FAO’s program on forest hydrology and watershed management: Recent findings and lessons learnt
Watershed: area drained by a water course

Watershed management: any human action aimed at ensuring a sustainable use of watershed resources
FAO’s Forests and Water Programme

Focus:

1. Forest Hydrology
2. Watershed management
3. Upstream/downstream linkages
4. Sustainable mountain development
Historical background

- 1992 task manager for Agenda 21, Chapter 13 "Managing fragile ecosystems: sustainable mountain development"
- 2002 International Year of Mountains
- 2003 International Year of Freshwater
- Secretariat of the Mountain Partnership
- International Mountain day 11.12
FAO’s Forests and Water Programme

- Aim at supporting sustainable management of mountain forests and watershed areas
- Special regard to their role in regulating water flows
- Awareness raising
- Field projects to develop, demonstrate and promote appropriate methods and technologies for forests and watershed management
- Experience from field projects contribute to development of practical guidelines and policy support activities.
FAO’s Forests and Water Programme

MAIN WORKING AREAS:
- Advise on watershed management approaches and forest hydrology applications
- Development of innovative approaches to sustainable management of mountain watersheds and upland resources
MAIN WORKING AREAS:
- Identification of best practices for the enhancement and conservation of water resources in lowland landscapes
- Institutional capacity building
- Development of policies and action programmes
- Preparation and distribution of publications
- Promoting and backstopping field projects
27 watershed management projects in 19 countries in
⇒ Asia
⇒ Latin America
⇒ Africa
⇒ Near East
FAO’s recent WM field projects

- Armenia
- Democratic People’s Republic of Korea
- Tajikistan
- Cuba
- Kyrgyzstan
- Poland
- Turkey
- Fouta Djallon Highlands
- Pakistan
FAO’s Forests and Water Programme

*Support to international processes/networks:*

- Convention on Biological Diversity
- European Observatory on Mountain Forests
- International Centre for Integrated Mountain Development
- International Consortium on Landslides
- International Mountain Society
- Millennium Ecosystem Assessment
- Mountain Research Initiative
- The Mountain Partnership
FAO-promoted Watershed Management (WM) review:

• Review of current WM practises
• Desk study, regional workshops, global conference
• Analysis and synthesis →
• Based on analysis & reflection of the review findings
• Outlines the way forward in WM
FAO-promoted Watershed Management (WM) review:

- Challenges some of the foundations on which WM has been based for the last 20 years
- WM is going through a period of experimentation, in which the old and new approaches and methods coexist and mix
### Findings in brief (I):

<table>
<thead>
<tr>
<th>Old approach</th>
<th>New approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Treating symptoms</td>
<td>• Treating underlying causes</td>
</tr>
<tr>
<td>• Insufficient attention to capacity building</td>
<td>• Government capacity and institutional arrangements</td>
</tr>
<tr>
<td>• Lack of clear focus</td>
<td>• Interventions with focus on water</td>
</tr>
<tr>
<td>• Sector based R,E,T</td>
<td>• Multi-disciplinary R,E,T</td>
</tr>
<tr>
<td>• Top-down or bottom-up</td>
<td>• Bottom-up and top-down</td>
</tr>
</tbody>
</table>
Old approach

• Intuition and common myths
• Short-term planning and financing
• Women involvement

New approach

• Scientific and tested evidence
• Long-term planning and financing
• Gender balance in decision-making
• Capacity building, communication
• Climate change impacts
• New financing mechanisms (PES)
### Findings (II):

**“integrated” vs. “embedded” WM**

<table>
<thead>
<tr>
<th>“Integrated WM”</th>
<th>“Embedded” WM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overlapping environmental and socio-economic objectives</td>
<td>Environmental objectives in the framework of sustainable development processes</td>
</tr>
<tr>
<td>Include livelihood and welfare activities</td>
<td>Focus on improving use of livelihood natural capital assets</td>
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</tbody>
</table>
**Findings (III):**
“participatory” vs. “collaborative” WM

<table>
<thead>
<tr>
<th>“Participatory” WM</th>
<th>“Collaborative” WM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local people are the primary stakeholders</td>
<td>A variety of actors have a stake in WM.</td>
</tr>
<tr>
<td>Bottom up process</td>
<td>Negotiation process among grassroots, technical and policy concerns</td>
</tr>
</tbody>
</table>
Findings (IV): monitoring & evaluation

<table>
<thead>
<tr>
<th>Current practice</th>
<th>Desirable practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus on on-site and short term effects</td>
<td>Also consider off-site effects</td>
</tr>
<tr>
<td>“Quick and dirty” assessments</td>
<td>Continuing action-research</td>
</tr>
<tr>
<td>Project performance</td>
<td>Problem solving</td>
</tr>
</tbody>
</table>
Findings (V):
WM project vs. WM service format

<table>
<thead>
<tr>
<th>WM project format</th>
<th>WM service format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rigid</td>
<td>Open, flexible, adaptive</td>
</tr>
<tr>
<td>Short-term (5-10 years)</td>
<td>Long-term (open-ended)</td>
</tr>
</tbody>
</table>
What’s next (II)?

Field testing of the recommendations in existing project frameworks:

• Pakistan
• Tajikistan
• Fouta Djallon Highlands (West Africa)
• Al-Jabal Al-Akhdar (Libya)
Weaving knowledge into development:

- Surveys, understanding of the system
- Pilot interventions
- Inter-disciplinary training
- Institutional strengthening
- Involvement of central-, district- and local level actors
- Long-term watershed management programme
Watershed management planning (long-term), example from North-Korea
Watershed management planning (long-term), example from North-Korea
FAO produced the study “Forests and Water”

- One of the thematic studies selected to be implemented in the context of the Global Forest Resources Assessment 2005 (FRA 2005)
- Provides information for efforts to maintain and restore water related ecosystems
- Available by the end of 2007
Why?

-Water may well be the most useful & important product of forests

-Lots of common myths about management of forests and water
“Forests and Water” study findings are about:

- Forests and water quantity

- Forests and water quality

- Special type cases where relationship between forests and water is especially significant
“Forests and Water” study findings are about:

Special type cases where relationship between forests and water is especially significant:
- Mountain cloud or fog forests
- Swamp forests
- Forests on saline susceptible soils
- Forests on site with high landslip risk
- Riparian buffer zones
- Municipal water supply forests
- Vernal pools
- Avalanche protection forests
Forests and water study - Recommendations

- High priority in identifying them in local, regional and national inventories
Conclusions

1. FAO is keen on working with countries and other partners to test and implement pilot interventions in the field.

2. FAO wants to assist countries to identify and protect the forests which have special role in watershed management.
3. There is an increasing amount of request from partners to seek assistance in watershed management. FAO is dedicated to work together with countries and other partners in this important task.
Thank you for your attention!