



Values and functions of the Mekong floods

*Annual Flood Forum
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Vientiane, Lao PDR*

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Presentation structure

- The WWF/Living Mekong Programme (LMP) and why it works on the benefits of the floods.
- Overview of activities of LMP and partners on floods
- Benefits of Floods Dialogue Workshop



The WWF/Living Mekong Programme (LMP)

- a basin-wide programme aiming to link successful biodiversity conservation with sustainable development





Why does WWF work on floods?

- Floods are a natural process that support biodiversity and local livelihoods
- Mekong is one of the last large natural-flow rivers
- 1300 species of fish live in the Mekong Basin





Floods can be destructive





floods are also :

an “endangered” natural process
and their role is integral to maintaining
the morphology of the riverbed and for
supporting biodiversity





However,..

- Much more data exists on the negative side of floods. This is important, but...
- The models for flood management in many basins have shown their limits:
 - Controlling floods is costly and has often failed to meet expectations.
 - By giving a false sense of security, mitigation often makes things worse.

=> need to gather/produce and communicate information on the values and functions of floods



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WWF's LMP work on floods:

- Valuation of the benefits of floods
- Roads and Floods





Establishing the economical values of the floods in the Mekong Basin (*Phnom Penh, March 2002*)

1. Validated interest from other organizations

2. Pooled existing knowledge and produced list of benefits of floods

- Agricultural productivity
- Freshwater ecosystem productivity (*Quantitative data showing relationship between flood levels and fish populations*)
- Marine ecosystem productivity
- Forest productivity
- Hydrologic functions
- Geomorphologic stability
- Navigation
- Reduced saltwater intrusion/washing
- Biodiversity



The economic benefits of the floods

3 main activities competed:

- 1) Local perspectives on the values and functions of the floods (Cambodia - 2002)
- 2) Agricultural benefits of the floods
- 3) Seasonally Flooded Habitat and NTFPs (Laos)





Local Perspectives

- Livelihoods are dependent on a seasonal flood regime and perceive it as beneficial.
- This has cultural as well as economic importance.
- Changes (or extremes) in the natural flood regime, (both too much or too little water) effect local livelihoods





Benefits to Agriculture

- **Fertiliser benefit** - Benefits of silt deposition to agricultural activity
- **Flushing benefit** - Benefits floods provide to maintaining soil quality (removing salt, pollution and/or other contaminants).
- **Pesticide benefit** - The floods may provide to controlling pests and diseases.
- **Geomorphological stability** – shape and stability of banks depend of floods
- **Hydrological processes** - e.g recharge aquifers.



Seasonally Flooded Habitat and NTFPs

- The floodplain supports a wide diversity of NTFPs and fish that make an important contribution to income in rural areas
- Resources from seasonal and permanently flooded habitat serve to provide a large portion of the food security of rural households
- The hydrologic cycle and associated flood pulse generates and maintains this important habitat
- The benefits of healthy floodplain habitat are distributed throughout the river basin



Main conclusions Economic valuation of the benefits of floods

- Many benefits are difficult to quantify
- Qualitative approaches may be more appropriate
- Benefits should be considered as an important aspect of sustainable management of the Mekong River



Roads and Floods

- 1) Roads are regularly damaged by floods
- 2) Roads often act as dams, increasing the level and duration of floods creating more damage
- 3) Roads in the floodplains affect the natural dynamics of floods and therefore impact on movement of fish and other aquatic life





Roads and floods Concept

“Developing Economically Sound and Biodiversity Friendly Structural Standards for the Design of Roads in the Mekong Floodplains”

WWF/MRC/IHE-UNESCO

- 1) Make future structures more resistant & transparent to floods
 - 2) Reduce their negative impacts on biodiversity, the agricultural & fisheries productivity of floodplains, and river morphology.
- Benefits to both financial investment in development and biodiversity conservation



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Values and functions of the Mekong floods: developing information for a balanced dialogue through local experience

Dialogue on Water, Food and Environment

Regional Workshop
Vientiane, Lao PDR
October 2004



Workshop Objectives

- Establish mechanisms for interaction, collaboration and cross-fertilization of ideas
- Pool existing knowledge and information on flood benefits
- Identify knowledge gaps and methods for addressing them.
- Raise the profile of the issue, and generate further dialogue





Who attended:

- Institutional stakeholders from the Lower Mekong Basin:
 - National Ministerial representation,
 - regional and international organizations,
 - non-governmental organizations
 - research and educational institutions.
- A cross section of the sectors :
 - Agriculture
 - Fisheries
 - infrastructure development
 - water resources management
 - rural development
 - the environment.



Workshop Results:

A list of “Common Understandings” about floods in the areas of:

- Benefits
- Management
- Communication



Common understandings (Benefits)

- Flooding in the lowlands in the lower Mekong River Basin is a natural phenomenon that is essential to food security and biodiversity.
- 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 disruptive or destructive in urban areas.
- 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'.





Common understandings (Management)

- 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.
- 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.



Common understandings (Communication)

- 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.
- Values and functions of Mekong Floods should be addressed in an informed and collaborative process between all stakeholders.



Workshop Results (continued):

- An initial framework to inform future collaboration
- Recommendations to broaden and continue the “dialogue” on the benefits of floods
- Agreed action points for collaborative production of promotional materials



General Conclusions

- There is a fair degree of consensus among many stakeholders on the benefits of the floods
- The benefits-related issues have cross-sector appeal
- Those stakeholders participating wanted to continue to pursue the idea of the benefits of the floods



Next steps

- The message of “the value of the floods dialogue” is important and should be promoted throughout the basin.
- WWF and the MRC FMMP were identified as the lead institutions for follow-up.
- The results of the workshop will be made known to a wider audience by making presentations at interested forums and through use of the internet.
- A promotional information package will be developed for dissemination.



Thank You.

WWF Living Mekong Programme

www.panda.org/freshwater/mekong