

## Analysis of Completed Pilot and Demonstration Activity

### **Basic Information:**

<b>No. 8</b>	<b>TA-6031</b>	<b>PDA Title: Developing and Testing Environmental Education and Awareness Methodologies and Tools for the Tonle Sap Basin</b>	
<b>Country (DMC): Cambodia</b>		<b>Region: Mekong</b>	
<b>Activity Officer: Olivier Serrat, Senior Project Specialist (Natural Resources), MKAE</b>			
<b>Partners:</b> Ministry of Education, Youth, and Sports; Ministry of Environment; Cambodia National Mekong Committee			
<b>Implementing Agency/Organization: Live and Learn Environmental Education (NGO)</b>			
<b>WSC Approval Date: 10 February 2004</b>			
<b>Starting Date: 3 April 2004</b>		<b>Date Completed: 30 April 2005</b>	
<b>Estimated Costs: \$50,000</b>		<b>Actual Costs: \$50,000</b>	
<b>Category: Basin Management / WRM</b>		<b>Type: Public Awareness</b>	

### **Appraisal:**

#### **1. Background and Rationale:**

In August 2003, a mission<sup>1</sup> of ADB visited Cambodia to determine whether the Tonle Sap Environmental Management Project (TSEMP) offered scope for a Water Awareness Program (WAP) pilot and demonstration activity (PDA). The mission concluded that there are ample opportunities to increase public awareness and understanding of water related issues on the Tonle Sap. This warrants preparation of a comprehensive water awareness strategy to integrate developed and tested environmental education and awareness methodologies and tools in the context of ADB's Tonle Sap Basin Strategy (TSBS), with emphasis on capacity building in the areas of teacher training and curriculum development.

The Tonle Sap forms a natural floodplain reservoir in the depression of the Cambodian plain. It is fed by three main perennial and numerous erratic tributaries and is drained by the Tonle Sap River into the Mekong River near Phnom Penh. During the rainy season when the level of the Mekong River is high the flow of the Tonle Sap River reverses: water is pushed into the Tonle Sap, raising its level by up to 10 meters and increasing its area 4 to 5 times from 2,500–3,000 square kilometer during the dry season. This unique hydrological cycle and the vast areas of seasonable flooding of forests and shrubs land creates a very high biodiversity of fish, reptiles, birds, and mammals, and provides exceptionally productive fisheries that directly supports more than a million people and provide the single largest source of protein for Cambodia.

Yet the Tonle Sap Basin is under severe pressure and consumptive use of its resources is intense. The threats to the lake's ecosystem are manifold, including over-exploitation of fisheries and wildlife resources, deforestation and degradation of natural vegetation, deterioration of water and soil quality. 40–60% of households living on and around the lake are below the poverty line, with peaks in some pockets of up to 80%. In addition, because of the large number of male fatalities during the 1970s and 80s, there is a disproportionately high level of female-headed households. The lake-dwelling communities also include a significant population of ethnic minorities, who traditionally have been marginalized. Hence, the challenge is to achieve the right balance between production and preservation.

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<sup>1</sup> The mission comprised O. Serrat (Mission Leader) and P. Poole (Consultant).

The TSBS was formulated in July 2003 to support ADB's CSPU 2004–06 for Cambodia, forming the basis for setting priorities and planning assistance in the Tonle Sap Basin for the coming 5–10 years. The TSEMP, approved in November 2002, opened channels for dialogue among stakeholders. The TSEMP was to formulate and implement from February 2004 a national environmental education and awareness campaign to strengthen natural resources management coordination and planning for the Tonle Sap Biosphere Reserve (TSBR).

The TSBS has specifically identified the WAP as vehicle to showcase the Tonle Sap Initiative as they progress, especially environmental education and awareness programs that stimulate critical thinking and local community ownership of community problems associated with water-related issues. Hence, it is a partnership of organizations and people working together to meet the poverty and environment challenges of the Tonle Sap. A key outcome of the PDA is a mini strategy which aims to support the implementation of the TSBS.

## **2. Goal/Objective:**

In the context of the Tonle Sap Initiative, the goal of the PDA is to strengthen natural resources management coordination and planning for the Tonle Sap Biosphere Reserve (TSBR). Its immediate objective is to develop and test innovative environmental education and awareness methodologies and tools, in support of the formulation and implementation of the national environmental education and awareness campaign planned under the TSEMP and in the context of the TSBS. The nature and content of these methodologies and tools will be determined by a rapid assessment of perceptions (RAP) and informed by group discussions and review of existing approaches, curriculum frameworks, and resources.

## **3. Scope, Location of Work, Activities, Implementation Arrangements:**

Six closely interrelated outputs, delivered through eight activities, enabled the PDA to accomplish its immediate objective. As formulated in the PDA proposal these were:

Output (O) - Perception of links between education attitude and change are rapidly assessed: Activities (A) - Carry out rapid assessment of perceptions (RAP), and analyze the data gathered to underpin development and testing of environmental education and awareness methodologies and tools, and to permit monitoring and evaluation;

(O) - Two environmental education and awareness methodologies and two tools for community-based problem solving are tested and developed: (A) - (i) Select and develop two environmental education and awareness methodologies, and two tools based on the RAP, and conduct participatory field-testing of these methodologies and tools in four communities. (ii) Conduct focus group discussions on the applicability and effectiveness of the environmental education and awareness methodologies and tools and modify the methodologies and tools as required;

(O) - A practical teaching methodology for environmental education and awareness highlighting water as a demonstration issue is developed: (A) - Prepare teaching guidelines conducive to sustainable management of natural resources and biodiversity in the Tonle Sap Basin and community empowerment in collaboration with teacher training colleges and curriculum development units;

(O) - The environmental education and awareness methodologies and tools developed are evaluated: (A) - Evaluate the environmental education and awareness methodologies and tools developed;

(O) - A mini strategy for integrating environmental education and awareness methodologies and tools in the context of the TSBS is formulated: (A) - Formulate a mini strategy with clear steps for practical integration into the TSBS;

(O) - Lessons are learned and disseminated: (A) - Include the lessons learned on ADB's *Water for All* website and in relevant ADB publications.

The PDA was implemented in selected communities along the Tonle Sap with *Live and Learn Environmental Education*, an international NGO, as the lead implementer over a period of 12 months intermittent. *Live and Learn* closely coordinated with the Ministry of Education, Youth and Sports, the Ministry of Environment, and CNMC.

#### 4. Analysis<sup>2</sup> of Results - Outcome - Impact (score - 5):

All of the six above mentioned expected outputs have been accomplished and are documented in reports and guidelines. Based on the results of the RAP, various education tools for environmental awareness have been developed and followed a cycle of testing, verifying and modifying in the selected communities and through a series of focus group discussions. This resulted in products such as the Facilitators Guide on Learning Circles, a Community Theater Guide, Teaching Guidelines for Environmental Education Across the Cambodian School Curriculum, and the conversion of these products for web-friendly use which is readily available on ADB's Tonle Sap Initiative website [http://www.adb.org/projects/tonle\\_sap](http://www.adb.org/projects/tonle_sap), together with links to various other relevant websites.

From the cycle of testing, verifying and modifying it was evident that Tonle Sap communities have good knowledge of their environment, but are unable to use this knowledge due to lack of access to the power and economic incentives to make this happen. Capacity building and provision of relevant tools for communities to instigate change are two key areas where focus is needed. Whereas success, in the existing environmental education activities is often measured by the number of materials developed or trainings conducted, which are not indicators of true impact and knowledge, skills and action competences.

The Ministry of Education, Youth and Sports is not opposed to Environmental Education, but it is understandably reluctant to divert resources to it unless it is seen to offer a cost-effective way of achieving priority educational objectives. Another concern to consider is though Environmental Education materials look good on paper, but teachers are not necessarily employing it in class. There is a need to build capacity for more effective and widespread implementation through teachers training. Environmental Education teaching strategies must tally with teachers' perceptions of their own needs and capabilities. This involves designs for innovative design, motivation and most importantly, personal and community reward. Innovative incentives should give a sense of empowerment that their situation (quality of life) will improve through participation.

Hence, the main output of this PDA is the development and publication of "Building A Sustainable Future: A Strategic Approach to Environmental Education in the Tonle Sap Region – Cambodia", which is now being used to formulate and implement a campaign for national environmental education and awareness under the TSEMP. The strategy aims to (i) inspire the belief that communities has the power and responsibility to effect positive change on a Basin wide scale; (ii) increase people's capacities to transform their visions for society into reality; (iii) fostering the values, behavior and lifestyles required for sustainable development; and (v) build the capacity for such futures-oriented thinking.

#### 5. Assessment<sup>3</sup> of - Good Practice; - Lessons Learned; - Dissemination; - Replication; and - Scaling up:

Good Practice (score – 4): This PDA is a good example of a focused public awareness activity where proactively all levels of the communities have been involved, promoting transparency, and where strategically greater emphasis was given to the next generation of the population, in other words the children and the youth.

Lessons Learned (score – 4): The lessons learned to date suggest that the delivery of Environmental Education needs redirection to more participative social models, it also offers an efficient educational approach that demonstrate and develops linkages between local, social, cultural, environmental and historical themes. The rapid assessment of perceptions (RAP) proved to be very useful in providing the basic baseline data for designing the appropriate education curricula and awareness material.

<sup>2</sup> Score for Results - Outcome - Impact on a scale of 5 to 1: with 5=highly satisfactory, 4=satisfactory, 3=partly satisfactory, 2=not satisfactory, and 1=unsatisfactory.

<sup>3</sup> Assessment of: -Good Practice, score: 1=poor →5=highly innovate; -Lessons Learned, score: 1= local level → 5=Region wide; -Dissemination, score: 1=local level → 5=Bank wide; -Replication, score: 1=very difficult → 5=easy; -Scaling up, score: 1=low investment potential → 5=high investment potential

Dissemination (score – 3): Although the strategic approach to Environmental Education in this PDA is specially developed for the Tonle Sap Basin, the concerns are region-wide and its basic principles of participation, empowerment and responsibility to effective positive change, fostering value and behavior for a sustainable lifestyle, and capacity building, among others, are applicable almost universally.

Replication (score – 4): The results derived from the pilot sites encouraged replication of the Environmental Education strategy throughout the Tonle Sap Basin. Useful material, such as the principles of the strategic approach and selected elements can be replicated and with the appropriate adjustments be adopted in other environmental projects throughout the region.

Scaling-up (score - 4): The strategy formulated under this PDA spelled out the intention to mainstream Environmental Education and Awareness throughout the Tonle Sap Initiative. An Environmental Education component has already been included in the TSEMP, while the RRP of the recently developed Tonle Sap Sustainable Livelihoods Project has incorporated an Environmental Education component. Large elements of the developed guidelines on the Participatory Learning Circles (PLC) strategy has also been adopted and upscaled in the technical assistance (TA) 39129 MAL: Promoting Sound Environmental Management in the Aftermath of the Tsunami Disaster.

## **6. Conclusions:**

The process and results of the PDA has demonstrated the importance of developing and implementing a more comprehensive approach to Environmental Education, including a targeted approach to reach out to the various stakeholders in the community, (i.e. youth, children, women, fisherfolk, farmers, etc.), non-conventional guidelines and teaching materials for educators, and introducing innovative mechanisms for social and economic incentives.

In the context of the Tonle Sap Basin, environmental education needs to incorporate local culture, spiritual beliefs and religions. Good human relationships, tolerance and understanding are the cornerstones of environmental education, and can inspire people to believe that each of us has the power and the responsibility to make a positive contribution to environmental change.

The impact of the strategy that was developed in this PDA will depend on the strength of the stakeholder's commitment and on co-operation at local (commune and provincial), national, regional and international levels. Practical networks and alliances will be essential in building a common environmental education agenda. Once this commitment and cooperation is achieved, environmental education can be put to work to change the attitudes and values of thousands of people and to inspire decisions and actions that will bring within reach the goal of sustainable development.

The major lesson learned is that PDAs stand to deliver most if they are associated with comprehensive, highly integrated programs such as the Tonle Sap Initiative.

## **7. Recommendations - Next Steps:**

For introducing and replicating of Environmental Education in other projects a number of issues need to be considered, these are, among others:

Environmental Education should do more than inform communities about long-term benefits of environmental preservation. It must also show that environmental assets can provide income both in the present as well as the future.

Environmental Education and poverty reduction are linked by the issue of need. For the poor, if the generation of income provides no alternative then to be involved in environmental degradation, than a certain level of degradation should be tolerated, since the choice at the margin is worse for the poor.

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It is important that Environmental Education promote good resource management, since environmental outcomes are not to be separated from their social and economic consequences.

The Mekong Department handling the TSBS and RSDD handling the PDA might consider promoting their strategic goals by exploring innovative ways to access, disseminate and further develop existing knowledge within particular areas of Environmental Education. These may include community and parental involvement, changes in pedagogical practice, use and recognition of traditional knowledge and culture, religious influence, empowerment and equality in participation.

A Blue Bag Seminar on Environmental Education primarily for ADB operations staff is proposed to be conducted sometime in November or early December 2005 by Live and Learn Environmental Education, the NGO who implemented this PDA, as well as the PDA in Solomon and Vanuatu and the TA in Maldives.

#### **8. Review and Approval:**

8.1 Date draft circulated to Activity Officer/Responsible Division: 16 September 2005

8.2 Comments from Activity Officer/Responsible Division: The major lesson learnt is that the PDAs stand to deliver most if they are associated with comprehensive, highly integrated programs such as the Tonle Sap Initiative.

8.3 Prepared by: J.A. Bert van Ommen                      Cleared by: K.E. Seetharam  
(name/signature PDA Manager)                      (name/signature PDA Coordinator/ADB Staff)

8.4 Date Finalized and Cleared: 26 September 2005