

Thakhek is among the alternative locations for a future Mekong bridge after the construction of the second friendship bridge at Savannakhet is finished in 2006. The Thai authorities have already indicated interest in a Nakhon Phanom-Thakhek bridge, and it is likely that it will be realised within the time period 2010-2020.

## 4 WATER SUPPLY AND SANITATION

### 4.1 Regional Perspective

Reported per capita use and demand of water for domestic purposes varies between the countries and between different studies. Demand studies have used assumptions of up to 100 m<sup>3</sup> per capita per year, which sounds very high in countries where a large part of the population lives in rural areas with underdeveloped infrastructure. Also the population growth figures for the individual countries vary, which also results in different scenarios for future water demand.

Table 8 shows estimated population and domestic water demand in the Lower Mekong Basin by 2025. The table is based on figures from documents produced for the MRC Basin Development Plan and Water Utilization Programme.

Population growth rates in the Lower Mekong Basin are expected to decline in the future, mainly because of general economic growth and family planning.

*Table 8: Population Increase and Water Consumption*

Country	Population 2000	Growth rate %	Population 2025	Demand per capita m <sup>3</sup> /year	Total demand 2025 mill m <sup>3</sup>
Cambodia	9,800,000	2.3	17,303,000	12	208
Lao PDR	4,905,000	2.6	9,318,000	20	186
Thailand	23,130,000	1.0	29,663,000	24	712
Vietnam	16,920,000	1.4	23,952,000	42	1,006
<b>Total</b>	<b>54,744,000</b>		<b>80,235,000</b>		<b>2,112</b>

Source population figures: MRC-BDP Regional Sector Overview 2002

Source water demand estimates: MRC Water Utilization Programme, 2002

The estimates show that the population may reach 80 million people by 2025 corresponding to a water demand of around 2,100 million m<sup>3</sup>. This translates to an average loss of flow of about 70 m<sup>3</sup>/s in the Mekong Delta. The need for more water can be counteracted to some extent by improvements in efficiency of supply and leakage reduction in the distribution network. Appropriate pricing of water is also an important countermeasure against excessive use and wastage. Water demands reported per capita use and demand of water for domestic purposes varies between the countries and between different studies.

In Cambodia and Lao PDR, the major cities and towns are close to the Mekong and the main obstacle to supply capacity is lack of treatment plants and distribution network. In Thailand and Vietnam some urban areas rely on groundwater and the demand may be higher than available resources. Supply in the dry season is already a problem.

## 4.2 Lao Perspective

By 2000 it was estimated that 50% of the population had access to either piped water or water from a protected well. This was an increase from 39% in 1990. Over recent years the sewerage system in Vientiane has been improved by large infrastructure works, mostly in connection with the improvement of the road network in the capital. In terms of piped potable water supply, existing infrastructure covered around 456,000 people or about 54 percent of the urban population by the year 2000. Through the ongoing ADB-funded Water Supply and Sanitation Sector Project, (Phase 1), another 53,000 people will be given piped water access by 2010. Phase 2 of the project is expected to add another 70,000-80,000 people by 2015 with 14-15 towns to be covered. Most of the water sources for the towns will be rivers (including the Mekong) and reservoirs as to date only two of the finished schemes rely on groundwater resources.

In addition to the ADB, a number of international agencies and funding organisations are engaged in development of the water and sanitation sector in the country. These include the Swedish Development Agency (SIDA), the French Development Agency (ADF) and all of the agencies and organisations that are engaged in integrated rural development projects where improved water supply is one of the components.

## 4.3 Local Perspective

Under the ADB Water Supply and Sanitation Sector Project there are plans to build two water supply schemes in Bolikhamxai and Khammouane. One is in Nongbok District, which is situated in the lower Xe Bangfai basin, and thus falls within the direct impact zone of the NT2 Project. The other is Lak Xao to the north of the NT2 Project area. At Nongbok, the Xe Bangfai will be used as the source for the planned water supply scheme, and by 2010 an average consumption of 17 litres per second is expected.

For Lak Xao the feasibility study is yet to be done and it has thus not been decided whether river water or ground water will be used. However, given current preferences for technical solutions among the government agencies responsible for water supply, it is most probable that surface water from a nearby river, possibly the Nam Phao, will be chosen.

# 5 URBANISATION

## 5.1 Regional Perspective

### 5.1.1 Population

Population pressure in the Mekong River Basin is not very high when compared to other large river basins in Asia. It is, however, at the moment growing relatively rapidly. Over the decade between 1990 and 2000 population growth rates were 4.1% for Cambodia, 3.1% for Laos, 1.2% for Thailand and 1.8 for Vietnam (UNFPA website, 2004) The high rate for Cambodia reflects the return of more than 300,000 refugees in the early 1990's. Present growth rates in Lower Mekong Basin are more moderate and expected to decline further in the future as economic growth, urbanisation and family planning programmes start to influence fertility and birth rates.