Flood Risk-Management and Water Resources Strategy-Formulation in Nepal

Ramesh Vaidya
Map 7: IMPORTANT RIVER BASINS OF NEPAL

1. Mahakali Basin
   Total Area = 15260 sq km
   in Nepal = 5317 sq km
   in India = 9943 sq km

2. Karnali Basin
   Total Area = 43679 sq km
   in Nepal = 41058 sq km
   in China = 2621 sq km

3. Babai Basin
   Total Area = 3400 sq km

4. West Rapti
   Total Area = 6500 sq km

5. Gandaki Basin
   Total Area = 34060 sq km
   in Nepal = 29626 sq km
   in China = 5334 sq km

6. Bagmati Basin
   Total Area = 1200 sq km

7. Kamaia Basin
   Total Area = 2100 sq km

8. Koshi Basin
   Total Area = 60400 sq km
   in Nepal = 27863 sq km
   in China = 32537 sq km

9. Kankai Basin
   Total Area = 1320 sq km

10. Other Southern Rivers

Prepared by: M. D. Acharya
WECS, GIS/RS Unit, 2002

Note: Boundaries, features and value of basin areas shown in this map may not match with the authentic official map.
Geographical Regions of Nepal
National IWRM Plan

• Describes the current way in which water resources development and management decisions are made and actions taken.
• Outlines where the country wants to be in the future in terms of decisions made and actions taken to solve problems.
• Maps up how it plans to move from where it is now to where it wants to go, with milestones and time frames

(GWP, IWRM Guidance, February 2004)
Nepal Water Resources Strategy
(approved by the Cabinet on January 9, 2002)

- Project: Water Resources Strategy Formulation Project
- Identification and analysis of issues (Phase I: 1995-1996)
- Formulation of strategy options and a preferred strategy (Phase II: 1999-2001)
- Preparation of an action-plan to implement the strategy (Phase III: 2002-2004)
- Financial resources:
  - His Majesty’s Government of Nepal
  - Japan Grant Fund of the World Bank
  - CIDA grant of Canada
  - The World Bank’s NISP credit
Nepal Water Resources Strategy

- **Professional inputs:**
  
  Nepalese professionals supported by consultants and experts from the U.S., Canada and the World Bank

- **Participatory process:**

  1997: National workshop on Phase I draft report
  
  1999: National workshop to solicit comments on Phase II proposal
  
  2000: Regional workshops on Phase II draft report (Eastern, Central, Mid-Western and Western regions)
  
  2001: National workshop on the draft WRS document (draft circulated to 400 stakeholders)
## Strategic Outputs

<table>
<thead>
<tr>
<th>Security</th>
<th>Users</th>
<th>Mechanisms</th>
</tr>
</thead>
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<tr>
<td>Disaster Management</td>
<td>Water Supply</td>
<td>Information Systems</td>
</tr>
<tr>
<td></td>
<td>Irrigation</td>
<td>Policy &amp; Legal</td>
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<tr>
<td>Environment</td>
<td>Hydropower</td>
<td>Regional Cooperation</td>
</tr>
<tr>
<td></td>
<td>Other Economic Activities</td>
<td>Institutional Mechanisms</td>
</tr>
</tbody>
</table>

- **Security**
- **Users**
- **Mechanisms**

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## Strategic Outputs: Security

<table>
<thead>
<tr>
<th>GOAL</th>
<th>5- Year Strategy</th>
<th>15- Year Strategy</th>
<th>25- Year Strategy</th>
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<tbody>
<tr>
<td>TIME FRAME</td>
<td>5- Year Strategy</td>
<td>15- Year Strategy</td>
<td>25- Year Strategy</td>
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<tr>
<td>Disaster Management</td>
<td>To enhance institutional capabilities to manage water-induced disasters.</td>
<td>To adopt effective measures to manage water-induced disasters and to mitigate their adverse effects.</td>
<td>To make water-induced disaster management systems effective and functional.</td>
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<tr>
<td>Environment</td>
<td>To strengthen institutions for watershed management and ecosystem protection.</td>
<td>To implement full scale watershed management and aquatic ecosystem activities.</td>
<td>To make watersheds and aquatic ecosystems sustainable.</td>
</tr>
</tbody>
</table>
Proposed Institutional Mechanism

National Water Resources Development Council (NWRDC)

Water and Energy Commission (WEC)

NWRDC & WEC Secretariat

NPC

MOWR

MOA&C

MOCT&CA

MOPP&W

MOS&T

MOFA

MOLD

MOIC&S

MOF

MOH

MOF&SC

MOF

MOPE

Departments

Regional Offices

District Offices

River Basin Committees

District Water Resources Committee

District Development Committee

Municipality/Village Development Committee

WU/WUSC/WUG/FUG

Direct line of authority

Line of advice and/or supervision

Proposed Institutions
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<th>Description</th>
</tr>
</thead>
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<tr>
<td>FUG</td>
<td>Forest Users’ Group</td>
<td>MOLD</td>
<td>Ministry of Local Development</td>
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<tr>
<td>MOA&amp;C</td>
<td>Ministry of Agriculture and Cooperatives</td>
<td>MOPE</td>
<td>Ministry of Population and Environment</td>
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<tr>
<td>MOCT&amp;CA</td>
<td>Ministry of Culture, Tourism &amp; Civil Aviation</td>
<td>MOPP&amp;W</td>
<td>Ministry of Physical Planning and Works</td>
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<tr>
<td>MOF</td>
<td>Ministry of Finance</td>
<td>MOS&amp;T</td>
<td>Ministry of Science and Technology</td>
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<td>MOFA</td>
<td>Ministry of Foreign Affairs</td>
<td>MOWR</td>
<td>Ministry of Water Resources</td>
</tr>
<tr>
<td>MOF&amp;SC</td>
<td>Ministry of Forests and Soil Conservation</td>
<td>NPC</td>
<td>National Planning Commission</td>
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<td>MOH</td>
<td>Ministry of Home</td>
<td>WUA</td>
<td>Water Users’ Association</td>
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<td>MOIC&amp;S</td>
<td>Ministry of Industry, Commerce and Supply</td>
<td>WUG</td>
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<tr>
<td>MOL&amp;J</td>
<td>Ministry of Law and Justice</td>
<td>WUSC</td>
<td>Water Users’ and Sanitation Committee</td>
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Figure 7.1
Nepal's Water Sector Investment Requirements

Rs. billion per 5-year plan period (2000 prices)

- Institutional Strengthening
- Data Collection & Information
- Environmental Programs
- Other Water Uses
- Water Transportation
- Disaster Prevention
- Electricity (ex. Exports)
- Irrigation
- Water Supply & Sanitation

8th Plan 9th Plan 10th Plan 11th Plan 12th Plan 13th Plan 14th Plan