

ECOSYSTEM-BASED ADAPTATION THROUGH SOUTH-SOUTH COOPERATION

GOOD PRACTICE CASE STUDY

Sustainable Development in Poor Rural Areas Project: Integrating Climate Change Adaptation into Poverty Reduction in China

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The poorest people are often perceived as the hardest hit by climate change, especially those living in rural areas in developing countries. This case study presents a project in China that tackles both poverty alleviation and climate change adaptation in Henan Province, Shaanxi Province and Chongqing Municipality. In the project areas, climate change is expected to bring about extreme climate events, including prolonged drought periods, hailstorms, frost events, unpredictable precipitation patterns, and wildfires, which are likely to result in decreased agricultural productivity as well as reduced poor people's security in livelihood assets and increased their vulnerability. This project, therefore, piloted climate change adaptation measures along with provided support on basic infrastructure and livelihood activities through community-driven development approach. Sustainable land management, an ecosystem-based adaptation option, was the overall climate change adaptation technique applied in the project. With support from various stakeholders, in particular government at different levels, the project was very successful and has been replicated in other locations in China. Moreover, the project results substantially provided recommendations to the poverty reduction programme under the 13th Five-Year Plan (2016-2020) on economic and social development of China to enhance ecological construction along with infrastructure connectivity and basic public services.

This case could serve as a good example for other countries or sub-national levels with similar contexts to address both utmost challenges of poverty and climate change in an integrated manner.



Key lessons

- The innovative mechanisms of integrating climate change adaptation and ecological management with poverty reduction have not only increased the understanding of the project communities on the linkages between vulnerability, climate change and adaptation but also provided the Chinese government with effective approaches to tackle both climate change and poverty in the most-needy groups. Moreover, the innovative approach employed under this project also provided successful experiences for others to learn from. Some of the most successful interventions from the project were reproduced and scaled-up under country-wide strategic plans.
- The poverty-climate change vulnerability reduction linkages were shown in a multitude of benefits provided by the project. These included increased per capita income and improved food security from enhanced agricultural productivity; higher standards of living and greater well-being as a result of improved access to, *inter alia*, safe drinking water, electricity, markets, schools, healthcare systems; and environmental conservation through sustainable management of natural resources and land. All those benefits had contributed to not only increased social and economic circumstances of the poor households but also reduced vulnerability to climate change for the project beneficiaries simultaneously.
- Although the project activities were essentially implemented in remote and scattered rural areas, with the addition of a challenge of applying community-driven approach under the typical top-down approach, the project still received 'successful' achievement from the project's terminal evaluation. This attributed to remarkable efforts of the project management offices and support from governmental departments at all levels. The project had proved good collaboration of all the parties concerned in project implementation and problem-solving capacity to push the project forward as planned.
- Realisation of the project duration and flexibility in adjusting the timeline of the work plan are essential. At the beginning, implementation was slow due to several challenges. Owing to the project's large scale, it took time to, *inter alia*, mobilize-empower communities, set up the project implementation structure, build institutional and community capacity and open bank accounts for the beneficiary villages— especially with the large number of very poor population and in remote rural community setting. According to the project's terminal evaluation report, the implementation of the sustainable land management and adaptation component was particularly delayed because general understanding of the scope and implementation procedures of this rather complex component needed to be in place first.
- Capacity and readiness of local counterparts/partners are crucial for on-the-ground implementation. It was found that some project management offices (also at provincial level) were understaffed in the first couple of years. Therefore, consistent support was required from the supervision team.



GOOD PRACTICE DESCRIPTION

LOCATION: The project was implemented in Henan Province, Shaanxi Province and Chongqing Municipality of China.

IMPLEMENTATION PERIOD: 2010-2015

OPERATIONAL BUDGET: US\$ 4.265 million was provided as grant from the Global Environment Facility (GEF) Trust Fund to support the 'Sustainable Land Management and Adaptation' component. US\$ 100 million loan from the World Bank supported other poverty reduction components.

KEY STAKEHOLDERS: The project's Implementing Agency was the International Poverty Reduction Center in China (IPRCC). Since the project was designed and implemented through a decentralized approach and mechanism, the Central Project Coordination Office was established within the State Council Leading Group of Poverty Alleviation and Development to lead the project design, preparation, support and supervision to the Project Management Offices, established at provincial and county levels in the project provinces. The governments at all levels, especially local government authorities, played significant roles throughout project preparation, appraisal and implementation particularly on policy aspects and coordination among line departments. These local government agencies included the provincial Planning Commissions, Finance Bureaus, Poverty Alleviation and Development Offices, township governments. At village level, project community facilitators, supervised by respective county project management offices, were contracted to work with villagers on project implementation, especially on consultation, communication and training. As a community-driven approach was followed, the project communities/villages were fully involved in the whole process, including decision making. Consultants were also hired to provide technical assistance in different areas, including village resource assessments and mapping, design of pilot activities, training, environmental and vulnerability monitoring as well as national studies and consultations.

Background information and climate change vulnerabilities

The fight against poverty has been at the core of the development agenda for decades. Despite the continuously dedicated efforts from the international community, until now the work to end extreme poverty still has a long way to go¹. Although at the global scale extreme poverty continues to fall rapidly, it is becoming harder to accomplish the remaining extreme poverty reduction. Economic shocks, food insecurity and climate change are critical threats that impede poverty alleviation. In particular, the extreme poor living in remote areas suffer the most from the above-mentioned phenomena.

Similar to the global context, although China's poverty rate has remarkably declined over the past decades, overcoming remaining poverty has become increasingly challenging. In China, about 80% of the poor live in the western and central parts of the country. Almost all of them are rural inhabitants, and a small number are poor rural migrants living in urban areas. The Chinese government has established ambitious plans with substantial poverty reduction funds to assist the villages officially classified as poor. Nonetheless, institutional constraints and a limited share of funding available at the village level have hindered the provision of basic rural infrastructure needs necessary for the poor and, consequently, the achievement of the national poverty reduction plans.

Furthermore, the majority of China's rural poor live in remote, ecologically fragile and inaccessible regions where agricultural conditions are typically poor with almost no alternative livelihood options in place. Their dependence on subsistence farming, with ineffective land and water resource management practices, places these rural poor to be highly vulnerable to climate change, especially in semi-humid to semi-arid transition regions. The climate change challenges –

¹ Ref: <http://www.worldbank.org/en/topic/poverty/overview>



including uneven and unpredictable precipitation patterns, prolonged drought periods, changing temperature regimes, impacts on water and evaporation regimes, hailstorms, frost events, and wildfires – may further intensify livelihood risks to this group of people, who merely possess inadequate understanding on sustainable resource management, risk assessments and farming techniques. Off-farm employment, although critical for increasing rural incomes, widely causes the concerns of growing social tensions in urban areas as well as unfavourable working and living conditions to the migrant workers and their accompanied family members, approximately totalled 230 million (17% of the total population) in 2006.

Recognising the two utmost and intertwining challenges of poverty and climate change, the project's two key objectives are to:

- (1) Explore and pilot more effective and innovative ways of providing poverty reduction assistance to the poorest communities and households in Henan Province, Shaanxi Province, and Chongqing Municipality through Community Driven Development and participatory approaches; and
- (2) Pilot sustainable land management and adaptation measures to address vulnerability to climate change in poor rural areas in the project provinces.

Intervention technologies

In the project areas, the major livelihood is subsistence agriculture. Thus, improvement of land and water management practices is crucial for strengthening the poor's adaptive capacity to climate change. The project's second objective therefore aims to pilot adaptation interventions that would complement the other objective on infrastructure and livelihood support activities. In addition, the project also assisted the government in integrating long-term sustainable land management, climate change risk management and adaptation into community-driven development approach and the national poverty reduction programmes. This concept of extending climate change scheme into remote areas with high level of rural poverty as well as the first large-scale trial of community-driven approaches in China was considered greatly innovative.

For the **poverty reduction components**, the interventions could be divided into 3 categories:

- (1) Public service investment to tackle the lack of fundamental rural infrastructure and establish an enabling environment for the economic upliftment of the poor: The support provided included the construction and improvement of drinking water systems, basic housing repair, healthcare facilities, schools, village access roads and bridges, sanitation, agriculture production infrastructure. With full application of the community-driven development approach, which gave greater local autonomy and community participation throughout the process, these infrastructure needs were identified to truly address the improvement of the beneficiaries' well-being. For that reason, some other investment in the development plans was not supported (e.g. township roads, dam construction). Moreover, the communities were fully responsible for the project activity investments and implementation, with support from technical staff of line departments from the county and township governments to ensure the technical standards, completion, reporting etc.
- (2) Provision of financial support to household-level production activities: Before the project arrived, there were no financial institutions in the project area. The support was in the form of small block grant to the community cooperatives that would provide loans to poor households. Those household-level income generation activities that were supported by the grant included cash crops, tree crops, grain crops, livestock raising, micro-agroprocessing. The participating villages took responsibilities of implementation and management of the funds.
- (3) Capacity building to strengthen farmers' long-term development potential: The capacity building activities were also based on the identified demands, covering both on-farm and off-farm employment needs. These activities included vocational training for off-farm jobs, skill training for women, community management (for community leaders), infrastructure operation, access to market information, off-farm labour opportunities.



For the **sustainable land management and adaptation component**, a number of activities were implemented, as grouped below:

- (1) **Knowledge building**: Different activities were conducted to enhance capacity of local governments and communities on analysing land degradation and climate change risks and vulnerability. Training was provided by technical assistance team on application of village assessment and planning tools, e.g. village resource mapping, climate change and land degradation vulnerability analysis, carbon stock index, environmental baseline assessment. Afterwards, participatory village assessment was carried out in each pilot village to identify and prioritise the preferred options for adaptation pilots.
- (2) **Pilot intervention implementation**: The adaptation measures identified from the assessment were different in each of the project locations. These measures were mostly small infrastructures (on water resources, village waste management, land management) and agricultural improvements (on land management, forestry, animal husbandry). Specific interventions of the latter were, for instance, increasing diversity and drought resistance by introducing new farm and forage varieties; improving soil fertility; providing small equipment to manage climate hazards.
- (3) **Result dissemination and community-driven approach integration**: Workshops to review lessons learned from the adaptation pilots were conducted to evaluate and include successful pilot activities into community-driven poverty reduction activities. Training and extension activities were then provided to all the project communities with an aim to strengthen capacity of the project provinces to integrate vulnerability to climate change and land degradation as well as adaptation to climate change risks into community-driven poverty reduction.
- (4) **National policy implications**: Linkages between poverty, vulnerability to climate change, adaptation and relevant policy implications were analysed in a policy study. It also explored the potential of community-driven approaches in facilitating sustainable land management and climate change adaptation. In addition, exchanges between the agencies in charge of poverty reduction, land-water management, agriculture, forestry, climate change adaptation were organised in order to identify policy implications of poverty, vulnerability and climate change adaptation to support the national review process on poverty reduction agenda.

Description of the results

The total project beneficiaries were 715,300 absolute poor in 25 counties and districts in Henan, Chongqing and Shaanxi (88 villages in these counties were selected to pilot the sustainable land management and adaptation interventions). Women accounted for 46% of population in the project areas and there were ethnic minority groups (Tujia and Miao) in some parts of the project provinces. Women and ethnic minority groups had equal rights in the community driven approaches and decision making in the project.

According to the project's terminal evaluation report, indicator of the sustainable land management and adaptation component '*Disseminate the improved sustainable land management approach through innovative community pilots mainstreaming the Community Driven Development model while addressing the vulnerability of poor rural areas to climate change*' achieved '*Satisfactory*' level. The key results included:

- The beneficiaries in the project villages have increased understanding of environmental issues and awareness of potential climate change risks.
- Studies on policy related to poverty, climate change vulnerability and adaptation were conducted.
- Policy recommendations were proposed for consideration in the poverty reduction programme under the 13th Five-Year Plan (2016-2020) on economic and social development of China.
- Through natural resource conservation and sustainable land management, the project has generated benefits from stabilization and environmental rehabilitation.



Capacity and awareness in the 88 project pilot villages were enhanced on sustainable land management and adaptation. In all pilot villages, participatory resource mapping and village vulnerability assessment were successfully completed. The farmers now have better understanding of how their livelihoods and agricultural productions are impacted by climate change. Furthermore, based on the assessment results, the pilot villages identified the adaptation needs and implemented the adaptation actions accordingly. These include introduction of drought-tolerant crop varieties, land rehabilitation measures, water collection and irrigation schemes, flood-control and anti-hail facilities. All those actions aim to decrease the susceptibility of the project villages to climate-related risks. In addition, over the project implementation period, this component's pilot villages had yielded 369,000 tons of carbon sequestered, or 19.2% increased over the project implementation period.

In terms of the project's financial benefits, the sustainable land management and adaptation component integrates climate adaptation, sustainable land management, poverty reduction and rural income improvement in order to both enhance climate change adaptation and create economic benefits in the pilot villages. For land consolidation, adjusting the planting structure and drought control with rainwater, the rate of return is greater than 10%.

The adaptation pilot activities were so successful that similar activities were extended to the 'accurate poverty reduction' programme (under the 13th Five-Year Plan of the current government) of the 70 million remaining poor in China. This group of people lived in ecological fragile areas where sustainable land management and climate change adaptation were a challenge as well.

For the infrastructure and public service activities under the poverty reduction components, the satisfaction rate of the infrastructure improvement was 93.89%. Moreover, 96.04% of the beneficiaries considered the project addressed their needs, which has proved the effectiveness of community-driven development approach. 95% of the project villages have road access. 16% of the houses in the project villages have higher access to tap water and cistern water than the non-project villages. These values indicate very strong community participation, significant role the women in the villages play in the participatory process and the well constructed civil works that served the expressed needs of the communities. In addition, operation and maintenance systems for those infrastructures were established in the project communities.

For the financial provision activities, the project spent RMB 94.30 million (~USD 14.1 million) to establish 411 mutual-help groups (similar to local financial cooperatives) for 93,291 beneficiaries. Those funding activities particularly fulfilled financial necessity of poor households to enable them to perform income generating activities. As a result, the net income per capita in the project villages increased to RMB 7,367 (~USD 1,105) in 2014 from RMB 2,898 (~USD 435) in 2010, an annual increase of 20.5%. In comparison, in the non-project villages the annual increase was 9.7%, i.e. from RMB 3,005 (~USD 450) to RMB 4,774 (~USD 716).

A beneficiary survey conducted in 2015 comparing the project villages to the non-project villages showed that the project had contributed to the resilience of households to withstand risks and achieved a significant poverty reduction effect. Chronic poor (those in poor health or having insufficient resources/labour to tackle poverty) similarly occurred in both the project villages (18.0%) and the non-project villages (17.5%) at the beginning. However, in 2010-2014 the rural per capita income increased at an average annual rate of 20% in the project villages, or more than twice the rate of those in non-project villages. Correspondingly, during 2010-2014 the poverty rate declined by more than 50% in the project villages, or by more than twice the decline in non-project villages. Various factors could be attributed to the improved resilience against falling under poverty. These include improved infrastructure conditions (e.g. road access, drinking water supply, irrigation system), access to credit for emergencies (e.g. sickness, accidents), increased per capita income and improved food security from enhanced agricultural productivity. The increased resilience of those poor households would undoubtedly result in the increased adaptive capacity for climate change, although the survey did not cover this point.



GOOD PRACTICE ANALYSIS[†]

Community participation and inclusiveness

Has the project consulted with local communities in the formulation, implementation and decision making process? How were gender issues incorporated? Explain how the project mobilized local interest and ownership in order to ensure its activities responded to the needs of local beneficiaries.

The project was successful in reaching out to the most disadvantaged and poorest villages and households in the project provinces. A comprehensive social assessment was carried out during the project preparation process to identify the poorest communities and specific characteristics of poverty and needs of the poorest groups. The community-driven approaches had empowered the communities to be in charge of resources and management from the project planning to implementation stages. Farmers participated in selection of the project activities, implementation and supervision of construction. Community members were actively involved in the decision-making process, monitoring and implementation of actions that had direct impacts on their lives to greater living conditions and facilitated more income generation opportunities. In particular, women were provided with opportunities to influence decisions to select project activities based on their family needs and, thus, became more socially active and empowered by making decisions in their communities. National consultants supported the project management offices to provide training on various topics for the community members and closely involved them in poverty-vulnerability-adaptation assessments, pilot design- implementation, monitoring of results, etc. All these efforts highly enhanced the beneficiaries' ownership of all the project activities. Consequently, compensation for any negative impact was arranged as collectively agreed and no involuntary resettlement issues arose. Ethnic minority households were specially ensured to equally benefit from the project investments based on their needs.

Building local capacities

How has the project ensured that local capacity was built during implementation phase? Explain how training programmes were integrated into core project activities and the measures taken to assure that built human capacity is maintained beyond the project's lifetime.

The project had built capacity of local stakeholders in a number of aspects. Since the communities were inexperienced in project management, different training sessions were provided at the beginning of the project. These included basic fund management, procurement, contract arrangements, IT technology application, complaint handling. In addition, training topics related to application of community-driven approach to sustainable land management and adaptation to risks, including climate change risks, were provided to community members and facilitators. As a result, the community could play a significant role in project implementation and, therefore, the sense of ownership brought about an incentive to manage the project properly until the end of the project. Their significantly improved capacity on project implementation, especially for the project management offices at county level, had become useful to other domestic projects later on. Furthermore, through capacity building activities and technical support from the

[†] This analysis is based on the "principles of good practice" developed by the EU/FP7-funded project AfriCAN Climate (2011-2014). These principles represent critical cross cutting issues shared by the majority of climate change projects, regardless of focus, scope and scale. They are intended to encourage critical reflection and help project developers and decision-makers draw out relevant lessons. Source: <http://africanclimate.net/en/good-practice/8-principles-good-practice>



consultants, the beneficiaries in the project villages gained a greater awareness of potential climate change risks, increased understanding of environmental issues and an appreciation of climate change mitigation measures. The pilot activities and experience in implementation have been documented and communication products were produced and disseminated in the project counties.

Transferability

How has the project ensured that its activities can be transferred beyond the specific contexts in which they were implemented? Explain how particular project measures, activities or concepts could be/have been applied in another contexts or regions and how successful these efforts have been.

Various factors, mainly ascribable to the project's well thought-out design and implementation arrangements, had contributed to transferability of the project. First of all, the overall project design remains highly relevant and could certainly be replicated in other areas of China under the government poverty reduction schemes. Its achievements through innovative ways for both poverty and climate change vulnerability reduction employing a full participatory approach were entirely aligned with the government's strategy and direction for poverty reduction; highly influential with regard to ongoing and upcoming poverty reduction programmes; long-lasting and life-changing on well-being of the poor villagers. After the project ended, Shaanxi province launched a new project on poor rural development and considered replicating some of the project activities into this new project. In addition, Chongqing University worked with the Chongqing provincial project management office on the final project report. After their survey on the project achievements, the university compiled 17 case studies on every project component and used them in their Master of Public Administration programme, which is popular for in-service government officers to upgrade their educational attainments. The use of lessons learned from the project would promise to substantially enhance the dissemination to increase the project impact well beyond the project areas. Apart from that, experience from the sustainable land management and adaptation pilot activities and their integration into overall poverty reduction challenges as well as policy studies analysing the linkages between poverty-vulnerability to climate change-adaptation had been disseminated through other workshops and events among relevant agencies at national scale. With regard to this point, the poverty alleviation agenda under the 13th Five-Year Plan of China – in which the policy recommendations of the project were proposed for consideration, has the key objectives to strengthen ecological construction, along with to promote infrastructure connectivity and to achieve equality of basic public services. All of these main objectives were all the key components under this project.

References

Information from this case study is mainly taken from related project documents, available at <https://www.thegef.org/project/prc-gef-partnership-sustainable-development-poor-rural-areas>.

