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*for a living planet*

## **Values and Functions of the Mekong Floods - Developing Information for a Balanced Dialogue through Local Experience<sup>1</sup>**

*A Contribution to the Dialogue on Water Food and the Environment*

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<sup>1</sup> A summary report from a Regional Workshop held in Vientiane, Lao PDR, 26-28 October 2004

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## 1 Introduction

The widely held understanding of the word "flood" is of a powerful force that holds the potential to destroy livelihoods and take away human life. It is easy to understand the roots of this perspective amongst the public when faced with shocking visual images accompanying major floods. It is also understandable that this view is often held by decision makers and officials, governmental and non-governmental alike, given the startling figures representing losses that are always available to back up these perceptions.

However, an alternative viewpoint is now beginning to gain greater recognition worldwide and it is one that local communities have long held. This perspective is of the "benefits of the flood". Few would argue that this natural event has played a critical role in shaping the abundant natural resources found in river basins, or that altering this natural process will have impacts on these resources. Unfortunately, however, this positive view of floods has also been easy to sideline in the wake of such strong and persuasive facts and figures about the flood's negative values.

In an attempt to provide essential information to decision-makers, development initiatives and local communities in order to allow them to make balanced and informed decisions, WWF's Living Mekong Programme (LMP)<sup>2</sup>, has commenced working to highlight the diverse role of the Mekong floods. The ultimate aim of this work is to provide a concrete economic argument for the values of the floods.

The first stage of this work was undertaken in March 2002 at a Workshop in Phnom Penh entitled "**Establishing the Economic Value of the Flood in the Mekong Basin**". Based on the results of this workshop, a study was commissioned by the LMP into the existing information on the role and values of the Mekong floods, as well as fieldwork to gain some local perspectives on the same subject. This study highlighted the lack of quantitative information on the subject. Some reports exist that hint at the roles and functions of floods, such as maintaining fisheries (particularly as a breeding/feeding ground), replenishing nutrients in agricultural land, and pest control, but almost no work has been done to ascertain the specific economic value of these functions - which would allow proper trade-off analysis.

The LMP study on local perspectives, conducted in 16 villages in rural Cambodia, confirmed this viewpoint and indicated that most local people were more than prepared to "live with the floods". In fact, the people identified that the problem they faced was not flooding itself, but the uncertainty of flooding in recent years (which many have attributed to the recent proliferation of various development initiatives). The local communities indicated that they could classify floods into high, medium, and low floods. In this scenario the medium flood (also often referred to as a "good" flood during interviews) being the situation commonly

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<sup>2</sup> Formerly known as the Living Mekong Initiative (LMI)



seen in the past which benefited fisheries, agriculture and navigation, and the low and high floods (more common in recent years) both having significant negative impacts on aspects of their livelihoods. All of this work also highlighted the immediate need for further and more detailed dialogue between the stakeholders that benefit from or are impacted by the floods.

### 1.1 Justification/Rationale for continued work

The models adopted for flood management in many watersheds around the world (including in most developed countries) have shown their limits. Not only is controlling or removing the floods a costly process, but it has also repeatedly failed to meet expectations. By giving a false sense of security to the population, and therefore encouraging the development of activities not resistant to floods in flood prone areas, mitigation efforts often make things worse. Several recent headlines in the press pay solid testimony to this statement.

Floods are a natural process of a river system and their role is integral to maintaining the morphology of the riverbed and for supporting biodiversity. Various studies have shown how much natural fisheries are dependant on the flood, with 80% of fish species in the Mekong breeding during the floods. This alone demonstrates the value of the floods to a region where fish are the single most important source of animal protein, but when you add additional values such as the opening up of fishing areas through enhanced navigation, the replenishment of soils through sediment deposits and the role as a natural pesticide, the potential value is immense. All of these benefits need to be better understood and valued to avoid unnecessary alteration as part of flood mitigation infrastructure development. Although LMP understands and supports the quest for efficient long-term protection of lives and livelihoods from repetitive destruction by floods, it believes that the benefits of the floods should be considered as an important aspect of a sustainable solution.

### 1.2 The Local Context

In the Mekong Basin there is a certain degree on consensus on the importance of the annual flooding events. This was clearly the message portrayed by participants at the 2002 workshop. Since that time various projects have been conducted in attempts to better understand and value these processes. Some of these initiatives and projects include:

- WWF – LMP study on local perspectives, Lao study on flooded forest resources, and an investigation of the economic significance of the floods to agriculture.
- The World Fish Center – The Mekong Wetlands Approach Project, various Tonle Sap and Mekong River fisheries assessment and modeling activities
- UNDP/GEF/IUCN – Mekong Wetlands Biodiversity Programme
- The Mekong River Commission – The Environment Programme and the Basin Development Planning Process

Despite the general consensus and continued work in this area, there has been very little communication concerning the recent developments and achievements of follow-up work in this area. For this reason it was proposed that a workshop be held to exchange information on recent activities and developments, as well as develop a framework for continued exchange of information.

### 1.3 The Dialogue on Water, Food and the Environment and WWF

The Dialogue on Water, Food and Environment (DWFE) was first initiated by the International Water Management Institute (IWMI) at a workshop in Colombo, Sri Lanka in December 2000. This workshop ultimately resulted in agreements among ten International Organizations<sup>3</sup> to work together to “Improve water resources management and sustainability with a special focus on the reduction of poverty and hunger and the improvement of human health”. This is done by creating links between the agricultural and environmental communities on water resources issues and by bringing different sectors together for the development of policy and implementation, especially at the national level. Series of activities at the national, basin, and local levels are being conducted to exchange information and develop desirable options to achieve food security and environmental security to reduce poverty and hunger and to improve health.<sup>4</sup>

WWF, as a member of the Dialogue Consortium, is engaged in the Dialogue on a global scale. Its contribution includes national-level Dialogue activities with the International Commission on Irrigation and Drainage (ICID) in India and China, and basin-level Dialogue activities in the Kafue River Basin in Zambia and the Gadavari River Basin in India. This workshop, “Values and Functions of the Mekong Floods” represents a local-level contribution, along with other activities being held in different parts for the world.

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<sup>3</sup> Dialogue partners include the Food and Agriculture Organization (FAO), Global Water Partnership (GWP), International Commission on Irrigation & Drainage (ICID), International Federation of Agricultural Producers (IFAP), International Water Management Institute (IWMI), The World Conservation Union (IUCN), United Nations Environment Programme (UNEP), World Health Organization (WHO), World Water Council (WWC), and World Wide Fund for Nature (WWF).

<sup>4</sup> More information on the Dialogue on Water, Food and Environment can be found at [www.cgiar.org/iwmi/dialogue/dialogue.htm](http://www.cgiar.org/iwmi/dialogue/dialogue.htm).

## 2 The Workshop

The workshop “Values and Functions of the Mekong Floods – Developing Information for a Balanced Dialogue”, as mentioned above, was developed and conducted as part of WWF’s global contribution to the global Dialogue on Water, Food and Environment. Within this over-all framework, this activity falls in the category of a local-level dialogue focusing on a specific issue. Local dialogues are intended to provide an opportunity to understand and provide solutions to some complex issues related to ecological restoration and food security. By sharing information and critically analyzing local-level experiences, a contribution can be made to national and international level dialogues to support policy and institutional reform. The outcomes of the local level dialogues will also be used in policy formulation and in advocating institutional changes.

With the over-all objective of the Dialogue on Water, Food and Environment in mind, this workshop was developed to continue to pursue the exchange of information on the values and functions of floods initiated by the LMP in 2002.<sup>5</sup>

### 2.1 Goal of the Workshop

To develop a balanced understanding of the role and values of floods along with their impacts in the Mekong basin.

### 2.2 Specific Objectives of the Workshop

- Establish mechanisms for interaction, collaboration and cross-fertilization of ideas between local-level groups.
- Pool existing knowledge and information on flood benefits (and costs) in the Mekong Basin, with particular reference to fisheries.
- Raise the profile of the issue on local, national, and basin scales and facilitate the generation of further dialogue on the subject.
- Identify knowledge gaps and methods for addressing them.

### 2.3 Expected Outputs of the Workshop

- Information gathered into "Knowledge Base"
- An agreed framework to guide the basin-wide valuation of floods, fisheries, and aquatic resources and their role in livelihoods
- Network for future collaboration and partnership-building developed
- Set of recommendations for research and further dialogue
- Communications materials to raise the profile of the issue and outcomes of the workshop at national and basin levels.

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<sup>5</sup> A complete copy of the Workshop Report including detailed results can be obtained by contacting the LMP Coordinator, Mr. Marc Goichot, at [mgoichot@wwfthai.org](mailto:mgoichot@wwfthai.org).



#### 2.4 Participation in the Workshop

Workshop participants included representatives from several of the major institutional stakeholders involved with management and development of the Lower Mekong Basin, which consists of parts of Cambodia, Lao P.D.R., Thailand and Vietnam. Participants included national Ministerial representation, regional and international organizations, non-governmental organizations, as well as research and educational institutions. This represented a cross section of various relevant sectors including agriculture, fisheries, infrastructure development, water resources management, rural development and the environment. This diversity among the participants invited active dialogue among potentially adversarial points of view on the subject of floods and flooding events. The diversity also, however, ensured that the workshop represented a wide spectrum of opinion and did not merely endorse the views of WWF or others in the environmental or fisheries sectors.

### 3 **Workshop Proceedings and Results**

The workshop consisted of a series of activities intended to build consensus and develop a framework for dialogue based on activities conducted at the local-level from around the region. These activities included:

- Presentations of local level experience in the Mekong Basin
- Brainstorming the “scope” of issues related to the value and functions of floods.
- Analyzing the institutional stakeholders
- Developing a conceptual framework on for information on the value of floods.
- Developing agreements for future networking and follow-up activities.
- Informal information exchange

#### 3.1 Presentations of local level experience in the Mekong Basin

A number of presentations were made to provide examples of local-level activities being conducted throughout the Mekong Basin. These examples were selected to promote the exchange of information, raise awareness and generate discussion by displaying different aspects of the values and functions of floods.

These presentations included following:

- Local perceptions of floods values and impacts based on a study a study conducted in rural Cambodia by WWF LMP.
- Seasonally flooded habitat and the roll for flood plain non-timber forest products (NTFPs) in southern Laos, a study conducted by WWF Laos.
- Work being done on the Tonle Sap fish production model that clearly shows the link between the ecology (including the flood cycle) and fish production.



- An initiative to include local people in research conducted on Songkram River basin in northeast Thailand by the UNDP/MRC/IUCN Mekong Wetlands Biodiversity Programme.
- Lessons learned on reducing the vulnerability of the poor to the negative impacts of floods in the region by the Asian Development Bank (ADB).

### 3.2 Brainstorming the “scope” of issues related to the value and functions of floods

Based on the examples provided in the presentations, workshop participants were asked to brainstorm the scope of issues to be included in the discussions on the value and functions and floods. The organizers saw this activity as an important step in the process because it enabled different stakeholders to insure that their view point was included. The intention was to promote as much “buy-in” to the dialogue process as possible by not putting forward an agenda that only represented the views of the conservation sector.

Participants, in mixed groups, discussed issues related to their own experience and drew on the examples provided by the presentations. A very extensive list of issues was provided by each group that was consolidated into five main categories. These included the following:

- **Valuations** - issues related to the values of resources that benefit from the flood (i.e. fisheries, agriculture), non-monetary values and functions of floods, and the costs of floods.
- **Flood Management** – issues related to managing floods and development within flood plains.
- **Flood dynamics and flows** – issues related to hydrology and the flood cycle.
- **People and Floods** – issues related to floods impacts on livelihoods.
- **Definitions** – issues related to informational needs (data) and the need to communicate better concerning floods.

The results of this session quite clearly set the stage for the workshop in terms of the complexity of the issues being dealt with.

### 3.3 Analyzing the institutional stakeholders

This session of the workshop was to try to gain a better understanding and appreciation of the range of stakeholders that are involved with floods. A good understanding of the various stakeholders is important for the purposes of communication, but also to better understand the resources available to address the issues raised during the scoping session of the workshop. The participants worked in groups representing the generic stakeholder groups of “**researchers**”, “**development agencies**”, “**governmental policy makers and planners**”, and



“**conservation organizations**”. These groups discussed and elaborated on the following questions:

1. How does your group see its role in relation to the values and functions of floods? (What you currently are doing? What are your mandates/areas of expertise?)
2. Who is missing? What other institutions could be included in you stakeholder group?
3. Please identify some strengths and weakness for your stakeholder group.
  - What are the groups stakeholder that usually disagree with yours? (question added by participants during introduction)

The groups provided descriptions of their roles and pointed out a number of areas where the different stakeholders complement each other. A number of additional stakeholder groups were identified as potential partners in the dialogue, including farmers and fishermen, local NGOs, and representation from the upper Mekong countries of China and Myanmar.

### 3.4 Developing a conceptual framework for information on the value of floods

In order to continue to develop the dialogue on the value and function of floods and to establish mechanisms for interaction, collaboration and cross-fertilization of ideas, it is important to establish a clear and common understanding of the topics and issues involved. This is especially important because of the fact that these issues require exchanges of information across sectors and among a wide range of stakeholder groups. Such a common understanding can provide the conceptual frameworks for ongoing exchange of information on the subject.

In order to develop this conceptual framework, the workshop participants were asked to review the summary results of the scoping activity on first day of the workshop during the first group session (see Attachment 5) to develop a more complete and concise framework of issues related to the values and functions of floods. This activity included the following:

- Review the categories/groupings (structure) used in the summary.
- Review the issues included in each category/grouping.
- Make suggestions for changes (adding, revising, moving, combining, etc)

This activity, although important, proved to be too ambitious for this workshop. When the groups began in-depth discussions on categories and issues, it became clear that there are numerous complexities involved in developing such a conceptual framework further. None-the-less, the groups were able to make a number of valuable comments concerning how the issues of floods should be addressed.

Despite the fact that the workshop was not able to finalize a completed conceptual framework for continuing to work on issues related to the values and benefits of floods, the participants did agree that a number of critical issues had

been identified and clarified, and that consensus was beginning to emerge on a number of issues.

### 3.5 Developing agreements for future networking and follow-up activities

During the first activities of the workshop it became clear that participants all agreed that the message of the value of the floods is important and should be promoted throughout the basin. Those identified as who should receive this information include local and national planners and policy makers, development professionals and technical specialists, as well as the donor community. WWF and the MRC Flood Management and Mitigation Programme (FMMP) were identified as the lead institutions for follow-up. This follow up should include making the results of this workshop know to a wider audience by making presentations at interested forums and through use of the internet. It was also agreed that a promotional information package would be developed for dissemination. This will be done by a volunteer task force including WWF, AIT Aqua Outreach, World Fish Center, and the UNDP/MRC/IUCN Mekong Wetlands Biodiversity Programme.

Key achievements and outputs of the workshop include:

- A list of “Common Understandings” about floods.
- An initial table of related activities to inform future collaboration
- Agreed action points for collaborative production of promotional materials
- Recommendations to broaden and continue the “dialogue” on the benefits of floods

#### 3.5.1 *List of “Common Understandings” about floods*

This list includes the areas of acknowledging the benefits of floods, management for “living with floods”, and communication and dialogue on the value and function of floods (see box below)

**Common understandings:**

The participants acknowledge that floods in the Lower Mekong Basin can be highly destructive and that many of these common understandings may not apply to other river basins.

**Acknowledging the benefits of the flood**

1. Flooding in the lowlands in the lower Mekong River Basin is a natural phenomenon that is essential to food security and biodiversity.
2. Floods can be destructive, especially in the case of extreme events. Moderate floods have obvious and crucial benefits in rural areas of the Lower Mekong Basin, but are often be disruptive or destructive in urban areas.
3. The people of the Lower Mekong are highly dependant on the benefits of the floods which are closely linked to the flood cycle. This includes both the need for high and low parts of the flood cycle as well as the ‘flood pulse’.

**Management for ‘living with the flood’**

4. In the Lower Mekong Basin, flood management should focus on trying to manage the



benefits/increase the benefits of the flood, rather than controlling or preventing the flood.

5. Flood management should be reviewed and focused more on getting human establishments in urban and rural areas to be more transparent to floods. This should build on traditional coping strategies to develop modern approaches for living with floods, within this; flood-preparedness is a key consideration.

**Communication & dialogue**

6. There are clear differences between stakeholders in perception and definitions regarding the flood cycle and floods. There is a lack of terminology to distinguish between ‘good’ and ‘bad’ floods. Effective dialogue will require agreement/understanding on common definitions.
7. This workshop supports the “living with the floods” concept.
8. Values and functions of Mekong Floods should be addressed in an informed and collaborative process between all stakeholders.
9. The participants attending this workshop agree to actively communicate the positive benefits of floods (and the flood cycle) and to encourage dialogue on the values of floods and wetland resources.

*3.5.2 An initial table of related activities to inform future collaboration.*

The need to maintain and exchange current information was viewed by participants as a high priority to enable better collaboration and networking in the future. There was general agreement that by keeping each other up to date on ongoing and planned activities it would increase the possibility of strategic collaboration, as well as reduced duplication of effort, in the future. The need for this was also highlighted in the replies to the participant survey, as almost all respondents felt a need for improved coordination and exchange of information.

In order to exchange this information, a table was developed and agreed among participants during a plenary session. This table followed a format using the criteria developed for the conceptual framework in the earlier exercise (see Attachments 5 and 7) including:

- Definitions
- Valuation
- Flood dynamics and flow
- Resources and production
- People and floods
- Institutional capacity and linkages
- Flood management

Percipients then, working in the stakeholder groups formed earlier (researchers, development agencies, governmental policy makers and planners, and conservation organizations), provided information on planned and on-going activities. This information includes; what has been done, what is planned, who is involved (contact person), where, and any upcoming milestones in implementation.



### 3.5.3 *Agreed action points for collaborative production of promotional materials*

It was agreed that informational products and promotional materials on the values and functions of the Mekong flood should be produced based on the results of the workshop. The informational products and materials that were identified include the following:

- “Knowledge Base” of the DWFE (WWF LMP will feed the results of the workshop in the Knowledge base)
- Roads and Floods Project (WWF LMP will use the results of the workshop to inform this project)
- Information Packages (brochures and info packages similar to recently produced by WWF for the Lower Mekong Dry Forests will be developed).

The “Knowledge Base” and the “Roads and Floods Project” are two places that have been identified by the WWF LMP as initial places where the outputs of the workshop can be usefully incorporated. The “Knowledge Base” is one of the main outcomes of the Dialogue on Water Food and Environment, and all Dialogue activities will contribute to this. The “Roads and Floods Project” is an initiative being developed with the LMP that is expected to benefit directly from the results of the workshop.

- The “Information Package” concept was conceived during the workshop based on suggestions following small-group discussions. The potential usefulness of well developed materials was agreed by all participants and a number of participants volunteered to continue to work on the idea.

### 3.5.4 *Recommendations on communication and future networking on the benefits of floods*

Recommendations for the results of the workshop:

- A report of the workshop proceedings will be prepared and circulated as a draft by the end of November
- The final version of the report will be included on the DWFE Web site
- Establishing a “moderated mail base” (email group list) will be investigated

Recommendations for continued dialogue on the value and functions of floods:

- The networking on the Value of Floods should extend beyond the DWFE. WWF and MRC will collaborate to coordinate follow-up.
- The Information Centres being established by the Flood Management and Mitigation Program (FMMP) of the MRC should be included in the future



networking on the value of floods. This is as a source of data and information, but also as a way to distribute information.

- The results of this workshop should be presented at the upcoming Flood Forum being planned by the MRC FMMP. WWF will present this as part of its input into the forum.
- As much as possible, the value of floods should be presented at events and venues where the audience could benefit from the message. Example given include the following:
  - Asia Pacific Fisheries Committee Forum 2006
  - Revolutionary Research Group 2002 – will have a conference in 2006 associated with the Flood Forum
  - Other existing meetings and forums
- Local and National level meetings to highlight information on the benefits of the floods should be held.

### 3.6 Informal Information Exchange

An additional, informal activity was included in the workshop to help facilitate and the exchange of information among participants. This consisted of a display table where participants could provide documents and information for other participants to browse during coffee breaks and between sessions. Various institutions were invited to bring documentation based on personal contacts with the workshop organizers or information provided in responses to the participant survey prior to the workshop.

Some documents were photocopied for distribution to all interested participants, some documents were available in limited amounts, and others were put on display with contact information on how to receive copies. Other documents were made available in electronic format for distribution among participants. This was a very informal and dynamic process with a lot of ad hoc additions and distributions taking place throughout the workshop. At least 25 documents from different organizations were available in hard copy and over 100 documents were exchanged electronically among participants during the course of the workshop.

#### **4 Conclusions**

In conclusion, the workshop “Values and Functions of the Mekong Floods – Developing Information for a Balanced Dialogue through Local Experience” was successful in achieving its set objectives and produce its expected outputs. Mechanisms for cross-sectoral, multi-stakeholder interaction were established, and progress was made in pooling existing information and identifying knowledge gaps concerning the values and functions of floods in the Mekong Basin. As a result of this effort, the profile of these issues has been raised, and steps have been laid out to continue this work in the future.

The workshop was not only successful in meeting its objectives and achieving its outputs, but it also made significant progress in mainstreaming the issue of the “values of floods”. During the proceedings of the workshop, participants that were potential opponents on various issues related flood cycles and their role in livelihoods actively discussed their different points of view concerning floods and their values and functions. Although it was hoped that limited consensus would be possible during the workshop, this was achieved to a greater degree than expected. Some participants had expressed unfamiliarity with the topic of the workshop prior to the event, but everyone left the workshop confident that common ground had been found concerning the issue of the value and function of the flood-cycle in the Mekong basin.

The workshop also reinforced WWF’s Living Mekong Programme’s ability to play a leading role in efforts to address this issue in the Mekong Basin. The results of the workshop confirm that WWF should continue to address the issue of better understanding the value of floods, and to pursue the promotion of this issue in the future.