Success Stories of Learning Watersheds in BNB of Amhara Region: Lessons and Implications for Sustainable RWM

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Contents

- Context of RWM in Watershed management
- Issues of WM and IWRM
- Success stories of learning watersheds in BNB
- Lessons and Implications for RWM

- Integrated Watershed Management Approach – for agricultural development, NRM, and RWM
- What matters for watershed management?

Erosion

Runoff

Water mang.

Biodiversity

Loss of productivity

unemploymen

Context of Watershed Development in ANRS

⦿Findings based on case study on 40 watersheds

Monitoring & Evaluation

- **Planning Stage**
  - Participatory M&E system was not set at the planning stage
- **Implementation stage**
  - Clearly defined reporting and evaluation roles among DAs, DG, 1:5 workforce and woreda experts
  - Supervision and feedback from decision makers –
- **Post implementation**
  - No performance indicators set to explicitly evaluate the effectiveness and sustainability of the targeted measures
- **Lack of responsible unit for coordinated M&E across sectors**

Sustainability

- Most of the interventions are inclined towards protective function than productive functions

- **no clarity on cost sharing and utilization arrangements** of common resources and nor on mechanisms for conflict resolution, regulation of behavior

- Lack of authorized body with power to implement and regulate the community bylaws on watershed development

Issues in watershed management

1. Socioeconomic Issues in Watershed Management

- **Upstream-downstream relationships** - food security, commercialization, environmental service, water governance
- **Capacity**: Constraints to investment at an individual land holding level (labor, income, KAS)
- **Participation:** for common decision making, collective action and equitable cost & benefit sharing, participatory R&D

2. Biophysical Issues in Watershed Management

- **WATER**: Water scarcity and/or flooding - IWRM
- **LAND DEGRADATION**: Soil erosion and sedimentation
- **BIODIVERSITY**: Deforestation, wetland and loss of aquatic life
- **LAND USE**: Inappropriate land use plans/ farming system and management practices

3. Issues of scale in a watershed approach

- NRM activities follow the watershed approach while the livelihood activities are at kebele unit

- Interaction of Social and Spatial scale of watershed management
  - Farm and/or Household
  - Catchment and/or Community
  - Sub watersheds
  - River basin or landscapes

- Which issues of watershed management at **plot, catchment, watershed or basin scales** dependent on household or community decisions?

4. Impact of watershed management

- Individual and community behavior and practices
- Sediment and hydrology budget
- Biodiversity change
- Productivity/Livelihood
  - Crop and livestock productivity
  - employment

Questions

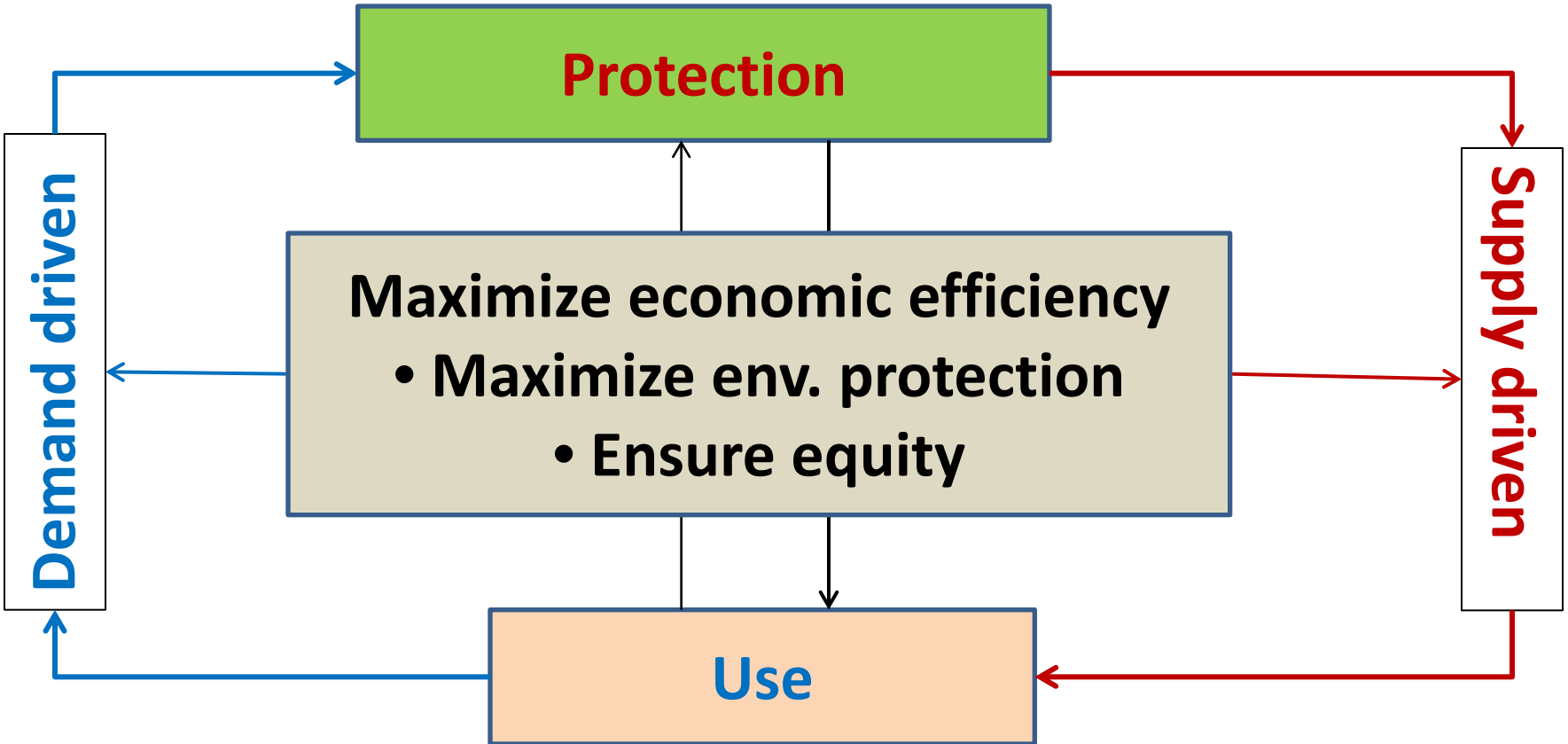
- Are the interventions capable to address the social, economic, and biophysical **ISSUES?**

- Are the approaches and mechanisms facilitate
  - Participation and empowerment? And
  - Transfer and ownership of processes, responsibilities and outcomes sustainably by users and implementing institutions?

Watershed management for sustainability?

Balancing protection of resources (supply) and use of resources (demand) .

- Demand or supply driven?
- Development or environment?



- **The RWM interventions and its management in watershed approach can be sustainable if they target the following**
  - Empowerment and ownership of processes and outcomes
  - Rehabilitation of natural resources
  - Increase on-site productivity - livelihood
  - Create employment
  - Equitable resource use
  - Protection of environment – upstream and downstream connectivity
  - Transferability and scaling out

RWM Projects working in learning watersheds/landscape approach

What lessons learned?

1980	1985	1990	1995	2000	2005	2010
SCRP		MERET	SIDA	AMAREW	SWHISA	CBINRMP
		JICA			SUN	WLRC
					SRMP	AGP
					SLMP	NBDC
					TANA BELES	ICARDA

Success stories

SCRP

1. Long-term hydrology and sediment monitoring
2. Fanyaju terrace

GTZ

1. Gully development -Napier
2. Triticale
3. Sub-soiling

SWHISA

1. Household wells and WHS
2. Community participate in the design, supervision of small scale irrigation development
3. Gully + pasture development
4. Area enclosures
5. Self-help user groups
6. Farmer to farmer extension

TANA BELES

1. M&E strategy
2. Hydrological monitoring

WLRC

1. R4D – research-extension link
2. Homestead development

Success stories

SIDA

1. Seed multiplication and dissemination-durum wheat growers group
2. Grasses and fodder tree along field boundaries
3. Dairy cows in zero-grazing system
4. Roof water harvesting
5. Fruit production
6. Gully control
7. Integration of u/s and d/s irrigation users
8. Fish ponds
9. Free grazing control
10. Wood lots
11. Tree seedling production
12. Fuel stoves

AMAREW

1. Improved varieties – **Vernonia**, sorghum
2. Integrated production by innovative farmers eg. Ato Dessalegn, Ato Yasin
3. Hillside area enclosures
4. Low-cost gravity drip irrigation
5. Rope and washer pump for water harvesting systems
6. Income generation
   - improved stoves-self-help women Yeku
   - Gabion wire box production Lench Dima
7. Water point development
8. Gully rehabilitation and production
9. Joint planning of research-extension
10. **FREG**
11. Inductive training
12. Community based watershed management

- **Question:** To what extent these best practices and success stories are adopted and scaled out until this time and continued to make the watersheds as a learning and demonstration sites?

- Evidences indicate that
  - Low level of continued adoption
  - Lack landscape approach at the planning stage
  - Only local impact noted for a short term
  - Lack of sense of long-term ownership by users and takeover of the responsibilities by public institutions

Lessons

- **Watershed interventions**
  - Inclined to the on-site **protection** of natural resources or on-site rehabilitation
  - adapted to existing small holder production system, lack to consider **eco-friendly alternative livelihood strategies and land use change production options**
  - Less emphasis to the **use of resources or productivity and offsite protection through landscape approach**
  - **Lack of knowledge of targeting of techniques -** feasibility of RWM practices

Lessons

- Inadequate for capturing structures and processes at landscape level, where common property resources (forest, wetlands, protected areas, water bodies, grazing lands) become visible

- Upstream watershed management practices was not strategically connected with water resources management objectives in the downstream – IWRM

Lessons

- **Institutional arrangement**
  - No capacity gap at policy and strategy level - ESIF/SLM, but gap at implementation level towards sectoral integration
  - Limited dialogue and discussion among the various stakeholders about the context specific micro-watershed approach and landscape NRM strategies, despite there is national guideline
  - adhoc type – watershed committee, water users group, etc
  - link only to MOA but not to EPLAU & MOWE – agriculture but not on environment , land use and water use

Lessons

- **Research need for knowledge development and management**
  - Current research focus is on farm-level innovations and facilitate change through individualized decision processes at household or community scale
  - Limited R4D on
    - Targeting of practices – soil, hydrology, topographic, social, economic conditions
    - Landscape connectivity
    - Basin level research and knowledge to guide basin and regional development
    - Strategic level research
    - Information and Knowledge management at all levels

Implication for sustainable RWM

- The lessons on successes and best practices on learning watersheds implies the need to bring change on
  - **individual farmers and community behavior towards SLM and managing common property resources**
  - **Empowerment of community and sense of ownership of successes by community and public regulatory functions and private users**
  - Integration of watershed successes into Government **watershed plan for scaling out**

- **Research demand** for well established **watershed approach and technologies to address–** LAND USE, WATER, ENVIRONMENT, BIODIVERSITY, SCALE Issues and **Monitoring Data** of sustainability indicators

- **Linkage of IWRM and watershed management** –basin regulatory functions

- **Institutional framework** for coordinated SLM at grass root level – projects and public sectors

- **Strategy for participatory M&E of R&D** at all levels – change in sustainability indicators (practice, behavior, biomass/ productivity, hydrology, biodiversity, employment, equity)

Thank you