Are MUS more sustainable than single-use systems?

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Introduction

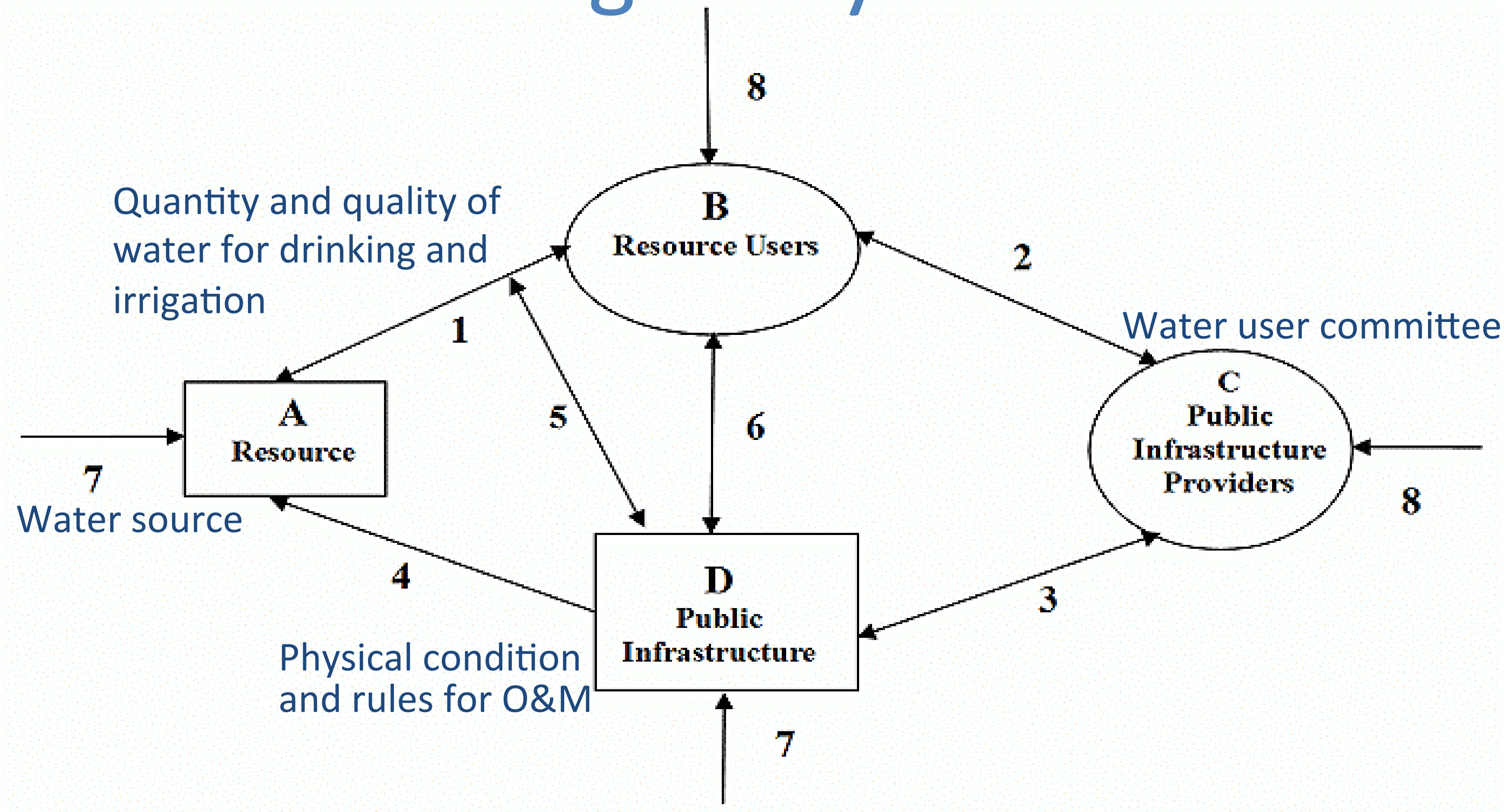
ARE MUS MORE SUSTAINABLE AND RESILIENT THAN SINGLE-USE SYSTEMS? WHY?

Definitions

- RESILIENCE: “Capacity of a system to experience shocks while retaining function, structure and feedback capabilities” (Redman, 2014)

- SUSTAINABILITY: “The capability of maintaining over indefinite periods of time specified qualities of human well-being, social equity and environmental integrity” (Leach et al., 2010)

Framework of analysis for social-ecological systems



From Anderies et al., 2004

Methodology

- Case study programme: SIMI
- Rapid appraisal of 16 MUS
- Case study of 2 MUS
- Syangja, Kaski, Palpa
- June – August 2014

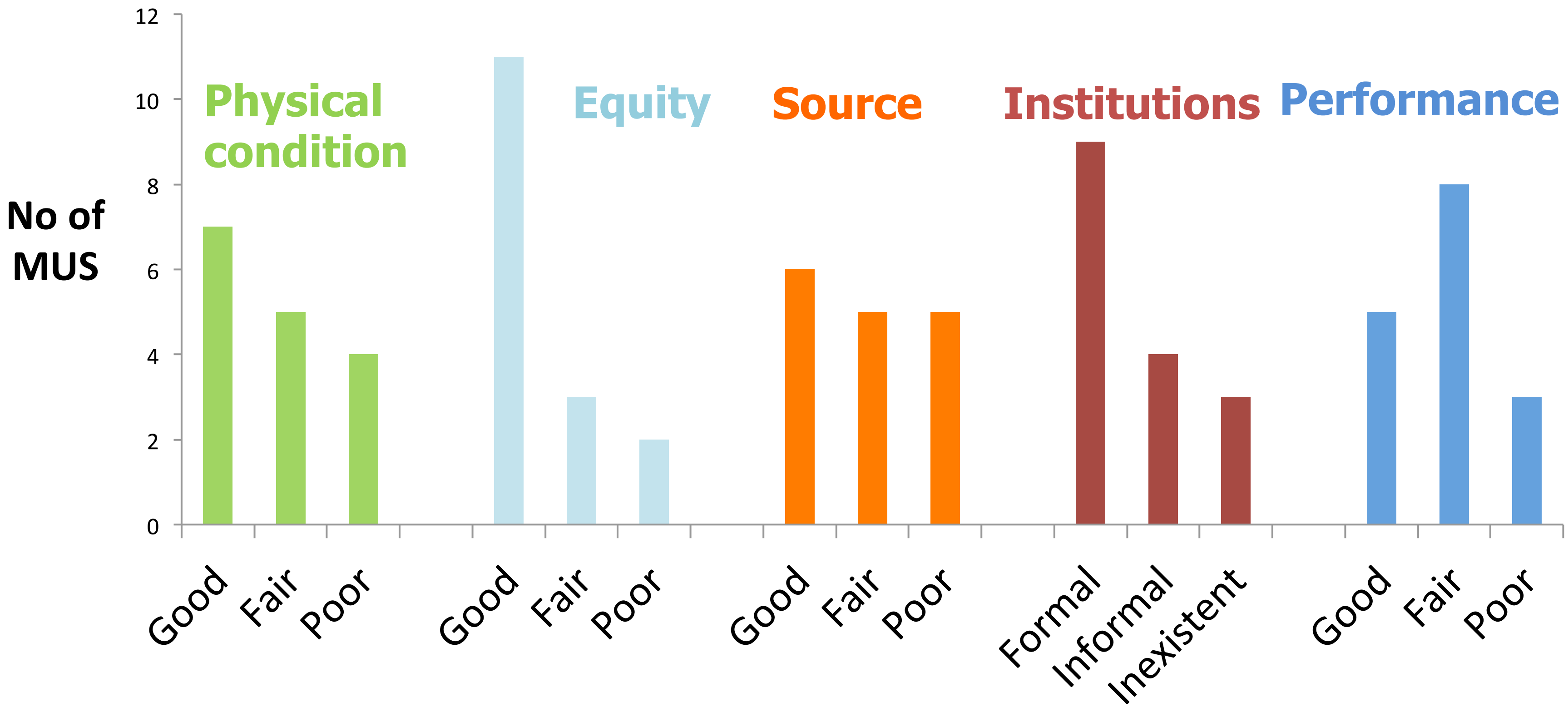
Study findings to inform MAWTW project, Feed the Future initiative and food security programmes in general

Contribution to well-being

- Benefits: Time saved, enhanced diet and knowledge
- Average annual household income: NPR 13,722 (USD 136)
- Who controls income: Women (58%), men (33%), both (8%)
- Income used for: household expenses, education and health

- CB ratio: 11
- 0.7 year return period

Sustainability indicators



Sustainability and resilience assessment

- Most systems are still functional (87.5%)
- Security of the source of water is the biggest issue for sustainability/resilience
- Our sustainability assessment matches with farmers' resilient assessment
- All sustainable/resilient systems are governed by formal institutions

LUMLE-I, KASKI

BHANDAREKHOLA, SYANGJA

Pre-existing factors affecting sustainability

LUMLE I

- *Characteristics of the resource*: Sufficient flow of water throughout the year
- *Characteristics of the infrastructure*: Relatively compact settlement
- *Characteristics of the water users:* Small group and good social cohesion. Homogeneity (size of *bari* land and use of water). High financial capacity.

BHANDAREKHOLA

- *Characteristics of the resource*: Decline in water flow
- *Characteristics of the infrastructure*: spread settlement, steep terrain;
- *Characteristics of the resource users*: Lack of social cohesion; Water use is heterogeneous

Enhancing sustainability

LUMLE I

- *Technology:* Increased storage and taps has allowed a fair allocation and increased equity
- *Institutions:* Simple set of institutions is sufficient

BHANDAREKHOLA

- *Technology:* Increased storage has not addressed inequity in water allocation for the overall system
- *Institutions:* Ineffective and not functional

Multiple uses and sustainability

LUMLE I

- *Basic needs:* improved for all users, covered all year round
- *Economic returns*: for a large share of users

BHANDAREKHOLA

- *Basic needs:* some users face shortage during the dry season
- *Economic returns*: for a small share of users

Conclusion

- The 'multiple' of MUS matters but is not sufficient !
- 'Multiple' needs careful inter-community planning
- Need to consider social and gender equity in how this 'multiplicity' is distributed

Recommendations

- **Feasibility study**:
  - Consider level of trust/reciprocity and existing conflicts
  - Comprehensive assessment of water demand and supply beyond the targeted community

- **Social survey** on existing/potential inequities and recommendations for technological intervention and institutional support


THANK YOU