

## **The Tonle Sap Initiative—Cambodia**

Abstract: The Tonle Sap Lake supports one of the most productive fisheries in the world and supplies protein to a majority of Cambodians. Centuries ago, Cambodia's inhabitants mastered the seasonal ebb and flow of Southeast Asia's largest freshwater lake, maximizing rice production and making possible the wonder of the Angkor Kingdom. The lake is also of global significance for biodiversity conservation. Today, many Cambodians still rely on the Tonle Sap for fish to feed their families and on its monsoon-fed waters to irrigate their rice fields. Overexploitation of fisheries and wildlife, conversion of the flooded forest to agriculture, and collection of wood for fuel are threats to this balance. Widespread deforestation in the watershed is destroying habitats, impairing water and soil quality, and increasing siltation rates. Under the Tonle Sap Initiative, Asian Development Bank is helping the Cambodian government put in place a plan to protect the rich natural resource that sustains so much of the nation. Central to the initiative is a phased sequence of core interventions to put in place an integrated and basin-wide approach to dealing with the problems.

### **FIGHTING POVERTY IN CAMBODIA: THE TONLE SAP INITIATIVE**

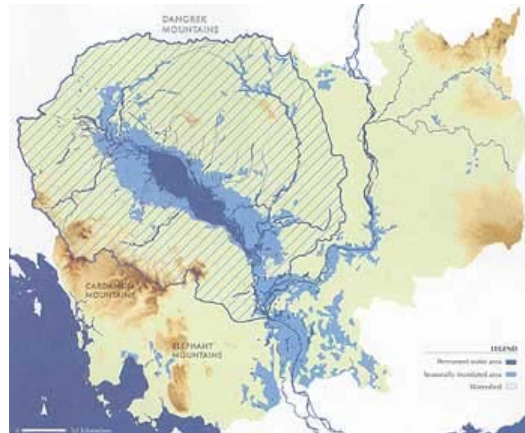
#### **I. Introduction**

1. The Tonle Sap is the largest freshwater lake in Southeast Asia. It forms a natural floodplain reservoir in the depression of the Cambodian plain and is drained by the Tonle Sap River into the Mekong River near Phnom Penh. When the level of the Mekong River is high the flow of the Tonle Sap River reverses: water is pushed into the lake, raising its level by up to 10 meters and increasing its area from 2,500–3,000 square kilometers in the dry season to 10,000–16,000 square kilometers in the rainy season. This unique hydrological cycle and the vast areas of seasonally flooded low forest and shrubs that it creates, in a tropical climate, result in a very high biodiversity of fish, reptiles, birds, and mammals. The Tonle Sap ecosystem<sup>1</sup> is (i) the main source of animal protein for much of the population of Cambodia, owing to the productive fisheries of the Tonle Sap; (ii) a direct and irreplaceable source of livelihoods for more than 1 million people living on and around the Tonle Sap; (iii) a seasonal breeding and nursery ground and forage area for fish that subsequently migrate to the Mekong River, providing thereby a regionally vital resource; and (iv) an environmental hotspot of global significance. The Tonle Sap Basin is home to 32% of Cambodia's total population (1998 figure). It covers 38% of Cambodia's total land area. It is also a reservoir from which water drains, in the dry season, to control salinity intrusion and conserve mangrove in the Mekong delta. The lake became a biosphere reserve in October 1997 under the Man and the Biosphere Program of the United Nations Educational, Scientific, and Cultural Organization.

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<sup>1</sup> The Tonle Sap ecosystem is the permanent core area of the Tonle Sap and the surrounding floodplains, within the boundaries constituted by the upper flood lines. It includes the Tonle Sap River, its branches, and floodplains.

## The Tonle Sap Basin



Source: The Tonle Sap Great Lake: A Pulse of Life, FAO 2003.

2. However, high population growth is increasing the number of people to feed and consumptive use of the Tonle Sap Basin's resources is intense. These root causes of degradation are compounded by limited awareness and understanding of impacts from human actions, insufficient governance and accountability systems, and inadequate mechanisms for management coordination and planning. Threats to the Tonle Sap include over-exploitation of fisheries and wildlife resources, encroachment during the dry season, and cutting of the flooded forest. In the watersheds, degradation of natural vegetation is destroying habitats and results in deterioration of water and soil quality and increased siltation rates. Despite the inherent richness of the lake, most indicators of poverty in the Tonle Sap Basin are worse than those of the national population as a whole. Cambodia faces environmental disaster if the Tonle Sap ecosystem is degraded further. Even so, the destruction of the natural resources of the Tonle Sap Basin is an issue not only of national importance: it has serious transboundary environmental implications.

## II. The Tonle Sap Basin Strategy

3. In response, in October 2002, ADB launched the Tonle Sap Initiative,<sup>2</sup> a partnership of organizations and people working to meet the poverty and environment challenges of the Tonle Sap. The first milestone was reached in November 2002 with approval of a loan and supporting technical assistance for environmental management on the Tonle Sap.<sup>3</sup> In July 2003, ADB formulated the Tonle Sap Basin Strategy<sup>4</sup> in support of the Country Strategy and Program, 2005–2009. The strategy forms the basis for setting priorities and planning assistance over the next 5–10 years. It is consistent with ADB's water policy and a worldwide trend towards managing land, water, and biotic resources within a framework of basin units.

4. The strategy aims to reduce poverty. Toward this goal, its development objectives are to foster, promote, and facilitate (i) pro-poor, sustainable economic growth, (ii) access to assets, and (iii) management of natural resources and the environment. The strategy is based on three

<sup>2</sup> ADB. 2002–. Various Editions. *The Tonle Sap Initiative: Future Solutions Now*. Manila

<sup>3</sup> ADB. 2002. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to Cambodia for the Tonle Sap Environmental Management Project*. Manila. (Loan 1939–CAM.)

<sup>4</sup> ADB. 2005. *The Tonle Sap Basin Strategy*. Manila. The developments objectives of the Tonle Sap Basin Strategy are to foster, promote, and facilitate (i) pro-poor, sustainable economic growth; (ii) access to assets; and (iii) management of natural resources and the environment.

underpinning strategic principles (i) sustainable livelihoods, (ii) social justice, and (iii) a basin-wide approach. The strategy focuses on two core areas (i) rural development and the environment, and (ii) human development.

### Cross Impact Strategy Matrix

Strategic Agenda		Core Areas of Intervention		Crosscutting Themes			
		Rural Development & the Environment	Human Development	Vulnerable Groups	Governance	Resource Cooperation	The Private Sector in Development
Development Objective	Pro-poor, sustainable Economic Growth						
	Access to Assets						
	Management of Natural Resources & the Environment						

### III. Tonle Sap Initiative Operating Outputs

5. To deliver assistance in effective and efficient ways, operations are anchored in operating principles: (i) a long-term perspective, (ii) selectivity and concentration, (iii) partnerships, (iv) country ownership and delegation, (v) informing and listening, and (vi) judicious use of funding modalities.

#### A. Completed

- Protection and Management of Critical Wetlands in the Lower Mekong Basin (TA 5822–REG; 1998; \$1.65 million; ADB; Finland).
- Improving the Regulatory and Management Framework for Inland Fisheries (TA 3993–CAM; 2002; \$560,000; ADB).
- Chong Kneas Environmental Improvement (TA 3997–CAM; 2002; \$997,000; Finland).
- Capacity Building of the Inland Fisheries Research and Development Institute (TA 4025–CAM; 2002; \$900,000; ADB).
- Establishment of the Tonle Sap Basin Management Organization (TA 4212–CAM; 2003; \$135,000; ADB).
- Living with Floods on the Tonle Sap (Funded through TA 6123–REG: Promoting Effective Water Management Policies and Practices III; 2003; \$85,000; CFWS).
- Developing and Testing Methodologies and Tools for Environmental Education and Awareness (Funded through TA 6123–REG: Promoting Effective Water Management Policies and Practices III; 2004; \$50,000; CFWS).
- Tonle Sap Sustainable Livelihoods (TA 4197–CAM; 2003; \$1.26 million; ADB, Finland).
- Establishment of the Tonle Sap Basin Management Organization II (TA 4427–CAM; 2004; \$300,000; ADB).
- Capacity Building of the Inland Fisheries Research and Development Institute II (TA 4563–CAM; 2005; \$300,000; ADB).
- Sustainable Rural Water Supply and Sanitation (TA 4570–CAM; 2005; \$150,000; ADB).

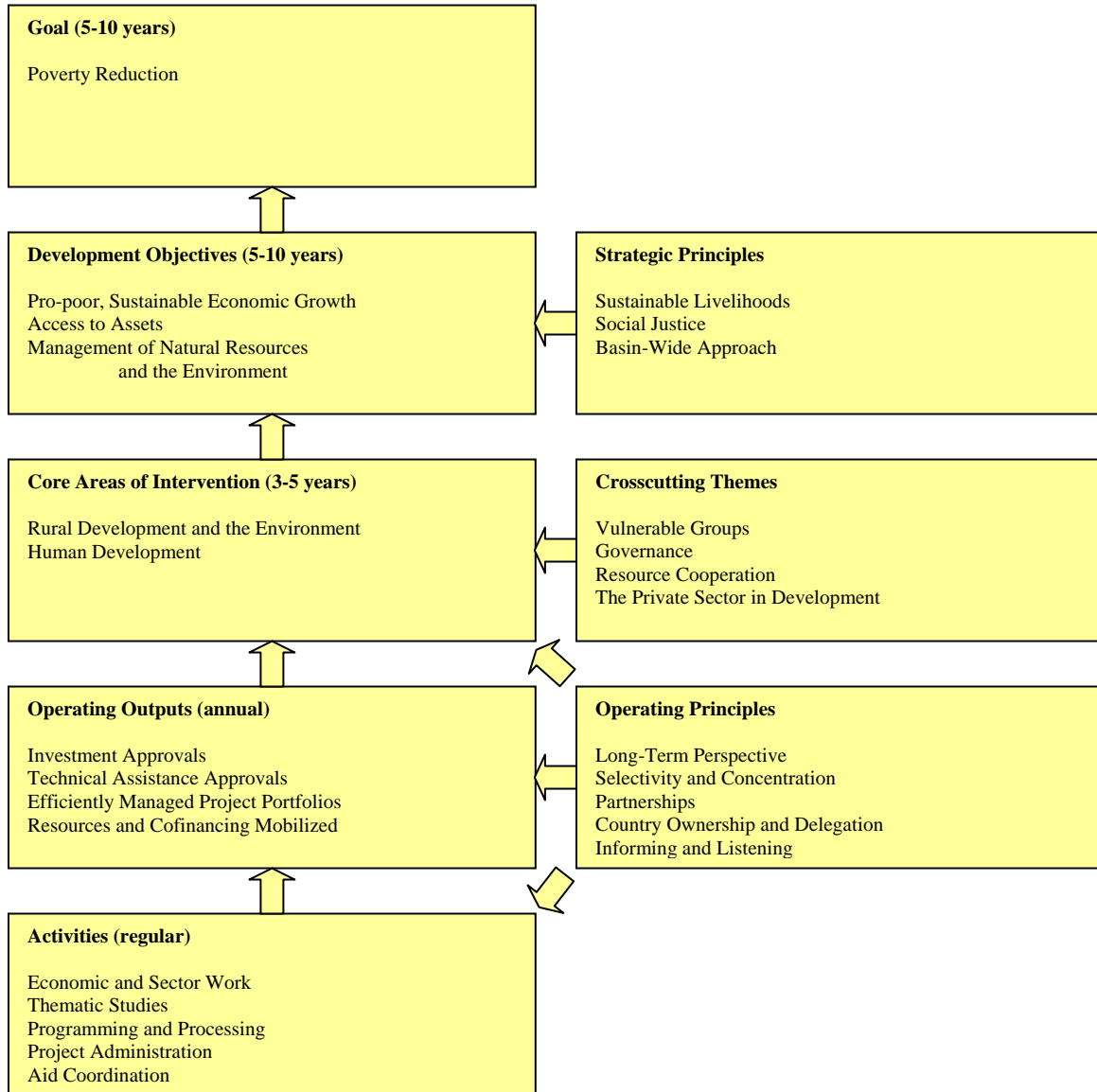
#### B. Ongoing

- Tonle Sap Environmental Management (Loan 1939–CAM; 2002; \$10.91 million; ADB).<sup>5</sup>
- Tonle Sap Rural Water Supply and Sanitation Sector (Grant 0018–CAM: 2005; \$18.00 million; ADF IX).
- Tonle Sap Sustainable Livelihoods (Grants 0034/0035–CAM: 2005; \$19.74 million; ADF IX, Finland).
- Participatory Poverty Assessment of the Tonle Sap (TA 4283–CAM; 2003; \$250,000; PRF).
- Capacity Building for the Tonle Sap Poverty Reduction Initiative (TA 4376–CAM; 2004; \$500,000; PRF).
- Improving the Access of Poor Floating Communities on the Tonle Sap to Social Infrastructure and Livelihood Activities. (JFPR 9064–CAM; 2005; \$1,000,000; JFPR).
- Study of the Influence of Built Structures on the Fisheries of the Tonle Sap (TA 4669–CAM; 2005; \$765,000; Finland).
- Tonle Sap Lowland Stabilization (TA 4756–CAM; 2005; \$1,000,000; JSF, ADB).
- Enhancing the Role of Women in Inland Fisheries in Cambodia (Funded through TA 6143–REG: Promoting Gender Equality and Women's Empowerment; 2006; \$150,000; GDCF).

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<sup>5</sup> GEF and UNDP approved cofinancing in the amounts of \$3.20 million and \$630,000, respectively, in support of this project.

## Tonle Sap Basin Strategy Operating Framework



ADB = Asian Development Bank, ADF IX = Asian Development Fund IX, ADTA = advisory technical assistance, CFWS = Cooperation Fund for the Water Sector, FAO = Food and Agriculture Organization of the United Nations, GDCF = Gender and Development Cooperation Fund, GEF = Global Environment Facility, JFPR = Japan Fund for Poverty Reduction, JSF = Japan Special Fund, MRC = Mekong River Commission, NGO = nongovernmental organization, PEF = Poverty and Environment Fund, PPTA = project preparatory technical assistance, PRF = Poverty Reduction Fund, REG = regional technical assistance, TASF = technical assistance special fund, TBD = to be determined, UNDP = United Nations Development Programme.

The Tonle Sap is the largest freshwater lake in Southeast Asia. It has a unique hydrology: in the rainy season, reverse inflow from the Mekong River causes the lake to swell five-fold to cover up to 16,000 square kilometers. Fish, reptiles, birds, mammals, and plants thrive on this phenomenon, making the Tonle Sap an environmental hotspot of regional and worldwide importance (now a designated United Nations Biosphere Reserve), a major source of protein for the people of the lower Mekong basin, and the means of livelihood for nearly a third of Cambodia's people. However, population and development pressures are taking their toll and consumptive use of natural capital is intense.

Under the Tonle Sap Initiative, the Asian Development Bank is promoting a long-term, holistic approach that conserves nature and offers the promise of sustainable development. Informed by the principles of sustainable livelihoods, social justice, and a basin-wide approach, the development objectives are to foster, promote, and facilitate pro-poor, sustainable economic growth; access to assets; and management of natural resources and the environment.

Central to the Tonle Sap Initiative is a geographically and temporally phased sequence of around 30 loan, grant, and technical assistance projects. These started at the center of the lake with the Tonle Sap Environmental Management Project, which became effective in 2003, and meets challenges to the Tonle Sap Biosphere Reserve by enhancing systems and developing the capacity for natural resource management coordination and planning, community-based natural resource management, and biodiversity conservation.

Moving from the center of the lake, the Tonle Sap Sustainable Livelihoods Project, which became effective in 2006, shifts the primary emphasis from conservation to community-driven development by increasing access to assets through a community livelihood fund that will finance a range of environmentally sensitive livelihood investment packages. It extends practical support to the Government's program of decentralization and deconcentration.

In the seasonally inundated areas and surrounding lowlands preparation of the Tonle Sap Lowland Stabilization Project proposed in 2007, has commenced. In keeping with the key livelihood activities of this area, it will give particular regard to small-scale irrigation rehabilitation and development, but again with a strong element of devolved community control.

Finally, the Tonle Sap Watershed Management Project, proposed in 2009, will take the initiative to the basin's uplands with an imperative to protect them through sustainable management of native vegetation and reduced land degradation while affording means of livelihood to those living in these areas.

It is envisaged that most elements of this cycle will go through several iterations. These four core projects, however, need to be buttressed in a number of ways. Hence, the suite of projects addresses five key areas: development of the institutional, policy, and regulatory framework under which program the establishment of a basin management organization is a vital component; acquisition of knowledge through research and studies; dissemination of acquired knowledge to the full spectrum of stakeholders; empowerment of stakeholders to achieve their conservation or utilization objectives; and forging of partnerships amongst civil society, implementation support agencies, executing agencies, and financing agencies. All the while, crosscutting themes ensure that attention is paid to vulnerable groups, governance, resource cooperation, and the private sector.

The phasing of interventions ensures that each project is informed by and feeds into another promoting continuity and building synergies. Synergies ease planning, processing, approval, and implementation of projects.

There is clear evidence that the Tonle Sap Initiative is contributing to managing for development results and development effectiveness. It is affording a significant and positive contribution to more effective basin management; offering possibilities for cooperation with local, provincial, and national stakeholders to balance ever-increasing demands on the lake's resources; and encouraging continuity, giving confidence to stakeholders, and presenting opportunities to resolve current and future challenges. This concentration of resources is also catalyzing other bilateral and multilateral endeavors.

Sources: ADB. 2005. *The Tonle Sap Basin Strategy*. Manila. ADB. 2006. *From Strategy to Practice: The Sap Initiative*. Manila. (draft).

Website:

[http://www.adb.org/projects/tonle\\_sap](http://www.adb.org/projects/tonle_sap)

