free inputs and services to develop agricultural production assets have reportedly a responsibility to provide these opportunities to their poor neighbours. Larger-scale producers (both lead farmers and core cooperative members) were the main project beneficiaries in the three visited counties. Poor households in their villages have started to benefit from wage labour and contracts with these lead farmers and cooperatives. Outside of the project, registered poor households were also eligible to grants during the HARIIP implementation period. It is not possible to confirm whether there was a trickle-down effect from the project or its magnitude. The questions asked in the satisfaction surveys were too general to provide information on this topic. Given the lack of evidence of benefits accruing to poor households from agricultural activities, the risk of elite capture of benefits raised during the MTR for these activities cannot be ruled out.

(ii) Human and social capital and empowerment

74. Training in agricultural production skills was HARIIP's primary contribution to building the human and social capital of poorer households. A very high proportion of respondents (90 per cent) in the satisfaction survey stated that their production skills and capacity had increased after training.

75. The positive impact on human capital was more limited when women did not attend training. The MTR mentioned that some counties indicated difficulty to engage women (as further explained in section B3), and that their learning in training was not as good as that of men. These issues remained outstanding by project completion. During the PPE mission, focus group discussions took place with a range of men and women of all ages. In two out of the eight villages visited during the PPE, those taking part in training were mostly men. Women did not attend due to time constraints or perceptions that their limited education would be a barrier. In such cases, the human capital impact was lower since those undertaking farming activities did not attend the training.

(iii) Food security and agricultural productivity

76. Food security improved based on survey data. The food security impact received a high score in the RIMS survey (97 per cent of households reporting improved food security) and in the villager satisfaction survey (95 per cent of respondents reporting positive change). During the PPE focus group discussions, all groups of beneficiaries explained how they had more choice in their staple foods and had increased their protein intake. In some cases, these improvements are directly a project impact resulting from small-scale irrigation, or root and tuber crops improvement. In most cases, better meals resulted from higher incomes and remittances from family members working away from the villages.

77. The issue of child malnutrition is not resolved, but is largely unrelated to project activities. A marked increase in access to tap water (and to safe latrines, outside of project support) was reported in the RIMS surveys: the share of rural households with safe rural water supply increased from 70 at project start to 90 per cent at project completion. The field visits confirmed that project-financed schemes covered all households within one or several natural villages.[41] This is likely to have contributed to improved food hygiene and children's nutritional status. However, there are mixed results in RIMS surveys for the nutritional status of under-five children: chronic malnutrition decreased, remaining, nonetheless, at a high 24 per cent at project completion; the surveys indicate the increased presence of acute malnutrition cases, and higher incidence among girls.[42] This issue went undiscussed in the PCR since this report only reported the decrease in chronic malnutrition. The World Food Programme is addressing this issue in the Wuling Mountains through a dedicated nutrition project in urban kindergartens.[43]

78. The project has contributed to agricultural productivity changes. Staple crop production has increased for 75 per cent of respondents in the village satisfaction survey. This confirms that both staple crops and market-oriented crop diversification were supported under HARIIP. Interviews with beneficiaries also substantiate increased productivity due in part to access to irrigation, the availability of quality inputs, and increased use of agricultural machinery. The project-financed roads have facilitated this increased use of agricultural machinery. Ten per cent of households used tractors at project start, 36 per cent at project end according the RIMS survey. In two of the villages visited, a returning migrant had

[41] One administrative village is composes of several natural villages.
[42] RIMS survey results on child nutrition are provided in annex XII.
[43] Malnutrition in the Wuling Mountains is present in boarding schools and kindergartens. Children attending boarding facilities are in increasing numbers since village schools are closing. Only one of the visited villages still had a school, and only one of the villages without a school had a school bus service to the city.

set up a mechanized farm service activity. Whether poor households use these services is, however, not known.

(iv) Institutions and policies

79. Through the work programme of VIGs, the village committees gained better knowledge about household needs. The VIGs were established in each participating village, on the basis of an already comprehensive village governance system. Having a VIG in place therefore mainly meant that some village committee members and existing farmer representatives were nominally mobilized on the IFAD project. Their main tasks were the identification of households' priority needs, and supervision of construction works. The PCR reports that the VIGs have ensured the participatory nature of annual plans. Performance of the VIGs in the sites was variable, and this was visible even among the villages visited during the PPE: 4 out of 8 VIGs visibly performed well. The majority of beneficiaries who were not members of the VIGs did not recall their existence or their role in the project. In at least one county, household ranking in three categories was a prerequisite to project participation.[44] The community leaders paid individual visits to households, which reportedly improved interactions with the households, leading to more social cohesion.

80. The decision to organize formal tendering at county level, even for small infrastructure, had implications for the village committees. Tendering, technical design, selection of a construction company, selection of a supervision consultant, and hiring of community labour were directly organized through the CPMOs. This was in line with the increasingly standardized bidding and tendering procedures and ensured the effectiveness and sustainability of infrastructure improvement. However, as a result, HARIIP was not a vehicle to enhance the decision-making capacity of village institutions in areas other than infrastructure O&M. During the PPE mission, village committee members indicated that their capacity to obtain Government support to build new infrastructure was still low, except in the most developed village visited.

81. This operating mode is very different from the community-driven development approach that was piloted in previous projects in China. Under HARIIP, the village communities, through the VIGs, took an active part in confirming infrastructure needs, applying for project support, and preparing for maintenance. The practice of multi-year village development plans through community participation, which was common practice in the Government's poverty reduction programmes and in IFAD projects, has been discontinued. The approach that was pursued through HARIIP was consistent with a change in the local governance system: the townships were increasingly taking a leading role in planning and budgeting village-level services.

82. Agricultural extension services showed marked improvement during the project. Through HARIIP, technical information and support were provided in the project area through two channels: township agricultural extension, and provincial experts. Township technicians, after receiving training from HARIIP, improved their capacity to respond to local demand. More than 80 per cent of PMO staff and villager respondents in the satisfaction surveys expressed satisfaction about the improved quality and timeliness of these services, one of the highest scores in these surveys. Discussions in two extension stations during the PPE mission have confirmed these improvements. Extension workers, with project support, have increased their skills to provide needs-based services. The PPE collected only anecdotal evidence of how extension workers trained through HARIIP are continuing to apply these skills. In the two townships visited, they were responding to demand that was mostly coming from larger-scale producers, and had reportedly limited resources for commodities other than the county priority.

[44] The Shaodong County PMO stated that household ranking was a prerequisite to participation of a village in HARIIP.

83. In summary, rural poverty impact from the project is rated moderately satisfactory (4). Rural poverty impact from HARIIP was demonstrated mainly in two of the four dimensions – household incomes and assets and agricultural production and productivity. The combination of the project's agricultural interventions with rural infrastructure, where it took place, has created direct and indirect positive impacts. Without the project, the poorer villages would have had less opportunity to access rural infrastructure or agricultural budgets, and even fewer opportunities to access both budget sources. The downside of HARIIP's approach was that: the poverty reduction impact was more limited in villages with only agricultural activities; improved food security was mostly due to higher incomes from remittances rather than agricultural activities; and there was no evidence of a trickle-down impact from larger-scale producers to poorer households. In terms of human and social capital and empowerment as well as institutions and policies, HARIIP's approach consisted of training and VIGs which resulted in limited empowerment of rural communities and no notable policy or institutional impacts.

A5. Sustainability of benefits

84. The benefits generated by project-funded roads and drinking water supply are very likely to continue. Since project completion, infrastructure maintenance has aligned with new central Government provisions: road maintenance is financed by local government, while one person per administrative village is in charge of maintaining the drinking water scheme. Direct observation and discussions confirmed that roads have remained in good condition after the project ended. Ninety per cent of respondents in the villager satisfaction survey stated that infrastructure was operating well. The groups in charge of maintenance of all infrastructure in the village turned out to be a temporary arrangement. These groups, that were set up in a systematic manner during the project, comprising four to five members on average according to the M&E system, received the lowest satisfaction score in that survey, and were disbanded according to beneficiaries interviewed during the PPE field visit.

85. Operations and maintenance is particularly successful for domestic rural water supply schemes. Active maintenance of rural water supply, which started late after MTR, is now in place. During the focus group discussions, the beneficiaries mentioned the new drinking water schemes as the most valued benefit brought by the project. In the mountainous counties, daily and regular maintenance is organized by the village or sub-village; each household is paying a water fee; this fee is used as compensation for the villager in charge of maintenance, and for chemical disinfection and small repair. This system was established with support from HARIIP. Some of the villagers trained under the project in maintenance of the water supply still hold this position. In the non-poor county visited, the drinking water schemes supported by the project were recently incorporated into an urban management system; users pay monthly fees to the water company based on an accurate measurement of water consumption, and the company is in charge of maintenance.

86. Maintenance of paddy fields is becoming an issue in mountainous areas. In the non-poor county visited, paddy fields are now leased for crop production to large or very large operators, with the Government funding maintenance. While this raises issues regarding the effectiveness of the poverty targeting, sustainability of the infrastructure is ensured. Less positive observations on the maintenance of small irrigation infrastructure were made in mountainous areas. Some paddy fields served by project-renovated irrigation canals were left idle, not only because of outmigration or unprofitable paddy prices, but also because of unclear rights to irrigation water. The Government's policy is to give individual responsibility to maintain the canals to those producing paddy, and this is reportedly not working well in some situations. Contracting small water ponds to individual households

appears to work better; these households pay a fee to the village, which is saved for maintenance.

87. In the more remote areas, providing free agricultural inputs to all is likely to have limited scope for self-replication. From project design and completion, none of the project documents explained or discussed how agricultural inputs were provided to the beneficiaries. The PPE found that all agricultural inputs and equipment had been provided for free. In contrast with what was foreseen in the 2011 COSOP, no ceiling in the amount or value of agricultural inputs provided was established under HARIIP. In total, US$25.6 million of agricultural inputs were provided to 26,482 households according to the M&E system. Providing free inputs in kind was a new modality for IFAD in China. It replaced small household loans or village development funds. The approach used in HARIIP went beyond the Government's own approach, under which free inputs are only provided for new varieties, and new equipment such as greenhouses is only partly subsidized. This raises an issue of sustainability in addition to the question of poverty targeting effectiveness. Providing free inputs does not seem to have reduced initiative taking among the lead farmers. However, replicability of this scheme outside the project is unlikely.

88. The sustainability of income generation for the poor will largely depend on the performance of the cooperative or lead farmer with whom they are working. Job opportunities on construction works were by definition temporary income sources. The project completion team reported variable viability of project-supported cooperatives, ranging from excellent to fragile. It also observed that poor governance in some cooperatives led to unclear land arrangements with the poor households who had contributed their land as cooperative shares, and unclear decision-making process for the distribution of dividends. In the satisfaction survey, the lowest satisfaction score (71 per cent) was given on the usefulness of farmer cooperatives for production and sales. In the project completion report, poultry raising was presented as the "best performer" in terms of popularity, adaptability and connectivity to value chain development. The PPE mission also observed that it is a sustainable source of income for the poor, in cases where beneficiaries manage poultry raising as an out-grower scheme, providing layers to poor households in the community and buying back eggs.

89. Overall, sustainability of benefits is rated satisfactory (5). This is due to a large extent to the successful rural infrastructure component, now supported by continued Government programmes. However, providing free inputs without a ceiling is not good practice in terms of sustainability.

B. Other performance criteria

B1. Innovation

90. Innovation pursued through HARIIP was directly in the field of agricultural production. The PCR describes the modular approach and the development of needs-based training and extension as innovative. PPE interviews lead to rather conclude that flexible training through the modules was an existing good practice which Hunan stakeholders accessed through HARIIP, not an innovation. Needs-based agricultural training and extension was not innovative either since it was being promoted in Hunan since a related national programme under Ministry of Agriculture had started in 2009.

91. Agricultural R&D was organized in partnership with provincial agricultural research institutions. As envisioned at project design, the PPMO partnered with a team of researchers from several provincial research institutions and universities. The research team members acted as technical assistants, visiting the project villages directly and providing seed from improved varieties. Initially focused on the purpose of the roots and tuber grant, technical support was broadened to cover

the various needs of the project area. This partnership between the PPMO and main research institutions has been sustained after project completion.

92. The strategic value of mobilizing a regional IFAD grant has been weak. The HARIIP grant, which was regional, facilitated direct contacts with a regional research team from the International Potato Center (CIP).[45] This helped revive interest about sweet potato's market potential as a food crop. However, the new method promoted by the CIP team for value chain innovation, connecting public and private operators through multi-stakeholder forums, was not tested. Activities were limited to one survey in the project area and to the participation of Hunan researchers in CIP workshops. Value chain initiatives supported through the project have otherwise remained isolated from each other.

93. For these reasons, innovation in HARIIP is rated as moderately satisfactory (4). Through HARIIP, an institutional partnership has been created between the provincial PMO, which is a permanent institution, and provincial research. However, there was little room in project implementation for pursuing innovation in fields other than crop variety improvement.

B2. Scaling up

94. According to IFAD, scaling up occurs when other partners (Government, donors, NGOs, or civil society) use their resources to scale up results. In China, IFAD depends on the Government to scale up or replicate any project approaches or results. This requires IFAD demonstrating to Government positive results from project activities and approaches. This requires sound knowledge management and mechanisms for capturing and disseminating best practices and positive results.

95. Knowledge management and exchanges were promoted by IFAD during implementation. With active support from the IFAD country office, the PMOs identified and documented in the form of short stories successful project villages and project-supported cooperatives. Some stories depict the combined impact from improving both infrastructure and agriculture, while others highlight the improvement gained from infrastructure alone for villages with an ageing population. The agricultural development stories, unlike the official project documents, describe and present lesson learnt from the two models followed in HARIIP: lead farmers with a smaller production scale; and farmer cooperatives with a larger production scale. This was a better method compared to the past when success stories were about individual farmers. Knowledge about these cases was shared during project implementation through cross-visits between CPMOs and with the PMOs of other IFAD projects. Dissemination outside IFAD project management offices appears to be taking place already in the province and beyond, through existing Government networks. Direct dissemination to international rural development projects outside China may occur since several PPMO staff are also technical assistants in such projects.

96. Sharing project implementation know-how appears to have been more limited. Each of the three visited counties developed its own good practice in areas as diverse as notice boards for civil works, multi-activity training plans, and the phasing of project activities. The PPE mission observed that good practices from each of the PMOs in the visited counties had not been identified by the PMOs of the other counties, despite the limited geographical distance between them. This indicates that cross-county PMO visits were more useful for sharing best cases and supervision purposes than for learning about project implementation in the field.

[45] Under the Consultative Group for International Agricultural Research, the CIP FoodSTART "research for development" programme on roots and tuber crops started in 2011; it covered 6 countries in the Asia-Pacific region including China, jointly addressing food security for poor rural producers and access to the health food market (CIP 2014). HARIIP was selected as the programme site in China.

97. While good knowledge management efforts were made during the project, the scaling up of project initiatives by Government or others was not yet evident. HARIIP would have needed to develop a clear mechanism to allow its "best case" approach to lead to their scaling up, as indicated in the 2016 COSOP approach. Therefore, scaling up is rated moderately satisfactory (4).

B3. Gender equality and women's empowerment

98. Women in the project area play an active role in agriculture, shouldering at least equal work loads. In both ethnic minority and Han areas, both young men and women work as temporary migrants outside of the village.[46] Women above the age of 40 are the main labour force staying in the village and taking care of grandchildren and the elderly as well as engaged in agriculture. Women are also those available to take lower paid agricultural jobs. This pattern seems to differ among returning migrants. Those met with or mentioned during the PPE were mostly middle-aged couples.

99. HARIIP's gender mainstreaming approach effectively promoted women's participation in project activities. As foreseen when the project was designed, the M&E system recorded the proportion of women beneficiaries for every project activity. Women represented 47 per cent of participants in training and in agricultural activities other than training. Counties with the highest and lowest proportions of women in agricultural activities other than training (54 per cent and 41 per cent) were more economically developed, while the proportion in ethnic minority counties was average. A project regulation stipulated that more than 20 per cent of VIG members should be women. As a result, in six out of nine counties, two women or more were part of the VIG on average; these are the counties where women's participation in project activities was higher.[47] This indicates that a process to encourage engagement of women into project activities was in place. Training attendance fees were provided as an incentive in the less developed counties, and were then provided to both men and women.

100. Labour-saving benefits from domestic water supply improvements have benefitted both men and women. There is no doubt that successful expansion of domestic water supply systems through HARIIP has reduced domestic workloads. The PCR assessed time saved in the collection of water for domestic use at an average 90 person-day/household/year, or 2 hours per day for the direct beneficiaries. In the villages visited during the PPE, it was reported that both men and women fetched water before, and time gains reported reached 3 hours per day.[48] In addition, in many of the villages visited, village leaders were prioritizing less labour-intensive agricultural activities for the elderly in the village, the majority of which were women.

101. HARIIP's contribution to women's empowerment was more modest. The project area has a context of unbalanced sex ratio, with much more men than women, which indicates remaining challenges in gender equality in rural areas. In the three districts visited for example, the 2018 sex ratio in the country population ranges from 105.3 in Luxi to 108.3 in Shaodong and Guzhang.[49] The changes observed in the RIMS surveys appear to relate more to outmigration patterns than to project activities. The number of women stating they were the farm household head increased markedly, from 4 at project start to 6 per cent at project end. Many of them were young women between 25 and 40 years old; in the focus groups these women remained in the village while their spouses were migrant workers.

[46] Quantitative data was not available in the project documents.
[47] HARIIP county M&E data.
[48] PPE focus groups discussions with beneficiaries.
[49] From Hunan Province 2019 statistical yearbook – 2018 data. The RIMS survey sample included a more unbalanced sex ratio but may not be representative for this indicator. The final RIMS survey noted that "the sex ratio of newly-born children was seriously out of balance."

Two of the four cooperatives visited during the PPE had a female manager or main investor, but this was unrelated to the project.

102. ACWF delivered some of HARIIP's training activities, partly on topics unrelated to agriculture or women's empowerment. As explained in the PCR, training for women only, organized by ACWF, was supported through HARIIP, and counted the organization's on-going programme as a HARIIP activity. HARIIP's knowledge management brochures show that part of these courses were on topics very broadly linked to the project, such as infant care. It is likely that few of these courses promoted decision-making. Having reported such training under other project activities has made this issue less visible, and has not helped in identifying solutions to improve women's participation in agricultural training, as mentioned in section A5 (human and social capital impact). For example, female beneficiaries were not able to influence how and where trainings were provided. This has probably resulted in many women not participating in the agricultural training either because they could not travel due to their childcare duties or they opted out due to their low levels of education.

103. Actions outlined in HARIIP's gender mainstreaming approach were not sufficiently implemented. The actions initially foreseen to promote attitude changes towards women in the agricultural sector were clearly not implemented. By MTR, the PMOs had not yet established effective gender coordinators as per project design and during the PPE field visit only one of the CPMOs had a gender focal point, with an unclear scope of work. At MTR, limited disbursement was recorded for the delivery of gender awareness training which also was not recalled by the PMOs during the evaluation. The foreseen needs assessment of vulnerable women-headed households was not undertaken. Women's access to resources within a household remained a largely undocumented matter. Finally, successful stories on women's participation were not documented as initially foreseen.

104. Assessment by IFAD of gender aspects in HARIIP differs from perception by Government partners. IFAD specifically reviewed gender actions in HARIIP at project design stage and mid-term. The recommendations made, to organize capacity building on gender in the PMOs and to hire specialists were not followed through during subsequent missions. The PPE has confirmed these difficulties. During the mission wrap-up meeting, participants from the CPMOs were surprised by the mission's observations on gender, which were based on a very small number of locations. In their view, the wage differential between men and women – which was up to one-third in the sites observed during the PPE - is unavoidable. In its review of the draft evaluation report, Government partners restated how important attention to women's participation in VIGs had been during the project.

105. In summary, gender equality and women's empowerment is rated moderately satisfactory (4). Although female participation numbers are recorded as 47 per cent, HARIIP's gender mainstreaming approach was only partly implemented, and there was no clear follow up to the gender issues raised during the MTR. The experience gained through HARIIP demonstrates how gender-disaggregated indicators are not sufficient to ensure the inclusion of women in China's modernizing agriculture sector. The project PMOs lacked practical approaches to resolve existing obstacles to women's meaningful participation in the project.

B4. Environment and natural resources management

106. Road infrastructure and perennial crop establishment were carried out without impacting the vegetation cover. The project was aligned with IFAD's environment and natural resources management policy and classified as Category B. The environmental assessment in the PCR explains that measures were taken to prevent cutting the vegetation cover or excavating new road alignments. Direct observation during the PPE confirmed that these measures were successful. Tree

cutting after opening road access was not observed, and local people did not have any negative observations on the project's environmental impact. In the mountainous counties, the tea and orange plantations observed were developed on old plantation sites, or on slopes without valuable habitats, and the forestry bureau was tasked with confirming appropriate location. The project investment in these plantations included construction of run-off control ditches in a systematic manner.

107. A fair level of environmental awareness was apparent among farmers in the project area. During PPE interviews, project stakeholders spontaneously referred to China's very strict rules to protect water, air, and soil resources that have been in place for the last ten years, in addition to the Environmental Protection Law. The village training courses under HARIIP have contributed to raising this awareness. The environmental assessment included in the PCR highlights how low-input and organic agriculture practices were important topics in these training activities, and describes active participation of the county environmental protection bureau in some of the courses. Through these courses as well as through the extension of poultry raising under perennial crops, reduced use of chemical fertilizer and use instead of organic fertilizer was promoted

108. In summary, HARIIP's contribution to environment and natural resources management is rated as satisfactory (5 score). This rating is similar to IFAD's ratings throughout the project life.

B5. Adaptation to climate change

109. Resilience to climate change was strengthened, in line with the project's initial ambition. HARIIP's initial objective during the design process included "strengthening resilience" to climatic events. However, it was removed, in accordance with the Quality Assurance Review recommendation, since it would be difficult to monitor. Nonetheless, small irrigation works were combined with new and more diversified crop varieties to improve resilience of crop production to drought events. Ponds also supported the resilience to villages in dry areas. The various types of small infrastructure have allowed this diversification, which in turn has increased resilience towards climate risks. However, some of the crops supported are fragile crops prone to risks other than drought. For example, project-supported orange orchards in Luxi County were recently severely impacted by a snow storm. The PCR also mentions the climate resilient features incorporated in road improvement works such as planting trees along the roads to present soil erosion.

110. Efforts were also made through HARIIP to raise awareness on climate change adaptation – although visible results were modest. In addition to small irrigation infrastructure, farmer training covered climate change risks and the advantages of diversification, as mentioned in the PCR. However climate risks were not assessed. During the PPE, county government officers and lead farmers showed awareness of the area's contribution to mitigation through its high forest cover, but stated that climate change was a global issue, not a local one. Farmers in all focus group discussions stated some awareness of increased temperatures, and did mention the recent extreme climatic events. However, they did not relate extreme climatic events to climate change. The PCR reports how severe floods during implementation should have been a reminder of the need for climate change adaptation. Also, in 2019, in addition to the snow storm, Hunan Province suffered a 60 per cent decrease in rainfall during the monsoon season compared with a normal year. This indicates the lack of integration of local knowledge in HARIIP's approach to awareness raising regarding adaptation to climate change.

111. In summary, adaptation to climate change is rated as satisfactory (5). Despite the removal of resilience to climate change as a specific objective during the design process, adaptation to climate change was supported successfully under HARIIP through training, diversification, small-scale irrigation and other

infrastructure. Irrigation canals and ponds especially strengthened communities' resilience to climate change and enhanced the sustainability of their agricultural production. Sustained efforts are required to build awareness about adaptation to climate change.

C. Overall project achievement

112. Overall, HARIIP contributed to rural development and poverty reduction in the targeted remote areas of Hunan Province. This was achieved through the implementation of a rural development strategy which combined rural infrastructure, diversified market-oriented agriculture, and capacity building of villagers in infrastructure O&M and agriculture. This strategy responded to the belated development of rural infrastructure in Hunan Province. HARIIP's example also confirms that, under a professional PMO providing advice to decentralized PMOs, coordinated support from technical Government offices can be delivered to remote rural areas in an efficient manner, responding to priorities put forward by the communities, local farmer cooperatives, and small entrepreneurs. The Government has recognized the performance of HARIIP and granted five awards to the project, including best performance awards.

113. HARIIP reached more than 4,000 natural villages in 550 administrative villages. Project investments directly benefitted the large majority of households within them. Over the 2012-2017 period, more than 80 per cent of these villages gained new access to the road network, safe drinking water and/or reliable irrigation water, providing integrated outcomes ranging from secure market access to improved living conditions for isolated elderly people. Sustainable operation and maintenance systems were set up through the project and are now integrated into Government systems.

114. Through HARIIP's support, 50 new and existing cooperatives developed more diversified products, responding better to market needs. Lead farmers operating on a smaller scale made similar progress, facilitating market access for neighbouring small producers. The project confirmed the market relevance and pro-poor orientation in Hunan Province of one value chain, extensive outdoor poultry raising. Some revival of the production and consumption of sweet potato products also took place. Diversified value chains were locally strengthened, with direct project support taking place mostly at production stage. However, building a governance system in the farmer cooperatives, and developing stakeholder coordination along the value chain, will require further efforts.

115. There was a confirmed poverty reduction impact when improvements in infrastructure were combined with agricultural investments, which occurred in an estimated one-third of the project villages. Some of these villages have attracted a number of younger returning migrants, men and women, leading to some revival of rural communities. Families without returning migrants have continued to benefit from remittances and accessed light work opportunities.

116. HARIIP's achievement in reaching the rural poor, and women among them, through its agricultural component was less successful. Providing benefits through agricultural production to the small remaining proportion of economically active poor in Hunan was a challenge that would have required a dedicated approach. In addition, when lower-income families did benefit from the agricultural component, it was mostly in the form of unskilled jobs. These families are much less likely to have developed their "economic and self-development capacities, to take full advantage of improved technologies, resources and services to be made available in the project area", as was called for at the time of project design.

117. HARIIP was an effective agricultural and rural development project and made steady progress throughout implementation. The project was implemented efficiently and its benefits are likely to be sustainable. The rural

infrastructure constructed and agricultural modules have addressed environment and natural resources management in a satisfactory manner. Though evidence of scaling-up was not found, project success stories were collected and disseminated for that purpose. Overall project achievement is rated satisfactory (5).

D. Performance of partners

IFAD

118. At project design stage, there was no internal consensus in IFAD on the project's development objective and logical framework. The design team proposed an agricultural component strongly oriented toward strengthening resilience, in response to climate change as well as market risks. The quality assurance panel recommended deleting "resilience" from the statement of project goal and objective, stating that improvements in resilience would be difficult to monitor. Only very broad objective statements were thereafter retained in IFAD's final project documents. As a result, there was an apparent lack of strategy in the logical framework of HARIIP. Resilience through diversification remained part of the project's underlying strategy and it continued to be mentioned in the Chinese version of the development objective.[50] However, related indicators were not included in the logical framework.

119. During implementation, IFAD provided even and timely support from design stage to completion. The expertise mobilized matched the needs of the various project phases (other than the lack of a gender specialist mentioned above). Civil engineers and agriculturalist contributions were mostly at the beginning. The team composition was modified at mid-term by adding a cooperative specialist.[51]

120. However, project design and supervision missions focused on more operational project management matters. HARIIP's concept was prepared together with the COSOP. As a result, the project design itself was a technical recommendation rather than an adaptation of the COSOP to the project area. During implementation, IFAD exercised its fiduciary responsibilities, including the checking of compliance with loan and grant agreements. The PPMO explained that the most useful elements in the partnership with IFAD were: (i) the geographical targeting and participatory planning framework for infrastructure; (ii) the modular approach (which this PPE however identifies as a factor for reduced efficiency); and (iii) consistent supervision including field visits, and the provision of clear recommendations, and that the IFAD teams came up with practical, forward-looking and feasible project action plans. HARIIP was a well performing project that was seen as not requiring enhanced support from senior staff. With a basic design, the project was also not seen as an opportunity to cultivate the PMOs for innovation through bringing in more international experience.

121. With more action-oriented supervision of targeting and capacity building, the value added generated by IFAD would have been higher. Instances of insufficient inclusion of the poor were repeatedly reported during supervision, but the dialogue on potential solutions appears to have been limited. The low reliability of consolidated data on poor household and women's participation was not addressed until the PCR. This led the PCR to rate IFAD performance as moderately satisfactory. Attention to gender equality was consistently rated as satisfactory by the supervision teams that lacked gender expertise, which means that the issue of women's actual participation in the agriculture component was not reported and the issues regarding gender mainstreaming raised during the MTR were not effectively addressed. Further, the need to update the RIMS indicator system to better take into account the rapid restructuring of agriculture in China does not appear to have been discussed. As a result, the M&E system was useful for project

[50] A comparison of objective statements is in annex XI.
[51] Composition of 8 IFAD missions, as reported in HARIIP mission reports.

planning, as confirmed in the PMO satisfaction survey, but less useful as an instrument to draw lessons from project implementation.

122. Performance of IFAD is therefore rated as moderately satisfactory (4). At an operational level, the IFAD teams provided timely support to the PMOs, but several weaknesses in project implementation went unnoticed. IFAD also provided limited support at a strategic level whereas there was a need for such support, for example on gender and targeting, and an opportunity to engage with a highly experienced provincial PMO that was also concerned about eliminating poverty with the introduction of the Targeted Poverty Reduction Programme.

Government

123. The Government assumed ownership at both provincial and county levels. The project concept in the 2011 COSOP was the concept proposed by Hunan Province. The PPMO also prepared a project completion report of quality independently of IFAD that provided useful data for this evaluation. The PPMO took appropriate initiative in loan and grant management, and in technical matters. The PCR highlighted how finance bureaux and the project leading groups at those two levels were critical to ensure coordination between technical bureaus. The supervision missions observed that loan covenants were observed well, and that PMOs at all levels had adequate and stable staffing. The PMOs mobilized the experience gained from working with various donors, while keeping sufficient availability for HARIIP. At least one county set up a joint PMO under the Department of Finance and the Department of Agriculture, which reinforced the coordination capacity.[52] During supervision, it was reported that the problems identified through audits mostly related to procurement in some CPMOs.

124. The project had a functioning M&E system. The structure of the M&E system in HARIIP was strong compared to other IFAD-funded projects in China. HARIIP won the Best Project M&E Award awarded by the Ministry of Finance and IFAD in 2017. A total of 11 full-time staff were in charge of M&E in the PMOs from province to county levels. The structure of the M&E system in HARIIP was strong in the People's Republic of China portfolio.[53] Early on, the PPMO established an M&E process and tools to record progress, and provided training to the CPMOs to use these tools. The baseline RIMS survey was initiated before the main design mission. This survey covered both production assets and consumption goods, as well as child nutritional status.[54] The household coverage M&E tool was unfortunately set up too late to fully reconcile data on beneficiary households.

125. Performance of the Government is rated as highly satisfactory (6). This is the result of the high performance of the provincial PMO with relatively limited support from IFAD, and good coordination within the counties. Each CPMO showed strengths and weaknesses which are analysed in other sections of the evaluation report. The PCR explains how the CPMOs in Xiangxi Prefecture faced specific challenges due to the generally lower level of Government capacities in this part of the project area.

E. Assessment of the quality of the project completion report

126. The scope of the PCR produced by IFAD was comprehensive. The report was well-written and prepared with the support from an international team. The range of expertise in that team was appropriate – rural development, economic analysis, institutions and M&E – although specific gender expertise would have been useful. The PCR covers all the evaluation criteria and includes a full economic analysis. The scope is considered satisfactory (5).

[52] Shaodong County, which was visited during the PPE.
[53] HARIIP 2017 supervision report: M&E working paper.
[54] HARIIP design report. The baseline survey was funded by an IFAD early implementation support grant.

127. The IFAD PCR benefitted from the in-depth project completion work undertaken by the PPMO. Starting from May 2017, the PPMO had mobilized more than 2,100 township and village project management agencies to carry out project completion and acceptance preparations. The quality of this project management process was recognized: in January 2018, it was awarded the Outstanding Project Completion Award by the Ministry of Finance and IFAD. Unfortunately, the deadline for PCR completion failed to be adjusted to better incorporate the work prepared by the PPMO. The results of the satisfaction surveys and the information on the strategy and implementation modalities of the project by the PPMO were not available at the time of the PCR mission. Similarly, the PPMO provided new, interesting information in written form on the strategy and implementation modalities of the project, which would have strengthened in the PCR further. The quality is rated satisfactory (5).

128. The PCR process would have gained from leaving more space to candid information. The PCR is an in-depth narrative of the positive assessments gathered through local government feedback and previous missions. Candour was also paid attention to in terms of the inclusion of informative minutes of stakeholder meetings. The PCR team found out that numbers of beneficiaries in the M&E system were not consistent. It worked during and after the field mission with the PPMO on adjustments, and the economic analysis annex reported on that issue. The PCR team eventually chose to adopt the final figures of beneficiaries as revised and provided by the PPMO. Further, according to IFAD interviews, the report only partly reflects the weaknesses that were identified during the PCR mission. Specifically, the points highlighted during the provincial stakeholder meeting (i.e. that geographical targeting was too broad) were not integrated. Therefore, candour, i.e. reporting on the actual situation, not only on the positive lessons learnt, is rated moderately satisfactory (4).

129. Lessons. The PCR presents lessons and good practices in two fields, project management and value chain development. Good practice in project management is mostly a confirmation of existing management procedures in Government programmes in China, some of them having been in place for many years (coordination of technical bureaus by a strong PMO), others more recently (pooling co-financing from various Government programmes). The provincial stakeholder meeting proposed two lessons for the future (pay more attention to the rural youth, and share knowledge through the Government's own platforms in addition to IFAD's own platforms, which are difficult to access in China) that would have deserved attention. On value chains, the PCR highlights the positive results of integrated planning of roads and agriculture, while the PPE rather validates the Hunan Government's strategy of building infrastructure first, in order to attract interest from small entrepreneurs and other Government programs. The PCR also notes that building pro-poor cooperatives will be challenging but the proposed lesson (investing into marketing skills should be a priority) is not consistent with the PCR finding (improving governance is a priority). Finally, one lesson highlights the important parallel implementation of the Targeted Poverty Reduction Programme, but rather than noting the missed opportunity for policy dialogue on poverty targeting, lauds the adjustment of project activities to avoid overlap. The lessons are rated as moderately satisfactory (4).

130. Overall, the project completion report is rated satisfactory (5). A more candid reporting of project status at completion would have been useful, as well as a reporting schedule allowing compilation of all information newly made available.

IV. Conclusions and recommendations

A. Conclusions

131. Through HARIIP, a strategy for China's rural areas in need of rural infrastructure and new initiatives was tested in a central province. The strategy supported through HARIIP was relevant at design stage. The implementation of HARIIP has demonstrated its effectiveness, especially when investments in rural infrastructure were combined with support to agricultural diversification and with quality capacity building. This approach provided a pull factor for the return of some individuals to their villages (while other push factors remained in place), thereby contributing to efforts to revive a number of rural communities. HARIIP was designed to reach both larger-scale cooperatives and individual farmers often operating at a smaller scale. At completion, there were successful project examples for these different production modes.

132. IFAD has added value to HARIIP's operational performance rather than to its strategic approach. IFAD brought added value at design stage, by advising balance in HARIIP between investments into rural infrastructure and agriculture, and by raising attention to capacity building methods. During implementation, IFAD support was appreciated by the project management offices since it allowed timely problem-solving in project management. Conversely, opportunities for IFAD and the Government of the People's Republic of China to engage in a dialogue on the strategy which was being pursued remained largely unseized.

133. The project brought modest opportunities in agriculture to lower-income farmers. Remote natural villages and ethnic minority communities were reached through HARIIP. Through community infrastructure investments, poorer community members benefitted from new or improved roads and domestic water supply. In contrast, a significant share of the agricultural production component went to larger producers. There was a missed opportunity for IFAD to reinforce its dialogue with the Government of the People's Republic of China on the best options to reduce rural poverty through agricultural investments. The good practice being used in Government's on-going poverty reduction programme to prevent this issue, such as the subsidy ceilings which were also recommended in the 2011 COSOP, was not used. The agricultural modules relied on an expected trickle-down effect for which very limited mechanisms were in place.

134. General principles for gender mainstreaming were defined, rather than clearer processes to enhance participation of women in project activities. The PPMO invited ACWF as project partner but the scope of work of this organization within the project was not precisely defined. The organization largely implemented its own programme through HARIIP. Gender-disaggregated indicators were collected as foreseen but did not capture the limited scope of opportunities offered to women, especially in capacity building. Overall, attitudes towards women's role in agriculture appear to have remained strongly biased in both ethnic minority areas and Han areas, and HARIIP's contribution to improve this situation was limited.

135. Sound principles were defined for capacity building, but an operational process to deliver them on a large scale was also missing. Through HARIIP, IFAD has promoted a needs-based approach to training. Local agricultural extension workers have effectively renovated their working methods, and the project has contributed to this positive change. However, the challenges of delivering training activities to a large number of remote farming communities had not been anticipated. Quality training activities were delivered in some locations, on a limited scale, while most beneficiaries in other localities could only access lower quality training.

136. The R&D grant added technical assistance resources and supported innovation on potato, which is not a pro-poor crop in the local context. HARIIP's access to a regional grant has effectively mobilized provincial research, which mobilized a team of technical advisors. The technical theme of the grant, root and tuber crops, has led to some revival of sweet potato in the project area. However, the direct link to CIP which the grant allowed was mostly mobilized for the introduction of potato breeding material, whereas this crop is not appropriate for poorer households in a subtropical climate, in contrast to assumptions made at project design.

137. IFAD also missed an opportunity to explore innovative management methods together with the project management offices. HARIIP implementation benefitted from the experience of the provincial PMO, a stable organization working for various donor agencies and having a strong M&E capacity, and whose staff serve as technical assistants in China's own international cooperation projects. IFAD could have seized this opportunity to adjust existing project management tools to a changing context in China. Instead, only existing planning, monitoring and knowledge sharing tools were used.

B. Recommendations

138. Key recommendations are provided below for consideration by IFAD and the Government of the People's Republic of China. These recommendations are primarily designed for the follow-up IFAD project in Hunan and the upcoming country strategy and programme evaluation of China. They make reference to the 2016 COSOP and take into account two new aspects in the context of rural development in Hunan and more broadly in China: (i) the rural revitalization strategy which will be a driving force to address jointly rural development and poverty reduction; and (ii) the fact that all counties in Hunan Province (as well as most counties in China) now have access to urban markets, although there remain basic rural infrastructure needs in mountainous areas.

139. Recommendation 1: Continue to support diversified agricultural production investments of appropriate scale through IFAD's follow-up project in Hunan Province. Hunan Province has taken a leading role in the rural revitalization initiative in China. The new project is an opportunity to continue to explore various options for value chain development, within and outside farmer cooperatives as recommended in the 2016 COSOP. The experience gained through HARIIP shows how active engagement with rural entrepreneurs will be critical, whether they operate under a farmer cooperative or lead farmer status. HARIIP's experience points to two priorities for this engagement: resolving remaining obstacles in community infrastructure, and supporting linkages between these entrepreneurs and vulnerable people.

140. Recommendation 2: Develop operational tools to increase poor households' access to project activities, aligned with the national poverty reduction programme. The follow-up Hunan project and other IFAD activities in China should closely interact with the PADOs regarding China's post-2020 poverty reduction programme, when its detailed features become available. Project designs should be adjusted accordingly in order to ensure consistency and propose added value from IFAD presence. HARIIP's experience points to the importance of operational tools and processes in this regard. Towards this end, future IFAD projects need to directly access the national poverty reduction programme database and monitoring tools, which may require PADO to be a formal partner, as well as use good practices from the programme, such as ceilings in the value of project support to individuals (or individual proportion of shares in the case of farmer cooperatives). Given IFAD's strong engagement on value chains in China, a new tool to assess and monitor the pro-poor orientation of the value chains being researched and supported could be developed in partnership with the national programme.

141. Recommendation 3: Redefine the approach to gender equality and women's empowerment which is pursued through IFAD projects in China. The 2016 COSOP confirmed that women are a target group for IFAD in China, and highlighted the strengthening of women's economic power as a means to build gender equality awareness. The experience of HARIIP shows a need for more detailed guidelines for individual projects. Three areas of attention are proposed for these future guidelines: (i) principles for economic empowerment of poorer women (for example, promoting and monitoring a reduction of the gap between men and women wages in agriculture); (ii) identification of a supportive institutional setting, which could be a partnership with ACWF in some cases provided the agency's scope of work in the project is clearly defined, or gender focal points within Departments of agriculture and rural affairs, or alternative options; and (iii) minimum good practice to ensure effective participation of women in project activities (e.g. appropriate training schedules and childcare during training). Defining a process taking into account provincial specificities is recommended, rather than the definition of a national strategy. When a project supports champions for gender equality, care should be given to include cases in which poor women have been promoted.

142. Recommendation 4: Orient innovations in IFAD projects in China towards project implementation processes. The launch of rural revitalization in China is an opportunity for IFAD to support, in partnership with provincial project stakeholders, new approaches to agricultural and rural development in line with the 2016 COSOP and the new demand from IFAD's partners in China. IFAD should make full use of the presence of experienced provincial PMOs to adjust project implementation processes and innovate in that field, starting with the follow-up project under preparation in Hunan (e.g. results-based disbursement). Better defined monitoring indicators and new templates for knowledge sharing will be useful for such innovations. Whenever feasible, these tools should take into account the PMOs' needs in their own work as technical assistants in China's international cooperation projects.

Basic project data

				Approval (US$ m)		*Actual (US$ m)*	
Region	Asia and the Pacific Region		Total project costs	93.2 94.6 (revised)		91.4	
Country	People's Republic of China		IFAD loan (and grant) and percentage of total	47.0 47.7 (revised)	50%	44.5	48%
Loan number	875		Borrower (National Government)	45.6 46.3 (revised)	49%	46.4	51%
Type of project (subsector)	Agricultural Development		Cofinancier 1				
Financing type	98% Loan 2% Grant		Cofinancier 2				
Lending terms*	Ordinary		Cofinancier 3				
Date of approval	21 Sep 2012		Cofinancier 4				
Date of loan signature	21 Sep 2012		Beneficiaries	0.6	~1%	0.5	~1%
Date of effectiveness	21 Sep 2012		Other sources:				
Loan amendments	-		Number of beneficiaries: (if appropriate, specify if direct or indirect)	760,000 direct beneficiaries		1,021,000 (of which direct=640,128; indirect=381,222)	
Loan closure extensions	-		Project completion date			30 Sep 2017	
Country programme managers	Matteo Marchisio Sana Jatta Thomas Rath		Loan closing date			31 Mar 2018	
Regional director(s)	Nigel Brett Hoonae Kim		Mid-term review			September 2015	
Lead evaluator for project performance evaluation	Chitra Deshpande		IFAD loan disbursement at project completion (%)			93%	
Project performance evaluation quality control panel			Date of project completion report			23 Mar 2018	

Source: Project Completion Report 2018.

*Modified ordinary terms and conditions, namely eighteen years, including a grace period of five years with an interest rate equal to the reference interest rate per annum as determined by IFAD.

Definition and rating of the evaluation criteria used by IOE

Criteria	*Definition* *	*Mandatory*	*To be rated*
Rural poverty impact	Impact is defined as the changes that have occurred or are expected to occur in the lives of the rural poor (whether positive or negative, direct or indirect, intended or unintended) as a result of development interventions. *Four impact domains* • Household income and net assets: Household income provides a means of assessing the flow of economic benefits accruing to an individual or group, whereas assets relate to a stock of accumulated items of economic value. The analysis must include an assessment of trends in equality over time. • Human and social capital and empowerment: Human and social capital and empowerment include an assessment of the changes that have occurred in the empowerment of individuals, the quality of grass-roots organizations and institutions, the poor's individual and collective capacity, and in particular, the extent to which specific groups such as youth are included or excluded from the development process. • Food security and agricultural productivity: Changes in food security relate to availability, stability, affordability and access to food and stability of access, whereas changes in agricultural productivity are measured in terms of yields; nutrition relates to the nutritional value of food and child malnutrition. • Institutions and policies: The criterion relating to institutions and policies is designed to assess changes in the quality and performance of institutions, policies and the regulatory framework that influence the lives of the poor.	X	Yes No No No
Project performance	Project performance is an average of the ratings for relevance, effectiveness, efficiency and sustainability of benefits.	X	Yes
Relevance	The extent to which the objectives of a development intervention are consistent with beneficiaries' requirements, country needs, institutional priorities and partner and donor policies. It also entails an assessment of project design and coherence in achieving its objectives. An assessment should also be made of whether objectives and design address inequality, for example, by assessing the relevance of targeting strategies adopted.	X	Yes
Effectiveness	The extent to which the development intervention's objectives were achieved, or are expected to be achieved, taking into account their relative importance.	X	Yes
Efficiency	A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted into results.	X	Yes
Sustainability of benefits	The likely continuation of net benefits from a development intervention beyond the phase of external funding support. It also includes an assessment of the likelihood that actual and anticipated results will be resilient to risks beyond the project's life.	X	Yes
Other performance criteria			
Gender equality and women's empowerment	The extent to which IFAD interventions have contributed to better gender equality and women's empowerment, for example, in terms of women's access to and ownership of assets, resources and services; participation in decision making; work load balance and impact on women's incomes, nutrition and livelihoods.	X	Yes
Innovation	The extent to which IFAD development interventions have introduced innovative approaches to rural poverty reduction.	X	Yes
Scaling up	The extent to which IFAD development interventions have been (or are likely to be) scaled up by Government authorities, donor organizations, the private sector and others agencies.	X	Yes
Environment and natural resources management	The extent to which IFAD development interventions contribute to resilient livelihoods and ecosystems. The focus is on the use and management of the natural environment, including natural resources defined as raw materials used for socio-economic and cultural purposes, and ecosystems and biodiversity - with the goods and services they provide.	X	Yes

Criteria	*Definition* *	*Mandatory*	*To be rated*
Adaptation to climate change	The contribution of the project to reducing the negative impacts of climate change through dedicated adaptation or risk reduction measures.	X	Yes

Criteria	*Definition* *	*Mandatory*	*To be rated*
Overall project achievement	This provides an overarching assessment of the intervention, drawing upon the analysis and ratings for rural poverty impact, relevance, effectiveness, efficiency, sustainability of benefits, gender equality and women's empowerment, innovation, scaling up, as well as environment and natural resources management, and adaptation to climate change.	X	Yes
Performance of partners			
• IFAD	This criterion assesses the contribution of partners to project design, execution, monitoring and reporting, supervision and implementation support, and evaluation. The performance of each partner will be assessed on an individual basis with a view to the partner's expected role and responsibility in the project life cycle.	X	Yes
• Government		X	Yes

* These definitions build on the Organisation for Economic Co-operation and Development/Development Assistance Committee (OECD/DAC) Glossary of Key Terms in Evaluation and Results-Based Management; the Methodological Framework for Project Evaluation agreed with the Evaluation Committee in September 2003; the first edition of the Evaluation Manual discussed with the Evaluation Committee in December 2008; and further discussions with the Evaluation Committee in November 2010 on IOE's evaluation criteria and key questions.

Rating comparison

Criteria	*Programme Management Department (PMD) rating*	*Project Performance Evaluation rating*	*Rating disconnect*
Rural poverty impact	5	4	-1
Project performance			
Relevance	5	4	-1
Effectiveness	5	5	0
Efficiency	5	5	0
Sustainability of benefits	5	5	0
Project performance [b]	5	5	0
Other performance criteria			
Gender equality and women's empowerment	5	4	-1
Innovation	5	4	-1
Scaling up	5	4	-1
Environment and natural resources management	5	5	0
Adaptation to climate change	5	5	0
Overall project achievement [c]	**5**	**5**	**0**
Performance of partners[d]			
IFAD	4	4	0
Government	6	6	0
Average net disconnect			**-0.42**

[a] Rating scale: 1 = highly unsatisfactory; 2 = unsatisfactory; 3 = moderately unsatisfactory; 4 = moderately satisfactory; 5 = satisfactory; 6 = highly satisfactory; n.p. = not provided; n.a. = not applicable.
[b] Arithmetic average of ratings for relevance, effectiveness, efficiency and sustainability of benefits.
[c] This is not an average of ratings of individual evaluation criteria but an overarching assessment of the project, drawing upon the rating for relevance, effectiveness, efficiency, sustainability of benefits, rural poverty impact, gender, innovation, scaling up, environment and natural resources management, and adaptation to climate change.
[d] The rating for partners' performance is not a component of the overall project achievement rating.

Ratings of the Project Completion Report quality

	PMD rating	*IOE rating*	*Net disconnect*
Scope	n/a	5	n/a
Quality (methods, data, participatory process)	n/a	5	n/a
Lessons	n/a	4	n/a
Candour	n/a	4	n/a
Overall rating of the Project Completion Report	n/a	5	n/a

Rating scale: 1 = highly unsatisfactory; 2 = unsatisfactory; 3 = moderately unsatisfactory; 4 = moderately satisfactory; 5 = satisfactory; 6 = highly satisfactory; n.a. = not applicable.

Approach paper

I. Introduction

1. In line with the IFAD Evaluation Policy and as approved by the 122nd Session of the IFAD Executive Board, the Independent Office of Evaluation (IOE) will undertake a project performance evaluation (PPE) of the IFAD-financed Hunan Agricultural and Rural Infrastructure Improvement Project (HARIIP) in China. A project performance evaluation is a project evaluation with limited scope and resources. This PPE will build on information included in the project completion report (PCR) with a more complete analysis based on additional information and data collection by IOE at the country level through a short mission.

2. This approach paper presents the overall design of the HARIIP project performance evaluation and contains a summary of the project being evaluated. It further outlines the evaluation objectives, methodology, process and timeframe. Finally, the project's theory of change as prepared by the evaluation team is presented.

II. Project overview[1]

3. Country context. The People's Republic of China has experienced unparalleled economic growth over the past 30 years. In 1978, after decades of pursuing a centrally-planned and command economy, China embarked on a major programme of economic reform, starting with the de-collectivization of agriculture and gradual economic liberalization. These economic reforms triggered a remarkable increase in per capita income, decline in poverty and improvements in all dimensions of human development. As a result of rapid economic growth and a declining population growth rate, income per capita (nominal) rose from CNY 381 in 1978 to CNY 29,700 in 2010, CNY 47,250 in 2014 and CNY 56,690 in 2017. A gradual but significant shift in the composition of GDP took place, with the share of agriculture declining from 30 per cent in 1980 to 10 per cent in 2009 in favour of industry and services. Benefiting from an average annual GDP growth rate of 9.8 per cent, China became the second largest economy in terms of nominal GDP in 2010. However, the average annual GDP growth rate tapered to 6.8 per cent in 2017 and is expected to slow down in the 2019-2023 to 5.7 per cent per year on average[2].

4. The country also experienced a rapid rural transformation leading to a massive migration from rural areas to urban centres. The rural population declined from 56 per cent of China's population in 2010 to 42 per cent in 2017, representing 582 million people. Due to reform-driven economic growth, together with a well-funded national poverty reduction policy targeting designated poor counties, villages and households, absolute rural poverty in China declined considerably. Based on the official national poverty line, total rural poverty incidence was 17.2 per cent in 2010 and only 3.1 per cent in 2017. Rural income per capita has maintained an increasing trend since 2001, resulting in an average of CNY 5,919 in 2017.

5. Despite this remarkable progress, about 56 million people still live below the poverty line, largely in remote mountainous and border areas in the central and western regions. Ethnic minorities are concentrated in these ecologically fragile environments, where water is scarce, soil quality is low and natural resources are limited. The current Government poverty reduction strategy is delineated under the Thirteenth Five-Year Plan (2016-2020) and the Rural Poverty Alleviation and Development Programme (2011-2020). The development-driven poverty alleviation principle of these strategies combine assistance to local economic development,

[1] Information in this section is mostly derived from the president report, appraisal report, financing agreement, project completion report, and data from World Development Indicators (http://data.worldbank.org/data-catalog/world-development-indicators.

[2] Economist Intelligence Unit forecasts.

optimizing roles and functions of local governments, and direct poverty alleviation support to vulnerable households. There is a continuing commitment to increase funding for poverty alleviation. Those who continue to live in remote mountainous areas (women, left behind children and the elderly) are recognized as vulnerable groups.

6. Project goal and objectives. The goal of HARIIP was rural development and poverty reduction in targeted areas of Hunan Province. The project objectives were increased revenues, improved family food security, and strengthened resilience of approximately 182,000 rural households in nine counties, from improved agricultural production and rural infrastructure. Specifically the project was to result in: (i) increased incomes of the rural poor in targeted areas by approximately 25 per cent; and (ii) improved food security as reported by 70 per cent of beneficiary households as compared to the baseline.

7. Project area. HARIIP aimed to cover the poorer as well as the less fertile, less accessible and less developed areas of Hunan Province. The agricultural province of Hunan is located in central China and was considered at project approval a province with a significant presence of rural poverty with about 40 nationally-designated poor counties out of a total of 122. The rural net income per capita averaged CNY 2,418 in 2009 compared to the province-wide average of CNY 4,910.

8. HARIIP included nine counties within five prefectures (Yueyang, Chengde, Shaoyang, Xiangxi and Huaihua) that were mainly located in the north and western parts of the province, except the centrally located Shaodong. Five of the counties were nationally-designated poor counties and ethnic autonomous counties (Longshan, Guzhang, Luxi, Fenghuang and Jingzhou), while five had persistent pockets of poverty (Lingxiang, Yueyang, Taoyuan, and Shaodong).

9. Project target. HARIIP was to focus on townships and villages with the highest incidence of poverty. Although all the rural households in the selected project townships, totalling about 512,000 households or 1,943,000 inhabitants, were eligible to participate in the project, priority was to be given to the households classified under the category of poor at the moment of engagement in the project. HARIIP adopted a household targeting strategy in the project areas which included household ranking to classify households into three categories:[3] (a) the rich and better-off (3-15 per cent); (b) the average (54-60 per cent); and (c) the poor (25-43 per cent). The table below, provides details on the poverty levels and causes for each category and the project's expected response based on the project design report.

[3] HARIIP Project Design Report, 2012.

Table 1
Household targeting strategy in the project areas

Typology	*Characteristic Poverty Levels and Causes*	*Project Response*
Category A: 3% – 15% **The rich and better-off** With an annual per capita net income above CNY 5,600. Access to most of the resources and benefit from opportunities required for livelihood improvement. *This category will mainly benefit from the project support in public asset strengthening, such as infrastructure and service support system*	• Sufficient and skilful household labour • Have a good health • Solid food security • Solid and sufficient physical assets • Well-connected in the local social network • Quality farming with surplus • Integrated in value chains • Off-farm activities, sufficient financial buffer, access to credit • Often have a family member more permanently in the urban area with specialised skills or good education and a good job, who sends remittances	• Benefit from strengthened associations • Benefit from improved market and community infrastructure • Benefit from improved support services • Apply risk management and eco-environment friendly protection • Consolidated self-development skills and strengths
Category B: 54% - 60% **The average** With an annual per capita net income ranging from CNY 3,001 to CNY 5,621. Access to critical resources and benefit from some opportunities required for livelihood improvement. *The lower end of this category becomes part of the target group due to its vulnerability and sensitivity to external shocks.*	• Healthy labour based at home • Food security fully ensured • Good farming income, good land, limited access to inputs, average yields • Basic household physical assets • Access to the local social network • Involved in value chains but share low premiums • Limited financial buffer, but access to credit • Risk of falling into poverty if adverse events take place • Often have a family member seasonally migrating with relatively good skills	• Benefit from improved community infrastructures and facilities • Participation in beneficiary-governed services and management mechanism • Improved productivity • Diversified & specialized income generating activities • Adopt improved techniques and methods • Apply risk management and eco-environment friendly protection • Share improved premiums from value chains • Benefit from improved support services • Enhanced self-development skills and strengths
Category C: 25% - 43% **The poor** With an annual per capita net income at CNY 3,000 and lower. Insufficient access to basic resources and incapable of benefiting from opportunities required for livelihood improvement. The most vulnerable segment is the lower end with per capita net income of CNY 1,500 and lower, which represents about 13% of the category. *The lowest end of this group, which represents about 3-4% may not be able to take part in the project due to their physical or skill incapacities. They are taken care of by the state welfare system*	• Insufficient or constrained labour • Seasonal food insufficiency • Low farm productivity, no or little access to external inputs • Insufficient household physical assets, and of poor productivity • Distant or isolated from the local social networks • No access to value chains • No or little financial buffer, often indebted • Difficult or no access to credit • No labour migration, or seasonal labour migration with very low skills and income • Low self-development skills and capacities • Often burdened by unhealthy or inactive labour	• Access to improved community infrastructures and facilities • Participation in beneficiary-governed services and management mechanism • Improved productivity • Diversified & specialized income generating activities • Adopt improved techniques and methods • Apply risk management and eco-environment friendly protection • Access to value chains and share due premiums • Access to improved support services • Acquire self-development skills and strengths

Source: HARIIP PDR, 2012.

10. The project targeted a total of 182,000 rural households (760,000 people) from 589 targeted villages. Within project villages, priority was to be given to poor households whose members were economically active and physically able to participate in project activities. Of these, women and minorities were to receive

special attention as they were either structurally or socio-economically disadvantaged. About 27 per cent of the population of the project area belonged to ethnic minorities (mostly Miao, Tujia, Dong and Yao people). Generally, they were economically more vulnerable due to their remote location in mountainous areas with poor infrastructure and low levels of education and healthcare.

11. Project components. The programme comprised three components (A, B, C):

12. Component A: Community infrastructure improvement. The aim of this component was to strengthen the economic capacities at community level, especially the productive and livelihoods assets for expanded and improved agricultural production, decreased physical isolation and improved integration into market value chains. There were initially four subcomponents: (i) improving irrigation facilities; (ii) paving of existing village roads; (iii) constructing community facilities for safe drinking water supply; and (iv) upgrading the rural electricity grid. Activities consisted of building small infrastructure (new construction or renovation and household training in irrigation and water supply operations and maintenance (O&M). The designed activities for upgrading the rural electricity grid were cancelled with approval of IFAD in 2014, as the identified needs were already covered by the state grid programme.

13. Component B: Sustainable agricultural development and market access support. The component aimed to strengthen the self-development capacities of the rural men and women and improve their income-generating opportunities by supporting the demonstration and extension of sustainable techniques and diversification of agricultural production and providing related services. Several bureaus[4] within each county were tasked to implement the modular approach that was to be adopted along with capacity-building of extension services. The six modules were: (i) cash crop/off farm activities (ii) orchard-poultry integrated farming; (iii) agro-forestry; (iv) support to farmers' cooperatives; (iv) technical services support; and (vi) root and tuber crops development.

14. Component C: Project coordination management. This component included the establishment and operations of the Project Management Offices at the provincial, prefectural, county and township levels for the coordination, management, monitoring and evaluation of the Project.

15. Project costs and financing. The total project cost at approval was US$93.2 million of which US$47 million was to be funded by IFAD (US$46 million loan under Ordinary terms and a US$1 million grant). The Government was to finance US$45.6 million and beneficiaries US$0.6 million). During implementation, the project financing increased by US$1.4 million resulting in a revised[5] total financing of US$94.5 million. Of the grant financing, 79 per cent was used to support the roots and tuber module under component B and 21 per cent for capacity building and M&E-related tasks under project management. The actual cost at completion was US$91.36 million resulting in a disbursement rate of 97 per cent of the revised financing as shown in table 7. At project completion, the project financing was lower than expected, due to lower IFAD financing.

[4] At design, the bureaus included Agriculture, Forestry, Water Resources, Transport, State Grid, Environment Protection, Auditors.
[5] The PCR does not mention the reason for the revision which may be due to the SDR-US$ exchange rate.

Table 2
Project financing by component (US$'000)

Components	*Design*	*Revised*	*Actual*	*Actual (% design)*	*Actual (% revised)*
Component 1: Community infrastructure improvement	61 366	62 225	61 847	101%	99%
Component 2: Sustainable agricultural development and market access support	23 124	23 360	21 441	93%	92%
Component 3: Project coordination management	8 708	8 929	8 076	93%	90%
Total	93 212	94 515	91 364	98%	97%

Source: HARIIP project completion report validation.

16. Time frame. HARIIP was approved on 21 September 2012 and the Financing Agreement was signed the same day resulting in immediate loan effectiveness. The project completed on 30 September 2017 and closed on 31 March 2018. Total project duration was five years which included a preparatory phase in the first year, implementation of project activities until the fourth year and a one-year consolidation phase in the fifth and final year.

17. Implementation arrangements. Implementation arrangements remained as designed, with Ministry of Finance as borrower and representative ministry overseeing project implementation. Provincial Department of Finance and county-level bureaus of finance were responsible for the project financial management, while the provincial project management office (PMO) established in the Department of Agriculture was in charge of management and coordination of operational implementation. At county level, the project leadership was assumed by the project leading groups (PLGs) established by respective local governments. PLGs were led by a senior official of the local government and composed of representatives from local bureaus of finance, development and reform commissions and line agencies such as Bureaux of Agriculture, Forestry, Water Resources, Transport, State Electricity Grid, Environment Protection, Auditors, and partners such as the ACWF and Poverty Alleviation and Development Office.[6] Project implementation was decentralised to the CPMOs to ensure sustainability, with the provincial PMO performing overarching functions of planning, coordinating, monitoring and reporting.

18. HARIIP worked with village implementation groups (VIGs) which were established in all the project administrative villages to assist the coordination and implementation at village level. Implementation of project activities were delegated to the implementing agencies at county level under the coordination of country project management offices (CPMOs). These agencies were selected because they were part of the state structure mandated for respective sector development and administration.

19. Intervention logic. According to the PCR, farming systems in the project area were geared towards meeting families' basic livelihood requirements and were insufficiently linked to markets and agricultural value chains. Therefore, the project design sought to improve the viability, sustainability, adaptability and resilience of the farming systems to achieve the project objectives of reduced poverty and rural development. HARIIP was to directly invest in rural productive infrastructures and to support the service structure and emerging farmer cooperatives to better assist farmers to enter the market economy. These investments were expected to help farmers raise food production and incomes, strengthen food security, reduce out-

[6] The Poverty Alleviation Office was also not an Implementing Agency for HARIIP, but it was to assist the PMOs and IAs in the selection of eligible villages and beneficiaries and appropriate targeting in the project implementation, under the overall guidance of the county PLGs.

migration pressure or dependency, improve the capacity and efficiency of the rural labour force and production systems, and create added value to local produce through market linkage.

20. Significant changes during project implementation. Main adjustments made during the MTR included the following:[7]

- cancellation of investment in upgrading the rural electricity grid given the identified needs were fully covered by the state grid programme;
- focused investments in certain modules due to the local sector development strategy and local income generating opportunities and market potentials;
- IFAD financing allocations for provincial PMO management budget delegated to the CPMOs;
- slightly reduced expenditure under category of vehicle under IFAD loan to support the M&E operations (increased expenditure in category of training, Technical Assistance and studies under IFAD grant).

21. In general, project counties made adjustments under component A to avoid overlapping with state programmes. Under component B, adjustments were made in reducing the investments of module 3 to increase support under module 1 and module 2 in some counties due to the increased support and coverage of state programme in reforestation in rural area.

22. Project implementation results - snapshot. According to the PCR, the project reached in total 154,853 direct household beneficiaries (against an appraisal target of 182,000) of which 48.5 per cent were women and 42 per cent were recorded as from the ethnic minority groups. All physical output targets had been met and in some cases exceeded (see below) but the total outreach of training was limited, which inhibited the impact of the project on capacity building.

- HARIIP constructed village roads and irrigation infrastructure beneficiary communities appreciated. The project lined 622 km of canals (87 per cent of the target), improved 336 water ponds (122 per cent of the target), completed 129 drinking water supply systems (130 per cent of the target), and paved 754 km of administrative and natural village roads (115 per cent of the target).
- The infrastructure component benefited from on-going parallel Government programs with large investment and clear performance targets for local Government. Additionally, the quality of the project's civil works met the related national technical standards, and some of the civil works visited at project completion appeared to be operational and maintained properly, with few exceptions. On the other hand, training on irrigation operations and maintenance (O&M) and on drinking water O&M met only 62 per cent of the physical target partly due to various reasons including the limited available time of the involved staff.
- Individual farmers increased productivity which led to income growth in HARIIP's module 1 (cash crops and off-farm income generating activities), module 2 (orchard-poultry), and module 6 (roots and tuber). In total, 23,205 households obtained inputs (e.g. seeds, fertilizer) for cash crops, orchard, poultry, agricultural forestry or roots (109 per cent of the target), 6,836 Ha of production areas (of which 5,627 ha. under cash crops) was directly supported by the project (107 per cent of the target).

[7] The PMOs presented to the supervision mission of 2014 a proposal on changes in utilization of investment resources. The PMO proposal was further validated by the IFAD MTR in 2015 and related adjustments were made in further implementation.

- The PCR reported that 96 per cent of the households received technical training on crops and that training on orchard poultry at 206 per cent well-exceeded its set target. While there was very low uptake in five counties, it is worth noting that in some of the counties the module on orchard poultry benefited from an exponential increase in the participation of beneficiary farmers that boosted the overall implementation of the module. Under the module on technical service support, institutional service support improved compared to the start of the project.
- Regarding market linkage and value chain development, according to the PCR, the project mainstreamed vulnerable groups (the poor, women and minorities) into organized production that empowered them to participate in villages' decision-making. The project supported 42 cooperatives, slightly below the target of 45 (93 per cent of the target) and trained 7,699 members of cooperatives versus a target of 2,700 (285 per cent of the target). HARIIP also assisted the recipient cooperatives in their enhanced production and cooperative farming. Yet, the PCR highlighted that challenges still remain in cooperative post-production management, especially in the area of market access and marketing.

III. Evaluation objectives and scope

23. PPE objectives are to: (i) assess the performance of the IFAD project; (ii) generate findings and recommendations for the design and implementation of ongoing and future operations in China; and (iii) provide a deeper understanding of HARIIP as an input into the CSPE to be conducted in 2022.

24. The PPE Scope has been identified based on the following criteria: (i) areas identified through a desk review – the PPE will review additional evidence and propose a complete list of consolidated ratings; (ii) selected issues of strategic importance for IFAD in China and (iii) limitations set by the available time and budget – the PPE will have to be selective in focusing on key issues where value can be added, given the limited time and budget.

25. The PPE exercise will be undertaken in accordance with the IFAD Evaluation Policy (2011) and the second edition of IFAD Evaluation Manual (2015). In line with the agreement between IOE and IFAD Management on the harmonized definitions of evaluation criteria in 2017,[8] the key evaluation criteria applied in this PPE include the standard ones which can be found in annex II. In line with the practice adopted in many other international financial institutions and UN organizations, IOE uses a six-point rating system, where 6 is the highest score (highly satisfactory) and 1 being the lowest score (highly unsatisfactory).

26. The theory of change (TOC) of a project depicts the causal pathways from project outputs to project outcomes, i.e. through changes resulting from the use of those outputs made by target groups and other key stakeholders towards impact. The TOC further defines external factors that influence change along the major impact pathways. These external factors are assumptions when the project has no control over them, or drivers of impact when the project has certain level of control. Analysis in this evaluation will be initially assisted by an ex-post reconstructed TOC at design (presented in annex XI) to assess the extent to which HARIIP's goal and objective were effectively achieved. The TOC will be revised during the evaluation process.

27. Reconstructed TOC. The 2014 country programme evaluation describes HAARIP as an agricultural development project, in contrast with other IFAD projects that supported a broader range of rural development initiatives. The project design

[8] IFAD (2017). Agreement between IFAD Management and the Independent Office of Evaluation of IFAD on the Harmonization of IFAD's Independent Evaluation and Self-Evaluation Methods and Systems Part I: Evaluation Criteria. EC 2017/96/W.P.4.

highlighted the importance of building resilience of smallholder agriculture vis-a-vis climate change and market instability using the approach recommended under the first objective of the 2011 COSOP: "The rural poor in targeted areas sustainably use enhanced productive natural and economic assets and improved technology and advisory services in changing environment and market conditions." The design report, in other sections, mentions the need to revive rural communities. The reconstructed ToC presents three development paths which cover these various views:

- Through community infrastructure (component A), solving gaps in village infrastructure (irrigation, water supply and/or village roads) overall, by building a productive infrastructure base for agricultural diversification. This was expected to improve living conditions, bringing piped water to homes, and thereby reduce migration pressure. These were also critical logical links to improve child nutrition.
- Through agricultural technology and diversification (component B), a broad range of households, including poor ones, was expected to gain access to extension services, and quality agricultural inputs. This could take place through public extension and/or through farmer cooperatives. The cooperatives were expected to open new and better market opportunities. Improved access to services was to lead to two main expected improvements, and from there to increased rural household incomes: more diversified and therefore risk resilient agricultural incomes, and climate resilient techniques especially for root and tuber crops in ethnic minority areas. The cooperatives were also expected to develop strategies inclusive of poor households.
- The third path is about the development of social capital in village communities. Village Implementing Groups were expected to include diversified community members in addition to the village committee, and through newly-created village infrastructure self-maintenance groups, the remote villages were expected to boost their management capacity, and therefore ensure year-round access to markets and services, a critical limiting factor to reviving rural communities.

28. These development paths interact with each other in many aspects, which is the purpose of an integrated agricultural development project. The position of food security in the ToC evolved over the implementation period. Initially, improved food security was expected from improved agricultural production. By project mid-term, the household survey rather highlighted linkage from improved living conditions to better child nutrition.

IV. Key issues for further analysis

29. Based on a desk review of the 2014 country programme evaluation, PCR and other project documents, key issues for this PPE (to be covered under different evaluation criteria) have been identified below. These may be fine-turned based on further considerations or information availability, consultation with the Asia and the Pacific Division of IFAD and the Government.

30. Project development strategy. The goal statement of the project was broad - "Rural development and poverty reduction in targeted areas of Hunan Province achieved." Its achievement was to be measured in terms of asset ownership and child malnutrition prevalence. Several slightly differing versions of the development objective were used over the life of the project. In the President's report, the development objective was "to increase incomes and improve food security for 182,000 rural households by improving agricultural production and rural infrastructure". The logical framework specified that the expected improvement in agriculture was "diversified agricultural production". The MTR and the PDR did not

mention diversification in their statement of the objective. Instead, they formulated an objective of “strengthening resilience” vis-a-vis climatic events and market risks. This was the case despite IFAD agreeing to accept the quality assurance review's recommendation to remove the term "resilience" from the objectives to improve the project's focus and since monitoring its progress would have been challenging.

31. There is a lack of clarity in the project's development strategy with some disconnect between the final design and implementation. The project appears to have adopted an integrated agricultural development approach to increase incomes and improve food security. Yet, the three pathways of the reconstructed ToC do not appear to lead directly to these objectives. Therefore, this PPE will examine what the project was trying to achieve at design and during implementation; whether a clear strategy was presented and pursued to achieve this aim or whether the project under an integrated agricultural development approach pursued a mix of activities to serve almost all members of the communities. Under the criterion relevance, the PPE will further assess whether the actual project interventions and approach were appropriate to address the development challenges and the needs of the target group at the time of design, and whether the approach was appropriately adjusted to the changing context during implementation. The PPE also will examine to what extent climatic and market resilience was pursued during implementation despite its removal from the President's Report as well as explore why value chains were mostly outside the project's strategy.

32. Targeting and social inclusion. Reduced rural poverty in the targeted areas of Hunan was a main goal of HARIIP, yet there were a number of issues with the poverty targeting approach. In the first instance, a geographic targeting approach was adopted which led to the inclusion of 9 counties in the project area. However, of the 9 counties scattered across the province, only five of them were nationally-defined poor counties despite the presence of 40 of them in Hunan. Under the relevance criteria, the PPE would analyse the rationale for selecting a scattered project area with close to half of counties not designated as poor, and the implications of this selection on the relevance of project activities.

33. Project participation was open to all households in the townships and administrative villages in the 9 counties. However, the target number of household beneficiaries was unrealistic at 182,000 as it was slightly above the total village population recorded in the M&E system (161,148 households in 2017). All project households were ranked into three categories of poverty. The Mid-Term Review mentioned that this process was at risk of elite capture, especially in the non-poor counties, yet limited evidence was provided. Under effectiveness, the PPE will examine whether there is evidence to support the MTR's claim and clarify how the outreach target was determined.

34. HARIIP's project design gave priority to different vulnerable groups including ethnic minority groups and poor women. The quality reviews of the project design highlighted a lack of analysis on the constraints and opportunities of each minority ethnic group and raised questions regarding whether poor households had sufficient land to access the proposed cash crops and perennial crops. The PCR and project data only mention the total percentage of ethnic minorities reached. Thus, this PPE will examine in the ethnic autonomous regions whether there were any factors which facilitated or constrained ethnic minority participation and accrual of benefits for the different modules. In addition, the PPE will examine how the project was implemented in the nationally-defined poor counties and those with pockets of poverty; whether differentiated approaches were adopted in these different types of counties as well as in relation to ethnic minorities; and compare the effectiveness of the targeting approaches in these different types of counties. Although the PCR rated the project satisfactory in terms of gender equality and women's empowerment, given IFAD's focus on gender transformation during its

Eleventh Replenishment, the PPE will also examine more closely the inclusion of poor women in HARIIP to identify lessons, if any, to further improve performance.

35. Capacity building. According to the PCR, the results related to capacity building were mixed. The total outreach for training was 74 per cent of the target with the lowest outreach related to training on irrigation and drinking water operations and maintenance. It appears that the implementing agencies staff did not have sufficient time to meet the scale of the training needed to implement the project. The PCR further indicated that the training was not adequately implemented in most counties and there was limited coverage of marketing and business management aspects due to limited skills of the respective technical agencies. Limited technical capacity has been raised as a key constraint in the project performance of IFAD interventions in the 2019 Annual Report on Results and Impact of IFAD Operations. The PPE will examine (i) to what extent the training capacity limitation was a design issue due to insufficient institutional analysis or related to Government's performance as a partner; (ii) to what extent the shortcomings in training affected the effectiveness of activities related to market access and linkage; and (iii) to what extent these shortcomings affected the sustainability of benefits related to community infrastructure development.

36. Value of IFAD as a partner. The PCR assessed all the evaluation criteria as satisfactory or better (5+), except IFAD performance as a partner which was rated moderately satisfactory (4). Yet the PCR provides limited explanation for this relatively lower score. It raises issues related to methods for measuring impact, monitoring during supervision and lack of technical support received to address low disbursement. The PPE aims to identify the factors contributing to the emergence of these issues and lower IFAD performance as a partner in general and in relation to promoting innovation, scaling up, and knowledge management. Given the highly satisfactory rating for Government performance as a partner, it is important to explore how IFAD adds value to rural and agricultural development projects in China, especially given the limited need for IFAD financing.

37. Root and tuber crops module. The International Potato Center (CIP) of the Consultative Group for International Agricultural Research received IFAD grant financing to identify and develop new techniques for root and fodder crops in poor areas with a dual purpose: household food security and market opportunities for health foods. The CIP project also promoted a new method of partnerships for research, involving local technicians and the private sector. While most of the IFAD grant was earmarked for the four Xiangxi counties, they made up at completion only 50 per cent of the root and tuber crops area supported by the project with only two counties in ethnic minority areas taking an active part. Instead of diversified crops with market potential as health food, including yam and taro, the activity mostly took the form of potato seed production as an income generating activity for poor farmers. By mid-term, access of poor farmers to such seed was seen as a challenge. The root and tuber crop module was implemented in connection with the CIP Research and Development program, therefore the PPE will examine the strategic value of this in-loan grant as well as its contribution to partnership building and concretely to the project objectives. Under the innovation criteria, the PPE will identify the development of any technical and institutional innovation; their relevance and outreach to HARIIP's targeted beneficiaries; and prospects for their further uptake of scaling-up.

V. Methodology

38. The PPE will build on a desk review of PCR and other key project documents and available data while taking into account the contexts and information from interviews. During the main PPE mission, additional evidence and data will be collected to verify available evidence and to reach an independent assessment of performance and results. The methodological approach will focus on establishing

plausible causal links between the HARIIP interventions and the observed changes. The PPE will use a theory of change approach for a systematic examination of assumed causal linkages and whether there is sufficient evidence to support these linkages, while also examining to what extent key assumptions were realistic.

39. Data collection. The PPE will be built on the initial findings from a rapid desk review of the main project related documents including: (i) project design documents; (ii) financing agreements, amendments and background documents; (iii) supervision and implementation support mission reports; (iv) mid-term review report; (v) project completion report; (vi) IFAD financial and disbursement data; (vii) baseline, mid-term and end-line household survey reports in line with the IFAD's results and impact management system (RIMS), and (viii) county-level M&E data and lists of villages with activities in the visited counties. Based on a desk review, there is sufficient data from good household surveys on household assets. A careful review, analysis, and triangulation of these documents will be conducted. Validation of project results will be done through gathering and cross-checking information and evidence from multiple sources and stakeholder perspectives.

40. In order to obtain further information, interviews will be conducted both at IFAD headquarters and in the country. The PPE mission will last 12 days. During the in-country work, additional primary and secondary data will be collected in order to reach an independent assessment of performance and results. Data collection methods will mostly include qualitative participatory techniques. The methods deployed will consist of individual and group interviews with project stakeholders, beneficiaries and other key informants and resource persons, and direct observations.

41. The HARIIP M&E system includes continuous monitoring of changes among a 108 household panel. The PPE mission will invite the PPMO to share primary data from this household panel in order to observe the sampling strategy and understand linkage to the RIMS impact survey.

42. Field visit site selection. The PPE mission will conduct field visits in three different counties. Site selection for field visits will be guided by the following considerations as may be relevant: (i) coverage of areas with different characteristics (e.g. poverty status, ethnic minority population, farming systems, and access to markets and services); (ii) counties with varied performance under different project activities; and (iii) counties with past or planned IFAD interventions. Based on a thorough analysis of outputs and outreach by county, frequency of supervision, two poor/ethnic minority counties and one non-poor county (Guzhang, Luxi and Shaodong) have been initially selected. An informed decision on villages to be visited will be taken based on: the number of beneficiaries in the area (preference for areas with more), the need to cover a diverse range project activities (i.e. rural infrastructure and activities from the 6 modules) and the team's logistical exigencies.

43. Stakeholders' participation. In accordance with IFAD Evaluation Policy, the main project stakeholders will be involved throughout the PPE process through meetings at county and provincial levels, in-depth interviews, and invitations to provide feedback on this approach paper, the presentation at the end of the field mission as well as the draft PPE report. This will ensure that the key concerns of the stakeholders are considered, that the evaluators fully understand the context in which the programme was implemented, and that opportunities and constraints faced by the implementing institutions are identified. Regular interaction and communication will be established with the Asia and the Pacific Division of the Programme Management Department of IFAD and with the Government of the People's Republic of China. Formal and informal opportunities will be explored during the process for discussing findings, lessons and recommendations.

44. Limitations. HARIIP's project counties are scattered across Hunan Province. The limited number of counties visited is therefore not representative of all counties. This will be partly mitigated by reviewing county data in detail.

VI. Process and timeline

45. Lead Evaluator for this PPE will be Chitra Deshpande, Senior Evaluation Officer in IOE. She will be supported by the senior consultant Claude Saint-Pierre (rural development expert) and a national consultant Xuexiong Wang (rural infrastructure expert). Cristina Spagnolo, IOE Administrative Associate, will provide administrative support throughout the evaluation process.

(a) Preparation. The PPE approach paper including the draft theory of change will be shared with the Asia and the Pacific Division and Government in October 2019.

(b) Desk review. The evaluation team will conduct a desk review of the available project documentation as well as relevant studies, surveys or other background information prior to the main country mission in November 2019. The team will prepare the detailed field methodology and start conducting phone interviews with relevant IFAD staff during this phase. Through the China IFAD Country Officer, the IOE team will liaise with the Government and project authorities to prepare a mission schedule.

(c) Country mission. The PPE country visit by the evaluation team will take place in November 2019. A debriefing will be held with Government authorities and the Country Director for China who will also attend the discussions.

(d) Comments by the Asia and the Pacific Division of IFAD and Government. The draft PPE report will be available for comments by the Asia and the Pacific Division and Government in February 2020.

(e) Communication and dissemination. The final report will be disseminated among key stakeholders and the evaluation report published by IOE, both online and in print. IFAD Management will prepare a written response on the final evaluation report, which will be included in the published version of the document. The recommendations addressed to IFAD will be followed up in the President's Report on the Implementation Status and Management Actions of Evaluation Recommendations.

46. Tentative timeline for the PPE process is as follows:

Date	*Activities*
September – October 2019	Preparation and desk review
10 - 22 November 2019	Mission to China
21 November 2019	Debriefing (in country)
End February 2020	Draft PPE report sent to the Asia and the Pacific Division (APR) and Government for comments
End April 2020	Final report and audit trail sent to APR and Government + Management Response received from APR
Beginning May	Publication

VII. Background documents

47. The key background documents for the exercise will include the following:

HARIIP specific documents

- Design Report (December 2012)
- IFAD President's Report (106th Executive Board Session 2012)
- Baseline Survey Report (January 2012)
- Supervision Mission Report (March 2014)
- Implementation Support Mission Report (August 2014)
- Supervision Mission Report (November 2014)
- Mid-term Review Report (November 2015)
- Supervision Mission Report (August 2016)
- Supervision Mission Report (May 2017)
- Project Completion Report (March 2018)

General and others

- IFAD (2011). IFAD Evaluation Policy.
- IOE (2012). Guidelines for the Project Completion Report Validation and Project Performance Assessment.
- IFAD (2015). Evaluation Manual – Second Edition

List of persons met

County Government officials and beneficiaries

Central Government

Liu Yi	Third Secretary, Advisor, Section of IFAD Affairs of the Permanent Representation of the People's Republic of China to the UN Agencies for Food and Agriculture

Changsha (Hunan Province)

Liu Xunhua	Province Reform and Development
Liu Xiaolu	Province Finance
Li Hui	Province Agriculture and Rural
Peng Juan	Province Transportation
Zhong Bo	Province Women Federation
Liao Haoxiang	Province Poverty
Zhang Chaofan	Hunan Academy of Agricultural Sciences
Li Hongmei	Hunan Agricultural University
Dai Jun	Province Finance
Chen Keyun	Director, Province PMO
Huang Bojun	Deputy Director, Province PMO
Cai Hao	Province PMO
Lei Guoping	Province PMO
Liu Huichuan	Province PMO
Xie Zhengrong	Province PMO
Xu Xianchun	Province PMO
Zeng Hongyuan	Province PMO
Huang Qiwen	Director, Xiangxi Prefecture PMO
Tian Yan	Deputy Director, Xiangxi Prefecture PMO
Li Daihua	Director, Luxi County CPMO
Wu Yongsheng	Deputy Director, Luxi County CPMO
Li Shihao	Luxi County CPMO
Li Daiping	CPMO
Huang Yunshan	Director, Guzhang County CPMO
Zhou Chunqiao	Deputy Director, Guzhang County CPMO
Zhou Jiaying	Guzhang County CPMO
Cao Zehua	CPMO
Li Daijun	CPMO
Tang Hongjian	Director, Shaodong County CPMO
Shen Chucheng	Shaodong County CPMO
Li Qiangyong	Shaodong County CPMO

Guzhang County and villages

Xiang Guangde	Agriculture Bureau
Zhou Demao	Agriculture Development
Zhou Dazao	Deputy Magistrate, County Government
Tan Juying	Finance Bureau
Huang Xingwen	Foreign Trade
Huang Qiwen	Prefecture PMO
Tian Yan	Prefecture PMO
Zhou Yong	Reform and Development
Xiang Hanyin	Station Head
Lu Junchun	Station staff
Wang Liangfeng	Station staff

Luo Zhifu	Township Government Head
Zhang Shudong	Transportation
Shao Wei	Water Conservation
Shi Hui	ACWF
Lu Mingyu	Baiyang village
Wang Daojun	Baiyang village
Yang Debiao	Baiyang village
Yang Shilan	Baiyang village
Dai Mingjiu	Baiyang village
Lan Xiaoting	Baiyang village
Li Jincheng	Baiyang village
Zhang Shiguang	Baiyang village
Zhang Shiming	Baiyang village
Zhang Shiying	Baiyang village
Lu Zhengxiang	Agricultural Cooperative
Wang Mingke	Agricultural Cooperative
Liu Youhong	Zimu village
Liu Zhizun	Zimu village
Xiang Faxiu	Zimu village
Yang Mingbi	Zimu village
Zhang Gaoju	Zimu village
Zhang Gaoyou	Zimu village
Zhang Meihua	Zimu village
Zhang Wenhua	Zimu village
Zhang Yuanjin	Zimu village

Luxi County and villages

Xiang Hunan	Deputy Magistrate
Wen Yuanfu	Natural Resource Bureau
Cao Fawu	Natural Resource Bureau
Yang Anqiang	County Government Office
Ou Kaifu	Reform and Development
Wen Jun	Water Conservation
Yang Xiaolan	Agriculture Economic Station
Yang Lichun	Women Federation
Luo Yuqing	Finance Bureau
Deng Haosheng	Agricultural and Rural Bureau
Liu Nianmao	Poverty Office
Wang Faguo	Animal Husbandry Bureau
Li Desu	Agriculture and Rural Bureau
Tian Yan	Xiangxi Prefecture PMO
Huang Qiwen	Xiangxi Prefecture PMO
Liu Zusen	Maxikou village
Shi Gangmei	Maxikou village
Song Xishui	Maxikou village
Yang Liuhua	Maxikou village
Yang Zongcun	Maxikou village
Yao Jun	Maxikou village
Zhang Shicui	Maxikou village
Zhang Xiangping	Maxikou village
Li huan	Xingzai sub-village
Yao Zugao	Wangjiaduan sub-village
Wu Xuewen	Township Government
Song Balian	Agricultural Cooperative
Yang Changwei	Agricultural Cooperative

Li Defang	Agricultural and Rural Bureau
Wu Xuewen	Pushi township government
Yang Changwei	Pushi township government
Yang Xiaolin	County government office
Tang Jinsen	Sub-village #9
Gong Jinfeng	Sub-village #9
Tang Jiabin	Sub-village #9
Tang Yinhai	sub-village #9
Tang Youshan	Sub-village #9
Tang Youbao	Sub-village #9
Wang Guanbao	Sub-village #9
Tang Jinhai	Sub-village #9
Zhu Zehong	Sub-village #9
Tang Laoba	Sub-village #9
Yang Yulin	Sub-village #9
Tang Yongzhou	Sub-village #9
Tan Jinlian	Sub-village #9
Tang Shouhai	Sub-village #9
Zhong Tiehua	Sub-village #9
Li Liujun	Sub-village #9
Tang Yunyou	Sub-village #9
Gong Shusheng	Yanmenxi village
Cao Feng	County government office
Tang Yunshan	Village head, Yanmenxi village
Li Deduan	Agriculture and Rural Bureau
Li Deduan	Agriculture and Rural Bureau
Yang Xiaolin	County Government Office
Man Ruoqun	Agriculture and Rural Bureau
Wang Chunmei	Sub-village #1
Zhang Haimei	Sub-village #1
Yao Xialong	Sub-village #1
Wang Chunyan	Sub-village #2
Zhu Liuer	Sub-village #2
Li Hua	Sub-village #2
Mao Jinyu	Sub-village #2
Mao Wenlian	Sub-village #2
Hu Heimei	Sub-village #2
Yao Laosi	Sub-village #3
Huang Faying	Sub-village #3
Song Yutao	Sub-village #3
Yi Qiying	Sub-village #3
Liu Aicui	Sub-village #3
Yao Benxu	Sub-village #3
Mao Yuhua	Sub-village #9

Shaodong County and villages

Liu Haiping	County water conservation
Shen Chucheng	Agriculture and Rural Bureau
Tang Hongjian	Agriculture and Rural Bureau
Xi Liwu	County Poverty Office
Xu Xiaohai	Agriculture and Rural Bureau
Yin Xiangzhen	Transportation Bureau
Yu Junhui	County Finance Bureau
Zhang Zhongming	Agriculture and Economic station
Zhao Qing	Women Federation

Liu Changshen	Township government deputy head
Ye Zhigao	Township extension station
Xie Pengyu	Station director
Jiang Fangyou	Kuaile sub-village
Liu Qingxu	Luofu sub-village
Xie Xueyun	Luofu sub-village
Wang Shelin	Wangjia sub-village
Wang Juan	Wuzhai sub-village
Liu Jun	Xinjian sub-village
Liu Xitao	Xinjian sub-village
Yang Zaixin	Village committee member
Li Li	Village party secretary
Yang Qinghong	Director Village Women Federation
Tang Xinliang	Sub-village #1
Yang Guorong	Sub-village #3
Yang Yongjun	Sub-village #3
Yang Wencai	Sub-village #4
Xu Changgeng	Sub-village #5
Guo Zhuguo	Sub-village #8
Guo Yuguo	Sub-village #11
Zhang Xinsheng	Sub-village #11
Xu Qinming	Sub-village #13
Yang Shuangfa	Haijiao Sub-village #3
Yang Qing	Haijiao Sub-village #4
Yang Yifan	Haijiao Sub-village #4
Tang Simin	Longtan Sub-village #6
Li Haiyun	Longtan Sub-village #8
Meng Shunxiang	Longtan Sub-village #8
Tang Guigao	Longtan Sub-village #14
Tang Kaisheng	Longtan Sub-village #15
Lu Xiaohong	Nanmu Sub-village
Tang Pinghua	Xinjian Sub-village
Tang Gongxi	Yaojia Sub-village
Wang Wuhe	Yaojia Sub-village
Li Chunsheng	Sub-village #1
Li Guomin	Sub-village #1
Li Shuangping	Sub-village #1
Lu Xiaohong	Sub-village #1
An Cuifang	Sub-village #3
Tang Maoshan	Sub-village #3
Yao Qunying	Sub-village #3
Liu Zhenglin	Sub-village #4
Zhu Rengui	Sub-village #5
Zhu Wei	Sub-village #5
Zhu Xiaoyi	Sub-village #6
Tang Jiabin	Sub-village #9

IFAD and partners

Matteo Marchisio	Country Director, IFAD
Sun Yinhong	Country Programme Officer, IFAD
Sana A. Jatta	Former Country Programme Manager, IFAD
Philipp Baumgartner	Country Director, IFAD
Peter Situ	Team Leader, Project Design and PCR
Abdul Mohamed Alam	Agronomist, Economic and Financial Analysis for PCR
Weijing Wang	Former M&E Officer, IFAD

Mission schedule

November 2019

Date	Agenda		Participants
Nov. 10	AM		
	PM	Arrival in Changsha	PPE mission
Nov. 11	AM	Kick-off meeting	PPMO, relevant province departments, university, research institute
	PM	Mission internal meeting	PPE mission
Nov. 12	AM	Train Changsha to Huaihua City, pick-up by cPMO to Guzhang County	PPE mission, PPMO (Mr. Xie Zhengrong, Cai Hao/interpreter)
	PM	County meeting	Xiangxi prefecture PMO, CPMO, relevant line agencies
Nov. 13	AM	Trip to Zimu village/Yantouzhai township. Beneficiaries interview, cooperative interview, infrastructure activities inspection	VIGs, beneficiaries, cooperative members
	PM	Trip to Yantouzhai township, interview township extension station	Extension staff
Nov. 14	AM	Trip to Baiyang village/Guyang township, Beneficiaries interview, cooperative interview, infrastructure activities inspection	VIGs, beneficiaries, cooperative members
	PM	Trip to Luxi County	PPE mission, pPMO
Nov. 15	AM	County meeting	cPMO, relevant line-agencies
	PM	Trip to Maxikou village/Yantouzhai township, Beneficiaries interview, infrastructure activities inspection	VIGs, beneficiaries
Nov. 16	AM	Trip to Yanmenxi village/Pushi township, Beneficiaries interview, infrastructure activities inspection	VIGs, beneficiaries
	PM	Trip to Maojiatan village, Beneficiaries interview, cooperative interview, infrastructure activities inspection	VIGs, beneficiaries, cooperative members
Nov. 17	AM	Train to Shaodong	PPE mission, PPMO staff
	PM	PPE mission internal meeting	PPE mission
Nov. 18	AM	County meeting	cPMO, relevant line-agencies
	PM	Trip to Luofu village, Beneficiaries interview, infrastructure activities inspection	VIGs, beneficiaries
Nov. 19	AM	Trip to Nanmu village/Fanjiashan township, Beneficiaries interview, infrastructure activities inspection, Township extension interview	VIGs, beneficiaries, extension staff
	PM	Trip to Haijiao village, Hailong vegetable cooperative interview	Beneficiaries, cooperative members
Nov. 20	AM	Train to Changsha from Shaodong	PPE mission, pPMO
	PM	Prepare for wrap-up meeting	PPE mission, pPMO
Nov. 21	AM	Wrap-up meeting in Changsha	pPMO, relevant province departments, Academy of agricultural sciences
	PM	PPE internal meeting	PPE mission
Nov. 22	AM	Departure from Changsha	PPE mission

Planned and actual programme costs and financing by component

(US$'000)

Components	IFAD Loan			IFAD Grant			Government			Beneficiaries			Total					
	Allocation	Revised	Actual	Allocation	Revised	Actual	Allocation	Revised	Actual	Allocation	Revised	Actual	Allocation	% of total	Revised	% of total	Actual	% of total
A. Community infrastructure improvement	31 189	31 618	31 271				29 589	29 997	30 098	588	610	478	61 366	66%	62 225	66%	61 847	68%
B. Sustainable agricultural development and market access support	13 161	13 320	11 499	869	832	702	9 094	9 208	9 240				23 124	25%	23 360	25%	21 441	23%
C. Project management	1 650	1 673	814	130	182	191	6 928	7 074	7 071				8 708	9%	8 929	9%	8 076	9%
Total	46 000	46 612	43 584	1 000	1 015	892	45 612	46 278	46 410	600	610	478	93 212	100%	94 515	100%	91 364	100%
Actual (% of Revised)	94%			88%			100%			78%			97%					

Source: Project completion report (2018).

Outcome and output indicators based on PCR

Component/ Subcomponent or outputs	Indicator	Unit	Adjusted Target	Cumulative Actual	As % of Adjusted
Goal: Improve the production and living conditions within the areas of the project, reduce poverty.					
	35% of household (HH) assets have been improved (compared to the baseline)	%	35%	46%	**131%**
	Malnutrition among children decreases by 15% (compared to the baseline)	%	15%	29%	**193%**
Project Development Objective: 182,000 HHs in 9 counties increase income, and improve food security through diversified production.					
	The income of the poor within the areas of the project increases by 25%	%	25%	78%	**311%**
	70% of the households of farmers improve food security	%	70%	97%	**139%**
	Number of beneficiary HHs, by project activities and by categories	HH	182 000	142 000	**78%**
Component 1 - Outcome 1: Construction of Community infrastructure: Improve the production and living conditions of 174,000 HHs, especially the poor farmers and minority farmers within the areas of the project, through raising the levels of the community infrastructure, including irrigation, rural roads, water and electricity.					
	174,000 households of farmers benefit from community infrastructure	HH	174 000	123 741	**71%**
	Percentage (%) of HHs increase productivity due to the improved irrigation conditions	%	45%	63%	**140%**
	Percentage (%) of the irrigation system supported by the project for five years that still works normally	%			**N/A**
	Land areas whose irrigation is new and improved	acre			**N/A**
	Percentage (%) of the drinking water system supported by the project that still works normally for five years.	%	90%		**N/A**
	Percentage (%) of the HHs to improve market access due to project infrastructure development	%	50%		**N/A**
	Percentage (%) of the management of the village infrastructure and maintenance committees	%	90%	98%	**109%**
Outputs 1.1: Irrigation facilities (irrigation canals for small field and ponds)					
	Lining 714.8 km channels	km	715	622	**87%**
	Repair and reinforcement of 276 ponds	set	276	336	**122%**
	86,241 households receive training on the irrigation management and maintenance	person	86 241	47 738	**55%**
	Irrigation Canals O&M	km	1 293	785	**61%**
	Water Ponds O&M	set	341	373	**109%**
	75% of the villages which construct the irrigation system set up Water User Association	%	75%	96%	**127%**
	The number of HHs who are benefited, by categories	HH			**N/A**

Component/ Subcomponent or outputs	Indicator	Unit	Adjusted Target	Cumulative Actual	As % of Adjusted
Output 1.2: Drinking water supply system					
	99 drinking water supply systems are built	set	99	129	**130%**
	22,650 villagers received training on the management and protection of the drinking water supply system	person	22 650	20 252	**89%**
	O&M-Drinking Water Supply	set	154	108	**70%**
	The number of HHs who are benefited, by categories	HH			**N/A**
	Persons with access to improved drinking water supply systems	person	83 000	85 539	**103%**
Output 1.3: Rural roads					
	Pavement 377.4 km rural roads (administrative village)	km	377	409	**108%**
	Gravel road for 278.5 km (natural villages)	km	279	344	**124%**
	Administrative Village Roads O&M	km	510	385	**75%**
	Natural Village Roads O&M	km	442	223	**50%**
	The number of households of farmers who are benefited, by categories	HH			**N/A**
Component 2 - Outcome 2: Sustainable agricultural development Improve the levels of the services aiming to the farmers within the areas of the project; diversify the sources of income for farmers, thereby increasing the income levels of approximately 81,000HHs.					
	Percentage (%) of the HHs adopt the proposed technique	%	75%	67%	**89%**
	Percentage (%) of the HHs satisfactory about technical service provided by extension stations	%			**N/A**
	Number of the HHs increase production capacity for agriculture and forestry	HH	103 000	50 816	**49%**
	Percentage (%) of the HHs increase their income	%	75%	87%	**116%**
	Percentage (%) of technical extension stations operational	%	75%	100%	**133%**
	Percentage (%) of supported farmer cooperatives operational after 5 years	%	75%	100%	**133%**
	Percentage (%) of members report increased proportion of products marketed through cooperatives	%	50%	32%	**64%**
Outputs 2.1 Cash crops/ income-generating activities					
	Provide seeds, seedlings and other inputs for 17,617 HHs when starting cash crops/ production and income-generating activities				
	HHs Receiving Planting Inputs	HH	17 617	18 580	**105%**
	Fertilizers	HH	17 617	13 936	**79%**
	IPM & other inputs	HH	12 017	2 873	**24%**
	17,402 HHs are involved in the training on cash crops and income-generating activities	HH	17 402	16 642	**96%**
	Development areas of cash crops (by crops)	acre	5 348	5 627	**105%**

Component/ Subcomponent or outputs	Indicator	Unit	Adjusted Target	Cumulative Actual	As % of Adjusted
Outputs 2.2 Orchard - poultry integrated agriculture					
	Provide poultry house, day-old chicks, feed and medicines for 381 households of farmers				
	Materials for poultry pen	HH	381	372	**98%**
	Poultry chicks	HH	381	786	**206%**
	Feeds and medicines	HH	381	272	**71%**
	Citrus HHs Receiving Planting Inputs	HH	381	468	**123%**
	Fertilizers	HH	381	305	**80%**
	IPM & other inputs	HH	331	254	**77%**
	503 households of farmers participated in the training in orchard management and poultry feeding	HH	447	916	**205%**
	450 people benefit from the promotion of modules	HH	503	347	**69%**
	Development area (acre) of the orchard (by crops)	acre	159	237	**149%**
Outputs: 2.3 Agro-forestry					
	Provide planting materials, fertilizers and other inputs needed when planting crops and forests for 1228 households of farmers				
	Planting Inputs	HH	1 228	1 200	**98%**
	Fertilizer	HH	1 008	1 200	**119%**
	Other inputs	HH	988	547	**55%**
	1228 households of farmers are involved in the training in agriculture and forestry	HH	1 370	1 722	**126%**
	Model replication	HH	350	358	**102%**
	The planting areas (acre) of developing agriculture and forestry (by species)	acre	411	488	**119%**
Outputs 2.4 Root and tuber crops					
	Provide 2155 households of farmers with seeds, fertilizers and other inputs				
	Seeds/ Seedlings	HH	2 155	2 542	**118%**
	Fertilizers	HH	2 155	2 639	**122%**
	IPM & other inputs	HH	1 305	500	**38%**
	2125 households of farmers are involved in the training on root and tuber crops	HH	2 125	2 884	**136%**
	The areas (acre) of planting root and tuber crops (by species)	acre	468	484	**104%**

Component/ Subcomponent or outputs	Indicator	Unit	Adjusted Target	Cumulative Actual	As % of Adjusted
Outputs 2.5 Supporting technical services					
	Provide office furniture, motorcycles and technical equipment	set	350	316	**90%**
	Train 194 staff within the technical service station in the towns	person	194	363	**187%**
	Conduct experiments and demonstrations	set	330	240	**73%**
	The number of HHs/areas (household/acre) that accept trials and demonstration	HH			**N/A**
Component 2 - Outcome 3: Improve the chances that the farmers access to the market and the value chain of participation through the establishment of 45 farmer cooperatives.					
	Percentage (%) of the farmer cooperatives can still run after five years	%			**N/A**
	Percentage (%) of HHs increase product sales through joining in the cooperatives				**N/A**
Outputs 3.1 Farmers' cooperatives					
	Support the establishment or improvement of 45 farmers' cooperatives	set	45	42	**93%**
	of which: new cooperatives	set	9	11	**122%**
	Support 3420 poor HHs to join cooperatives	HH	3 420	3 438	**101%**
	The type and quantity of the equipment and facilities purchased	set	177	596	**337%**
	2700 members received training	person	2 700	6 402	**237%**

Evaluation framework

Evaluation criteria	*Key questions*	*Main sources of data and information*
Relevance	Assesses the extent to which the objectives of a development intervention are consistent with beneficiaries' requirements, country needs, institutional priorities and policies. It also entails an assessment of project design, coherence in achieving its objectives, and relevance of targeting strategies adopted.	
	• Were programme objectives realistic and consistent with China's agriculture and rural development context, including opportunities and challenges? • How coherent was the project in terms of how it fit in with the policies and programmes undertaken by the Government? • Did any changes in the context affect project implementation and overall results? • Were the projects objectives consistent with the COSOP and relevant IFAD sector and subsector policies, as well as the needs of the rural poor? • Was the project design (including composition, synergies among activities and services, project management) appropriate for achieving the core objectives? • What was the rationale for selecting a scattered project area with a majority of counties not designated as poor, and the implications of this selection on the relevance of project activities? • To what extent was the targeting strategy pro-poor, inclusive of the needs of ethnic minorities and gender sensitive? To what extent was the targeting strategy adapted to the changing context and national policies and approaches to poverty reduction? • Was the programme design participatory and did poor rural farmers participate in the identification of activities and approaches? • What are the main factors that contributed to a positive or less positive assessment of relevance?	Project documents, interviews with IFAD staff, meetings in the country, project M&E
Effectiveness	Measures the extent to which the development intervention's objectives were achieved, or are expected to be achieved, considering their relative importance.	
	• To what extent have the objectives of the programme and its key components been attained in quantitative and in qualitative terms? • To what extent was the relatively simple design of HARIIP (one village infrastructure component, one resilient agriculture component) an effective approach to reach a goal of rural development and poverty reduction? To what extent were there synergies between the various components in implementation? • What changes in the overall context (e.g. policy framework, political situation, institutional set-up) have affected project implementation and overall results? • What was the effectiveness of the targeting strategy? In particular, in addressing the needs of the poor in general, pockets of poverty in non-poor counties, ethnic minorities and women. • What are the key factors accounting for the results? Particularly regarding capacity building. • To what extent have the interventions changed the capacity and behaviours of key actors? • What are the results, positive and negative, of IFAD-supported interventions on the HH incomes and assets of participants?	Project M&E, project documents, interviews in the country, observation in field

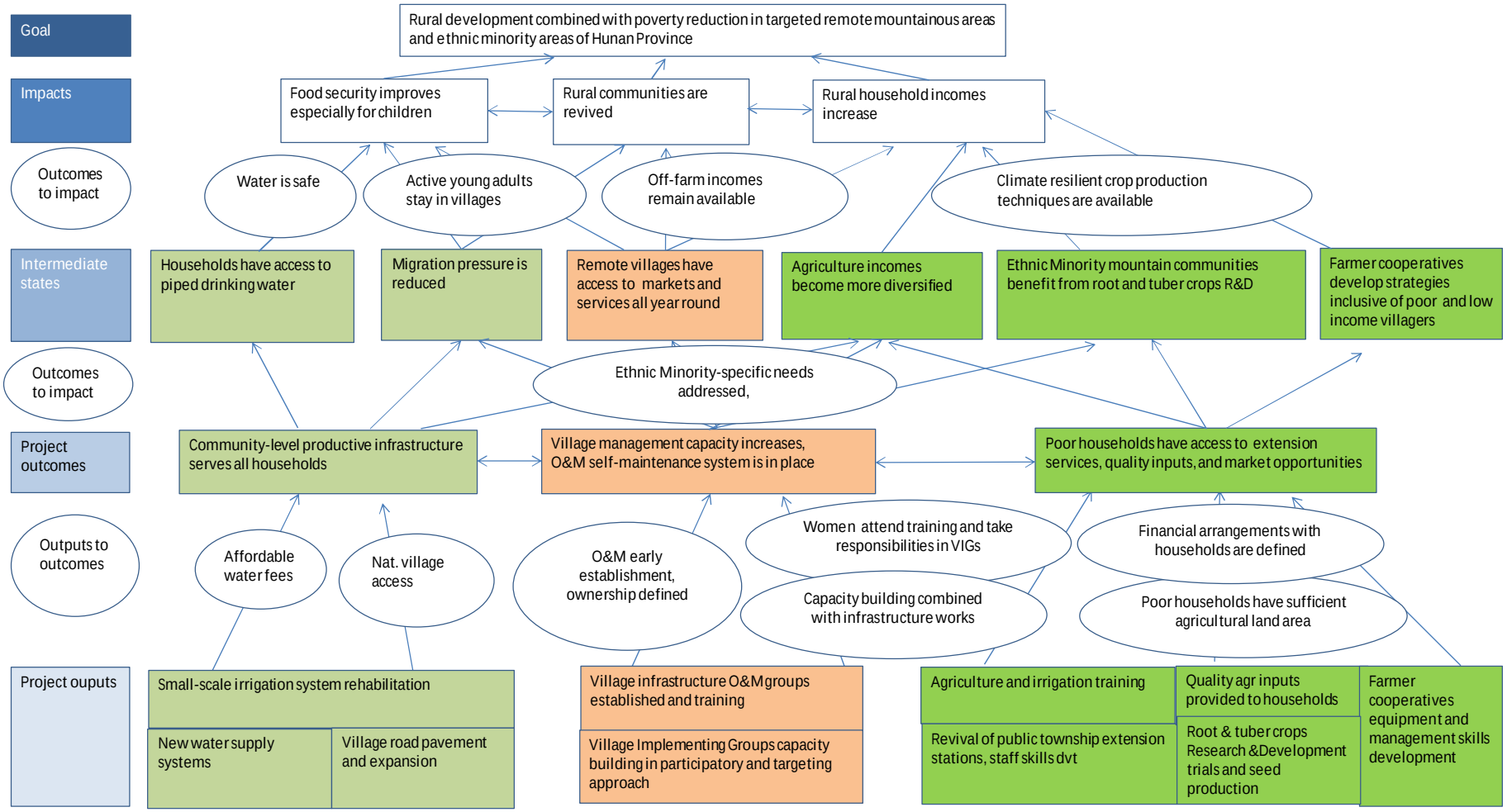
Evaluation criteria	*Key questions*	*Main sources of data and information*
	• What is the result of the interventions on nutritional status of rural poor, in particular children?	
Efficiency	Indicates how economically resources/inputs (e.g. funds, expertise, time, etc.) are converted into results.	
	• What are the costs of investments in supporting the various components? • How does the economic rate of return at evaluation compared with project design? What is the finding of validation of the financial analysis of the PCR? • What are the loan costs per beneficiary (both at the time of appraisal and at the time of evaluation) and how do they compare to other IFAD-funded operations (or those of other donors) in the same country and/ or other countries? • What are the total project management costs in relation to total project costs and how do they compare with similar projects?	Project M&E, project documents, interviews in the country, references of other projects
Sustainability	Indicating the likely continuation of net benefits from a development intervention beyond the phase of external funding support. It also includes an assessment of the likelihood that actual and anticipated results will be resilient to risks beyond the project's life. • What is the likelihood that benefits generated by the programme in terms of agricultural production, market access and infrastructure support will continue? • To what extent has the Government assumed ownership and leadership of the intervention, including in their policy frameworks? • Is the impact on incomes and assets sustainable? • Is there a clear indication of Government commitment after the completion? Was a specific exit strategy /approach prepared? • Do project activities benefit from the engagement, participation and ownership of local communities, organizations, the programme beneficiaries, and the rural poor? • How were agricultural inputs supplied to households and to what extent was attention paid to climate resilience and to sustainability of outcomes?	Project documents, interviews in the country, project M&E, observation in the field
Rural Poverty Impact	Defined as the changes that have occurred or are expected to occur in the lives of the rural poor (whether positive or negative, direct or indirect, intended or unintended) as a results of development interventions. Four impact domains are employed to generate a composite indication of rural poverty impact: (a) household income and assets; (b) human and social capital; (c) food security and agricultural productivity; and (d) institutions and policies. A composite rating will be provided for the criterion of "rural poverty impact" but not for each of the impact domains.	
Household income and assets	• To what extent did the composition and level of household incomes change (more diversification, higher income)? What changes are apparent in intra-household incomes and assets? • To what extent did rural poor's households' physical assets change (fixed assets, equipment, farmland, water, livestock, trees, etc.)? • To what extent did households' financial assets change? • To what extent did the rural poor have better access to input and output markets?	Project M&E, project documents, interviews in the country, observation in field, surveys of clients of rural finance
Human and social capital and empowerment	• To what extent did the project empower the rural poor and their communities vis-à-vis local and provincial public authorities?	Interviews in the country,

Evaluation criteria	*Key questions*	*Main sources of data and information*
	• Are changes in the social cohesion and local capacities of rural communities visible? Do the community groups play more effective roles in decision-making? • Were the rural poor empowered to gain better access to the information needed for their livelihoods?	observation in field, project M&E, project documents
Food security and agricultural productivity	• To what extent did household food security change? • To what extent were project activities linked to the issue of child nutrition? • To what extent did agricultural productivity improve? • Was there an improvement in agri-business and enterprise productivity? and, if so, to what extent? Did the returns to labour change? • To what extent did the rural poor improve their access to input and output markets that could help them enhance their productivity and access to food as well as markets?	Project M&E, project documents Interviews in the country, observation in field
Institutions and Policies	• What was the extent to which project interventions upgraded skills and knowledge of key Government and project staff? • What improvements were discernible in local governance, including the capacity and role of Government departments, financial institutions, the private sector, and others? • Were there any changes, or expected changes, in national/sectoral policies affecting the rural poor? • Did the regulatory framework change insofar as its impact on the rural poor?	Project documents, interviews with IFAD staff and in the country, project M&E
Gender equality and women's empowerment	Indicating the extent to which IFAD interventions have contributed to better gender equality and women's empowerment, for example, in terms of women's access to and ownership of assets, resources and services; participation in decision making; work loan balance and impact on women's incomes, nutrition and livelihoods. • To what extent have IFAD supported interventions integrated an adequate gender equality perspective in project design and in project implementation? • What are the results of the project on women's access to and ownership of assets, resources and services; participation in decision making; work load balance and impact on women's incomes, nutrition and livelihoods? • To what extent was the intervention gender transformative, if at all? Was a significant contribution made to all three gender objectives above and in engaging in policy dialogue? • Were gender dimensions adequately included in the project's annual work plans and budgets? • What percentage of total project resources was invested in activities to promote gender equality and women's empowerment and how does that compare with other projects funded by IFAD? • To what extent did the project define and monitor sex-disaggregated results to ensure that gender equality and women's empowerment objectives were being met? • Was the project implementation structure adequate to support effective implementation of gender equality and women's empowerment goals?	Project documents, interviews in the country, project M&E, observation in the field

Evaluation criteria	*Key questions*	*Main sources of data and information*
Innovation	• What are major innovations promoted by the programme, either truly innovative or new to the country context? • Were successfully promoted innovations documented and shared? Were other specific activities (e.g. workshops, exchange visits, etc.) undertaken to disseminate the innovative experiences? • Which technical and institutional innovations were proposed under the root and tuber crop module which took place in connection with a CIP R&D program, and what are the prospects for their uptake? • To what extent did the grant-financing contribute to any innovations derived from the root and tuber crop module? What lessons can be derived from the use of in-loan grants for innovation in the China programme?	Project documents, interviews at IFAD headquarters and in the country, project M&E
Scaling Up	• Were successfully promoted innovations documented and shared to facilitate scaling up? • Have these innovations been scaled up? If not, what are the realistic prospects that they can and will be replicated and scaled up by the Government, other donors and/or the private sector? • Were proactive efforts made to identify and develop strategic partnerships with organisations which could potentially be involved in scaling up of successfully piloted innovations?	Project documents, interviews at IFAD headquarters and in the country, project M&E
Environment and natural resource management	Assessing the extent to which IFAD development interventions contribute to resilient livelihoods and ecosystems. The focus is on the use and management of the natural environment, including natural resources defined as raw materials used for socioeconomic and cultural purposes, and ecosystems and biodiversity – with the goods and services they provide.	
	• To what extent did the project adopt approaches/ measures for restoration or sustainable management of natural resources (e.g. support to training and extension to foster efficient environment and natural resource management, uptake of appropriate/new technologies)? • • To what extent did the project develop the capacity of community groups and institutions to manage environmental risks? • To what extent did the project contribute to reducing the environmental vulnerability of the community and built resilience for sustainable natural resource management that contribute to poverty reduction (e.g. factors such as access to technologies, information/awareness creation)?	Project M&E, project documents Interviews in the country, observation in field
Adaptation to Climate Change	Assessing the contribution of the project to reducing the negative impacts of climate change through dedicated adaptation or risk reduction measures.	
	• Though climate resilience was removed from the programme objective, to what extent did the project demonstrate awareness and analysis of current and future climate risks? • What were the most important factors that helped the rural poor to restore the natural resource and environment base that (may) have been affected by climate change?	
Performance of Partners	Assessing the contribution of partners to project design, execution, monitoring and reporting, supervision and implementation support, and evaluation. The performance of each partner will be assessed on an individual basis with a view to the partners expected role and responsibility in the project life cycle.	

Evaluation criteria	*Key questions*	*Main sources of data and information*
IFAD	• Were specific efforts made to incorporate the lessons and recommendations learnt from previous projects? • Did IFAD mobilize adequate technical expertise in the project design? • Was the design process participatory (with national and local agencies, community organizations) and did it promote ownership by the borrower? • Did IFAD (and the Government) take the initiative to suitably modify project design during implementation in response to any major changes in the context? • What was the performance of IFAD in direct supervision and implementation support? Has IFAD exercised its developmental and fiduciary responsibilities, including compliance with loan and grant agreements? • Was prompt action taken to ensure the timely implementation of recommendations stemming from the supervision and implementation support missions? Did IFAD undertake the necessary follow-up to resolve any implementation bottlenecks? • Has IFAD made proactive efforts to be engaged in policy dialogue and partnership building activities in order to ensure, inter alia, the replication and scaling up of pro-poor innovations? • Has IFAD, together with the Government, contributed to planning an exit strategy?	Project documents, interviews at IFAD headquarters and in the country, project M&E
Government	• Has the Government assumed ownership and responsibility for the programme? Have loan covenants and the spirit of the loan agreement been observed? • Judging by its actions and policies, has the Government been fully supportive of programme objectives? • Was adequate staffing and project management been assured? Have appropriate levels of counterpart funding been provided on time? • Has programme management discharged its functions adequately, and has the Government provided policy guidance to project management staff when required? • Has an effective M&E system been put in place and does it generate information on performance and impact which is useful for project managers to take critical decisions? • Did the Government ensure suitable coordination of the various departments involved in execution? Have the flow of funds and procurement procedures been suitable for ensuring timely implementation? • Has auditing been undertaken in a timely manner and have reports been submitted as required? • Has the Government (and IFAD) contributed to planning an exit strategy? • Has the Government engaged in a policy dialogue with IFAD concerning the promotion of pro-poor innovations?	Project documents, interviews at IFAD headquarters and in the country, project M&E

Theory of change (approach paper)



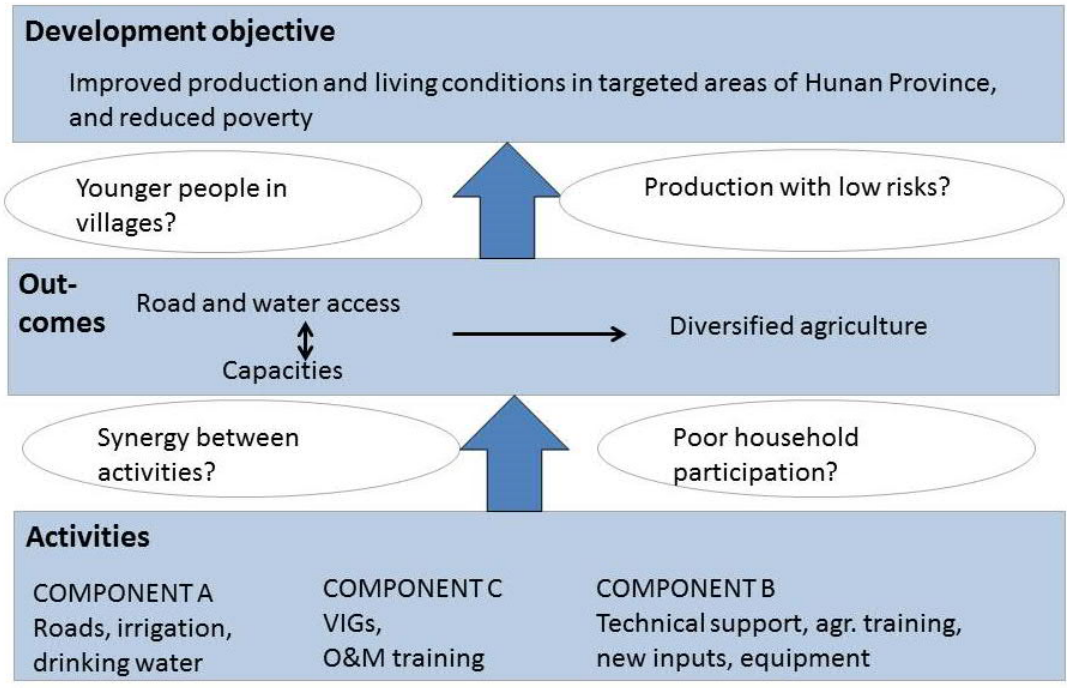
Project objectives and reconstructed theory of change (post-evaluation)

Project objective statements. This table shows the various statements of goal and objectives made in HARIIP reports. It highlights how some difficulties were met in describing the project's strategy.

Level	*Goal*	*Objective*
Design report	Contribute to rural poverty reduction in targeted areas of Hunan Province by enabling rural poor men and women to benefit sustainably from assets, and services, for improved agricultural production, food security, rising incomes, and strengthened resilience.	Strengthen the economic and self-development capacities of the poor women and men to help them take full advantage of opportunities, improved technologies, resources and services to be made available in the project area
Design logical framework	Rural development and poverty reduction in targeted areas of Hunan Province achieved.	Increasing incomes and improving food security from diversified agricultural production is achieved.
President report		Increase incomes and improve food security by improving agricultural production and rural infrastructure.
PPMO contribution to PCR	Realize rural development and poverty reduction in project areas.	Through improvements in productive and rural infrastructure, ensure project households in 9 counties, especially poor households, increase incomes, increase food security, strengthen resilience.
IFAD PCR logical framework	Improve the production and living conditions within the areas of the project, reduce poverty.	Increase income, and improve food security through diversified production.
IFAD PCR report	Rural poverty reduction in targeted areas of Hunan Province.	Increase revenues, improve family food security and strengthen the resilience from improved agricultural production and rural infrastructure

Source: Project design report; President's report; PCR.

Reconstructed theory of change. This figure was presented at the PPE mission wrap-up meeting. It incorporates feedback from discussions with HARIIP PMOs.



Development paths. The reconstructed ToC presents three development paths. These development paths interact with each other, which is the purpose of an integrated agricultural development project:

- Through the community infrastructure component, gaps were to be solved in village infrastructure (irrigation, water supply and/or village roads) and a productive infrastructure base for agricultural diversification built. This was expected to improve living conditions, bringing taped water to homes.
- Through agricultural technology and diversification (component B), a broad range of households, including poor ones, were expected to gain back access to extension services, and quality agricultural inputs. This could take place through public extension and/or through farmer cooperatives. Improved access to services were to lead to more diversified, and therefore risk resilient, agricultural incomes. Climate resilient techniques were to be introduced.
- The third path is about the development of social capital in village communities. Through the VIGs, and through newly created village infrastructure self-maintenance groups, the remote villages were expected to boost their management capacity, and therefore ensure year-round access markets and services.

Assumptions. Among the large number of conditions for effectiveness mentioned at design stage, four elements are retained in the simplified reconstructed ToC. The evaluation tests whether each of these elements was present and effectively contributed, as was assumed, to the delivery of outcomes.

From activities to outcomes:

- Did the rural poor in project villages have enough land and availability to participate in agricultural production and capacity building?
- Was there synergy between rural infrastructure, improvement of agricultural production and capacity building?

From outcomes to development objective:

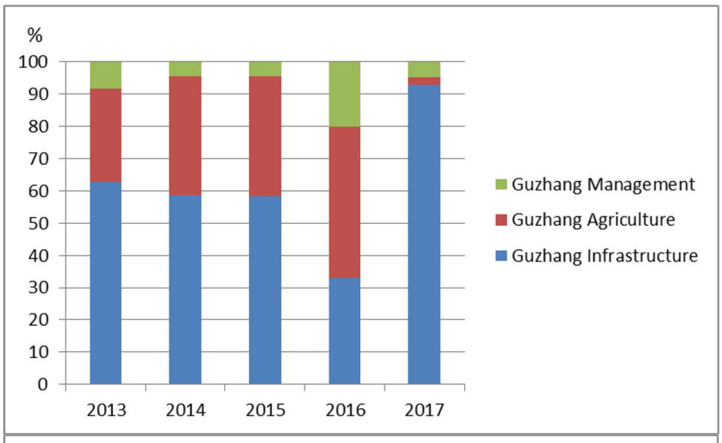
- Did the diversification of agricultural production actually reduce risks and increased resilience?
- Were some younger adults present in the ageing villages to undertake agricultural production?

Selected evidence from M&E system and PPE mission

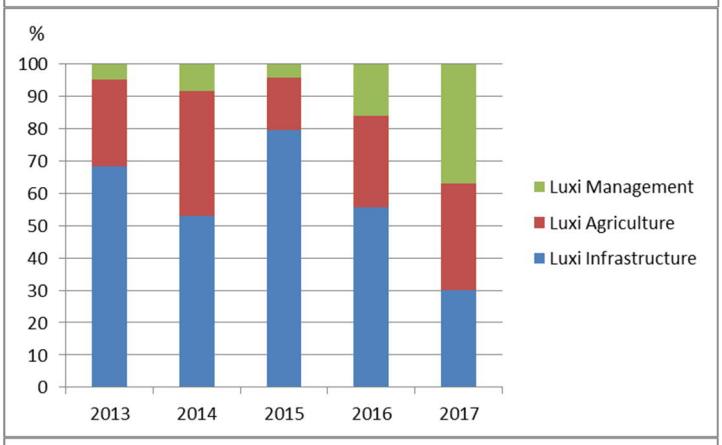
Selected M&E data

Figure 1
Component implementation progress in selected counties

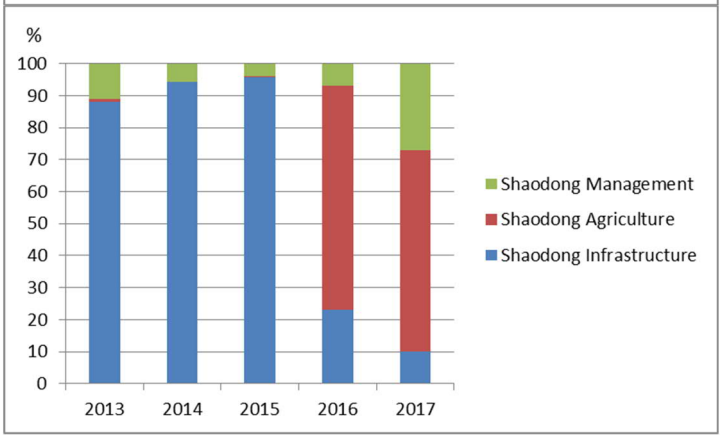
Guzhang County



Luxi County



Shaodong County



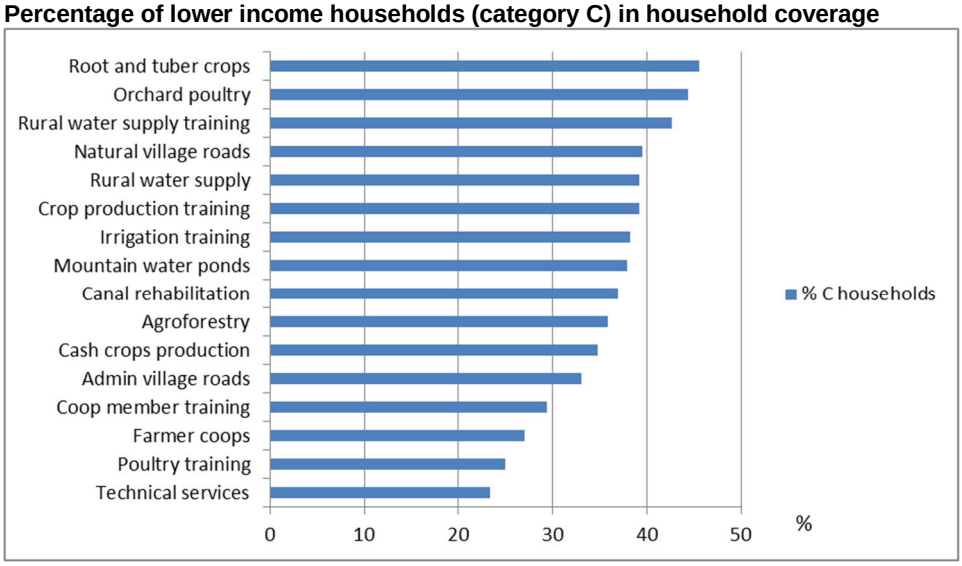
Source: county M&E data.

Table 1
Nutritional status of under-five children effectiveness

	Acute malnutrition			*Chronic malnutrition*			*Underweight*		
Year	*2011*	*2015*	*2017*	*2011*	*2015*	*2015*	*2011*	*2015*	*2017*
Boys	1.7%	5.5%	5.4%	36%	42%	25%	6.7%	3.1%	5.4%
Girls	4.4%	5.4%	9.9%	27%	42%	23%	6.5%	2.2%	4.9%
Overall	3%	5%	7.3%	32%	41%	24%	6.6%	3%	4.2%

Sample size: 231 children in 2011, 294 in 2015, 192 in 2017. Of which 40 per cent of girls.
Source: RIMS surveys.

Figure 2
Percentage of lower income households (category C) in household coverage



Selected results from satisfaction surveys at project end

Figure 3
Villager satisfaction survey

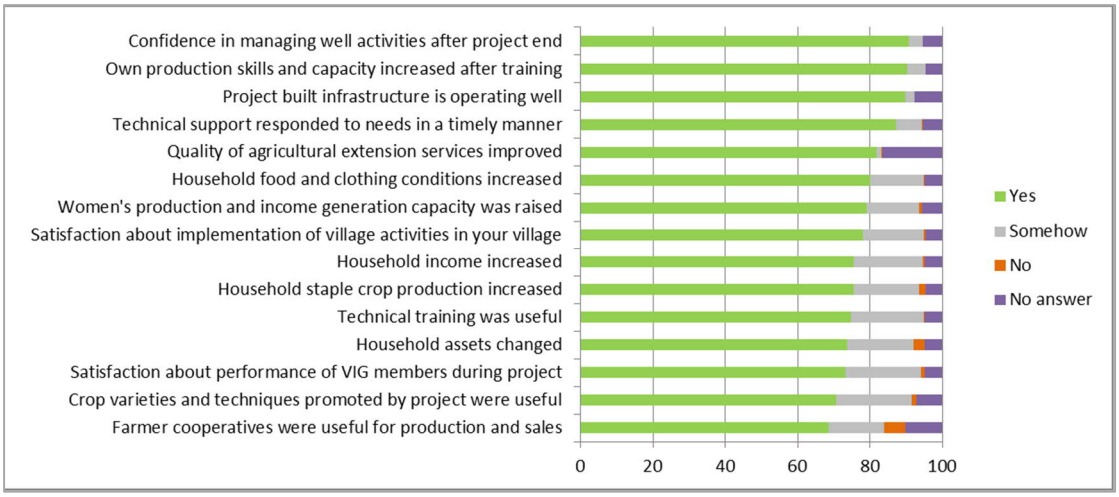
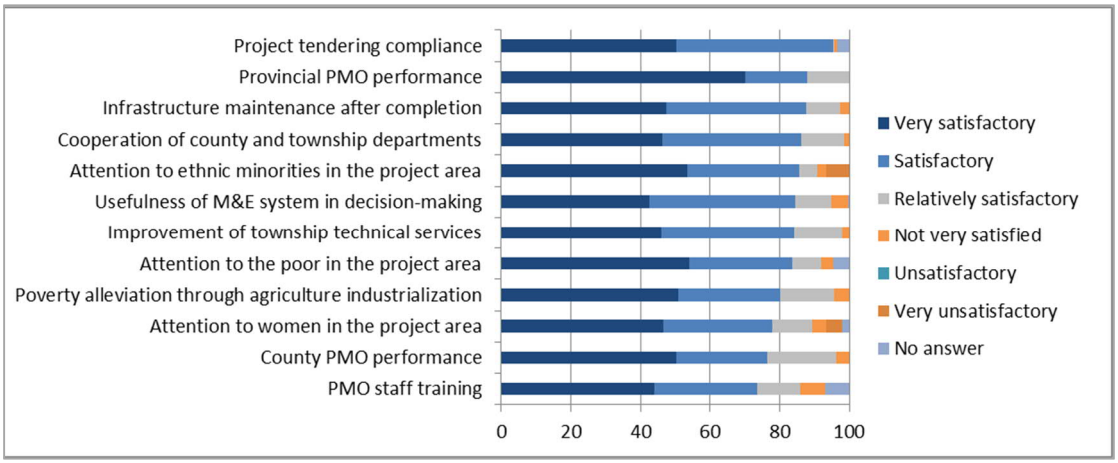


Figure 4
PMO satisfaction survey



Source: PPMO project completion report.

IFAD performance

Table 2
Composition of IFAD mission teams

Mission	*2011 Design*	*2013 Super-vision*	*2014 Super-vision*	*2014 Follow-up*	*2015 Mid-term review*	*2016 Super-vision*	*2017 Super-vision*	*2018 Project completion*	*Total HARIIP*
Civil engineer	1	1	1		1				4
Agriculture and market development	1	1	1		1	1			5
Coops and rural development					1			1	2
Forestry	1								1
Sociologist/institutions/ targeting/gender	1		1				1	1	4
Environment and natural resources	1								1
Economist	1							1	2
M&E/knowledge management		1		1	1	1	1	1	6
Financial management			1		1				2
Team leader	1	1	1			1	1	1	6
Total mission	7	4	5		5	3	3	5	

Source: mission reports.

Table 3
Selected findings from focus group discussions and direct observation

County	*Guzhang*	*Guzhang*	*Luxi*	*Luxi*	*Luxi*	*Shaodong*	*Shaodong*	*Shaodong*
Village or cooperative	Village and new cooperative	Village	Existing cooperative	Village	Village	Village and new cooperative	Village	Village and existing cooperative
Ethnic groups	Miao	Miao	Miao	Mixed	Miao	Han	Han	Han
Project activities	New road Drinking water Tea Chicken	Drinking water Irrigation Tea	Citrus Chicken	New road Drinking water Citrus Oil tea Sweet potato	New road Citrus	New road Drinking water Irrigation Medicinal herbs	Drinking water Irrigation Sweet potato	Drinking water Irrigation Greenhouses
Training focus	Comprehensive	Tea only	Agriculture training for coop	Infrastructure maintenance	Limited training	Chinese herbs	Agriculture Water management	O&M by project Agriculture training for coop
Women participation in training	Mostly husbands participated	Yes	Partly, through coop	Yes	Yes	Yes	Yes	No
Agricultural extension	Training and visits	Tea two-tier training	Trainers on fruit	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Poor household targeting	More fertilizer	Same support for poor and non-poor	Inputs received from coop	Targeted households with available labor	Households with land in citrus plantation	Coop covers all households	More waged labor on infrastructure	More waged labor on infrastructure
VIG	Active in identifying poor households	Not active	Not mentioned	In charge of infrastructure	Not remembered	No household ranking	Household ranking through individual visits	Household ranking, infrastructure maintenance
Outmigration	90% young people work outside	All young people have left, a few ones are coming back	Most young people migrate	90% young people work outside	Half young people work outside	Reduced from 90% to 40%	Reduced from 70% to 10%	Reduced from 90% to 20%
School	In city, no schoolbus	In city, no schoolbus	In city, no schoolbus	In city, no schoolbus	In city, no schoolbus	Renovated	In city, schoolbus	In city, schoolbus
Awareness of climate change	NA	Yes, warmer temp, less snow	Snow storm	Yes, warmer temp, affects crop yields on sloped land	Yes, warmer temp	Yes, warmer temp, impacts water ponds	Yes, warmer temp, less snow	Yes, warmer temp, impacts water ponds

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Independent Office of Evaluation
International Fund for Agricultural Development
Via Paolo di Dono, 44 - 00142 Rome, Italy
Tel: +39 06 54591 - Fax: +39 06 5043463
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ISBN 978-92-9266-022-2

IFAD internal printing services