

3.2 Institutional Strengthening and Capacity Building

3.2.1 Governmental Institutions

Unlike the agencies in the energy sector, most Departments of Irrigation do not have Environmental and Social Management Units. Design criteria are not yet standardised and construction supervision in many cases is wanting, leading to reduced longevity and increased maintenance cost for civil works. Neither irrigation departments nor agricultural extension departments give due attention to guiding farmers in conservative and efficient irrigation water use, pollution control or drainage regimes. Much more support for the institutions responsible for irrigation system management is recommendable given the role of irrigation development as a means of increasing rural population carrying capacity and of limiting the need for upland rice production by shifting cultivation in catchments of river supplying water for water resources exploitation projects. These institutions range from central level water resources coordinating bodies to provincial and district irrigation departments, down to scheme-level water users associations and canal-level water user groups.

In Lao PDR, the administration of the Water Law is located in the Water Resources Coordination Committee, which has its Secretariat in the Office of the Prime Minister. Any consultant or agency with technical competence is capable of performing an impact study and estimate the associated mitigation, rehabilitation, restitution or compensation costs. The effective management of the associated water allocation, civil works rehabilitation, soil conservation, resettlement, etc. activities however, requires a multi-sectoral institution with administrative and

budgetary powers that go beyond those that can be mustered by a committee, which usually has no permanent technical staff. The coordinating body must maintain an equitable degree of parity between all relevant stakeholders, in terms of both their rights and their responsibilities in connection with the exploitation and conservation of the water resource.

Stakeholders in large basins, such as the NT2 impacted basins, or the Nam Ngum River Basin in Lao PDR, include several competing hydropower companies and downstream irrigators, navigators and fishermen. When the entirety of a large river system lies within the national boundaries of one particular country, then the institutional strategy for the management of the basin is to establish a commission (e.g. Snowy Mountains Commission in Australia) or an authority (e.g. the Tennessee Valley Authority in the USA). The Mekong however, is a multi-national river system and in designing a strategy for increasing its managerial effectiveness, it would be useful for the MRC to study the systems employed for managing large multinational river basins in Europe, such as the Rhine or the Danube.

The ADB has since 1996 been promoting integrated water resource management in Lao PDR through a number of technical assistance projects, which have resulted in the National Water Sector Profile, the Water Sector Action Plan and the establishment of the Water Resources Coordination Committee and the Nam Ngum River Basin Committee. The latter committee will be the body initially responsible for coordination of activities under the recently inaugurated ADB 'Nam Ngum River Basin Development Project' (PPTA LAO 33365-01). As well as addressing water allocation, poverty alleviation, catchment protection and biodiversity conservation issues within the Nam Ngum Basin and surrounding districts, it is intended that the project would also address the institutional strengthening and capacity building issues that could culminate in the establishment of a Nam Ngum Basin Management Authority or Commission.

One of the issues to be addressed is whether perhaps, to convert the Lao-Mekong Committee into a fully-fledged sub-commission of the MRC, with branches responsible for each major river basin in the country, in which two or more independent power producers operate. In the NT2 Catchment, a fledgling Watershed Protection Management Authority has been inaugurated which could, foreseeably expand to incorporate the Resettlement Management Unit, the Nakai Forest Farmer's Association, the THPC Environmental Management Division and arbitrate on monthly water allocation between the various stakeholders. The Authority could also organise and manage the associated resettlement, watershed protection and biodiversity conservation activities. It is a characteristic of Independent Power Producers that they prefer to concentrate on the implementation and management of the engineering aspects and could be expected to prefer to pay the costs of management of non-engineering aspects by a semi-governmental body, such as a River-Basin Management Authority or Sub-Commission.

Advisers to the UNDP-supported Lao Government Public Administration and Reform Programme identify the following prerequisites for effective capacity building at all levels of government:

- Clear, detailed technical specifications for the works for which the individual is responsible.
- Organisation diagrams clarifying, both vertical and horizontal interaction with other individuals and agencies.
- Precise and comprehensive job descriptions clarifying roles, duty stations and chains of responsibility and authority.

- Adequate accommodation and transportation facilities, especially for those located in remote duty stations.

In strengthening the role of Central and Provincial Governments as regulators and promulgators of an enhanced legal framework; upgraded salary and benefits scales will also be essential to relieve any legal justification for seeking such support from private sector developers. This will enable better government control of development projects, in line with international environmental and social parity standards.

3.2.2 *Non-Government, Community-Based, and Private Sector Organisations*

Several initiatives, which emphasise the role and effectiveness of NGOs and domestic consultants in implementing integrated development and emphasising poverty alleviation are in process in Lao PDR with the support of ADB. These projects include the Shifting Cultivation Stabilisation Project, the Smallholder Agriculture Project, the Industrial Tree Crops Project, the Nam Ngum Watershed Management and Conservation Project and the Sustainable Agro-Forestry Systems for Livelihood Enhancement of Rural Poor (Nam Ha Poverty Alleviation Project). These projects incorporate the upgrading of irrigation systems as a basic step towards reducing the necessity for shifting cultivation on steep watersheds and nature conservation areas. The latter two Projects feature a tripartite implementation modality, combining NGOs, domestic consultants and local government. The compensation package for the flooding of stream bank gardens in more than 25 villages by the THPC involved the installation of pumped irrigation, village water supply, sanitary toilets, health awareness raising, micro finance support, irrigation system upgrading and expansion, the terracing of rainfed sedentary farmlands and land allocation and certification. These activities were executed jointly by the THPC Environmental Management Division and local government, with technical support and capacity building provided by NGOs and domestic consultants.

Conversion of indigenous communities from shifting cultivation to a sedentary lifestyle or from non-irrigated to irrigated agriculture is necessarily a time-consuming process requiring a continuous programme of consultation with each family concerned. An important aspect of incorporating NGOs and domestic consultants into integrated development projects is their ability to assign and support resident technical personnel to live full-time in each village. This is not possible in the case of governmental community developmental and agricultural extension personnel, who have district-wide responsibilities. This approach is also yielding encouraging results in the project for empowering communities in the remote uplands of the Nakai-Nam Theun NBCA.

Nonetheless, to equip them for the complex task of managing the landuse change involved in integrated rural development, most NGOs and domestic consultants require capacity building. It is accordingly recommended that practical training courses for NGO and domestic consultant managerial and field staff be added to the curricula of the Mekong Institute at Khon Khaen University, the National Institute for Development Administration in Bangkok and its sister-organisations in Vientiane, Phnom Penh and Can Tho. Soil erosion control topics should also be added to agricultural university curricula and supplementary in-service training in this field be provided for field staff of governmental agricultural and forestry services.

A particular institutional consideration applies to the case of ensuring the integrity of the Basin's biodiversity conservation areas once that all irrigation possibilities in the buffer zones have been developed. The situation in the THPC catchment provides an example; this catchment incorporates the NNT, the Bolikhamxay

Highlands, Khammuan Limestone, Nam Kading and the Nam Chouan NBCAs and corridors, together with the proposed Pha Khadoung Saola Management Area, and the Pha Koanchan Provincial Protected Area. The community and agricultural developments implemented so far by THPC compensate the riverside farmers for the direct impacts of the project but do not (and ideally should not be expected to) compensate for the background impacts of unsustainable landuse, which was ongoing before the dam and power station were constructed. To fully stabilise landuse catchment-wide and thus remove the use pressure on biodiversity conservation areas (which is currently precluding their successful protection) it will be necessary to extend irrigation upgrading, rainfed farmland terracing, livestock health and nutrition improvement and land occupancy certification throughout the catchment. Hopefully, these activities could be implemented in conjunction with the resettlement site developments associated with the Theun-Hinboun Extension and Nam Theun 1 and Nam Theun 2 HPP should these transpire. The GEF funding to be administered by the WCS will cover matters specific to wildlife management but funding for irrigation development and shifting cultivation stabilisation has not yet been secured.

In designing institutional strengthening and capacity building programmes, the importance is stressed of keeping a balance between strengthening the capacity of the "top down" institutions and that of the "bottom up" institutions, particularly through Village Development Committees and their constituents: Water User Groups, Soil Conservation Groups, etc. It is much more likely that regulations concerning the utilisation and conservation of land, water and other natural resources will be adhered to when these are prepared in close consultation with the resident communities. (This matter is dealt with in detail in the publication 'Lao Environmental, Institutional & Background Research Project' under the auspices of the Strategic Environmental Framework for the Greater Mekong Sub-region' [ADB 5783]).

As an institutional strategy, it is recommended to grant conservation, research, eco-tourism and management concessions over wildlife sanctuaries and NBCA Core Zones to consortia of international conservation-oriented NGOs in return for payment to the government of concession fees and royalties as (part) compensation for the opportunity cost of not logging the NBCAs.

3.3 Technical Aspects and Best Practices Leading to Sustainable Rural Landuse Intensification

EIA and CIA should lead to informed decisions on whether or not to proceed with a particular infrastructural project in favour of another, or at least to choose the option that ensures minimal disruption of the livelihood of the community at large in both current and trans-generational scenarios. In reality however, all too often investment in civil works and the design and layout of structures are more influenced by short-term political and financial agendas, than by longer-term environmental social and ecological considerations. It would seem wiser then for EIA and CIA to concentrate more on mitigating the emergence of worst-case scenarios or, at least, managing and mitigating their impacts if they cannot be prevented. For this reason, in Part 2 above, the various catchments comprising the Nam Theun 2 HPP Impact Zones have been described in terms of their component "landuse management" tracts, as an aid to classifying the various impacts and to planning and quantifying their management and mitigation and attributing the relevant costs to the relevant stakeholders.