

2.3 Lao PDR Perspective

2.3.1 Irrigated & Irrigable Lands

The pump-irrigated mainstream Mekong mainstream levees and flood banks between the Kading and Xe Bangfai confluences amounts to 4,400 ha in the wet season and 3,500 ha in the dry season (left and right bank areas). Water is pumped either directly from the mainstream or from small tributaries connected to the mainstream and influenced by its water level variations. The potential for expansion of irrigated areas has been estimated to almost a doubling for both the wet and dry season. The data available do not show, however, how much of this expansion would involve intrusion into ecologically sensitive wetlands. Diesel-

pumping has proven not economically viable; such expansion therefore would depend on rural electrification in these tracts.

In relation to potential effects on irrigated areas on the Pak Kading-Xe Bangfai reach, the water level changes due to NT2-HPP operation are expected to be relatively insignificant; the lower the water level in relation to the irrigation canal headworks, the more energy must be expended in lifting the water into the delivery system. Typical static heads in this tract range between 7 metres and 14 metres. While operation of the NT2-HPP will, in combination with Theun-Hinboun HPP (and its possible extensions), lower dry season river levels in the Pak Kading to Pak Hinboun Reach, the difference is relatively insignificant (7 cm in the dry season and 23 to 29 cm in the wet season). The lowering effect would be even less along the Pak Hinboun to Pak Bangfai Reach due to the operation of the Theun-Hinboun trans-basin diversion.

In the **20-year** scenario, employing Best Practices, a considerable part of what today is shifting cultivation area will have come under permanent cultivation of arable crops on terraces (on slopes below 25%), combined with smallholder-managed production of fruit trees and/or industrial tree plantations (with NTFP understoreys) on slopes up to 45%. Irrigation will be used, for both rice production and the production of supplementary forage for intensively raised stall-fed, large and small livestock. Natural forests in watershed protection areas (steeper than 45%) and NBCAs will have been regenerated, unproductive grasslands rehabilitated and production forests come under sustained yield management and registered with the Forest Stewardship Council (for further details of the visionary principles involved, see *ADRA, 2003*).

2.3.2 *Ongoing & Planned Irrigation Upgrading and Expansion*

Each provincial irrigation service has prepared plans and designs, some more sophisticated than others, for the expansion of irrigation infrastructure into all parts of the country where commandable land is still undeveloped. The last five years has seen a nation-wide programme of installation of pontoon-mounted diesel pumps (supported by the Government of India) on the mainstream and larger tributaries. Because of insufficient attention to canal and drainage networks, many of these schemes are proving uneconomic and replacement of diesel motors with electric motors is under way. Upgrading of canals and drainage systems is not yet planned in detail and is proceeding at a slower pace.

The ongoing World Bank Irrigated Agricultural Development Project (ADP) has been operating in four southern provinces of Lao PDR including Savannakhet and Khammuan, since 2001. As well as irrigation system upgrading, the project encompasses farm access roading, agricultural extension and micro-finance support for irrigators through strengthened Water User Groups.