

China: Applications of Lessons Learned re Sustainability from the Hebei Watershed Management and Livestock Production Project: Dr Brian Scoullar

The report assesses the effectiveness of applications of lessons learned from the Hebei Watershed Management and Livestock Project to ensure sustainability of this and other, subsequent projects.

Applications of Lessons Learned re Sustainability re the Hebei Watershed Management and Livestock Production Project

1. Introduction

The consultancy report on which these observations are based assessed short-term activities that completed AusAID's inputs to the Hebei Watershed Management and Livestock Production Project (HWMLPP) in China. At the same time the report provides useful lessons for AusAID about promoting sustainability and utilising complementarities between successive projects. These lessons are relevant to the current discussion within AusAID on sustainability and, by implication, on complementarity also.

A brief history of the two projects follows to give the context from which the insights and lessons have emerged.

1.1 Hebei Watershed Development and Livestock Production Project

HWMLPP, a five-year project, was completed in October 2000. It comprised five components: livestock production¹, irrigation development, tree crop production (developed mostly on irrigated terraces), extension and training, and project management.

The project was implemented through the Project Management Office (PMO), a group established by the Xingtai County Council specifically for the implementation of HWMLPP. Chinese staff, coopted to it from the relevant bureaux, reported to the National Project Director (NPD) who headed the PMO. Australian long term and short-term staff worked from the PMO under an Australian Team Leader. The county government supported the PMO through its agricultural committee where the members mirrored the bureaux represented in the PMO. In addition the Finance Bureau and the NPD of HWMLPP were also members of the committee.

HWMLPP is a successful rural development project. The income of the target population of 21,000 families has increased by approximately \$AUS one million per annum and is expected to rise further. Most of the income is generated by tree crops (fruit and nuts) and, to a lesser extent, small livestock. The most serious problem that has troubled the project throughout implementation is the erratic supply of water for irrigation and its inefficient use on farmers' fields. The problem is symptomatic of the more general issue of poor management of water resources in Hebei Province and elsewhere in China.

1.2 Water and Agricultural Management in Hebei

¹ Primarily to reduce erosion by bringing cattle down from the hills and to utilize maize stover and improved pastures on the plains to fatten cattle for sale.

The HWMLPP experience demonstrated that the planning and design by the Government of China of agricultural development projects in which water is a principal component is based on the capability of land rather than the availability of water. This approach to watershed development comes from an inadequate policy framework together with an insufficient capacity at operational levels to assess water resources and design irrigation schemes consistent with the sustained and efficient utilization of water. The need therefore is to strengthen capacity of GOPRC to match agricultural development with the availability of water, demonstrate improvements in the efficiency of water use and, thereby, influence policy development that relates to the management of the province's water resources.

The project, Water and Agricultural Management in Hebei (WAMH) has been designed to meet this need. It has four components; community capacity building, township and county capacity building, provincial planning and policy, and project management. The emphasis is on demonstrating improved technology and methods in six counties. Watershed development *per se* is the responsibility of the provincial and county governments. The project has been put out to tender with mobilisation expected by mid-2002.

2. Sustainability

With respect to HWMLPP, the final consultancy report of the project concludes, "the review of PMO operations in watershed development strongly indicates that the outputs of HWMLPP are being implemented in a sustainable manner" (p1). But the sustainability of outputs is an insufficient concept of sustainability when AusAID's expectation is replication of project impacts (i.e. watershed development) elsewhere. Under this more demanding measure I am less confident of the degree to which sustainability is in place. Nevertheless, progress has been made and, most importantly, this has occurred largely under the direction of the Xingtai County Government since the close of the project. An assessment of some of the elements of sustainability follows.

2.1 Institutional

The approach to institutional arrangements promoted in HWMLPP is being well bedded into the organisational structure of the Xingtai County Government. In decisions taken since the completion of the project, the Xingtai Government has;

- elevated the PMO to a level where it is responsible for implementing all watershed development in the county. The name has been retained because of its association with successful watershed development. County bureaux submit proposals through the PMO for government approval,
- merged the PMO with the agricultural committee, with the director of the PMO also holding the position of committee chairman,
- provided a budget allocation for the PMO,
- raised staff positions in the PMO to ones of permanency.

2.2 Methodological

At the management level, coordination between staff of differing disciplines under a single workplan and with weekly management meetings, as developed by HWMLPP, is continuing. At the community level, the participatory approach to the planning and implementation of watershed development is being maintained. Neither of these approaches came easily to National staff

during the project period. That they continue to be used after project closure is a significant indicator of the sustainability of the strategies adopted for project management and community involvement with respect to watershed development in Xingtai County.

There are methodological problems however in the dissemination of technology to farmers. The management of fruit trees is generally traditional, with poor light penetration, inadequate pest and disease control and many trees stunted as a result of water stress. Farmers are asking for information particularly on pruning and irrigation but this is not reaching them or, if it is, they are not adopting the recommendations. This is an important issue given the high levels of resources devoted to extension and training during the period of the project. The PMO should be proactive in identifying with communities the causes of non-adoption and then developing appropriate responses. Simply waiting for the impact from the expected release of an extension manual on orchard management, as proposed in the report, is inadequate.

2.3 Technical

The Xingtai government is developing detailed guidelines for assessing watershed development proposals. The guidelines address;

- responsibilities of officials within government and within the party,
- the source of the proposals for which assessments are required,
- technical standards, which cover in detail agronomic, environmental and engineering issues,
- participatory approaches to planning and implementation,
- the penalties and rewards supporting compliance to the guidelines.

While the guidelines represent an impressive advance in the application of improved technology to watershed development, there remains a significant reliance on Australian advice to drive innovation. The guidelines remained based on the assessment of land capability rather than the availability of water. Criteria for assessing the water resource were added to the guidelines only during the last consultancy of HWMLPP.

2.4 Human Resources

A 3-day study tour for staff from WAMH counties was planned and implemented by the Xingtai PMO. It was assessed as successful by the consultant present and by participants – an indication that trainers owned the material and had the capacity to transfer it effectively.

Some presenters were former PMO staff coopted to assist with the study tour. While this is understandable, it is not a viable long-term strategy for maintaining and disseminating the PMO's approach to watershed development. Staff transfers are a reality of life. A strategy for maintaining the PMO's leadership role to plan and implement watershed development should include in-house training of all staff on the approach to watershed development in anticipation of the normal loss of staff through transfer, promotion, retirement and resignation. Perhaps the most important element of the strategy is the grooming of an understudy to the present director to ensure continuity when he departs.

3. Complementarity

Possible complementarities between the two programs are strong in both directions. WAMH can learn much from Xingtai experience that will allow them to avoid pitfalls, particularly with the objectives and design of demonstrations. The prime purpose of WAMH providing support to the Xingtai PMO is that AusAID's investment into HWMLPP will become more secure. Examples of this complementarity are as follows.

3.1 Xingtai-to-WAMH benefits

i) WAMH is to demonstrate improved water use efficiency (without being able to charge for the use of water, although farmers pay for the cost of pumping water). Sprinkler irrigation is one option being considered to demonstrate improved efficiency. Demonstrations of micro-irrigation systems in Xingtai however were not successful. Equipment broke down and PMO staff should have received more training before the system was introduced. The main problem was the increased running time of pumps (a proxy for the cost of electricity) in comparison with that for other types of irrigation systems. The hosepipe system is the most popular but is poorly managed.

ii) Xingtai orchard trees, now up to five years old, show the effects of both good and poor management. These lessons are applicable as early as soil preparation prior to planting. WAMH can utilise this experience.

iii) Farmers prefer demonstrations that include several variables in agricultural production. A single-purpose demonstration does not provide answers that farmers require.

iv) PMO publications (e.g. the guidelines for watershed development, extension manuals) and methodologies (e.g. for developing irrigation schedules) should be useful resource material for WAMH.

v) Xingtai farmers can share their experience with farmers from WAMH counties through study tours.

vi) Data are available from the PMO for assessing the costs and benefits of a range of irrigation options. WAMH can utilise this knowledge to demonstrate advanced practices in the efficient use of water.

vii) As the policy and process implications of WAMH outcomes become clear the Xingtai PMO could provide feedback on the likely consequences of changes in policy and process on the planning, development and utilisation of irrigation systems.

3.2 WAMH-to-Xingtai benefits

The primary support WAMH can give Xingtai, which should be applied with some discretion, is that of a mentor. The principal strategy to use would be to respond to issues that threaten or strengthen sustainability. Thus, sustainability development and complementarity can be a synergistic relationship. The analysis presented in Section 2 above indicates some of the issues that WAMH could address.

i) Encourage the establishment of an in-service HRD activity for the enculturation of the collaborative, participatory approach to watershed development in all PMO staff.

- ii) Assist in linking the PMO to national institutions that can maintain the flow of innovative technology into the PMO's approach to watershed development.
- iii) Utilise the PMO wherever appropriate to support WAMH since this strengthens the viability of the PMO as a central institution, even beyond the county level, in watershed development.
- iv) Provide Xingtai with the results and outcomes of WAMH activities and their implications for watershed development at the county level.

4. **Conclusion**

The China program has a unique, synergistic relationship between WAMH and the Xingtai County watershed development program. Through utilising this relationship, AusAID can raise the quality of implementation of WAMH at the same time as it strengthens the sustainability of China's watershed development program in Xingtai County. Within the tendering process of WAMH, mechanisms should be put in place to ensure that bidders incorporate these opportunities into their strategies for project implementation.

At the more general level, AusAID should ensure that such situations happen more frequently. This can occur through better strategic management of country programs. A successor project or program should be linked to its predecessor by a common development issue, it should be located in the same administrative unit (e.g. first at the district level, then at the province that contains the district) and it should be within reasonable proximity to the previous activity. It is important that the relationship is one of mentoring. A de facto extension of the project/program in the guise of mentoring should be avoided since, by definition, sustainability cannot be achieved through a relationship characterized by dependency.