Understanding the causes of decline in the health of Rupa Lake, Nepal

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Key Words

Timeline, Problem Tree, Ranking, Forum, Nepal, International Development, Natural Resource Management, Participatory Action Research, Watershed Management, Rural Development

Context

- Rupa Lake is the third largest lake in the Pokhara valley, and most biodiverse.
- People living around the lake depend on it and the surrounding wetlands for their daily livelihoods.
- Human activities threaten the health and existence of the lake, as well as people's livelihoods.
- The causes and potential solutions are not well understood. People are unsure how to proceed.

Questions

- What were the past events and actions that degraded or helped protect the lake?
- What are the current problems and the reasons behind them?
- Where should we focus attention in efforts to protect the lake and people's livelihoods?

Participants

- Government officials
- Local leaders
- Members of local community-based organizations
- Members of development organizations.

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Tools

- Timeline
- Problem Tree
- Ranking

Examples of Results

Timeline analysis of key events:

- The decline in the lake's ecosystem can be traced to government policies that shifted ownership and control of forests from local communities to government agencies, starting in 1957. Slash-and-burn agriculture on national forest land became common and was not controlled by government agencies.

- Landslides and flooding created valuable new agricultural lands on the lake shore. Some people had a vested interest in filling the lake for agricultural purposes. Government surveys endorsed private ownership of these new lands.

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Problem Tree **assessment of causes of Lake decline (prioritized from most to least severe):**

1. Flooding and numerous landslides provoked by land clearing. The surface area of the lake has declined by almost 50% in the last 40 years.
2. Misuse and abuse of surrounding lands due to unregulated road construction, inappropriate mining of sand and stone, open grazing, and lack of interest in reforestation.
3. Worsening pollution from overuse of nitrogen fertilizers and pesticides on both crops and fish farms. This damages biodiversity.
4. Government policies that endorse private claims to new lands created by landslides and the build-up of silt.
5. Unequal distribution of the benefits of land and water resources. This undermines collective action.
6. Weeds choke the lake but they are not being effectively controlled.
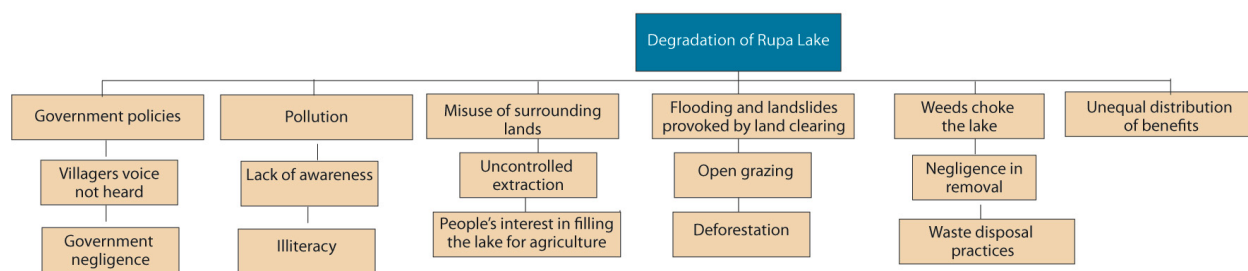

Table 1: Pair-wise ranking of key causes of lake decline

Core problems	Misuse of lands	Worsening pollution	Unequal distribution of benefits	Floods & landslides	Weeds	National Govt policy	Total score	Rank
Misuse of lands	x	1	1	4	1	1	4	II
Worsening pollution	x	x	2	4	2	2	3	III
Unequal distribution of benefits	x	x	x	4	3	6	1	V
Floods & landslides	x	x	x	x	4	4	5	I
Weeds	x	x	x	x	x	6	0	VI
Government policy	x	x	x	x	x	x	2	IV

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- Deforestation was recognized by stakeholders as an underlying problem, but one which could no longer be prevented because most nearby forests have already been cleared.
- Participants noted a "perverse" problem, namely that people benefit from access to new and valuable agricultural land created by flooding and landslides.
- Another underlying cause is a lack of continuity in interventions initiated by external groups.

Outcomes

- All stakeholders made a commitment to strengthen and revitalize people-centered efforts, so that actions would have more local ownership and continuity.
- A formal petition was submitted to the government. It called for a halt to encroachment on remaining forests in the lower and upper watershed and opposed government land surveys that endorse private claims to new lands.
- Stakeholders agreed to develop a land-use plan that will regulate and manage human activities that might further harm the health of the lake.

Contributions of SAS[2]

- A concrete and wide-ranging understanding of the problems was generated in the presence of all major stakeholders.
- Credibility enhanced by the multi-stakeholder nature of the analysis.
- Uneven participation in discussions and dominant voices managed by organizing prior, separate events for marginal groups and bringing these findings into larger meetings.

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