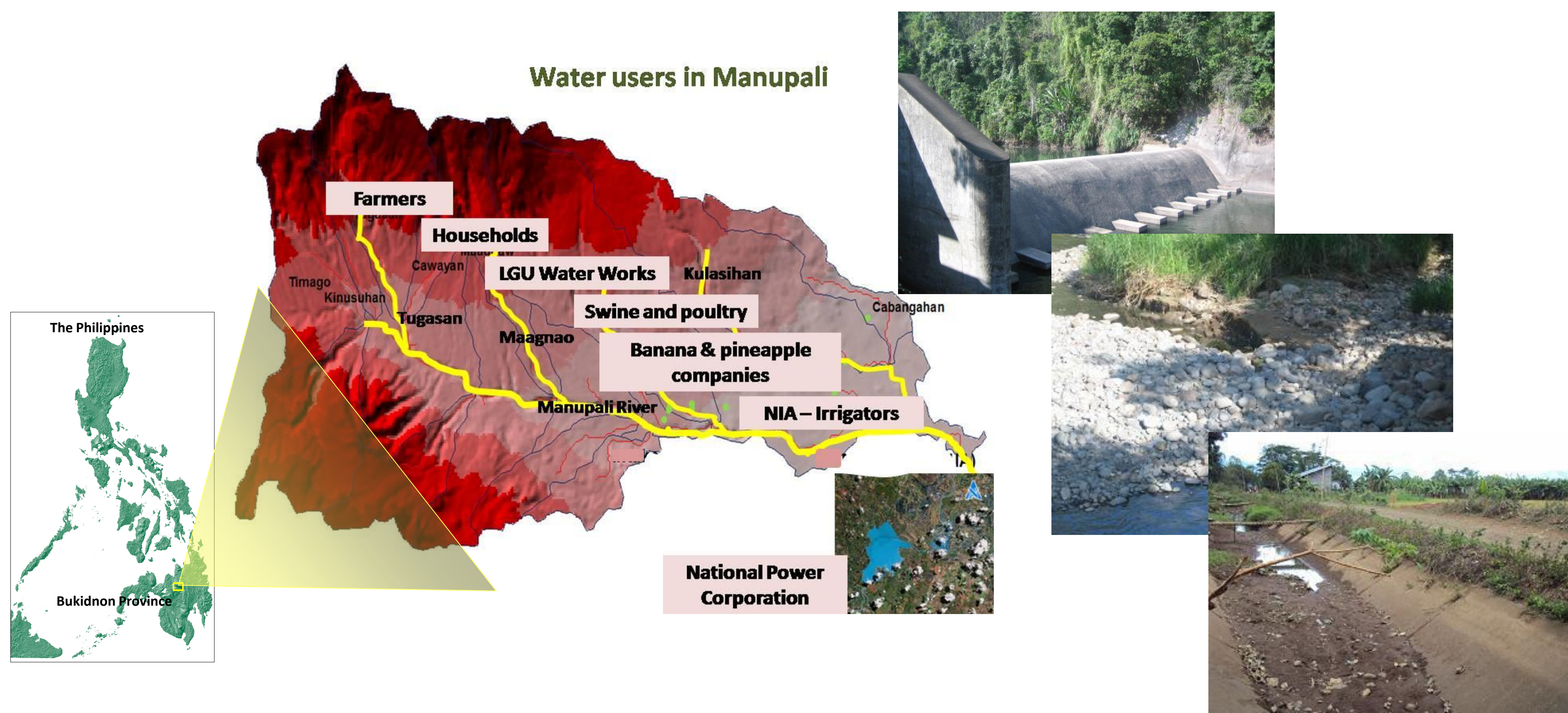


# Conflict, Cooperation and Collective Action Land use, water rights and water scarcity in Manupali watershed, Southern Philippines

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## Introduction

Water is essential to human survival. It is also indispensable to livelihoods and most forms of economic production. However, access, allocation and use of water can create conflict. While conflicts at the national and international levels vary from policies affecting water management to transboundary issues, water access dominates conflicts at the local level, which are often direct and can spill over into wider-scale violence. In many cases, political, socio-economic and cultural factors determine the complexity of these water conflicts. Resolving water conflict can be complicated and take a lot of time. Hence, some water users opt for simple compromises to settle disputes between them through collective action and cooperative agreements.

## Objective

Describe the water conflicts and cooperative agreements adopted by different water users in Manupali watershed, Bukidnon province, southern Philippines.

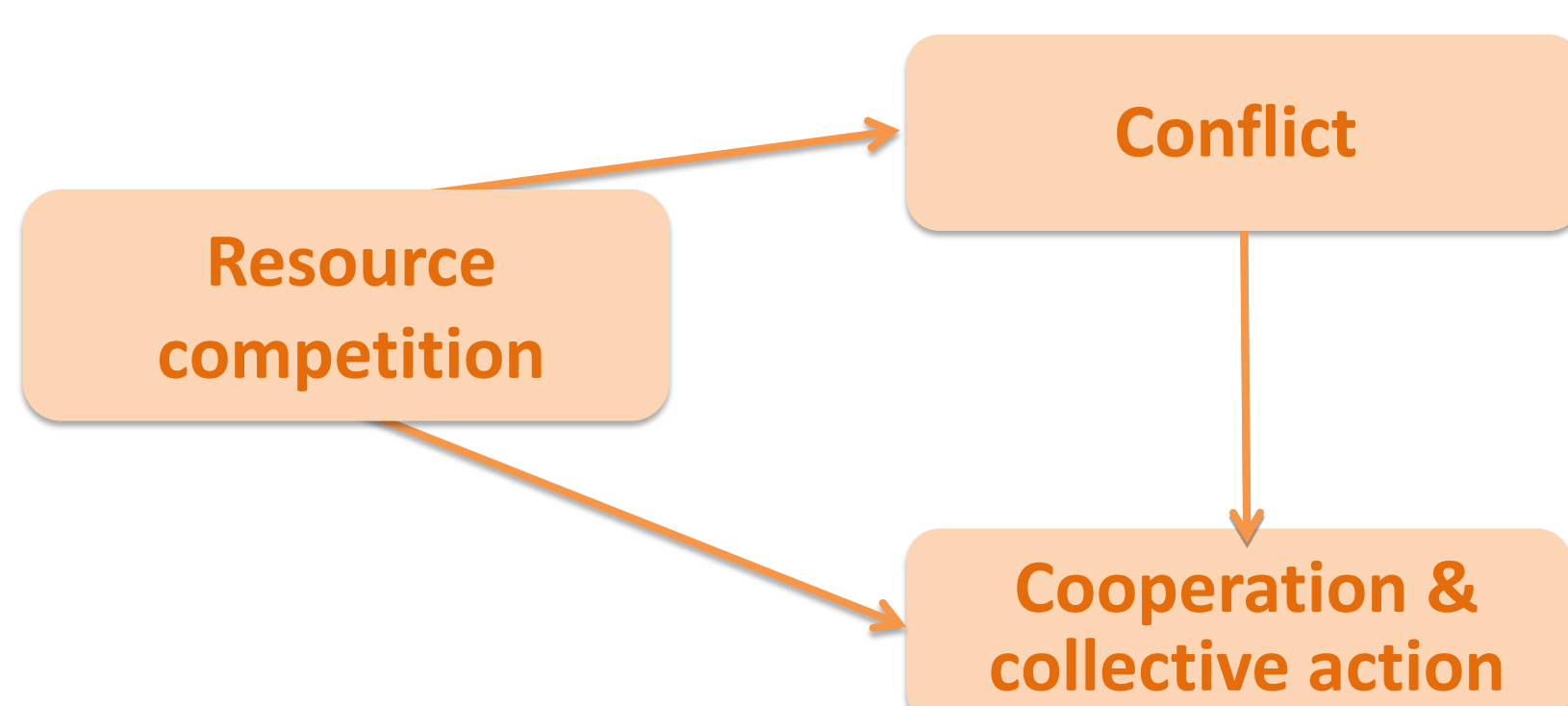


Fig. 1: Framework of the study: Resource competition, conflict, cooperation and collective action: the 'fork in the road' (Adopted from Ratner et al 2010)

- Survey-interviews
- KI Interviews
- Focus group discussions
- Stakeholders' analysis
- Literature review
- Local ecological knowledge (LEK)
- Policy-makers ecological knowledge (PEK)
- Modelers ecological knowledge (MEK)

Table 1. Conflict in Manupali watershed has more to do with overlapping rights and water sharing than with water availability or scarcity associated with land use.

Conflict between:	Conflict issue(s):
Farmers versus farmers in upper communities	Stealing or cutting water pipes from rivers
Farmers versus upper and lower sections of Manupali	Destroying small impounding reservoirs
Land owner (poultry) versus community people	Privatization of open-access water
Banana companies versus National Irrigation Agency (NIA); banana companies versus community people	<ul style="list-style-type: none"> <li>• Water rights</li> <li>• Water allocation (upstream and downstream use)</li> <li>• Institutional weaknesses (e.g. red tape, illegal processing of water rights applications)</li> <li>• Surreptitious water diversion</li> </ul>
Banana company versus NIA	<ul style="list-style-type: none"> <li>• Water scarcity</li> <li>• Poor maintenance of canals and dams</li> </ul>
Rice irrigators versus rice irrigators	<ul style="list-style-type: none"> <li>• Water scarcity despite rotations</li> <li>• Social conflicts (due to illegal diversion of water, killings)</li> </ul>
Indigenous communities, NIA, local government, Department of Environment and Natural Resources (DENR), banana companies against each other	<ul style="list-style-type: none"> <li>• Overlapping water management policies and uncoordinated watershed management efforts</li> </ul>
Indigenous communities versus banana companies, DENR, local government and NIA	<ul style="list-style-type: none"> <li>• Tension between statutory and customary rights (e.g. failure to obtain prior informed consent)</li> </ul>

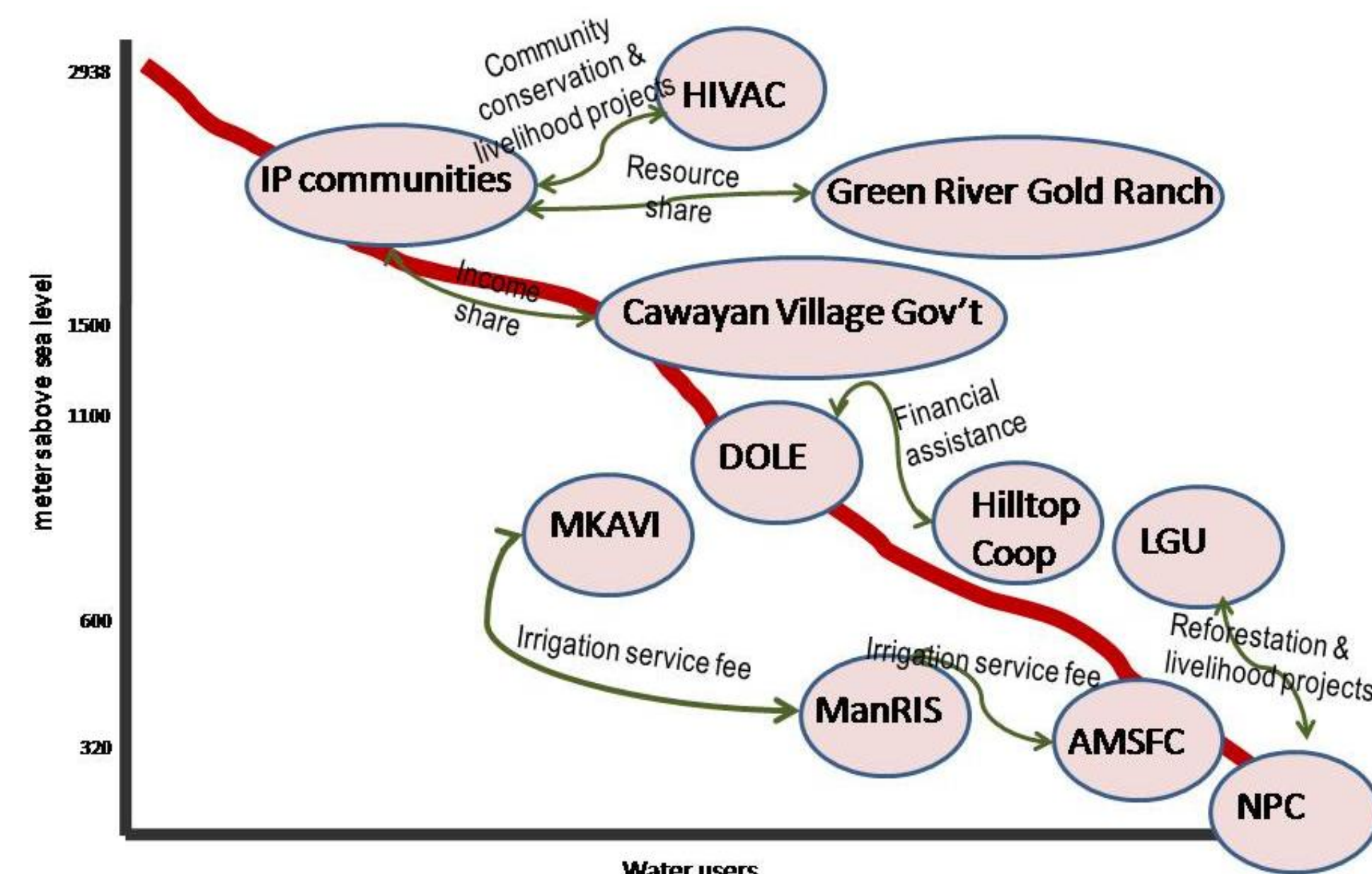


Fig. 2: Stakeholders opted to use different ways and means to secure their individual rights and avoid hostilities by voluntarily agreeing to cooperate on water-rights sharing schemes

## Discussion

- Collective action through cooperative agreements can mitigate hostile confrontations between multiple resource users. However, these agreements are only short-term solutions and do not address the root cause of water scarcity.
- Cooperation and collective actions between water users evolved because of mutual recognition on the value and scarcity of water and the existence of social capital and legal bases for voluntary agreements. However, cooperation does not emerge easily with self-interest.
- 'Fair-sharing' from voluntary agreements is challenging owing to power imbalance. Mutual interest over water resources prompted cooperating stakeholders to secure individual rights by sharing with others. However, these forms of cooperation can break down if cooperators cease to interact and do not adapt to changes.
- In these agreements, communities who bear the costs of maintaining water are excluded from the benefit-sharing. While collective action has not addressed the core problem of water scarcity, sustainable land use that helps improve water yield and reduce stream flow variability is essential to improve water balance and reduce current water deficits.

## Conclusion

- Shared understanding on the link between water balance and land-use patterns is important in unpacking complex issues.
- Voluntary agreements are important short-term solutions to resolve immediate water rights conflicts.
- Land-use policies and incentives for sustainable land use are inevitable for the long-term solution of water scarcity.
- Despite the relative vagueness of policies, they provide the legal bases for the emergence of voluntary agreements.
- Therefore, coordinated cooperation among all users is important to foster watershed-level collective action.

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