



Technical Assistance Report

Project Number: 37287
December 2005

Technical Assistance Kingdom of Cambodia: Preparing the Tonle Sap Lowland Stabilization Project (Cofinanced by the Japan Special Fund)

CURRENCY EQUIVALENTS

(as of 14 November 2005)

Currency Unit	–	riel (KR)
KR1.00	=	\$0.00024
\$1.00	=	KR4,106

ABBREVIATIONS

ACLEDA	–	Association of Cambodian Local Economic Development Agencies
ADB	–	Asian Development Bank
BZ	–	buffer zone
CA	–	core area
CSP	–	Country Strategy and Program
EARP	–	environmental assessment review procedure
EIA	–	environmental impact assessment
EMDP	–	ethnic minority development plan
GAP	–	gender action plan
km ² (square kilometer)	–	1 million square meters
MOWRAM	–	Ministry of Water Resources and Meteorology
NGO	–	nongovernment organization
NTFP	–	nontimber forest product
PPA	–	poverty partnership agreement
PRA	–	participatory rural appraisal
PRDC	–	provincial rural development committee
RP	–	resettlement plan
RF	–	resettlement framework
TA	–	technical assistance
TSBR	–	Tonle Sap biosphere reserve
TSEMP	–	Tonle Sap Environmental Management Project
TZ	–	transition zone
UNESCO	–	United Nations Educational, Scientific, and Cultural Organization
VDC	–	village development committee

TECHNICAL ASSISTANCE CLASSIFICATION

Targeting Classification	–	Targeted intervention
Sector	–	Agriculture and natural resources
Subsector	–	Irrigation and drainage; water resource management
Themes	–	Sustainable economic growth, inclusive social development, environmental sustainability
Subthemes	–	Fostering physical infrastructure development, developing rural areas, gender equity in opportunities

GLOSSARY

Buffer zone. A zone that usually surrounds or adjoins core areas, and is used for cooperative activities compatible with sound ecological practices, including environmental education, recreation, ecotourism, and research. In the Tonle Sap biosphere reserve, a buffer zone of about 5,400 square kilometers (km²) surrounds the core areas up to the outer limit of the flooded forest.

Commune councils. In Cambodia, an elected body that governs commune administration. In addition to fulfilling their administrative tasks, commune councils participate in informal dispute resolution, plan and implement development projects, do some agency functions for the central and provincial governments, and conduct advocacy. Development activities consist mainly of small-scale infrastructure and public goods projects.

Community management. The community-based management of local natural resources, including certain designated fishing areas, with support from relevant authorities, and institutions and organizations.

Core areas. Securely protected sites for conserving biodiversity, monitoring minimally disturbed ecosystems, and undertaking research and other low-impact uses such as education. In the Tonle Sap biosphere reserve, core areas are in Prek Toal (213 km²), Battambang; Boeng Tonle Chhmar (Moat Kla) (145.6 km²), Kompong Thom; and Stung Sen (63.5 km²), Kompong Thom.

Flooded forest. A descriptive term for the particular natural vegetation that originally covered most of the Tonle Sap's floodplains. It is now characterized by low forest and shrubs that still account for the productivity of the Tonle Sap.

Livelihood. The capabilities, assets, and activities required for a means of living. A livelihood is sustainable when it can cope with stresses and shocks and maintain or enhance itself in the present and in the future without undermining the natural resource base.

Livelihood approach. A way of thinking about the objectives, scope, and priorities for development. It reinforces positive aspects and militates against constraints or negative influences. Its core principles are that poverty-focused development should be people-centered, responsive, and participatory; multilevel; conducted in partnership; sustainable; and dynamic. It puts people at the center of development.

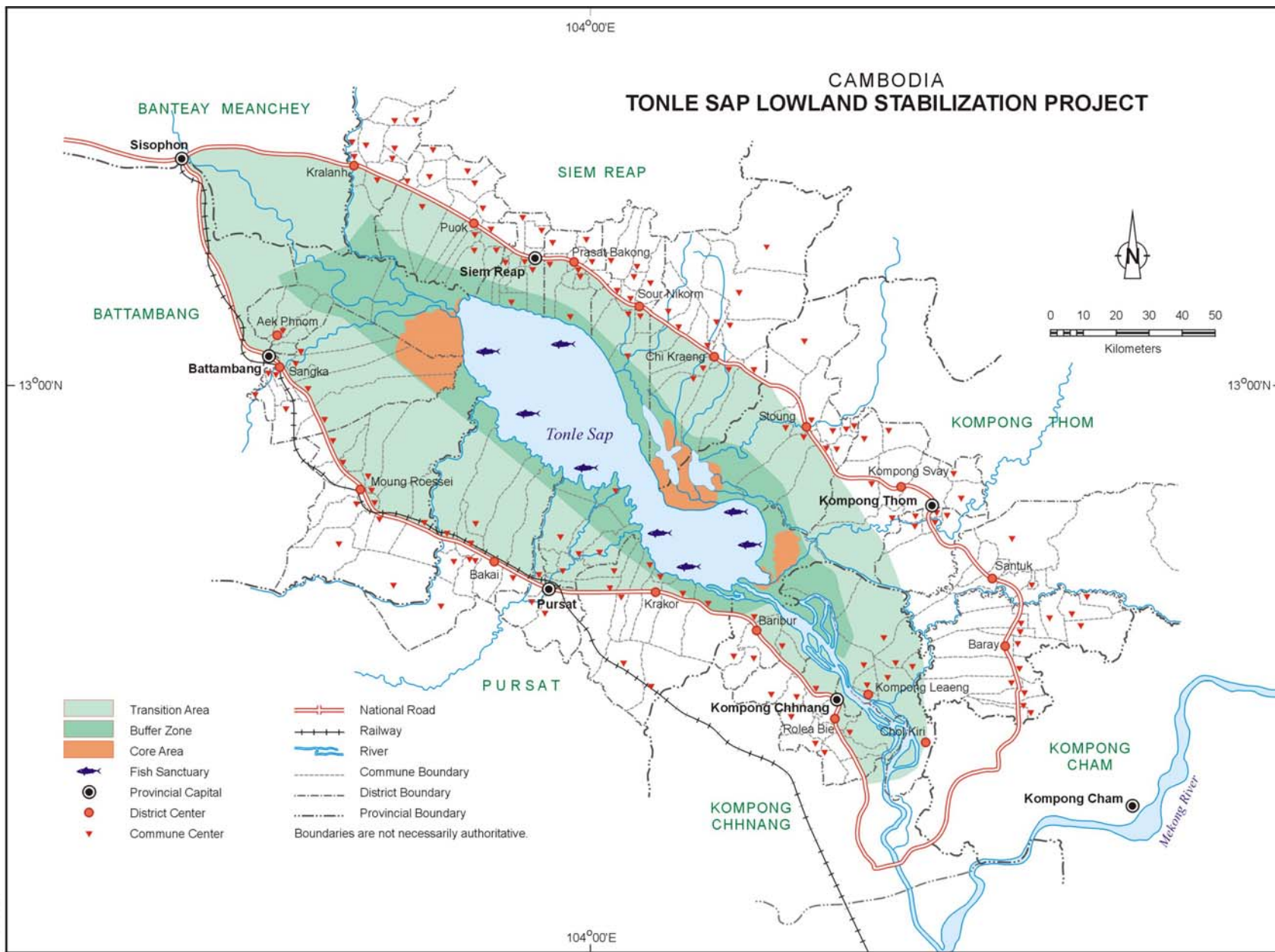
Transition zone. An area in which stakeholders work together in a variety of economic and other activities to manage and develop sustainably a biosphere reserve's natural resources. In the Tonle Sap biosphere reserve, a transition area of about 9,000 km² lies between the outer boundary of the buffer zone and Highways No. 5 and No. 6.

NOTE

In this report, "\$" refers to US dollars

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CAMBODIA TONLE SAP LOWLAND STABILIZATION PROJECT



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|---|--|
| Transition Area | National Road |
| Buffer Zone | Railway |
| Core Area | River |
| Fish Sanctuary | Commune Boundary |
| Provincial Capital | District Boundary |
| District Center | Provincial Boundary |
| Commune Center | Boundaries are not necessarily authoritative. |

I. INTRODUCTION

1. In 2004, the Government of Cambodia requested technical assistance (TA) to prepare a project to reduce poverty in communities inhabiting the lowland areas surrounding the Tonle Sap lake, in the framework initiated by the Tonle Sap Environmental Management Project (TSEMP).¹ During 8–18 February 2005, the Fact-Finding Mission of the Asian Development Bank (ADB) visited Cambodia and formulated the TA, in line with the program of actions formalized in the poverty partnership agreement between the Government and ADB.² In November 2005 the Government confirmed its concurrence with the impact, outcome, outputs, implementation arrangements, and cost and financing arrangements of the proposed TA.

II. ISSUES

2. **The Tonle Sap and Its Resources.** The Tonle Sap lake experiences an annual cycle of flooding that inundates its extensive peripheral wetlands, and increases the surface area of the lake from about 2,500 square kilometers (km²) in the dry season to as much as 16,000 km² in the wet season. This phenomenon, which results principally from the lake's interconnection with the Mekong River, generates a high biodiversity of fish, reptiles, birds, mammals, and aquatic vegetation. Its fisheries directly support more than a million people and provide the single largest source of protein for Cambodia's increasing population. In recognition of the lake's importance, a royal decree designated the Tonle Sap as a multiple-use protected area in 1993. Its global significance to biodiversity conservation led to declaration of the lake and its wetlands as the Tonle Sap biosphere reserve (TSBR) in 1997 under the Man and the Biosphere Program of the United Nations Educational, Scientific, and Cultural Organization (UNESCO).

3. **Threats to the Tonle Sap.** Social upheaval in Cambodia's not so distant past, high population growth, and recent (still evolving) changes in the legislative framework governing management of community fisheries³ have coalesced to create conditions for disordered exploitation, placing severe pressure on the lake's natural resources. Threats to the lake's ecosystem include overexploitation of fisheries and wildlife resources, conversion of the flooded forest to agriculture, and collection of fuelwood from the flooded forest.⁴ Degradation of natural vegetation in the watersheds is also destroying natural habitats, adversely affecting water quality, and increasing sedimentation in the lake.

4. **Poverty and Vulnerability.** Despite the inherent richness of the lake, most indicators of poverty in the basin are more negative than those for the nation as a whole, or for other rural areas of Cambodia. About 40–60% of households in the provinces adjoining the lake are below the official poverty line, with a peak of 80% in some areas. Many households have no land and are entirely dependent on fishing and foraging, with access to fishing areas often under dispute.

¹ ADB. 2002. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Kingdom of Cambodia for the Tonle Sap Environmental Management Project*. Manila.

² The TA first appeared in *ADB Business Opportunities* (internet edition) on 16 March 2005.

³ In 2000, a prime ministerial decree released 56% of the fishing lot area and turned it over to community management, a change which, in the long term, should benefit riparian communities, improve fish habitats, and lead to sustainable management of natural resources. However, the underlying policy reforms and supportive laws and decrees were not put in place, and the communities have not been sufficiently involved in the planning and implementation of the changes. Meeting the basic survival needs of poor inhabitants of the surrounding areas has tended to overrule considerations of sound environmental management.

⁴ The area of flooded forest is declining rapidly. In 1997, satellite imagery revealed only about 20,000 hectares (ha) of flooded forest, compared with 362,000 ha in 1991, 614,000 ha in the 1960s, and more than 1 million ha originally.

There is a disproportionately high level of female heads of households who are particularly disadvantaged.

5. Health shocks and chronic illness in the Tonle Sap basin are major causes of impoverishment, more so than elsewhere in Cambodia. Here the cycle of poverty, ill health, and high health-care expenditure by households (11% of household income) cripples families.⁵ Since people frequently rely on pond water for drinking, children suffer from repeated attacks of diarrhea. Malaria, dengue fever, acute respiratory infections, and tuberculosis are endemic, and the rate of HIV/AIDS⁶ infection is the highest in the region. Other shocks result from natural disasters, particularly floods and droughts, fires, crop pests and diseases, and livestock losses. About 45% of people borrow to cover the cost of such shocks, often removing children from schools, starting with girls, and ultimately by selling the few possessions they have, including houses and land. Almost 30% of household income is used to overcome shocks of various causes.⁷

6. **Government's Response.** The Government has introduced basin-level strategic planning to coordinate conservation actions and the strengthening of its management capacity in a comprehensive and systematic manner. In support of this effort, ADB developed the Tonle Sap basin strategy⁸ to promote (i) pro-poor, sustainable economic growth; (ii) equitable access to assets; and (iii) improved management of natural resources and the environment. The strategy reflects ADB's basinwide approach to natural resources management and sets out a program of activities that ADB, together with other agencies, expects to pursue over a 10-year horizon.⁹ The first loan under the strategy is the TSEMP, which is assisting the Government to implement sustainable management and conservation of natural resources and biodiversity in the Tonle Sap basin. The TSEMP has initiated a program of subsequent TAs and projects that will address generic conservation concerns and improve social and environmental conditions.

7. The Tonle Sap Sustainable Livelihoods Project being processed for consideration in December 2005, responds to the Government's Rectangular Strategy for Growth, Employment, Equity, and Efficiency and will support its ongoing decentralization and deconcentration program. The Livelihoods Project will finance livelihood-enhancing activities, selected as an outcome of community-driven development processes, in communes located either fully or partly in the buffer zone and core areas of the TSBR.¹⁰

8. **Rationale for Lowland Stabilization.** The lowland areas of the Tonle Sap basin are the flat, low-lying areas that extend beyond the buffer zone to the foothills of the upper watershed. Although there is no precise boundary between the lowland and the buffer zone, livelihood activities in lowland areas are based predominantly on a single, wet season rice crop,¹¹ whereas those in the buffer zone are more closely linked to fishing and related activities (e.g., fish processing, boat building, employment in fishing lots) and the harvesting of nontimber forest

⁵ Half of the children under the age of 5 in the Tonle Sap basin are malnourished and, for every 1,000 live births, 115 children die before they reach the age of 5.

⁶ HIV/AIDS = human immunodeficiency virus/acquired immunodeficiency syndrome.

⁷ Helmers, K., J. Gibson, and P. Wallgren. 2003. *Rural Sources of Income and Livelihood Strategies Study*, Final Report. Washington DC.

⁸ ADB. 2005. *The Tonle Sap Basin Strategy*. Manila.

⁹ ADB. Various years. *Future Solutions Now: The Tonle Sap Initiative*. Manila.

¹⁰ The zoning corresponds to UNESCO's criteria wherein core areas are securely protected sites; buffer zones surround or adjoin the core areas and allow for a limited range of activities that are compatible with sound ecological practices; and in the transition zone the existing inhabitants may engage in a variety of economic and other activities provided these do not impact negatively on the core areas and buffer zone.

¹¹ Including areas where flood recession and floating rice farming systems are practiced.

products (NTFP) from the flooded forest. The lowland areas are characterized by soils of low fertility, a climate of pronounced wet and dry seasons with drought conditions¹² persisting for long periods each year (November to April), and few income-earning activities or off-farm employment opportunities. Functioning irrigation systems¹³ capable of assuring year-round supplies are few, hence less than 20% of the cropped area is irrigated and yields are low by regional standards (2 tons per hectare [ha] on average). Landholdings are small and decreasing due to population growth (cultivable land in Cambodia fell from 0.29 ha per capita in 1990 to 0.21 ha in 1999).¹⁴ In addition, there is a serious lack of basic infrastructure. Many communities are poorly served by roads, and domestic water supplies and sanitation are almost nonexistent.

9. The extensive participatory rural appraisal (PRA) done under the preparatory TA for the Livelihoods Project¹⁵ in 2004 showed that food insecurity (essentially rice deficit) is perennial for landless and land-poor households in the lowland areas, and that their basic survival recourse is (i) harvesting of fish, animals, reptiles, fuelwood, building materials, and NTFP from the flooded forest; and (ii) conversion of flooded forest to rice farmland. This response, which severely impairs the regenerative capacity of the TSBR, is also a source of conflict between lowland and buffer zone populations. Appendix 1 has a summary of the PRA findings.

10. The PRA showed that lowland households are unanimous in wishing to have new and rehabilitated irrigation and water management schemes to extend their rice cropping opportunities. With water conservation and control infrastructure, many of them would be able to grow a second rice crop. In common with inhabitants of the buffer zone, they are also in dire need of basic infrastructure for water supply, sanitation, and social services; and assistance with developing alternative livelihood opportunities, particularly off-farm income-earning activities.

11. The envisaged Tonle Sap Lowland Stabilization Project will complement and use the same implementation arrangements and modalities as the Livelihoods Project so that each project will fit seamlessly into the Government's decentralization and deconcentration programs.¹⁶ It will relieve pressure on the natural resources of the Tonle Sap through improvement of existing and development of new livelihood activities in the lowlands, thereby reducing the incentives for dryland farming communities to extract natural resources from the TSBR, particularly during the "hungry months" of the dry season when alternative livelihood activities are few.

III. THE TECHNICAL ASSISTANCE

A. Impact and Outcome

12. The impact of the Project is sustainable management and conservation of natural resources and biodiversity in the Tonle Sap Basin. Its outcome is an increased range of environmentally sound, sustainable livelihood activities developed in consultation with the

¹² Droughts cause greater hardship in the areas surrounding the Tonle Sap than do floods. Rainfall in the lake's basin is only 1,300–1,500 millimeters (mm) annually while potential evapotranspiration is of the order of 1,500 mm.

¹³ Some 180 irrigation and water control schemes in varying states of functioning exist in the project area. They vary in size from 10 ha up to 13,000 ha, but most are small. Many were built during the Khmer Rouge regime and functioned for a few years only.

¹⁴ Finnish Environment Institute Consultancy Consortium. 2003. *Where Do You Go? Migration and Urbanisation in Cambodia*. WUP-FIN Socio-Economic Studies on Tonle Sap 9. Phnom Penh.

¹⁵ ADB. 2003. *Technical Assistance to the Kingdom of Cambodia for Preparing the Tonle Sap Sustainable Livelihoods Project*. Manila.

¹⁶ Decentralization is delegation of political and administrative authority to the commune level. Deconcentration is delegation of administrative authority from central ministries to provincial departments or district offices.

inhabitants of the lowland areas of the Tonle Sap. The project area comprises five provinces (plus two districts of Banteay Meanchey) that adjoin the Tonle Sap—Battambang, Kompong Chhnang, Kompong Thom, Pursat, and Siem Reap. The project preparatory TA will prepare an agreed-upon design for the Project, with reference to the design and monitoring framework (Appendix 2) and summary initial poverty and social analysis (Appendix 3).

B. Methodology and Key Activities

13. The Project will provide a commune-operated livelihood fund to finance selected subprojects to improve livelihood outcomes. Under the TA, subprojects will be selected by participating communes according to agreed-upon criteria and prepared to feasibility level. Approved subprojects will be subjected to detailed design during the Project. Given that the subprojects adjoin the TSBR and could, through hydraulic connectivity, have negative impacts on ecologically sensitive areas, the Project is classified as environmental category A. The TA will use the livelihoods approach (Appendix 1) to identify the most appropriate activities.

14. The specific TA components in preparing the project are (i) a survey of the livelihood and market linkages of the households in the target areas to determine sources, amount, and nature of income; labor utilization and availability; and seasonality of employment opportunities and income; (ii) community mobilization to identify and prioritize suitable small-scale infrastructure needs, with emphasis on irrigation and related water conservation works;¹⁷ and (iii) feasibility-level design of selected subprojects together with other subcomponents and activities to support their implementation and successful uptake under the ensuing project.¹⁸

C. Cost and Financing

15. The total cost of the TA is estimated at \$1,180,000 equivalent, comprising foreign exchange of \$702,050 and local currency cost equivalent of \$477,950. The Government has requested ADB to finance \$1,000,000 equivalent, including the entire foreign exchange cost and \$297,950 equivalent of the local currency cost. The TA will be financed on a grant basis by the Japan Special Fund, funded by the Government of Japan, in an amount equivalent to \$800,000, and by ADB's TA funding program in an amount equivalent to \$200,000. The Government will finance the remaining local currency cost, equivalent to \$180,000, largely through the provision of office accommodation and transport, remuneration and per diem of counterpart staff, surveys and investigations, and administrative support. Details of the cost estimates and financing plan are in Appendix 4. The Government has been advised that approval of the TA does not commit ADB to finance any ensuing project.

D. Implementation Arrangements

16. The TA is expected to commence in April 2006 and to be completed by December 2006. A team of international consultants associated with domestic consultants will implement the TA over 9 months. Implementation will require an estimated 32 person-months international and 37 person-months domestic services with core expertise in rural development, community

¹⁷ These may include water storage structures (including earth dams, flood retention embankments, and small weirs and diversion structures in rivers), irrigation canals and related control structures, pumps, community wells and ponds, rural access roads and foot bridges.

¹⁸ Including improvement of local extension services for water distribution, participatory irrigation management, crop diversification, livestock, forestry, and tree crops. Where appropriate and practicable the project would support development of off-farm income generating activities, and develop livelihood skills through training (e.g., in credit utilization) and research on market availability and price information.

development, participatory rural appraisal, ethnic minority issues, gender, design of small-scale hydraulic and other structures, water resources management, agronomy and agro-ecosystem analysis, environmental assessment, financial analysis, and project economics. Unallocated expertise may relate to agricultural extension, health care, and small business development. The consultants will be recruited through a firm in accordance with ADB's *Guidelines on the Use of Consultants* using the quality- and cost-based selection method and full technical proposals. The rural development specialist will lead the team. The consultants will be based in Phnom Penh and will travel frequently to the project area. Equipment will be procured in accordance with ADB's *Guidelines for Procurement*. Outline terms of reference are in Appendix 5.

17. The Executing Agency for the TA will be the Ministry of Water Resources and Meteorology (MOWRAM). MOWRAM is responsible for the policy and regulatory framework for water resources development in general and for implementing and managing small, medium-scale, and large hydraulic works. Through such projects as the Northwest Irrigation Sector Project¹⁹ and the TA for Community Self-Reliance and Flood Risk Reduction,²⁰ MOWRAM has gained considerable experience in community-based participatory approaches. MOWRAM will assign experienced staff to serve full-time as counterparts to the consultants. To ensure the close involvement of relevant agencies such as the Ministry of Agriculture, Forestry, and Fisheries; Ministry of Rural Development; and Ministry of Interior; a steering committee chaired by the Ministry of Economy and Finance will be established. Tripartite meetings will be held at regular intervals during implementation. MOWRAM's provincial departments of water resources and meteorology will be responsible for interagency coordination at the provincial level, including nomination of technical personnel to assist the consultants in the target provinces. To facilitate implementation, MOWRAM will provide logistical support, including adequately furnished office space and access to communications facilities.

18. The consultants will produce (i) an inception report, (ii) a midterm report, (iii) a draft final report (including resettlement plans for each subproject as an appendix), and (iv) a final report (in a form suitable for publication as an ADB document). MOWRAM will complete a TA completion questionnaire to evaluate the TA's inputs and outputs, identify lessons learned, and suggest follow-up actions.

IV. THE PRESIDENT'S DECISION

19. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$1,000,000 on a grant basis to the Government of Cambodia for preparing the Tonle Sap Lowland Stabilization Project, and hereby reports this action to the Board.

¹⁹ ADB. 2003. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Kingdom of Cambodia for the Northwest Irrigation Sector Project*. Manila.

²⁰ ADB. 2005. *Technical Assistance to the Kingdom of Cambodia for Community Self-Reliance and Flood Risk Reduction*. Manila.

SUMMARY OF FINDINGS FROM THE PARTICIPATORY RURAL APPRAISAL

A. Background

1. The preparatory technical assistance (TA) for the Tonle Sap Sustainable Livelihoods Project—under processing for consideration in December 2005—included participatory rural appraisal (PRA) of the potential beneficiaries located in the area lying between national highways No. 5 and No. 6 in the provinces of Kompong Thom, Siem Reap, Battambang, Pursat, and Kompong Chhnang. In designing the PRA, the TA consultants accounted for the different zones of the Tonle Sap biosphere reserve (TSBR): core areas (CA), buffer zone (BZ), and transition zone (TZ). The results of the PRA have been analyzed and reported accordingly.

2. The PRA was specifically designed to support a sustainable livelihood approach, and the process was reinforced and confirmed through stakeholder workshops in each province, and through a national workshop in Phnom Penh. The PRA was conducted in 67 villages around the Tonle Sap. Of the total 67 villages surveyed, 33 are located in the TZ and will be covered under the present TA for preparing the Tonle Sap lowland stabilization project.

B. The Sustainable Livelihood Approach

3. The sustainable livelihood approach is based on an understanding of the nature and interaction of five key livelihood components:

- (i) **Livelihood assets**—the strengths that people have available to achieve their livelihood goals.
- (ii) **Transforming structures and processes** (often referred to as policies, institutions, and processes)—the enabling environment for livelihood activities.
- (iii) **Livelihood strategies**—the range and combination of activities and choices adopted to achieve livelihood goals.
- (iv) **Livelihood outcomes**—the achievements or outputs of livelihood strategies.
- (v) **Vulnerability context**—the factors operating in the external environment, which may affect people's susceptibility to poverty.

4. The sustainable livelihood approach considers assets in terms of human, social, financial, physical, and natural capital. In the Tonle Sap region, most livelihoods are based on access to natural capital, either through agriculture or through exploitation of renewable natural resources. The interaction between the various forms of capital, their relative strengths and weaknesses, and the diverse externalities determine the options for, and success of, livelihood strategies.

C. Summary of PRA Findings

5. Table A1.1 outlines the issues raised as priorities in 67 villages surveyed under the PRA.

Table A1.1: Gender Disaggregated Priorities in the Transition Zone, Buffer Zone, and Core Areas

Broad Priority		Percentage of Villages Citing This	Percentage of Females Citing This	Percentage of Males Citing This
Irrigation Systems (dry season cultivation)	TZ	56	38	65
	BZ/CA	40	15	40
Access to Credit	TZ	56	45	65
	BZ/CA	20	25	5
Livestock Activities	TZ	40	40	45
	BZ/CA	40	34	38
Improved Health and Hygiene	TZ	24	19	12
	BZ/CA	40	45	29
Improved Communications (roads and bridges)	TZ	24	20	35
	BZ/CA	20	16	28
Improved Access to Education	TZ	12	25	8
	BZ/CA	28	28	25
Better Rice Seed, Fertilizers, and Pest Control	TZ	12	10	19
	BZ/CA	24	15	28
Other Agriculture (nonrice)	TZ	12	10	15
	BZ/CA	8	6	10
Aquaculture	TZ	8	0	9
	BZ/CA	52	32	55
Postharvest	TZ	4	5	2
	BZ/CA	20	10	25
Off-Farm Income-Generating Activity	TZ	4	12	12
	BZ/CA	12	15	9
Improved Fisheries Management	TZ	0	0	0
	BZ/CA	76	31	52

BZ = buffer zone, CA = core area, TZ = transition zone.

Source: ADB estimates.

1. The Asset Base

6. Target communities rely on natural resources, catching enough fish, collecting enough forest products, and growing supplementary crops to ensure their livelihood. People's priorities for asset accumulation vary according to the specific circumstances of the particular village. Enhancement of natural assets is a priority in all zones, but communities in the TZ focus on access to land and water for agriculture, whereas in the BZ and CA the key concern was for sustainable production from fisheries, both from more effective participatory management and from aquaculture development. The BZ/CA communities have a strong interest in land development and irrigation systems for agriculture, due perhaps to poor performance of fisheries in 2004, and are concerned about a general decline in production over which they felt they had no control.

a. Natural Capital

7. The core elements of the natural asset base were (i) fish and other aquatic resources, (ii) timber and nontimber forest products (NTFP), (iii) water, (iv) land, and (v) livestock.

8. **Fisheries.** Actual production estimates may vary widely, but the value of the Tonle Sap fishery is well documented. The importance of fish to the livelihood of people living in the CAs and BZ was clearly stated, as was the seasonal relevance of fishing to the livelihood strategies of many people living in the TZ. Fish provide self-employment, wage employment (for men and women in the fishing lots), direct nutrition, indirect nutrition, and other livelihood needs (by cash sale or barter for other produce).

9. **Timber and NTFP.** In the flooded forest areas, many people, notably women, place great emphasis on their traditional access to timber and NTFP. A wide range of products from medicinal plants, fruits and firewood, to amphibians and reptiles, play a part in livelihood strategies, and access to these assets is of major importance, particularly to people without access to land for agriculture.

10. **Water.** Water is the core asset underpinning livelihood activities around the Tonle Sap and is highly valued by all villagers, irrespective of zone. It provides for agriculture (dry season, wet season, and recession cropping), fisheries production, and domestic use.

11. **Land.** The importance of land varied according to agro-ecological zone and livelihood strategies. However, land suitable for agriculture was a highly prized asset of interest to people in all parts of the project area, including the CAs. All land suitable for agriculture within the project area tends to be occupied and fully utilized.

12. **Livestock.** Livestock occupies an important place in the livelihood ambitions of many people from all zones of the Tonle Sap. Livestock is regarded as both a source of income and a livelihood safety net to be sold in response to shocks such as illness or expenses associated with marriage or death.

b. Human Capital

13. Human capital includes the skills, knowledge, ability to work, and good health that enable a person to pursue sustainable livelihood activities. As was clear from the analysis of natural assets, human capital underpins the use of all other forms of capital. There is in local communities a substantial body of knowledge, ranging from the development and use of indigenous fishing gear in the water bodies of the Tonle Sap to a detailed knowledge of the practical uses of timber and NTFP from the flooded forest and a highly developed tradition of wet season and flood recession agricultural cropping. Nevertheless, villagers claimed that they still had the necessary skills and knowledge to develop their livelihood without dependence on external guidance, and that there are still plenty of “good people” in communities to guide and support the development process. There was, however, acceptance that it was necessary to learn new skills on which to base improved livelihood activities in the face of changing times, whether these skills were farm- or fishery-based, or off-farm.

c. Social Capital

14. Social capital comprises the networks and relationships that exist between communities and groups, and which people make use of in their livelihood whether informal or formal. Many

different patronage arrangements exist within the communities. Community-based organizations are included as social capital. In theory, the village development committees (VDCs) should be the focal point for coordinating village development, and provide a source of information and advice for people seeking to resolve livelihood issues. The VDCs should also provide the conduit for exchange of information between the village and the Commune Council (which might have seven or more villages to support). In reality, the role and success of the VDC varies widely depending on how it was set up, the training it was given, and the actual role and functions it performs.

15. The community fisheries and community forestry organizations are further examples of important community-based organizations that are a source of social capital. They have generated a degree of cohesion and a sense of purpose among groups of villagers. However, their effectiveness is currently constrained by operational problems and there have been suggestions that the organizations are not sufficiently inclusive or representative of the wider community. The lack of strong VDCs as a village-wide integrating force is probably a major contributing factor.

16. The overall message derived from the PRA was that communities feel that they still have a substantial level of social capital, but that they lack the financial and group management skills necessary for the kind of self-help approach they favor for improvement of livelihood activities.

d. Financial Capital

17. Financial capital is one of the essential resources that people use to achieve livelihood strategies. It includes cash and savings, access to credit, and the ability to convert other assets (e.g., boat, motor, cattle, jewelry) into cash. It also embraces remittances sent home by family members working elsewhere. Financial capital is highly versatile and it can be converted into other assets, or used directly for livelihood outcomes.

18. Access to credit was high on the list of priorities expressed. The requirement was for many purposes, for example, money to invest in livestock, improved rice seed, fertilizers, pest control, fishing gear, and aquaculture. However, the demand does not imply that credit is not available. The Association of Cambodian Local Economic Development Agencies (ACLEDA) is the main formal provider of finance in the Tonle Sap, and makes credit available at rates between 3% and 4% per month, depending on the type of loan. Nongovernment organizations provide credit at around 3% per month, small traders and village moneylenders may offer loans (at up to 30%), or credit may be offered against payment in kind (e.g., fish or fish products). Money is clearly available as loans. However, ACLEDA requires collateral (which excludes the poor) and has strong rules and responses to nonpayment (which scares everybody except the financially secure).

e. Physical Capital

19. Physical capital is the infrastructure and the tools used to support livelihood strategies. The capital varies according to strategy, e.g., households may require boats, gear, landing sites, drying pads, irrigation systems, plows, or holding facilities for livestock. Some elements of physical capital, such as roads, schools, housing, water supply systems, health clinics, and markets are vital to all livelihood activities. Although rural infrastructure generally tends to be less than adequate for livelihood needs throughout the project area, there are, nevertheless, substantial physical assets.

2. The Vulnerability Context

20. The strengths of communities, in terms of their livelihood assets, are inevitably affected by their vulnerability. There are three broad areas contributing to the vulnerability of poor people: trends, shocks, and seasonality.

21. **Trends.** Core trends include (i) declining fish resources, reflected in decreased catches per household; (ii) decreasing flooded forest area and decreasing forest products, notably wildlife; (iii) increasing human population relying on common property resources; (iv) increasing need for land by TZ dwellers, notably the poor; (v) increasing demand for Tonle Sap fish products on foreign markets; and (vi) declining water quality and water levels.

22. **Shocks.** The main shocks facing PRA participants are (i) sudden illness of a family member or wage earner, (ii) sudden drop in the availability of fish, (iii) outbreaks of disease among livestock (e.g., Newcastle disease in fowl), (iv) natural disasters, (v) conflict between resource users, and (vi) economic shocks.

23. **Seasonality.** Seasonality issues include (i) seasonal food security, (ii) seasonal health issues, and (iii) seasonal wage labor opportunities.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Indicators/Targets	Data Sources/Monitoring Mechanisms	Assumptions and Risks
<p>Impact</p> <p>Sustainable management and conservation of natural resources and biodiversity in the Tonle Sap basin</p>	<p>Rate of natural resources extraction reduced from preproject levels</p>	<p>Government's annual fish production records and flooded forest monitoring surveys</p>	<p>Assumption</p> <ul style="list-style-type: none"> The Government maintains its commitment to biosphere reserve zoning principles. <p>Risk</p> <ul style="list-style-type: none"> Enforcement of laws and subdecrees is weak.
<p>Outcome for technical assistance (TA)</p> <p>Agreed-upon design of the resulting project</p>	<p>Feasibility-level design of a range of environmentally sound, sustainable livelihood activities selected by affected communities in the target communes, including</p> <ul style="list-style-type: none"> water conservation and small-scale irrigation infrastructure; other small-scale infrastructure and natural hazard risk reduction measures; improvements in extension for agriculture, forestry, crop diversification, participatory irrigation management, and livestock (including aquaculture); nonfarm income-generating activities; and vocational training and research 	<p>Approved feasibility study report for selected subprojects</p> <p>Results of the participatory rural appraisal (PRA) surveys</p> <p>Resettlement plan (RP) for each subproject and resettlement framework (RF) for future subprojects. The RF need only be prepared if the adopted lending modality allows for identification of additional subprojects during project implementation.</p> <p>Environmental impact assessment (EIA) report</p>	<p>Assumptions</p> <ul style="list-style-type: none"> Government continues to promote the decentralization and democratization processes. Government provides counterpart support. <p>Risk</p> <ul style="list-style-type: none"> Powerful interests continue land grabbing or resource monopolization.
<p>Outputs for TA</p> <p>1. Livelihood survey in Tonle Sap lowland area</p>	<p>PRA completed by the end of 4th month, and its results presented in English and Khmer in stakeholder meetings and approved in a workshop at the end of 6th month</p>	<p>Approved inception report</p> <p>Awarded contract(s)</p> <p>TA progress report</p> <p>PRA final report</p> <p>Approved Gender Action Plan (GAP)</p>	<p>Assumption</p> <ul style="list-style-type: none"> Households living in the target communes willingly participate in the PRA. <p>Risk</p> <ul style="list-style-type: none"> Key informants are not available during the PRA due to migration and livelihood-related activities.
<p>2. Selection of subprojects</p>	<p>Target communes selected in accordance with criteria agreed upon by ADB and the Ministry of Water Resources and Meteorology, and approved by the steering committee, by the end of 5th month</p>	<p>Minutes of steering committee meeting</p>	<p>Assumptions</p> <ul style="list-style-type: none"> Framework for participatory selection and preparation of subprojects is adopted by subnational authorities.

Design Summary	Performance Indicators/Targets	Data Sources/Monitoring Mechanisms	Assumptions and Risks
	Selection of subprojects confirmed in public meetings and workshops in target communes	TA consultant's midterm report and records of public meetings Workshop reports	<ul style="list-style-type: none"> The PRA confirms that alternative livelihood activities in lowland areas would effectively reduce extraction of natural resources from the buffer zone and core areas. <p>Risk</p> <ul style="list-style-type: none"> Powerful groups within the target communes, districts, or provinces hijack the selection process.
3. Feasibility study of selected subprojects	Feasibility study report, including suitable investments and activities to be supported by the community livelihood fund under the ensuing project, completed by the end of 8th month, approved by Government and ADB Approved final report	Feasibility study report EIA RP (and RF if required) Final report	<p>Assumption</p> <ul style="list-style-type: none"> Recommended subprojects are endorsed at all levels without delay.
<p>Activities with Milestones</p> <ol style="list-style-type: none"> Inception report submitted (by the end of month 1) PRA designed and domestic consultants(s) mobilized (by the end of month 2) PRA conducted in representative communes (by the end of month 4) PRA results disseminated (by the middle of month 5) GAP prepared (by the end of month 6) <ol style="list-style-type: none"> Target communes selected and selection confirmed by steering committee (by the end of month 5) Public meetings held and village-level interest groups formed (by the middle of month 6) Subprojects selected and selection confirmed in public meetings (by the end of month 6) <ol style="list-style-type: none"> Feasibility study report submitted (by the end of month 8) EIA submitted (by the end of month 8) Short RP and RF submitted (by the end of month 8) Final report submitted (by the end of month 9) 		<p>Inputs</p> <ul style="list-style-type: none"> ADB (\$1,000,000) <ul style="list-style-type: none"> Consulting services (\$784,565) Office equipment (\$5,000) Stakeholder workshops and meetings (\$10,000) Environmental and PRA surveys (\$60,000) Contracts with nongovernment organizations (\$30,000) Miscellaneous administration costs, representative for contract negotiations, and contingencies (\$110,435) Government (\$180,000) <ul style="list-style-type: none"> Office accommodation (\$30,000) Counterpart staff (\$30,000) Surveys and investigations (\$30,000) Administration and others (\$90,000) 	

INITIAL POVERTY AND SOCIAL ANALYSIS

A. Linkages to the Country Poverty Analysis			
Is the sector identified as a national priority in country poverty analysis?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the sector identified as a national priority in country poverty partnership agreement?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Contribution of the sector or subsector to poverty reduction in Cambodia:			
<p>Cambodia ranks 130th out of 173 nations in the Human Development Report (2002); about 36% of the population live below the poverty line. About 35–40% of the population have expenditure levels below the income poverty line of \$0.46–0.63 per capita per day. Rural poverty is much higher than urban poverty—from a low of 10–15% in Phnom Penh to 40–45% in rural areas and reaching 70–80% in some areas around the Tonle Sap basin. In the project area of the Tonle Sap Sustainable Livelihoods Project (under preparation), households headed by females (approximately 11-30% of all households) are particularly vulnerable to poverty because of their lack of male labor. Participation rates of children in education are well below the national average, and adult literacy is low. Despite the strong national economic growth since 1990, agricultural productivity in the project area has not kept pace with population growth. Fishing and foraging on common property such as lakes and forests supplement the food supply. However, access to natural resources is becoming more difficult. The poor experience a high degree of food insecurity; increasing landlessness; conflicts related to their reduced access to land, forest, and fishery resources; and increasing indebtedness; and cannot afford even basic health services. A significant number of people are chronically vulnerable, moving in and out of poverty as external factors affect their lives.</p>			
Linkage with National Poverty Reduction Strategy:			
<p>Tonle Sap supports one of the richest fisheries in the world. The lake meets directly and indirectly the livelihood needs of at least 15% of Cambodia's total population and the nutrition-related needs of about 80%, especially the poor. Because of the richness of its resources, Tonle Sap is a site of growing conflict. Population pressure, inequitable access to resources, severe poverty, and ethnic discrimination place the Tonle Sap and the people it supports at great vulnerability. The Government recognizes the need to manage the Tonle Sap in an environmentally sound and sustainable way. Through the poverty partnership agreement (PPA), the Government of Cambodia and the Asian Development Bank (ADB) identified the Tonle Sap as the geographical focus for ADB's poverty reduction efforts in Cambodia. The Tonle Sap strategy sets out a plan for ADB's partnering with government institutions, nongovernment organizations, and communities for managing and conserving the resources of the Tonle Sap basin to support pro-poor economic growth, access to assets, and management of natural resources and the environment.</p>			
Linkage with ADB's CSP for Cambodia:			
<p>ADB's overarching goal in Cambodia is poverty reduction. ADB's country strategy and program (CSP) for 2005–2009 reflects the poverty reduction objectives set out in the Socio-Economic Development Plan (2001–2005), National Poverty Reduction Strategy, Rectangular Strategy, and PPA between Cambodia and ADB. The CSP fosters broad-based economic growth, improved livelihood activities and reduced vulnerability, and improved governance at all levels. Achieving the medium-term goals of the PPA requires concerted action to overcome key problems affecting sustainable management of natural resources, and focusing on the Tonle Sap basin helps to maximize the development impact of ADB's assistance.</p>			
<p>The Tonle Sap Lowland Stabilization Project will be implemented in five provinces (plus two districts of Banteay Meanchey) that adjoin the Tonle Sap: Battambang, Kompong Chhnang, Kompong Thom, Pursat, and Siem Reap. The most vulnerable people living in lowland areas will be targeted. The project will contribute to poverty reduction by increasing the range of environmentally sound, sustainable livelihood activities, and by building the capacity for community-based natural resource management in the lowlands (including the transition area and low-lying land extending beyond national highways No. 5 and No. 6) of the Tonle Sap.</p>			

B. Poverty Analysis	Targeting Classification: Targeted
<p>What type of poverty analysis is needed?</p> <p>The project preparatory technical assistance (TA) will include a participatory rural appraisal (PRA) to determine the importance of natural resources extracted from the Tonle Sap biosphere reserve to household incomes in the transition zone. In terms of poverty analysis the project will build on existing studies done for the Tonle Sap Sustainable Livelihoods Project (under preparation) and the Northwest Irrigation Sector Project.¹ It will also draw on the ongoing Tonle Sap Participatory Poverty Assessment which is developing a microlevel perspective of poor people's experiences with and responses to poverty. The experience and knowledge gained from these will help the TA develop sustainable poverty reduction strategies that are based on an understanding of what the poor really need.</p>	
<p>C. Participation Process</p> <p>Is there a stakeholder analysis? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>During the TA, a stakeholder analysis will be undertaken in each province to determine key stakeholders and their roles, interests, and priorities. It will be important to assess the capacity of different stakeholders, particularly the commune councils, village development committees, and target beneficiaries, to participate in the design, implementation, and operation and maintenance of completed works. Specific attention will be given to the needs and priorities of women and the landless poor to identify any capacity-building and training needs that would facilitate their participation in the project.</p> <p>Is there a participation strategy? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Active community participation is critical for small-scale rural infrastructure that has a direct impact on community well-being and livelihood. It will be strongly promoted under the project to build ownership and support the sustainable operation of project-financed infrastructure. Capacity building required to facilitate participation will be identified. Project preparation will include an assessment of other community-based rural infrastructure projects so that the most practicable approaches to community participation can be selected and incorporated. The TA will identify any special provisions needed to enable full participation of disadvantaged groups and women at all stages of the project cycle.</p>	
<p>D. Gender Development</p> <p>Strategy to maximize impacts on women:</p> <p>Female roles in the Tonle Sap are clearly defined. Women assume overall responsibility for managing the day-to-day activities of the household such as preparing food, washing clothes, collecting water, and providing care for young children, the sick, and the aged. Women are also expected to contribute to most other livelihood activities, whether it is fishing, agriculture, or forestry related. Successive natural disasters (flood, drought and fire) cause severe shocks that families find difficult to cope with. Out of sheer necessity, coping strategies often encompass harmful practices such as the use of illegal fishing gear, clearing of trees and vegetation for fuelwood (a salable item) and other products, and conversion of flooded forest areas to rice farms. More than 50% of the targeted population—reaching over 70% in transition zone villages—experience some days on which they do not have enough food to eat. Debts incurred as a result of natural disasters, human health shocks, crop failure, and livestock losses, compel families to seek money from whatever sources are available. Migration in search of employment in the garment industry in Phnom Penh and illegal work across the border in Thailand are parts of the coping strategy. Poor living conditions increase threats to women's health and economic insecurity, and create severe hardships for women and girls, who may have to drop out of school and work for other families, sometimes in areas remote from their families, to help repay debts.</p> <p>The project activities will have significant gender dimensions. Gender inequality, food security, and poverty are closely linked. Small-scale community infrastructure such as small irrigation pumps, community wells, and ponds for safe water supply, etc., will enable women to allocate more of their time for productive</p>	

¹ ADB. 2003. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Kingdom of Cambodia for the Northwest Irrigation Sector Project*. Manila.

purposes. The selection of appropriate alternative livelihood initiatives will increase women's income, reduce the burdensome workload of women, decrease the opportunity costs of keeping girls in school, and empower women as agents and as beneficiaries of the project. Alternative income sources will be actively promoted under the project through participatory consultation (beginning during the TA) and inclusion of women in decision-making bodies set up to plan, implement, and operate project-financed works.

Has an output been prepared? Yes No

The PRA will analyze women's needs and priorities. The knowledge will be used to develop a gender action plan to address gender concerns, including ways to improve women's participation in training and other capacity-building initiatives, and ways to ensure their equal access to services and information under the proposed project.

E. Social Safeguards and other Social Risks

Item	Significant/ Not Significant/ None	Strategy to Address Issues	Plan Required
Resettlement	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	Digging tertiary and quaternary canals could require land adjustment, with families losing up to 5–10% of their land. Landowners and those with land use rights will be fully involved in all discussions of canal layout so that mutually acceptable solutions can be negotiated. This may necessitate accepting less-than-optimum technical designs to respect local customs and ensure harmony in the community. Subprojects will be screened for involuntary resettlement impacts. Resettlement plans will be prepared, if required, and will include arrangements to deal with losses on a transparent and voluntary basis. A resettlement framework will also be prepared if the adopted lending modality allows for identification of additional subprojects during project implementation.	<input type="checkbox"/> Full <input checked="" type="checkbox"/> Short <input type="checkbox"/> None
Affordability	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	Forming partnerships with nongovernment organizations is recommended to ensure that the poor and other disadvantaged groups have equitable access to water and other benefits of the infrastructure to be constructed under the project.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Labor	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	Labor requirements for small-scale infrastructure will be met from within the recipient community to the extent possible, and priority for employment will be given to the poor. All such labor will be compensated by either food- for -work or direct payment of wages at standard market rates.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Indigenous Peoples	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	There are no indigenous peoples in the project area. The project will have positive impacts on ethnic minorities such as the Vietnamese and Muslim Cham by ensuring that they are given equal opportunities to participate. Any specific needs will be identified during the PRA so that special provisions can be made under the ensuing project. The need for an ethnic minority development plan (EMDP) will be examined during	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

		the TA and an EMDP will be prepared if necessary.	
Other Risks and/or Vulnerabilities	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	Ownership of and commitment to project strategies and interventions will be ensured through appropriate stakeholder consultations, with active participation of all vulnerable groups.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

COST ESTIMATES AND FINANCING PLAN
(\$)

Item	Foreign Exchange	Local Currency	Total Cost
A. Asian Development Bank (ADB) Financing^a			
1. Consultants			
a. Remuneration and Per Diem			
i. International Consultants	435,850	0	435,850
ii. Domestic Consultants	0	61,965	61,965
b. International and Local Travel	28,600	30,900	59,500
c. Reports and Communications	0	32,250	32,250
2. Equipment (computer, printer, photocopier) ^b	5,000	0	5,000
3. Stakeholder Workshops and Meetings	0	10,000	10,000
4. Surveys			
a. Environmental Surveys	0	30,000	30,000
b. Social Surveys	0	30,000	30,000
c. NGO contracts	0	30,000	30,000
5. Miscellaneous Administration and Support Costs	0	21,150	21,150
6. Contingencies	55,550	28,735	84,285
Subtotal (A)	525,000	275,000	800,000
B. ADB Financing^c			
1. Consultants			
a. Remuneration and Per Diem			
i. International Consultants	165,450	0	165,450
ii. Domestic Consultants	0	22,950	22,950
b. International and Local Travel	6,600	0	6,600
2. Representative for Contract Negotiations	5,000	0	5,000
Subtotal (B)	177,050	22,950	200,000
C. Government Financing			
1. Office Accommodation and Transport	0	30,000	30,000
2. Remuneration and Per Diem of Counterpart Staff	0	30,000	30,000
3. Surveys and Investigations	0	30,000	30,000
4. Administrative Support	0	30,000	30,000
5. Supply of Data, Maps, Reports	0	30,000	30,000
6. Others	0	30,000	30,000
Subtotal (B)	0	180,000	180,000
Total	702,050	477,950	1,180,000

NGO = nongovernment organization.

^a Financed by the Japan Special Fund, funded by the Government of Japan.

^b The equipment will be turned over to the Government upon conclusion of the technical assistance (TA).

^c Funded by ADB's TA funding program.

Source: ADB estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. Introduction

1. The project area for the proposed Tonle Sap Lowland Stabilization Project (comprises five provinces (plus two districts of Banteay Meanchey) that adjoin the Tonle Sap—Battambang, Kompong Chhnang, Kompong Thom, Pursat, and Siem Reap. Within the project area, the technical assistance (TA) activities will concentrate on lowland areas abutting the buffer zone (BZ) of the Tonle Sap biosphere reserve (TSBR), specifically those parts of the lowland from which people migrate into the TSBR at certain times of the year to extract natural resources, clear land for and engage in agriculture, or seek employment in fishing lots or other economic activities.

2. The TA will prepare a project to be executed by the Ministry of Water Resources and Meteorology (MOWRAM). MOWRAM will appoint a project director to (i) provide day-to-day guidance to the TA consultants; (ii) liaise with the provincial rural development committees (PRDCs)¹ and other relevant Government agencies in the target provinces; and (iii) assist the consultants to implement the TA efficiently and effectively. The TA consultants will liaise closely with the Cambodia National Mekong Committee (CNMC) and the National Committee for Disaster Management (NCDM) to obtain and share relevant data. They will be based in Phnom Penh and implement the TA over 9 months.

B. Basic Approach

3. The TA will draw from and build on the extensive social and livelihood surveys and other studies carried out under the project preparatory TA for the proposed Tonle Sap Sustainable Livelihoods Project,² and will reflect closely the participatory approaches, financing arrangements, and other mechanisms developed for the ensuing project.³

4. The TA will also incorporate tested approaches, including labor-based appropriate technologies (LBAT) developed by the International Labour Organization (ILO),⁴ and the approach pioneered by CONCERN Cambodia in its Community-Led Livelihood Improvement Project (Cli Project)⁵ currently under implementation in Pursat and Siem Reap provinces. At the institutional level, the TA will explore effective mechanisms that focus on the local government and empower local people, such as those defined under the Government's ongoing Seila program.⁶

¹ The PRDC represents the primary governance and development forum at the subnational level for disseminating policy and coordinating overall provincial planning and development. The PRDC is chaired by the governor and includes senior representatives of the provincial departments of water resources and meteorology; rural development; agriculture, forestry and fisheries; women's affairs; land management, urban planning and construction; finance; local administration; and environment, among others.

² ADB. 2003. *Technical Assistance to the Kingdom of Cambodia for Preparing the Tonle Sap Sustainable Livelihoods Project*. Manila.

³ It is expected that the loan for the proposed *Tonle Sap Sustainable Livelihoods Project* will be approved in 2005.

⁴ ILO has promoted LBAT in Cambodia since 1992 to generate employment through the improvement and maintenance of essential rural infrastructure. The LBAT approach is a highly effective means of reducing poverty.

⁵ The Cli Project aims to increase the capacity of communities to identify their development needs and rights, mobilize resources, and take action to bring about a sustainable improvement in livelihood security.

⁶ Seila is the name given to the 10-year-old trial approach to decentralized development planning, financing, and implementation. The Seila program's support structures were rolled out to all provinces following the election of commune councils in 2002. The Seila program will wind down by the end of 2006. Its support structures are being integrated into those proposed in the Government's strategic framework for decentralization and deconcentration over a transition period of about 5 years.

5. The ensuing project will respond to the need for greater accountability in providing assistance to individuals and communities, and will adhere to the humanitarian accountability principles being introduced in Cambodia.⁷ Consistent with the agreements the Asian Development Bank (ADB) has reached with the Government, the project will also reflect the *Paris Declaration on Aid Effectiveness*⁸ in terms of harmonization and using common procedures among aid-assisted programs.

C. Initial Activities

6. The consultants will make site visits and compile relevant available data, including an inventory of ongoing projects of a similar nature,⁹ and will draw from them the most practicable means of ensuring participation. They will establish arrangements for sharing information with any ongoing projects that impact on or are active in the target provinces. They will undertake a stakeholder analysis to determine key stakeholders and their roles, interests, and priorities (particularly commune councils, village development committees, and target beneficiaries). During the site visits, a representative sample of potential beneficiaries will be interviewed to help design the participatory rural appraisal (PRA, paras. 7–10). The initial activities will culminate in the preparation of an inception report describing preliminary findings and presenting recommendations for any revisions considered necessary in the terms of reference. A tripartite meeting will be held to review the inception report.

D. Component 1: Livelihood Survey in Tonle Sap Lowland Area

7. **Participatory Rural Appraisal.** The consultants will design a PRA—to be conducted in sample target areas over 3 months—to determine the main sources of income of households in the Tonle Sap lowlands, specifically in areas from which people move into the TSBR to seek employment or extract natural resources. The PRA will be carried out under the consultants' supervision by locally recruited domestic consultants or nongovernment organizations (NGOs).¹⁰ The results of the PRA will be presented using base maps derived from the aerial photographs and orthophotomaps prepared under the Tonle Sap Environmental Management Project (TSEMP),¹¹ or other suitable media. The results will be made available in Khmer to all participating villages.

8. The PRA will determine the income structure for different households at different times of the year: the activities they engage in and where these take place; which members of the household participate; the nature and quantity of resources extracted from the TSBR; and how important these are to the household's total income. The temporal and spatial linkages will be examined to help determine the times of year when it is most critical to provide alternative income-earning activities in lowland areas. Participating households will help select the most

⁷ The humanitarian accountability principles are (i) commitment to humanitarian standards and rights; (ii) informing right-bearers about the program, standards, principles, and mechanisms to be used; (iii) right-bearers' full participation in the program; (iv) providing mechanisms for addressing complaints; and (v) partners' commitment to implementing these principles.

⁸ High Level Forum. 2005. *Paris Declaration on Aid Effectiveness*. Paris.

⁹ A partial list of such projects is available in Supplementary Appendix A (Rural Development Projects in the Tonle Sap Basin).

¹⁰ Reference will be made to the selection criteria developed for Community Based Livelihood Enhancement for the Rural Poor (ADB. 2002. *Proposed Grant Assistance to the Kingdom of Cambodia for Community Based Livelihood Enhancement for the Rural Poor*. Manila).

¹¹ ADB. 2002. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Kingdom of Cambodia for the Tonle Sap Environmental Management Project*. Manila.

appropriate range of investment subprojects (including infrastructure and support for alternative livelihood and income-earning activities) to be financed under the ensuing project. The PRA will examine the potential role of agriculture (including rice-fish farming systems) and livestock, and the relative importance of providing water conservation and small-scale irrigation facilities to enable dry season cropping and diversified cropping.¹² The PRA will also cover households in the BZ and core areas to determine the nature of any conflicts that occur in resource access and use, and to help formulate means of reducing any such conflicts.

9. **Ethnic Minority Issues.** All data from the PRA will be disaggregated for ethnicity to determine the significance of ethnic minority factors, such as discrimination, that inhibit access to livelihood resources or participation in decision-making bodies. The needs, priorities, and constraints of ethnic minority communities, particularly the Cham (Khmer Islam) and Vietnamese¹³ communities, will be examined. The consultants will prepare an ethnic minority development plan, if necessary, in accordance with ADB's policy on indigenous peoples¹⁴ and social protection strategy.

10. **Gender Action Plan.** Data from the PRA will also be gender-disaggregated to determine the special needs of female heads of households and women. The consultants will prepare a gender action plan, in accordance with ADB's policy on gender and development,¹⁵ to enhance women's participation and set out specific actions to improve their livelihood choices.

E. Component 2: Selection of Subprojects

11. Based on the nature and likely scope of the preferred investment subprojects, and the TA consultant's analysis of sector institutions and MOWRAM's sector development strategy, MOWRAM and ADB will decide on the appropriate lending modality for the ensuing project and select target communes in consultation with the PRDCs. The target communes should represent a range of socioeconomic and geographical conditions and incorporate a large percentage of poor beneficiaries (para. 18). The selection will also take into account the hydrological potential of the subbasins; MOWRAM's development plans for small-scale irrigation; existing agriculture, livestock and fish rearing, and off-farm employment opportunities; presence of similar projects; and proximity to markets and other services.

12. The consultants will conduct public meetings within the target communes to disseminate the results of the PRA, and to demonstrate how the findings can be used to guide the selection of potential subprojects. The consultants will assist in the formation of village-level interest

¹² The PRA will include commune agro-ecosystem analysis (CAEA) to identify opportunities for agricultural improvement that are specifically tailored to the agro-ecosystems, including consideration of the interdependent set of inputs, climate, techniques, ecological niche characteristics, socio-cultural behavior, and other factors. CAEA is a participatory technique that is now used as the basic needs assessment tool for agricultural extension and development planning, under the direction of the Department of Agricultural Extension of the Ministry of Agriculture, Forestry and Fisheries. In particular, the consultants will establish links with the *Cambodia Australia Agricultural Extension Project* (financed by the Australian Agency for International Development) to benefit from the experience gained on this project and to ensure that a compatible and complementary approach is used to develop recommended farming systems for the target areas. The consultants will similarly establish links with the *Rural Development Program* (financed by German Technical Cooperation) and the *Economic and Social Relaunch of Northwest Provinces Project* or ECOSORN (financed by the European Community).

¹³ The Vietnamese reside mainly in floating villages and are engaged predominantly in fishing. They are not present in the transition zone and would only be marginally affected by the project because of their presence in the buffer zone.

¹⁴ ADB. 1998. *Policy on Indigenous Peoples*. Manila.

¹⁵ ADB. 2003. *Policy on Gender and Development*. Manila.

groups¹⁶ to propose and prioritize suitable subprojects¹⁷ for feasibility study and possible funding under the ensuing project.¹⁸ It is expected that eligible subprojects will include some or all of (i) rural infrastructure,¹⁹ (ii) income-generating activities, and (iii) support for capacity building and training.²⁰ The consultants will examine the potential for introducing in the target communes innovative solutions that are being piloted in Cambodia, such as the drinking water purification techniques introduced by the International Development Enterprises with financing from the Canadian International Development Agency.

13. Selection of subprojects will be made in public meetings and workshops using locally hired facilitators or NGOs to lead the discussions in the Khmer language.

F. Component 3: Feasibility Study of Subprojects

14. The consultants will prepare feasibility-level designs for the selected subprojects to a level of detail consistent with the determination of technical, economic, and financial feasibility; and they will formulate a project for possible funding by ADB. For most rural infrastructure, simple off-the-shelf or standard designs (available from MOWRAM, Ministry of Rural Development, and their provincial agencies) will be used. In addition to investments supported by the community livelihood fund, the project will include as necessary (i) capacity building of relevant agencies; (ii) livelihood training; (iii) training in gender awareness, community mobilization, and conflict resolution; and (iv) environmental education and awareness. A project performance management system will be designed, including clearly defined targets and indicators.

15. **Environmental Impact Assessment.** The proposed project activities—rehabilitation and construction of irrigation facilities, rural access roads, small-scale rural water supply schemes—are not expected to cause significant adverse environmental impacts. However, because these activities will be implemented near or within the TSBR, the project is classified as environmental category A. The consultants will prepare a full environmental impact assessment (EIA)²¹ and an environmental management plan (EMP) for each subproject in accordance with the Government's current regulations and ADB's environment policy²² and *Environmental Assessment Guidelines* (para. 18).²³

16. **Resettlement.** Land acquisition and involuntary resettlement will be avoided to the extent possible. Where land adjustments are required, farmers will be encouraged through a community-based participatory approach to donate a portion of their land to the project. The consultants will prepare draft resettlement plans (RPs) for the selected subprojects in

¹⁶ Village-level interest groups will have not less than 40% female membership.

¹⁷ Subprojects must be demonstrably free of negative effects on the environment and cultural heritage.

¹⁸ The ensuing project will use the commune fund managed by the commune councils to finance activities and infrastructure, adopting the same procedures as in the Livelihoods Project.

¹⁹ Water storage structures (including earth dams, flood retention embankments, and small weirs and diversion structures in rivers); irrigation canals and related control structures; pumps; community wells and ponds; rural access roads and footbridges; and facilities that lessen the work burden of women and girls.

²⁰ Improvement of local extension services for agriculture and water distribution, participatory irrigation management, crop diversification, livestock, forestry, tree crops, training in livelihood skills (e.g., in credit utilization), and research on market availability and price information.

²¹ Preparation of the EIA is a critical activity in the loan processing schedule and should be done at the earliest possible stage. A summary EIA is to be circulated to the Board of Directors of ADB for not less than 120 days prior to consideration of the ensuing loan by the Board.

²² ADB. 2002. *Environment Policy*. Manila.

²³ ADB. 2003. *Environment Assessment Guidelines*. Manila. These may be found at: http://adb.org/documents/Guidelines/Environmental_Assessment/default.asp.

accordance with ADB's policies on involuntary resettlement and indigenous peoples and *Operations Manual* Section F2/BP (October 2003) (para. 18). The RPs will include participatory monitoring and evaluation mechanisms.

17. **Economic and Financial Analyses.** The consultants will assess the economic and financial viability and the economic, financial, and fiscal sustainability of the ensuing project, in accordance with ADB's *Guidelines for Economic Analysis of Projects* and *Workbook on Economic Evaluation of Environmental Impacts of Development Projects*.

18. **Sector Lending Modality.** If a sector lending modality is adopted for the ensuing project, the selected subprojects within target communes should include not less than 20% of the total number of anticipated project beneficiaries under the project. In addition, the consultants will be required to prepare an environmental assessment review procedure (EARP)²⁴ and resettlement framework (RF) for use in future subprojects.²⁵

G. Reporting

19. The consultants will produce (i) an inception report within 1 month of the start of the TA; (ii) a midterm report within 5 months, in a form suitable for publication as an ADB document; (iii) a draft final report within 8 months; and (iv) a final report. MOWRAM will complete a TA completion questionnaire to evaluate the TA's inputs and outputs, identify lessons learned, and suggest follow-up actions.

20. The inception report, to be discussed at the first tripartite meeting, will include a data inventory, stakeholder analysis, recommended approach and methodology for the PRA, including representative target areas and practicable means of assuring participation, actions to ensure complementarity with ongoing projects of a similar nature, and issues for discussion.

21. The midterm report, to be discussed at the second tripartite meeting, will present the results of the PRA and the outcome of the workshops and meetings held to select representative subprojects. The report will propose specific interventions and an appropriate lending modality. It will identify the expertise required for project design in the second phase of the TA, including terms of reference for hitherto unallocated specialists. A stakeholder workshop will be held 1 week before the tripartite meeting to broaden perspectives.

22. The draft final report, to be discussed at the third tripartite meeting, will present the salient features of the project proposed for ADB assistance, including technical, financial, economic, legal, institutional, social, environmental, and other aspects. The report will also specify implementation arrangements. A stakeholder workshop will be held 1 week before the final tripartite meeting to seek broad endorsement. The Government's and ADB's comments on the draft final report will be incorporated into the final report. The final report will include a design and monitoring framework structured in accordance with ADB's format for the report and recommendation of the President. All reports will be prepared in English and will be translated into the Khmer language.

²⁴ Guidelines for an EARP can be found at:
http://adb.org/documents/Guidelines/Environmental_Assessment/Content_Format_Environmental_Assessment_Review_Procedures.pdf.

²⁵ A sample RF is available at http://www.adb.org/Documents/Resettlement_Plans/CAM/LARF-TSS.pdf.