From conflict to collaboration in natural resource management: A handbook and toolkit for practitioners working in aquatic resource systems

FROM CONFLICT TO COLLABORATION IN NATURAL RESOURCE MANAGEMENT: A HANDBOOK AND TOOLKIT FOR PRACTITIONERS WORKING IN AQUATIC RESOURCE SYSTEMS

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Natural resource management is closely linked to conflict management, prevention and resolution. Managing natural resources involves reconciling diverging interests that often lead to conflict, which can undermine management institutions and lead to exploitation, environmental destruction and deteriorating livelihoods. If conflicts turn violent, they can rip apart the entire fabric of society.[1] Thus, managing conflicts in a peaceful manner is decisive not only for successful and sustainable resource management but for societal stability in general. Despite this connection, the knowledge and experience gained in the fields of conflict transformation and peacebuilding in the last decades are often not used by natural resource managers. One reason for this is that this knowledge has not been translated into user-friendly resources that can be easily understood by practitioners without prior experience in these fields. This handbook and toolkit is trying to help fill this gap.

The handbook and toolkit can be used to support any participatory process aimed at sustainable resource and conflict management. In particular, it is intended to support efforts using the Collaborating for Resilience approach described in the accompanying practitioner's guide.[2] The CORE approach provides a framework for understanding stakeholder interactions and organizing for social and institutional change, distinguished by its emphasis on whole systems, an open search for solutions, and explicit treatment of power. These characteristics make the approach especially well suited to catalyzing collective action to address shared challenges of natural resource management (see Box 1).

While the tools and approaches covered in this handbook and toolkit can be applied to a wide range of local natural resource management challenges, we highlight guidance for managing local conflicts over aquatic resources, and the examples described focus on aquatic resources. Aquatic resources refer to water and its multiple roles in sustaining livelihoods, the environment and ecosystem services.[4] This includes water itself as it is used for agricultural, commercial, industrial and domestic purposes, animals and plants that live in the water such as fish and

algae, and aquatic ecosystems such as coral reefs and mangroves, as well as the ecosystem services they provide. This document does not specifically address issues around extractive resources that are located in the sea bed or underneath water bodies such as lakes.

The approaches and tools described here are tailored toward local and community-based conflicts, such as those between different communities, between communities and government agencies, or between communities and commercial resource users. The handbook and toolkit targets practitioners with experience in water and aquatic resource management, or natural resource management more broadly, but with little or no conflict management experience. This includes those with exposure to the CORE approach who are seeking more detailed guidance on how to put the approach into practice, including guidance on selecting appropriate tools and methods for the context at hand.

Section 1 outlines key drivers and dynamics of aquatic resource conflict in order to explain how conflict factors — such as inequitable distribution of resources — interact to escalate a crisis into a conflict. This section provides background information and guidance on how to do a preliminary conflict assessment.

Section 2 explains conflict management, discusses what role it plays in natural resource management, and describes different conflict management institutions and approaches. The main focus of this section is on alternative conflict management approaches that try to find solutions producing gains for all stakeholders to create sustainable cooperation. Besides introducing important elements of conflict management such as conciliation, negotiation, facilitation and mediation, the section also points out how to determine and create key success factors.

Section 3 gives an introduction to participatory monitoring and evaluation of conflict management processes and projects. This approach emphasizes stakeholders and their knowledge: Monitoring and evaluation are understood as a learning process that should involve all stakeholders and beneficiaries.

This section introduces how to monitor the conflict management outcomes and impacts of an initiative and provides an overview of the common challenges that arise. It also provides a quick overview and links to further reading for a number of tested monitoring and evaluation approaches for conflict management initiatives.

Box 1. The CORE approach in practice

During 2011–2013, the Strengthening Aquatic Resource Governance project applied the CORE multistakeholder dialogue and action planning approach in three large lake systems: Lake Victoria in Uganda, Lake Kariba in Zambia and Tonle Sap Lake in Cambodia. These systems are characterized by persistent poverty, high dependence on aquatic resources for food security and livelihoods, intense resource competition, limited ability of local stakeholders to effectively influence broader decision-making processes and policies, and significant new pressures that could lead to broader social conflict if not effectively addressed. Working in partnership with government, community and civil society actors, the initiative assisted local stakeholders in developing a shared understanding of risks and opportunities, weighing alternative actions, developing action plans, and evaluating and learning from the outcomes.

As a result of this dialogue process, the initiative helped launch new efforts to increase community voices in private sector investment decisions and secure access rights for marginalized households in the face of competition. The initiative also helped strengthen community-based co-management, resource protection and public health. Significant outcomes include the following:[3]

- **Improved attitudes toward collaboration and heightened dialogue among community groups, nongovernmental organizations and government agencies**. In Uganda, for example, the lakeshore community of Kachanga demonstrated a new willingness to invest in community-led actions to address challenges such as water pollution after successfully mobilizing to build a shared latrine and biogas facility.
- **New and successful engagement with private investors**. Overcoming initial reluctance on the part of the regional chief, villagers in Kamimbi fishing village in Zambia, for example, negotiated agreements with commercial aquaculture investors to maintain fishing grounds and access routes, as well as to secure local jobs.
- **Influence on government priorities in addressing the needs of local communities**. Floating fishing communities in Cambodia, for example, have partnered with government agencies to introduce innovative joint patrols to stem illegal fishing, and are working to gain approval for an experimental model of community-based commercial fish production.
- **Engaging new sources of support to scale out innovations**. U.N. agencies and the Ministry of Water and Environment in Uganda, for example, are working to respond more effectively to the priorities of lakeshore communities in health and sanitation. Likewise, the Zambian Environmental Management Agency is extending the dialogue approach to strengthen community voices in environmental impact assessment processes. And in Cambodia, the Fisheries Administration has committed to supporting evaluation of local conflict management initiatives in order to draw lessons for broader policy implementation.

Box 2. Using this handbook with the CORE approach

The CORE practitioner's guide is organized into three sections, corresponding to the three phases of the CORE process:

- Exploring the potential for collaboration (Guidance Note 1)
- Facilitating dialogue and action (Guidance Note 2)
- Evaluating outcomes and sustaining collaboration (Guidance Note 3)

The sections of this handbook are designed to complement these phases of practice, with an explanation of concepts and background information tailored to each.
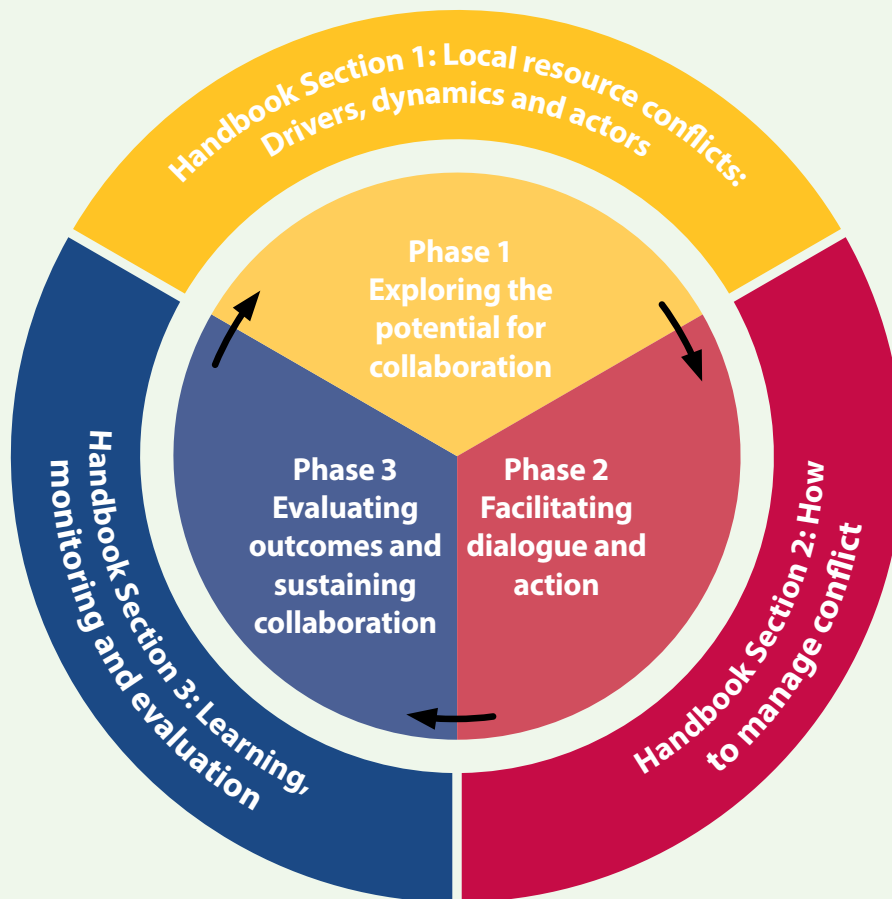
Figure 1. The CORE process and this handbook

Sections 1–3, the handbook portion of this handbook and toolkit, provide the background knowledge and guidance for integrating conflict management into aquatic resource management. This is followed by the toolkit, which provides tools and exercises to put the concepts into practice. They are structured along four main categories: **analysis tools** aimed at assessing problems and conflicts and creating a common understanding; dialogue and **consensus-building tools** that help to foster cooperation and overcome obstacles in the process; **strategy development tools** that help to identify, test and design strategies and solutions; and flexible **support tools** that can be used during different parts of the process. Each tool is described in detail, including a step-by-step run through and suggestions for further reading.

Depending on the context, the issues at hand and the intensity of conflict, it may be necessary to draw in specialized support from professionals trained in facilitation, mediation or negotiation. In addition to providing guidance to help orient those new to the field of conflict management and cooperation, we hope this handbook can help clarify when such additional support is needed.

Handbook: Understanding, managing and learning from resource conflicts

Understanding a conflict is the first step in engaging it. This section starts by providing general background information on resource conflicts and then focuses on aquatic resource conflicts and how to analyze them. It also refers you to specific tools in the toolkit that can be used for conflict analysis.

Conflict analysis plays a role at different stages in participatory processes such as CORE. A preliminary conflict analysis is normally done by the coordinating team members when starting or designing the process to get a better understanding of the context and to ensure conflict sensitivity. Later, a participatory conflict or problem analysis can be used as part of the process of exploring perceptions of the problem, as well as to create a common understanding of the issues. As part of the CORE process, the information that follows is most useful in phases 1 and 2, but can also be used in phase 3 as part of evaluating and learning.
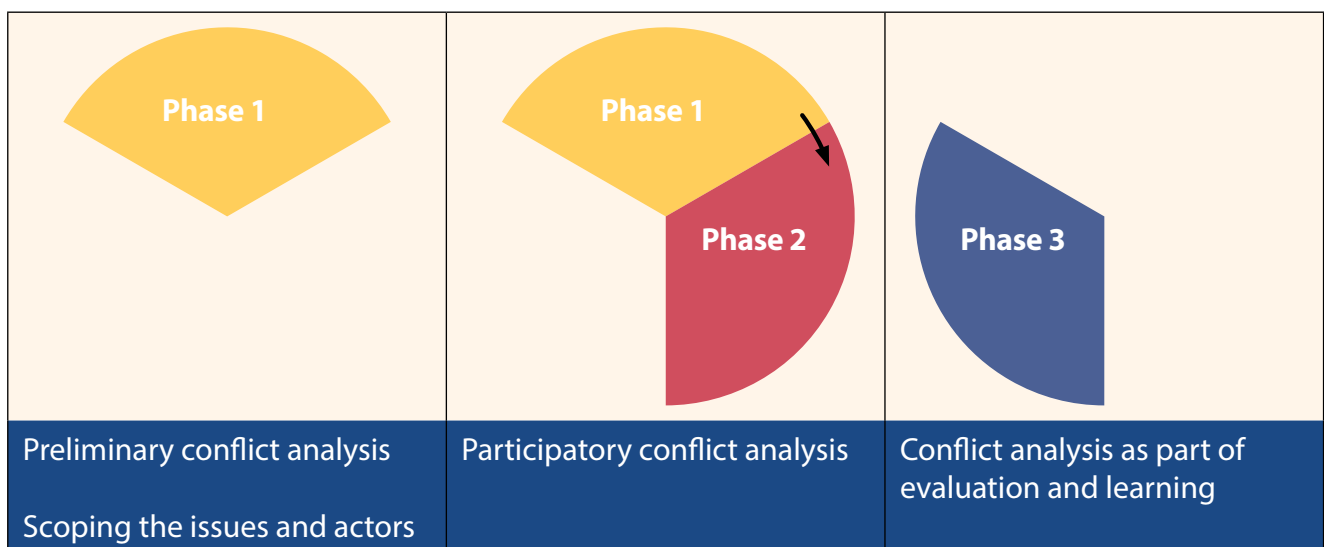
Figure 2. Conflict analysis as part of the CORE process

Box 3. Conflict sensitivity

Conflict sensitivity means that an intervention should not aggravate the risk of relapse into violent conflict or aggravate an existing conflict. In the context of development cooperation, this principle is called "do no harm." Conflict sensitivity is normally a minimum standard for any project or program working in a conflict environment but is also a good starting point for projects and programs working on conflict:
1. Understand the conflict
2. Understand how you and your project, program and actions interact with the conflict drivers and dynamics
3. Address these linkages

Resource conflicts

A conflict can be broadly defined as "a relationship among two or more parties, whether marked by violence or not, based on actual or perceived differences in needs, interests and goals."[5] As such, conflicts are a normal part of societies and not inherently negative. In fact, they can be an important force for social change. However, if not managed well, conflict can escalate and develop into a negative force, destroying human life, the environment and social relations.[6] As conflicts escalate, they can manifest themselves in different forms. They may start verbally. If not resolved at this stage, they can turn into confrontations such as riots, damage against infrastructure or the breach of previously reached agreements. Violent confrontation, including the use of deadly force, can be the last step in such an escalation chain.[7]

Conflicts often arise over the allocation of or access to natural resources, especially when they become scarce and competition increases. If conflicts are not stopped from escalating, sustainable resource management becomes impossible and the environment and livelihoods deteriorate. Conflicts can also arise over negative impacts on natural resources, such as the pollution of water resources or the destruction of ecosystems.

Community-based resource conflicts take place on a subnational level; for example, fishers in one community fighting over access to fishery resources, or two communities clashing over access to a water borehole. However, local conflicts often involve regional, national and even global actors.[8] For example, a conflict within a local community over the pollution of a water resource caused by a paper mill can involve the company running the paper mill, international companies buying the paper, and different levels of government, as well as local and international NGOs (see Figure 3).

For more information on a broad range of environmental and natural resource conflicts, see the Environmental Conflict and Cooperation platform, www.ecc-platform.org

Governance and marginalization.[10] Disputes can normally be managed peacefully if governments and governance institutions are legitimate, inclusive, representative and transparent.[11] However, if certain groups are excluded from decision-making, are marginalized or are oppressed, disputes are more likely to develop and escalate toward violent conflict. A clear sign of trouble is if management institutions or regimes reinforce the marginalization of certain groups. For example, a group of small-scale fishers that is excluded from fishery management decision-making processes might have already experienced a long history of discrimination due to ethnicity or religion. Natural resource conflicts can exacerbate already existing feelings of injustice, inequality and marginalization.[12]
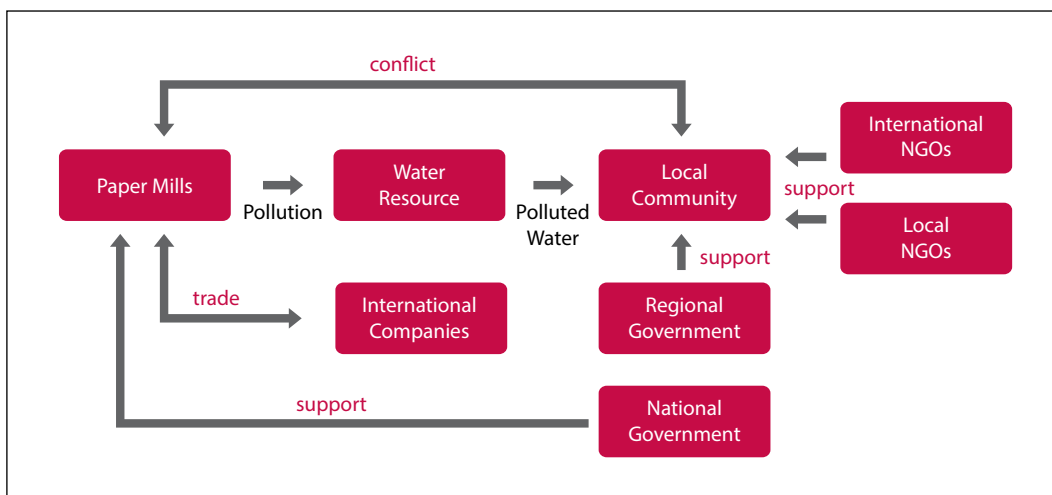
Figure 3. Example of a conflict actor map

Box 4. Starting a conflict analysis

A conflict analysis normally starts by looking at the following factors:
- The ways the conflict or potential conflict manifests itself, and what kind of conflict it is
- The central issue of the conflict or potential conflict; for example, the management of a resource or negative impacts on a resource
- The actors involved at the local, regional, national and global levels

Although it is called a conflict analysis, this process does not presuppose a conflict. If a crisis has not yet escalated into a conflict, the analysis tries to assess the potential for conflict. For example, if competition over a resource is intensifying because of environmental degradation and population growth, conflict analysis can assess the conflict potential of these developments. The goal is not to quantitatively assess the probability of conflict, but to understand how key drivers create certain conflict dynamics and potentials.

There is no simple causal link between natural resources and conflict. Natural resources are always just one of multiple causes that interact with the broader social, political, cultural and economic context.[9] However, there are a number of factors that have been shown to play a decisive role in turning competition around natural resources into conflict (see Figure 4).

Identity. Inequality and marginalization also create stronger group identities, both in the marginalized and in the more powerful group. These group identities are a potent mobilization resource and strategy, especially when a conflict escalates and turns violent.[13]

Ongoing or past conflicts. The memory of conflict, especially if it turned violent, is also a strong mobilization resource that can lead to polarization and strong group identities.[14]

Underlying or hidden conflicts. Sometimes the real issue can be hidden behind another issue or conflict. For example, a conflict can be about resource access on one level, and on another level it may relate to more deeply rooted issues such as marginalization.[15] These deeply rooted issues are also called structural causes for conflict. Natural resource management can sometimes be addressed while the structural conflicts remain unresolved;[16] for example, local problems in natural resource management may be addressed without addressing underlying national conflict structures.

Conflicts in the region or neighboring countries. These often lead to refugee flows that can increase competition over resources and pressure on ecosystems, as well as creating social tensions in the receiving regions. In addition, small arms can become more easily available, creating the means to turn conflict violent. Likewise, sometimes whole conflicts

"spill over"; for example, armed groups may cross the border and use a neighboring country as a base or retreat area.[17]

Aquatic resource conflicts

As part of the European Commission's Initiative for Peacebuilding, research on local water conflicts has been used to develop the Water, Crisis, and Climate Change Assessment Framework, which guides the user through an analysis of the conflict and cooperation potentials of water.[18] This section uses the WACCAF as a basis, integrating additional frameworks on fisheries conflicts[19] to explain the main actors, conflict constellations and dynamics of aquatic resource conflicts.[20]

Actors and conflict constellations[21]
When analyzing aquatic resource conflicts, two sets of actors are important:

1. User groups using the resource
2. Management groups controlling access to or managing the resource

User groups include everybody who uses the resource for cultural, domestic, commercial, industrial, fishery or agricultural purposes. These uses include drinking, irrigation or fishing, industrial or commercial processes that create effluent, and using a water body itself; for example, for transport or recreation. Management groups include aquatic resource
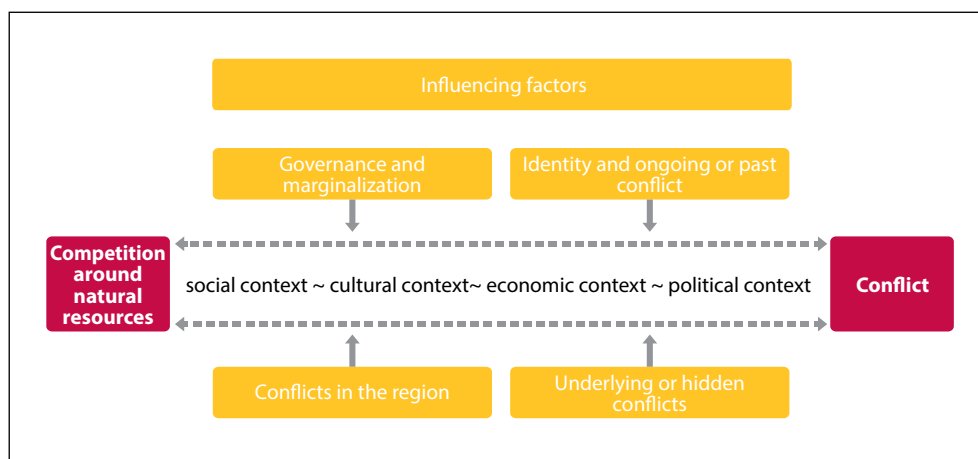
Figure 4. Understanding the links between natural resources and conflict

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Box 5. Guiding questions: Analyzing the broader conflict context

When analyzing resource conflict dynamics and drivers, the broader social, political, cultural and economic context has to be analyzed as well. Ask these questions:

• What role do marginalization and exclusion play in creating, driving and escalating conflict?
• What role do ongoing and past conflicts play in creating, driving and escalating conflict?

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managers and groups that manage ecosystems for availability of or access to aquatic resources. Differences between user and management groups are important in understanding interests and behaviors. Note, however, that sometimes a management group is also a user group.

Among these actors, three sets of conflict constellations are most common:

1. Between different user groups; e.g., farmers and fishers using the same water resource for irrigation and fishing
2. Between user and management groups; e.g., the government restricting community access to a protected fish sanctuary
3. Between different management groups; e.g., different government authorities competing over regulatory authority

To analyze actors, their relationships and the conflict constellations, refer to the analysis tools in the toolkit, especially the Stakeholder Conflict Mapping tool.

From competition to violent conflict
Research on local water conflicts shows that competition can lead to an escalation of conflict, including violence, if unequal access affects already marginalized groups. Three sets of factors play an important role:

1. Aquatic resource management institutions
2. Environmental and human impacts
3. Climate change

In reality, these sets of factors often interact, but separating them can help during the analysis (see Figure 5).

Aquatic resource management institutions. The first set of factors deals with how conflicts arise over the management of aquatic resources. The analysis should include all institutions that play a role in controlling access to and managing aquatic resources. These can be government institutions, local traditional authorities, or private companies that have obtained licenses to manage certain resources. It is important to analyze why some groups are favored and some are excluded. Corruption and weak institutional capacity can aggravate problems of economic or political marginalization by giving more powerful groups the ability to influence or bypass management institutions. If aquatic resource management institutions are lacking or deficient, the result is often the overuse of resources, inequities in access and ongoing disputes (see Box 3).

Variables influencing access to and/or availability of aquatic resources

← **Marginalization** →

Aquatic resource management	Environmental and human impacts	Climate change
• Government institutions • Local and traditional authorities • Private companies	• Population growth • Economic development • Urbanization	• Threat multiplier • Measures of adaptation and mitigation

↓

Unequal or privileged access to and/or availability of aquatic resources

↓

Conflict (potential)

Escalation chain

Protests (verbal) → Confrontation (riots) → Violent escalation

↑

Conflict factors
(beyond the resource)
• Broader marginalization
• Past and ongoing conflict
• International or transboundary impacts

Figure 5. Analyzing aquatic resource conflicts

Environmental and human impacts. The second category deals with how conflicts arise due to negative impacts on aquatic resources (see Box 4). Driven by population growth, economic development and urbanization, humans impact aquatic resources negatively through pollution or overuse. This also impacts ecosystems that perform important services, such as flooded forests that serve as spawning grounds. Factors such as ownership of land and water or concessions over fishing grounds often play an important role, since they may give one group control over aquatic resources in a way that restricts access for another user group. Also, governance institutions and policies can be decisive. These can be very obvious, such as concession systems that disadvantage certain user groups, or more indirect, such as subsidies for industrial fishing fleets. Note that it is important to understand the socio-economic trends such as population growth, as well as the micro-level behaviors such as overuse and pollution.

Climate change. From a security perspective, climate change is often understood as a threat multiplier. This means that it can increase conflict potential by putting additional stress on a crisis or fragile situation.[25] It is not enough to simply understand the impacts climate change will have on aquatic resources, but also why certain groups are more vulnerable — for example, because they have to settle in marginal areas — or more resilient — for example, because they have more financial means or alternative livelihood options.[26] Also, climate adaptation and mitigation actions should be taken into account, since they might lead to new conflicts. Examples are construction of dams or designation of new conservation areas to sequester carbon emissions.

Box 6. Policy reform and the emergence of new conflicts around the Tonle Sap Lake, Cambodia[22]

The Tonle Sap Lake is Southeast Asia's largest freshwater lake and the source of livelihoods for about 4 million people. Conflicts over fishery resources contributed to a wave of policy reform in Cambodia in 2000–2001. These reforms, launched by the prime minister, reallocated some commercial fishing lots for local and community use. Increasing tensions and civil society mobilization contributed to a second wave of reform in 2011–2012.[23] This second wave completed a major shift from commercial concessions to community-based management, as well as expanding conservation.

Yet, these changes brought major new challenges and conflicts to manage. New regulation on allowable gear was introduced with minimal community consultation, causing resentment from local fishers. Likewise, reallocation of fishery zones was done quickly and without community involvement. In an effort to demonstrate compliance with the reform initiative, authorities cracked down on illegal fishing.

In the wake of hurried implementation, unequal access intensified in some areas. Many poor, small-scale fishers had their gear destroyed and had to shift their livelihood activities. At least in the period immediately following the reforms, the intended beneficiaries of the new regulations — poor and marginalized small-scale fishers — failed to capture benefits as effectively as more powerful and economically better-off actors, who could purchase gear to take advantage of the expanded access to fishery resources, or who could circumvent the new regulations and profit from the unsettled situation.

This case demonstrates how local institutions for resource management affect users' access to the resource. It also shows how additional factors related to the governance context and conditions of marginalization influence the distribution of benefits, and in turn affect people's sense of discontent.

Small-scale fisher on the Tonle Sap Lake.

Fishers at landing site, Lake Victoria.

Box 7. Human-induced ecological change in Lake Victoria[24]

Around Lake Victoria, fish processing companies are the major exporters of a resource worth $250 million a year to the countries around the lake: Uganda, Kenya and Tanzania. Nile perch, one of the most important export species, was introduced for commercial fishing purposes into the ecosystem, in which it thrived. It displaced other fish species and changed the economics of fisheries around Lake Victoria. Today, exporting companies supply fish to the higher-paying European market and have significant influence on the fisheries policies of governments in the region. At the same time, they are able to impose low prices on fishers in areas where there are no cold storage facilities and unsold fish spoils within the day. Artisanal fishers mainly supply local and regional markets, where they are able to sell the undersized fish that are rejected by the European market.

Although many fishers complain that they are chasing fewer fish in an increasingly crowded lake, many young men from fishing villages are going into fishing, since they lack other livelihood options. Competition over scarce fish leads fishers to catch immature fish using banned equipment. Legal fishing equipment is expensive and often stolen, causing conflict between fishers. Fishers, beach management units and fisheries extension officers also clash over enforcement of restricted fishing zones and over use of illegal fishing gear, and fishers regularly accuse fisheries officers of corruption. This context highlights the links between human-environment interactions and conflict.

A conflict analysis should also take conflict factors beyond the resource into account, including the governance context,[27] broader marginalization and human rights,[28] past and ongoing conflicts, and international or transboundary impacts.

To analyze the conflict factors, refer to the analysis tools in the toolkit, especially the Problem Tree and Resource Mapping tools. The Time Line can be used to better understand the dynamics of a conflict and uncover past or hidden conflicts underlying the present conflict.

Box 8. Understanding conflict: How systems thinking can help

Systems theory or systems thinking can help in understanding the complexities and dynamics of conflicts. While a thorough introduction to systemic conflict analysis is beyond the scope of this document, there are certain aspects that help in understanding the nonlinear ways conflicts develop and identifying entry points for conflict prevention and transformation:

Understand the boundaries: It is important to understand the key factors, issues and actors of a conflict ("the system") and how they interact with factors beyond it ("the environment"). For example, global trade and climate change might have an influence on the conflict but are not part of the conflict system itself. A helpful way of understanding how the system and the environment interact is by looking from a "frog's-eye view" to a "bird's-eye view" and understanding how these two perspectives interrelate.

Take into account network dynamics: Feedback loops often play an important role in escalating or de-escalating conflicts and defy linear cause-and-effect relationships. Conflicts normally consist of several feedback loops that escalate and deepen the conflict as it develops.
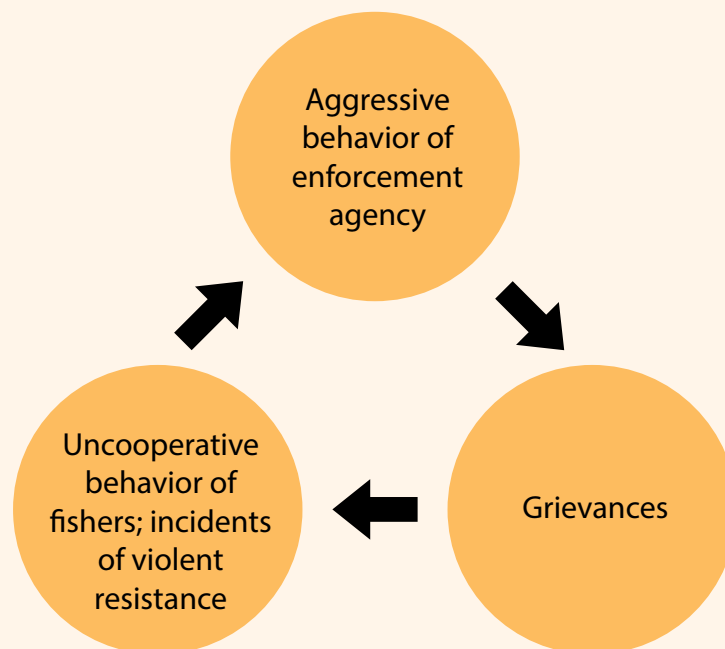
Figure 6. Example of a negative feedback loop

In a typical negative feedback loop, negative or aggressive behavior by one actor creates grievances in the affected group. This leads to uncooperative behavior, which feeds even more aggression (see Figure 6). In this situation, it is often helpful to bring the different groups together to foster understanding of this dynamic. A circle of improved communication and understanding can serve as a positive feedback loop to decrease the potential for conflict.

Identify key leverage points: Leverage points describe parts of a system that can be used to change its dynamics. In order to transform conflicts, reinforcing negative patterns have to be changed and reinforcing positive patterns fostered.

Now that we have an initial understanding of the dynamics of a given resource conflict, how do we approach and manage such conflict? Alternative conflict management brings stakeholders together to collaboratively find solutions that create gains for everybody. This section, which is most useful in phase 2 of the CORE process, presents the basics and principles of this approach. However, professional assistance from an experienced facilitator or mediator is strongly recommended when tackling conflicts, especially if violence has been involved.

Conflict management and natural resource management

We use the term "conflict management" instead of "conflict resolution" because providing ultimate resolution to a conflict is often beyond the power of the actors involved, or not feasible given continuing changes that need to be addressed over time, such as changing global trade policies.[29] Working toward fundamental change is also important but may require longer time periods and engaging actors at other scales. The broader concept of "conflict transformation" emphasizes transforming the relationships that support violence and conflict, along with the system in which these relationships are embedded.

Conflict management can be part of conflict transformation. Conflict management tries to maximize the positive and minimize the negative effects of a conflict. It is "the practice of identifying and handling conflicts in a sensible, fair and efficient manner that prevents them from escalating out of control and becoming violent."[30] Compared with conflict resolution, which concentrates on solving an already existing conflict, conflict management also tries to prevent conflict.[31] This can be summarized in terms of three goals:

1. Identify latent conflict potential and prevent it from turning into conflict
2. Prevent existing conflict from escalating
3. Manage conflict in a way that promotes positive social change[32]

Conflict management can help prevent, solve, transform or mitigate natural resource conflicts. Managing conflict and fostering cooperation as part of natural resource management can be proactively used to solve or transform other conflicts. For example, natural resource management is increasingly used in post-conflict countries to bring former enemies together and build peace. The shared problem of water scarcity in the arid regions of Palestine, Jordan and Israel, for example, was used as a starting point for dialogue and cooperation by the Good Water Neighbors project, which encouraged cross-border collaboration among communities to establish sustainable water management systems.[33]

Alternative conflict management approaches can be used as part of the legal system or along with customary or traditional conflict management mechanisms. They can also be used independently; for example, as part of a process initiated by an NGO. These alternative approaches are based on shared decision-making and try to include all affected stakeholders and groups. As such, they empower communities and build capacities for sustainable natural resource management. The goal is to reach a mutually acceptable agreement that creates long-term gains for all stakeholders.

Elements of alternative conflict management

This section gives an overview of elements of alternative conflict management. Although in practice the categories cannot always be separated as clearly as described here, distinguishing them theoretically highlights when and how to use these approaches, as well as how to identify the need for external support by third parties,[35] including conflict management specialists.

Conciliation

Sometimes a conflict has already reached a state in which the parties are not willing to enter a conflict management process. This can be especially problematic in the case of alternative conflict management, which needs considerable goodwill by all stakeholders to be successful. In this case, conciliation approaches can be applied: A third party communicates separately with each party to reduce tensions, build confidence and create an acceptable process for conflict management.[36] Conciliation

Strengths	Limitations
Building on shared interests	Can be manipulated or may not be able to overcome power differences
Participatory approach	May be difficult to include all stakeholders
Fostering ownership	Sometimes practitioners try to use methods that are not adapted to local contexts
Capacity building	Not legally binding

Table 1. Strengths and limitations of alternative conflict management.[34]

Element	Conditions		Level of third-party engagement
Conciliation	Stakeholders are not yet willing to meet in dialogue; third-party intervention is needed to create the preconditions for alternative conflict management.		Very high: The third party provides its own views or additional information.
Negotiation and consensus building (most important for CORE process)	**Unfacilitated**	Stakeholders are willing to discuss their interests, confident about their negotiation skills and ready to work toward a common gain.	Low: The third party helps with logistics and some procedural elements.
	Facilitated	A large number of stakeholders are present, a majority of which are willing to participate in a conflict management process. Not all stakeholders feel confident about their negotiation skills. Facilitator has to be perceived by everybody as helping to ensure a fair process.	High: The third party provides logistic and procedural support and facilitation.
Mediation	Stakeholders are willing to discuss their interests, but need a great deal of support to engage in working toward mutual gain. Not all stakeholders feel confident about their negotiation skills, and there are substantive authority and power differences. All stakeholders agree that a third-party mediator will help to ensure a fair process.		Very high: The third party provides logistic and procedural support and facilitation, as well as its own views and ideas.

Table 2. Elements of alternative conflict management.

can also help to identify negotiation incentives to bring stakeholders into the process. One very powerful incentive can be external actors that have influence to persuade stakeholders to participate. This role can be played by the facilitator or mediator or by an external actor such as an important national figure or celebrity.

Negotiation and consensus building

Negotiation is the most common form of conflict management. In a negotiation process, all stakeholders voluntarily search for a solution that is both mutually acceptable and leads to reduced conflict potential.[37] In alternative conflict resolution the goal is not just to find a compromise, but to go one step further. A compromise implies that everyone gives something up but often nobody really gets what they want. In contrast, alternative conflict management is about building consensus or finding a solution that benefits all stakeholders, creating an interest in sustained collaboration. For example, getting two competing groups to jointly transport or process fish can help to reduce tensions and decrease costs for all.

Negotiation can take place with or without a facilitator, but facilitation is part of most participatory approaches. Facilitators focus on supporting the process and logistics of bringing the different participants together. If they act as moderators, they focus on improving communication between the stakeholders, focusing the discussion and ensuring an equitable exchange of views. They rarely provide their own ideas on solutions or more substantive content, except by summarizing and synthesizing the discussion. Improving communication can be done, for example, by using a Communication Agreement (see the toolkit for a description).

One key role of a facilitator is to build trust between the stakeholders. This can be done by clarifying interests and assumptions, establishing a mutually defined system of accountability, and making trust an explicit discussion topic; for example, by assessing together the consequences of breaking trust or discussing how trust can be built as part of the negotiation process. This often takes time. Sometimes local organizations such as NGOs have already built up trust and can be used as neutral facilitators, if they are not too involved in the conflict.

Mediation

Mediation is the preferred approach if stakeholders are willing to discuss their interests but need support to engage in working on a mutually beneficial solution. For example, not all stakeholders may feel confident if there are substantive authority and power differences. Accepting or seeking third-party intervention is also easier and more likely if it is sanctioned by society through formal laws or informal traditions and if interventions in the past have been seen as successful.[38]

Mediators, like facilitators, ensure that the stakeholders agree to the process and logistics. Unlike facilitators, they can have considerable influence in bringing conflicting parties to the table and actively put forward their own ideas and views.

Success factors for alternative conflict management

This section outlines factors that are decisive for successful alternative conflict management.

Willingness. For all forms of conflict management except litigation, all stakeholders must be willing to participate. Willingness can be improved if stakeholders take part in setting the agenda, deciding on the design of the process and defining its rules. To create willingness, conciliation approaches may be needed. Another powerful technique is to have participants individually assess the alternatives to a negotiated or mediated agreement. If the best alternative is less desirable, stakeholders might be more compelled to participate. (See the Best Alternative to a Negotiated Agreement tool in the toolkit.)

Shared interests. Creating a shared interest or vision can be a powerful tool to engage stakeholders with differing positions. The goal is to go beyond the immediate issue, such as access to a particular resource, to the underlying interests and needs, such as well-paid jobs and access to basic, sustainable livelihoods. These interests and needs should cover the widest range possible and be related to the impacts of the conflict or a common vision or goal. Often common interests like the preservation of crucial ecosystems or increasing peace can be overlooked when stakeholders are too focused

Box 9. Transforming assumptions and perceptions through reframing

Focusing on interests instead of positions is one form of reframing. It is a common technique used to overcome perceptions and assumptions that are acting as obstacles in the conflict management process. Reframing can be done, for example, by explaining the context of the situation or why a certain group behaves in a certain way.

For example, if a group of fishers opposes new restrictions on fishing gear, it might help to look at this problem in terms of their interests and the interests of the government agency implementing the regulation. In this case, the interest of the fishers is probably the need to sustain their livelihoods. By focusing on the problem of sustaining their livelihoods rather than on the regulation of fishing gear, other solutions might become possible. At the same time, it might be helpful for the fishers to understand that the reason for the restrictions on fishing gear is the government's interest in managing fishery resources in a more sustainable way. This perspective could move the discussion toward the broader issue of sustainable fishery management.

on inflexible negotiating positions. (See the Finding Common Ground and Visioning tools described in the toolkit.) Sometimes it can also be helpful to remind stakeholders of the costs of conflict — financial, reputation and image, or the impacts of violence.

Basic needs and rights such as identity, security, recognition or equal participation are normally non-negotiable. Conflicts arising from differing interests concerning resource use or access are normally negotiable.[39] A good tool to distinguish between the two is the Stakeholder Onion tool described in the toolkit.

Commitment to the process. Parties need to be committed to a collaborative decision-making process that is based on discussion, mutual understanding, joint learning and persuasion.[40] The higher the commitment of the stakeholders to mediation or negotiation, the greater the likelihood of a settlement.

Leveling of power differences. Power can be derived from many sources, including control of information or resources and role in decision-making processes. It can be generally defined as "the capacity to achieve outcomes."[41] Power differences have to be leveled in order to successfully negotiate a consensus. At the same time, increasing the power of marginalized or weak groups can create incentives for more powerful actors to start to negotiate.

A facilitator or mediator can help to overcome power differences by actively supporting stakeholders. For instance, the facilitator or mediator can recommend that participants who are disadvantaged because of missing information take time to collect the information or support them in the process. (See the Opening Windows tool in the toolkit.) Likewise, a facilitator can make sure that all individuals have the time and space to express their opinions. Power imbalances can also be altered by changing the physical setting, such as seating arrangements, room size or table shape.

- **Use of media**
- **Encouraging information flow**
- **Establishment of information networks**
- **Formation of political alliances**
- **Building coalitions of supportive stakeholder groups**
- **Building internal leadership within weaker groups**

Figure 7. Ways to build or equalize power[42]

Adapting to the local context. In general, customary, traditional institutions and approaches should be integrated into conflict management as much as possible. It is also important that facilitators and mediators are familiar with the cultural context, since communication — including threats and intimidation, which must be contained if the process is to succeed — can be very subtle and culturally specific.

Capacities. All stakeholders have to be able to participate effectively in the conflict management process. Needed capacities cover a wide spectrum:[43]

- Access to and the ability to understand information
- Group leadership and decision-making mechanisms
- Organizational planning and management skills
- Communication and negotiation skills
- Communication systems within the group and with networks of supporting partners
- Problem-solving and analytical skills
- Self-confidence
- Availability of time
- Financial resources
- Transportation
- Technical knowledge of relevant issues

Awareness of limiting factors. The local influence of gender, class, age or other factors may restrict the presence of individuals or groups. For example, in a situation in which many of the fishers are from traditional religious cultures in which unrelated women and men are not allowed to mingle, a single meeting called to address community goals is likely to exclude women, even if they also engage in fishing or processing. In addition, seasonal factors such as labor patterns or monetary issues can also have an impact on people's willingness or ability to take part in the conflict management process. Participatory processes should avoid these biases and ensure that the full range of stakeholders is involved in the process and able to participate with equal voice.[44]

Timing can also be a limiting factor: As the level of conflict increases, the probability of settlement decreases. However, mediation can be less effective early in the conflict when the disputants have not yet experienced the full costs of the conflict.

Monitoring and evaluation are a decisive part of any participatory process and development initiative. They are the feedback loops that provide information on how to adjust and improve actions. This section focuses on participatory learning, monitoring and evaluation as part of a collaborative process.[45] The approach puts the stakeholders themselves at the center. By creating ownership and utilizing stakeholders' knowledge, this approach promises better-adapted solutions. At the same time, putting the emphasis on stakeholder learning can create more institutionalized and sustainable solutions.

Monitoring and evaluation are not just about measuring final results.[46] Conflict management is part of a complex change process, and evaluation and monitoring should help facilitators and stakeholders to learn from past mistakes and successes in order to improve. The focus here is on how to monitor the outcomes and impacts of an initiative, rather than how to monitor implementation issues such as staffing, budgeting, planning activities and setting objectives.

Challenges of evaluating and monitoring peacebuilding, conflict management and conflict prevention

How do you measure peace? How do you measure trust? These simple questions point to the complexities and challenges of evaluating and monitoring peacebuilding, conflict management and conflict prevention. The challenges begin with defining peace and continue with the difficulty of measuring social phenomena that are inherently hard to quantify objectively, such as trust, relationships and institutions.[47]

In addition, a number of technical and systemic challenges arise:[48]

- **Time frames**: Managing and transforming conflict is a long-term process. It takes time to build relationships and trust; sometimes change takes place over decades and generations rather than within tight project time lines.

- **Levels**: Conflict management and prevention normally involve actors and activities at various levels, from local to global. This makes it difficult to attribute. progress to one particular process or project

- **External factors**: Conflict, especially when deeply rooted and with a history of violence, can easily and unpredictably escalate into renewed violence, destroying the progress achieved by an initiative. The trigger factors for this violence, such as political or social events, are often outside the sphere of influence of the initiative.

There has been a lot of activity and learning in the fields of peacebuilding, conflict management and conflict prevention over the last 20 years. The following guidance summarizes lessons on how to deal with the challenges above and outlines specific, tested methodologies to evaluate and monitor conflict management and prevention.

What to monitor and evaluate?[51]

The first challenge to overcome is deciding what to measure and evaluate. What could tell you that your initiative or process is working? Here are some important first steps.

Make your theory of change explicit. Although it sounds like an abstract concept, a theory of change simply refers to "assumptions about how something works, or a prediction of what will happen as a result of an action"[52] — in other words, why you think your initiative will lead to its intended outcomes and impacts. Making this explicit will enable you to effectively learn from experiences and communicate what you have learned. Describe your assumptions and how things relate; for example, why building a community's negotiation skills will help to manage conflict, how collaborative patrolling of fishery grounds will create trust, or how joint workshops will lead to better communication between actors and what that means in terms of conflict prevention.

Box 10. Planning a participatory monitoring and evaluation effort[49]

The decisive element of participatory monitoring is its emphasis on who measures changes and who benefits from learning about these changes.[50] Participatory monitoring and evaluation actively engages stakeholders in all parts of the process, which is highly flexible and adaptive to local contexts. Also, involving stakeholders beyond data gathering builds their decision-making and problem-solving capacities. The steps below outline a participatory monitoring and evaluation effort.

Step 1: Together, review the initiative, project or activity. The goal is to clearly define immediate and long-term goals, as well as specific activities and interventions. If you have documents from an assessment and planning workshop that defined goals and activities, use them as the starting point.

Step 2: Discuss the reasons for monitoring and evaluation. Ask: Why are we conducting monitoring and evaluation? What do we expect from the initiative's impact? What do we want to learn during the process? Who will use the information generated and for what? It is important to clearly define the end users to avoid creating a system that collects irrelevant or excessive amounts of data.

Step 3: Develop monitoring and evaluation questions based on the goals and activities. Different subgroups can work on different questions. Note that these evaluation questions are not interview questions to be used during data collection. These questions should reflect your theory of change.

Step 4: Decide who will implement the monitoring and evaluation. Often the process is driven by a representative committee whose members have volunteered or been elected by the whole group. It is important to make sure that the committee is responsive and accountable to its constituents. Monitoring, especially in regard to natural resource management, often involves the beneficiaries such as farmers or fishers. Make sure that monitoring activities can be included in daily activities.

Step 5: Identify and develop indicators based on the questions developed in step 3. Take into account the assessments that were done at the beginning of the process. They can both serve as a baseline and as tools to apply at later stages. For example, if a resource mapping was done, it can be repeated at regular intervals to identify changes. One method can also be used to obtain data for more than one indicator. At this stage, local knowledge and perceptions can make a big difference. For example, a good indicator for standard of living might not be income but the kind of work someone is doing (e.g., self-employed vs. laborer). Here are some guiding questions:

- What do we want to know?
- What information do we need to be able to assess changes?
- What is the best and most accurate information?
- Is this information available and accessible?
- What is our baseline data? (It is inherently complex to determine a comprehensive baseline in a participatory process, since it starts with listening and dialogue rather than explicit direction and goals. This makes it hard to collect the right information at the start. Accordingly, baselines have to be broad and augmented with data as the process takes more concrete shape; this is called a rolling baseline.)
- How often do we want to obtain the information?
- What method or tool do we want to use?

Step 6: Identify necessary capacities, skills and resources. Determine which of these are readily available or could be developed within the stakeholder groups. Manage expectations: If the project does not have resources to spend on capacity building, make that clear from the beginning.

Step 7: Develop an overall plan for the implementation, including timing and responsibilities. Address appropriate frequency, especially if stakeholders with clashing schedules are involved.

Participatory monitoring and evaluation plans often underestimate the time and resources needed to build skills and negotiate interests. It is often better to start with a simple system that can be expanded as the process develops and skills are built. It is also important for facilitators from the government, development agencies or NGOs to find the right role. Participatory monitoring and evaluation means that facilitators should not impose their ideas of useful indicators or methods. Instead, concentrate on providing technical support and training where necessary, maintaining quality control, and making sure that the process is inclusive and involves a broad range of stakeholders.

Constantly question yourself and others. Why do you think this process works? How did you design it in order to achieve what you hope for? It is important that you dig deeper than the first reason stated. Identify cause-and-effect relationships of ou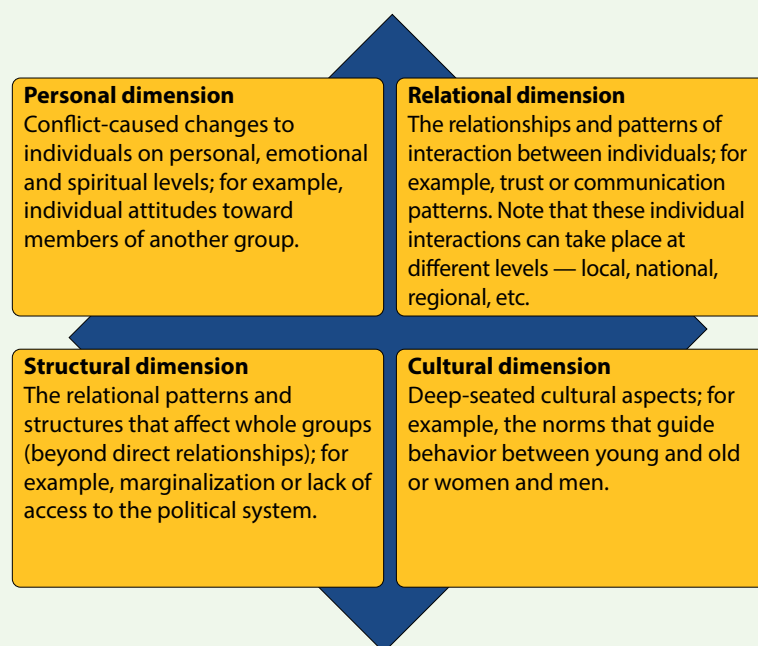tputs, outcomes and impacts.[53] Be aware that these causal relationships are often nonlinear. Social systems include feedback loops and complex patterns of behavior, and the wider context needs to be taken into account. Remember, "a theory is not The Truth, just a guess about how things work that needs to be tested."[54]

Box 11. Theory of change: Links with assessment and planning

A clearly spelled out theory of change should link assessment and planning. The initial stakeholder and conflict analysis identifies the types of changes needed to solve the issues. Based on this analysis, assumptions are made as to how certain activities will achieve these changes. Identifying these assumptions and taking them as a starting point to define a theory of change can be helpful.

For example, during the stakeholder analysis, different actors and their interests are analyzed. The initiative and its actions will accordingly be based on assumptions about how they will influence these actors and their interests. The theory of change should be made explicit during planning to increase coherence and effectiveness. If it is not explicitly stated, this theory can get lost in the details of outputs, intermediate results and objectives.

Consider the four dimensions of conflict. A starting point for monitoring and evaluation is the actions and activities — the outputs of the initiative — and their intended and actual outcomes and impacts. Insights from peacebuilding theory can help to clearly define these. Conflict transformation or peacebuilding theory often divides conflicts into four interrelated dimensions.[55] While change in the personal and relational dimensions happens on the individual, interpersonal and community levels, change in the structural and cultural dimensions happens through processes that impact institutions and wider political, social and economic structures and patterns. Conflict management as part of natural resource management often begins with the first two dimensions, especially if the initiative is focused on the local level. Nevertheless, if initiatives try to link different governance levels and improve the access and voice of communities or groups in political institutions and processes, they can impact all four dimensions over the long term. But this also means that it is very important to clearly define on what level or levels the initiative intends to create change; for example, is it assumed that local change will lead to changes on the structural and cultural levels?

Personal dimension
Conflict-caused changes to individuals on personal, emotional and spiritual levels; for example, individual attitudes toward members of another group.

Relational dimension
The relationships and patterns of interaction between individuals; for example, trust or communication patterns. Note that these individual interactions can take place at different levels — local, national, regional, etc.

Structural dimension
The relational patterns and structures that affect whole groups (beyond direct relationships); for example, marginalization or lack of access to the political system.

Cultural dimension
Deep-seated cultural aspects; for example, the norms that guide behavior between young and old or women and men.

Figure 8. Dimensions of conflict transformation

Box 12. Assessing change in the personal and relational dimensions of resource conflict

For most local resource management initiatives, longer-term outcomes affecting the structural or cultural dimensions of conflict are difficult to trace, as there are usually multiple sources of change. Change in the personal and relational dimensions is easier to observe and typically comes first. Questions to ask when evaluating changes in these two dimensions are explained in more detail below.

Personal dimension

On the individual level, change happens in two main areas that are often linked: attitudes and behaviors. Individuals can change the way they think about others or an issue. These attitudes often express themselves in certain behaviors — the way individuals act and interact. For conflict management, it is important to understand which attitudes and behaviors contribute to destructive conflict patterns. Participatory processes provide opportunities for individuals to change the way they think about one another and to learn new behaviors.

Based on this understanding, you can start to answer the following questions:

- Which attitudes or behaviors do you want to specifically target with your initiative or action?
- If this attitude or behavior changes, what difference will it make in regard to the conflict?

Relational dimension

People create relationship patterns as they interact in their everyday settings, such as families, schools, work, neighborhoods and communities, or in special settings, such as meetings of local and national leaders. When looking at the way individuals interact in these settings and how this influences conflict patterns, certain relations are especially important:

- **Communication patterns**: What capacity do people and groups have to express themselves without fear or restriction? How are they able to do it? Are they able to listen to each other and hear others' concerns without judgment?
- **Level of cooperation**: How are people and groups working together to achieve common goals? Or do they see themselves as being caught in a zero-sum game?
- **Inclusiveness of decision-making processes**: How are people and groups represented and do they have the same voice? How is information distributed between different people and groups?
- **Conflict management mechanisms**: How are conflicts managed? Are there established mechanisms or institutions?

This dimension is the most relevant when it comes to conflict management as part of natural resource management, since this kind of conflict management normally intends to transform all the relations outlined above. Accordingly, it is important to clarify the following questions:

- How does my initiative intend to improve communication patterns, cooperation, decision-making processes and conflict management processes?
- How and why will this change conflict patterns?

How to monitor and evaluate?

After clearly defining your theory of change, design a monitoring and evaluation system that lets you answer the question: How will you know that your expected outcomes and impacts were achieved? In other words, how will you know the process worked the way you intended it to work?

Clearly define your process and outcomes. The more clearly you identify your goals and methods, the better you will be able to measure them.

Box 13. How to design an indicator?

An indicator should include certain basic components to pass the test of reliability, feasibility and utility. The following examples highlight the most important of these.

		Example 1	Example 2
	Indicator components	Increase in information exchange between fisheries officials and local community through regular attendance of officials at village meetings from year 1 to year 2	Establishing joint transport of fish products by two competing groups to the local market in order to reduce costs from year 1 to year 2
Targeted	1. What is going to be measured? What is going to change?	Participation and engagement of local fisheries officials in village meetings	Joint transport of fish products
Targeted	2. Target populations	Local villagers; fisheries officials	Two local fishers' groups
Measurable	3. Unit of measurement to be used to describe the change	Number of meetings with officials participating; number of contributions to the discussion	Amount of fish transported together
Measurable	4. Pre-initiative status or state (baseline)	From zero	From zero
Measurable	5. Size, magnitude or dimension of the intended change	To 50 percent of all village meetings	To at least 50 percent of all fish transported together
Measurable	6. Quality or standard of the change to be achieved	Participation in the meeting; qualitative contribution (answering questions or committing something)	Fish is transported by members of both groups together or groups take turns transporting the fish from both groups
Measurable	7. Time frame	One year	One year

Note that the indicator needs to be **reliable**: the quality of the information is credible, the assumptions are clearly stated, and the connection between the indicator and what you are trying to prove is direct. It also has to be **feasible**: the means of verification are doable and you can obtain the needed information.[56]

Consider different time frames. Consider immediate changes before and after a workshop, as well as longer-term changes, such as after one and three years. Make sure that you dig deeply, going beyond the outputs of your initiative. For example, just because a workshop has taken place — your output — does not mean that the goal of building trust — your outcome — has been achieved.

Develop indicators that signal change. Your indicators need to reflect the reality that social phenomena are always deeply embedded in the local context. For example, expressions of trust often differ widely between different cultures. Find the specific signs that have meaning in your context and critically ask yourself how to measure them.

Establish a baseline. This baseline should be specifically related to what you want to measure. For example, in order to know if trust has increased, you will have to know what level of trust existed before. If you assume that trust will lead to less violence, you will have to know how much violence existed before. And if you assume that increased contact during the workshop will build trust, you will have to know how much contact there was before.

Look at the whole system. Make sure that the change you are measuring is actually related to your actions by looking at the context and any intervening variables. Monitor the impact of the context on your activities and outcomes. Also, identify risks and windows of opportunity, such as political developments or actors that lie outside the sphere of influence of the initiative. For example, a national political crisis that leads to large-scale upheaval has the potential to affect your initiative's activities.

Approaches, methods and lenses

In order to test your theory of change, track your process and measure your outcomes in complex contexts, you will have to use a variety of approaches. Your monitoring system should be flexible enough to accommodate diverse information, from stories to quantitative data. This section will introduce some of the most common data collection methods and then briefly describe a number of tested approaches to measure change in the personal and relational dimensions of conflict.

Data collection methods[57]
The following tables give an overview of the most commonly used methods in data collection, as well as their strengths and weaknesses. It is important to take the weaknesses of these methods seriously. In particular, data collection through methods such as interviews, focus groups and questionnaires can prove to be very difficult; if not designed well, they can lead to biased results.

Direct observation	
Observing and recording specific actions in a target community. The focus is on possible changes in people's daily behavior that might be related to expected outcomes of an initiative.	
Strengths	**Weaknesses**
• Provides primary data • Avoids subjective opinions of participants • Focused observation of event • Records needs, issues or results • Quantitative data collection	• Potential biases through observer's subjectivity • No answers provided for "why" and "how" • No interactivity • Presence of the observer may influence behaviors

Interviews
One-on-one contact with stakeholders either in person or by telephone. This can either be formally structured, using strict interview protocol, or semi-structured, using a flexible interview guide.

Strengths	Weaknesses
• Provides information directly from stakeholders • Can uncover new issues not anticipated during planning • Inexpensive and simple to conduct	• No quantitative data gathered • Danger of biasing through selection of informants • Interviewer biases

Focus groups
Small-group conversations that aim to better understand how people feel or think about initiative-relevant issues. Such groups are a compromise between participant observation and more in-depth interviews.

Strengths	Weaknesses
• Quick and cheap • Flexible format: good monitoring of interactions among participants • Group format provides balanced impression of the initiative	• Difficult to manage multiple opinions • Discussion can be side-tracked or dominated by a few participants; individuals may not feel comfortable to dissent • No quantitative results

Participant diaries
Narrative descriptions of a personal experience. Participant diaries should be structured so that individuals take note of specific attitudes, events and behaviors that they have experienced in the allocated time frame.

Strengths	Weaknesses
• Empowers participants • Gathers information from individuals who would not participate in standardized methods • Good reflection of the participants' standpoints • Helps to get first-hand information from witnesses • Reflects the role of values and perceptions of participants	• High effort needed to analyze the written statements • Subjective • Time consuming for both evaluator and participant

Questionnaire

A set of specific, targeted questions to which stakeholders respond in writing. This is probably one of the most common methods used to collect data for a project evaluation.

Strengths	Weaknesses
• Provides base for quantitative analyses • Quick and cheap • Shorter than surveys, requiring less training of facilitators • Samples are generally based on quotas of a distinct population being surveyed	• No generalization due to relatively small target group • Danger of sampling bias • Difficult to design

Secondary data review

An examination of existing data. This type of review often precedes data collection with stakeholders; sources include academic theses, annual reports, and independent studies by NGOs or researchers.

Strengths	Weaknesses
• Quick and cheap • Provides a first idea of the problem • Good way to avoid misleading program targets • Can save time since the facilitator does not need to collect the data	• Often no new insights are created • Only useful in an early stage of an initiative • Data may be flawed • Data unlikely to be fully compatible

Survey

A sequence of focused, targeted questions posed to stakeholders in a fixed order by a surveyor.

Strengths	Weaknesses
• Allows the collection of huge quantities of data • Links well with quantitative evaluation	• Time consuming in preparation and evaluation • Expensive due to high personal demand

Storytelling	
A qualitative evaluation method to gain a deeper understanding of an individual's experience, perceptions and interpretation of change.	
Strengths	**Weaknesses**
• Empowers participants who usually do not have a voice in the group • Gathers information from individuals who would not participate in standardized methods • Good reflection of the participants' standpoints • Helps to get first-hand information from witnesses • Reflects the role of values and perceptions of participants	• High effort needed to record and analyze the stories • Subjective • Time consuming • Incomplete information, as a vulnerable individual may tell the story that she or he thinks the interviewer wants to hear • Stories may have little relevance for program objectives

Photos, videos and new media	
The use of photos, videos and other forms of new media. These may generate new insights on an initiative's impact on the community.	
Strengths	**Weaknesses**
• New ways of gathering and analyzing information • Well-prepared media products present conclusions and recommendations in a compact way • Ability to document changes through a media sequence at different stages of the process • Captures how people see and interpret what has happened in their community • Good way to show an initiative's results to third parties	• Potentially high acquisition costs • Time-consuming analysis • Can be one-dimensional information that does not explain "how" or "why" • Technical know-how needed

Approaches and tools

The information gathered through participatory monitoring and evaluation exercises is a prime source of learning about what new factors need to be addressed, how to adapt to make the effort more successful, and what additional groups may need to be engaged. Where it is important to establish additional outcome measures for the purpose of reporting to other groups such as funding agencies or sponsors, a number of established approaches and tools are available to evaluate changes in attitudes and social phenomena.

Attitude-change measurement

In order to measure changes in attitudes toward and perceptions of fisheries conflicts before and after a communication intervention in India, Bangladesh and Cambodia, WorldFish used attitude surveys. These were based on a standardized set of questions that were used for questionnaires, face-to-face interviews, focus groups and stakeholder workshops. Questions were mainly focused on the conflict and its causes, as well as obstacles to and factors supporting conflict management. Respondents had to rate their agreement or disagreement with

statements such as "Powerful groups will always be able to win their conflicts with less powerful groups of fishers." This was done with the same groups before and after a communication intervention, which allowed the analysis of mean differences between the responses.[58]

Social capital, communication and social network assessment

Social capital refers to the social trust, norms and networks that link people or groups and that facilitate coordination and cooperation. This concept has been used in many innovative ways to measure social phenomena such as social cohesion, trust and cooperation. Here is a selection of tested tools for a baseline survey and to monitor change in social capital:

- The **Cognitive Social Capital Assessment Tool** tries to measure people's perception of the trustworthiness of other people and key institutions, as well as norms of cooperation and reciprocity. It covers dimensions of social capital such as trust, membership in groups and associations, collective action and cooperation, exclusion, sociability, and participation in political processes.[59]

- The **Social Capital Assessment Tool** was developed to collect social capital data at the household, community and organizational level. It is very comprehensive and includes guidance for interviews, as well as questionnaires for assessing different dimensions of social capital on various levels.[60]

- The **Social Capital Integrated Questionnaire** is a household survey measuring social capital along six dimensions: groups and networks, trust and solidarity, collective action and cooperation, information and communication, social cohesion and inclusion, and empowerment and political action.[61]

- The **Capacity Enhancement Needs Assessment** was developed to evaluate existing capacities in communities and local government. It is especially good at identifying the existing level of capacity among marginalized groups, as well as the structural barriers excluding these groups from social, economic and political spheres and institutions. It is a very comprehensive tool that uses a variety of data collection methods.[62]

- **Communication for Social Change** is a comprehensive and powerful integrated model to measure a communication process and its outcomes. It is focused on community dialogue and collective action and can provide starting points for developing monitoring and evaluation systems and indicators for communication patterns.[63]

- **Social Network Analysis** is used to understand the complex systems of individuals, groups and their relationships. It can be used to approximate social cohesion or measure relatedness of individuals, organizations or groups, as well as to track information flows and identify bottlenecks or important connectors. Often network diagrams or matrices are used to describe actors and their connections. To do more sophisticated analysis, data is entered into computers, and special software can be used to measure network cohesion or identify important connectors within a network.[64]

CONCLUSION

Competition around natural resources is increasing at local and global levels. Although the link between competition and conflict is not linear, research on conflict and violence has shown that there are certain factors that increase the potential for competition to turn into conflict, and for conflict to escalate into violence. Marginalization or exclusion of certain groups in natural resource management and governance is as crucial as factors such as a history of conflict. Understanding the conflict and its actors, drivers and dynamics is the first important step in managing, resolving or transforming any conflict.

Conflict management tries to break the cycle of conflict. The experiences and lessons learned during the past two decades in the fields of peacebuilding and conflict prevention have led to a wealth of knowledge and approaches that can be used to manage conflicts in peaceful ways.[65] Alternative, participatory conflict management processes such as CORE play an important role. These approaches try to find solutions that produce gains for all stakeholders, creating more stable cooperation.

This handbook has sought to provide background knowledge and guidance for integrating conflict management into natural resource management, with a focus on aquatic resource management. The accompanying toolkit provides tools and exercises to put the concepts into practice. The tools are meant to be used during any participatory process that is aimed at managing conflicts to support sustainable and equitable resource management. Each tool is described in detail, including step-by-step instructions and suggestions for further reading. Our hope is that practitioners will apply and adapt these in a range of contexts and share their experiences[66] in order to continue to build this domain of practice.
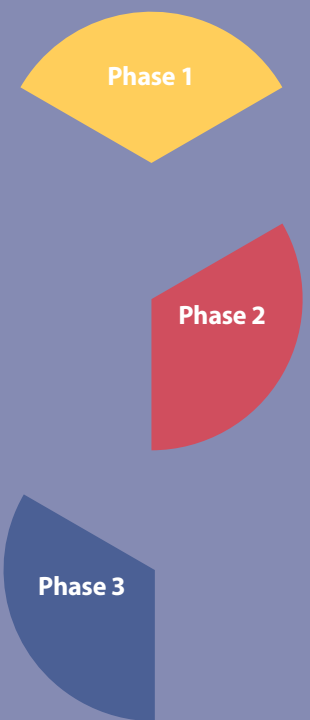
Toolkit: Putting theory into practice

This toolkit provides practical exercises and tools that can be used as part of a participatory process that aims at managing conflict or natural resources. The theory and concepts behind these exercises are explained in Sections 1 to 3 of the preceding handbook.

These tools are meant to support the CORE process as it is outlined in the practitioner's guide.[67] Like in a real-life toolbox, many of the tools can be used for more than one thing and at multiple points during the process. The tools are structured along four main categories by what they do best: analytical tools aimed at assessing problems and conflicts and creating a common understanding; dialogue and consensus-building tools that help to foster cooperation and overcome obstacles in the process; strategy development tools that help to identify, test and design strategies and solutions; and flexible support tools that can be used during different parts of the process. The following tables describe these categories, list the tools, and explain what purpose the tools can have and in which phase of the CORE process they are most useful.

Analytical tools	
Time Line	Historical time line analysis of events.
Stakeholder Conflict Mapping	Conflict or problem analysis with a focus on actors.
Resource Mapping	Conflict or problem analysis with a focus on resources and geography.
Problem Tree	Conflict or problem analysis focusing on root causes and effects.

Analytical tools can be used by a single stakeholder group to analyze and present their perspective to others, or they can be used jointly by multiple stakeholder groups to develop a shared understanding or contrast multiple perspectives.

Phase 1
- **Mapping the context:** Identify all important stakeholders or use with the different stakeholder groups to better understand conflict from various perspectives.
- **Defining the focus of the dialogue:** Create a common understanding of the conflict or decide on a central issue.

Phase 2
- **Listening**: Foster mutual understanding of the different perceptions of the issues at hand.
- **Dialogue**: Create a common stakeholder conflict map, timeline, resource map or problem tree to openly address and discuss conflicting views and to debate potential action priorities. The same tools can be used to better understand which actors could support or oppose a certain strategy.

Phase 3
- Ideally, at least one analysis is done at the beginning of the process as a baseline for **monitoring and evaluation**. The analysis can then be repeated with the same groups at later stages of the process to monitor changes and evaluate actions.
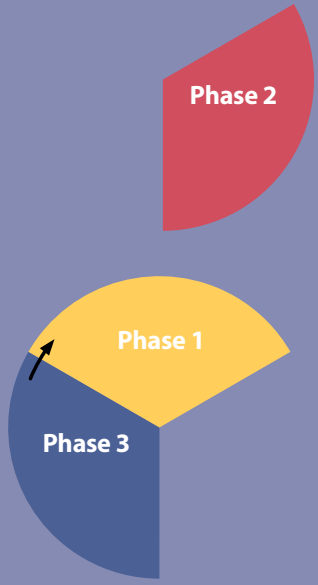
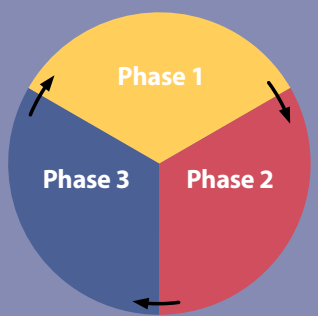## Dialogue and consensus-building tools

Communication Agreement	A common set of rules that all participants agree upon to guide and facilitate the process.
Best Alternative to a Negotiated Agreement (BATNA)	Tool to better understand the potential for collaboration and the costs of an unsuccessful process.
Opening Windows	Analysis and discussion of information flows and patterns between two parties.
Stakeholder Onion	Helps to move the discussion beyond the positions of a stakeholder group to look at broader needs and interests.
Prisoner's Dilemma	Role play to illustrate the benefits of cooperation, the role of trust and the costs of not cooperating.
Finding Common Ground	Identifies common interests.
Visioning	Creates a common vision of the future.
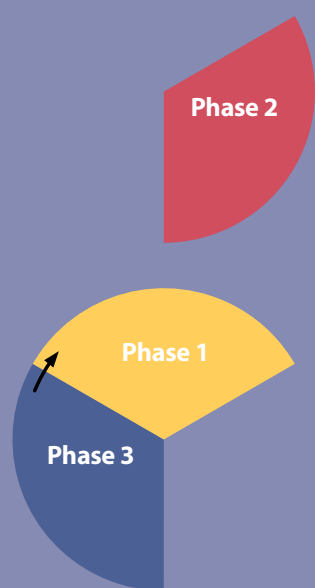
Phase 2 — These tools are primarily meant to be used to develop a shared understanding of the current situation and future potential (listening) and to debate strategies for action (dialogue).

Phase 1 / Phase 3 — They can be used at any stage of the process if the groups are unwilling to cooperate or if there are obstacles blocking the process.

Strategy development tools

Boats and Rocks	Identification of resources to solve a conflict or problem, as well as obstacles standing in the way.
Logical Framework Analysis	A complex but very powerful tool to develop a strategy and plan based on a general objective, goals, actions and indicators.
Peace Flower	A problem tree with the focus on looking at peace processes and their support structures, as well as impacts.
SWOT	An easy and efficient tool to test and analyze strategies.
Z-Tool	A tool to develop goal-oriented solutions based on a specific problem and an analysis of obstacles.

These tools are primarily meant to be used during the choice phase, in planning collaborative actions.

They can be used at any stage of the process if ideas have to be put to the test or solutions need to be developed.

Support tools

Brainstorming	Collects ideas and solutions.
Storytelling	Creates a coherent narrative.

These tools can be used in any phase of the CORE process. For example, brainstorming can be used while exploring the potential for collaboration to collect ideas of different stakeholder groups on certain issues or common purposes; in the dialogue phase, it can be used to collect perceptions of different stakeholder groups; later, it might be used to identify possible solutions for a problem that was identified during monitoring and evaluation.

Analytical tool: Time Line

Goals	• To understand a conflict by reviewing its history and the sequence of events that led up to it • To identify key events and turning points

Tool in a nutshell:

The Time Line tool depicts events in a chronological order. It can be used to better understand the history of a conflict and the conflict narrative of different groups. It also helps the parties to reflect on key events and potential turning points. It is important to facilitate the exercise in a way that ensures differing viewpoints are accepted. The goal is to create an understanding that different perspectives on the same events exist. This tool is not aimed at generating solutions.

Strengths	Limitations
Helps to understand key events and turning points Helps to understand the narratives of the conflict history from the perspectives of different stakeholders	No causes or effects are identified No solutions are developed

Step-by-step instructions:

This exercise can be done with representatives of different stakeholder groups to help participants understand each other's perceptions and identify pivotal events that are perceived differently by different stakeholders. Or time lines can be created by separate groups representing each stakeholder, then presented to and discussed with other stakeholder groups.

Step 1: Explain the exercise. Make sure to state the goals of the exercise. You can also note the goals on a flip chart.

Step 2: Create a table on a flip chart with different columns for dates and events. Ask the participants to recount events they can easily remember that were important in the development of the conflict. There is no need for the events to be in the right order at this point. If the discussion stagnates, ask the participants to review the events already mentioned and encourage them to think about events that preceded or followed them. If there is disagreement, collect the objections and try to validate them mutually. If no consensus can be reached, note down the event from different perspectives. This event might be an important turning point in the conflict.

Step 3: Copy the events from the flip chart onto Post-its and arrange them in the right sequence. Ask the participants to choose the next event out of the collection.

Step 4: Start a group discussion by focusing on key events and patterns of escalation. The goal is to better understand these escalation patterns to avoid them in the future and identify entry points for action. Here are some guiding questions:

- What are the most significant events, both positive and negative?
- Why did this event lead to escalation?
- How could the stakeholders have acted differently in order to prevent the conflict or solve the problem at this point?
- Could external inputs have prevented the conflict or helped solve the problem?

Figure 9. Analytical tool: Time Line

Guidance and lessons learned:
Sometimes it helps to structure time lines along the following levels:

- **Personal:** What are the important events or developments that brought you here?
- **Local:** What were the important events or milestones that happened on a community or national level?
- **Global:** Were there any global or international events or milestones that had a decisive impact?

Another way to add information is to highlight the increasing and decreasing intensity of the conflict over time:

- Verbal exchanges and tensions
- Confrontations like riots, damage to infrastructure and breaches of agreements
- Violent escalations

Further reading:
Swatuk, L., Mengistu, A., and Jembere, K. (2008). Conflict resolution and negotiation skills for integrated water resources management: A training manual. Pretoria: Cap-Net/UNDP. Retrieved from http://uwaterloo.academia.edu/LarrySwatuk/Papers/146037/Conflict_Resolution_and_Negotiation_Skills_for_Integrated_Water_Resources_Management

Fisher, S., Abdi, D.I., Ludin, J., Smith, R., and Williams, S. (2000). *Working with conflict: Skills and strategies for action.* London: Zed Books.

Photo Credit: WorldFish

Debating key issues following a time line exercise, Tonle Sap, Cambodia.

Analytical tool: Stakeholder Conflict Mapping

Goals	
	• To identify all stakeholders • To better understand the conflict by looking at the stakeholders and their relationships • To identify entry points for actions or solutions • To create a common understanding of the conflict

Tool in a nutshell:

A stakeholder map is a tool to better understand and analyze a conflict by visualizing the actors and relationships involved. It also helps to identify all the stakeholders that should be included in a conflict management process. When used at the beginning of an engagement process, this tool can help participants gain a common or better understanding of the conflict. The tool can also be used at later stages to identify possible entry points for conflict management or prevention strategies.

Strengths	Limitations
Helps in understanding the different stakeholders and their relationships, perceptions, interests and needs A visual tool to deal with the complexity of conflicts	Less suited to identifying the roots and causes of the conflict Can only give a snapshot of the current situation, so conflict dynamics are not visible

Step-by-step instructions:

This exercise can be done with the whole group working on one stakeholder map, or different stakeholder groups can make different maps and then present them to each other. Small groups may comprise members of one stakeholder group or a mix of stakeholders.

Step 1: Explain the exercise. Make sure to state the goals of the exercise. You can also note the goals on a flip chart. It might be useful to draw up a legend of the different cards and symbols used in the mapping.

Step 2: Through group discussion, decide on the issue, problem or conflict. Write it down as the title of the map.

Step 3: The participants start working on the map or maps. Here are some guiding questions:

- What are the main parties in the conflict? Who is impacted? Who has influence? Are there any other actors that should not be left out?
- What are the relationships between the stakeholders? Does this group or actor have any important ally or opponent? Can you further explain the nature of the relationship or issue?

For a single group, facilitate the group discussion. For multiple small groups, walk around and support the groups as needed. After the groups finish their maps, let them present their findings without discussion, then follow up with a group discussion to identify similarities and differences.

Guidance and lessons learned:

- A useful warm-up can be to ask the group why we use maps in everyday life. The goal is to show that conflict maps can be used much like everyday maps: to see from a bird's-eye perspective and to find our way toward solutions.
- Be sure to disaggregate stakeholder groups. Communities are not uniform, and different groups have different interests and needs. Women are often overlooked. Likewise, look for unexpressed needs and concerns that participants may be unaware of or are unwilling to express. Ask gentle, probing questions.
- The success of this exercise depends almost exclusively on the facilitator's capacity to moderate the discussion, to help the stakeholders organize their ideas without influencing them, and to reflect upon these ideas in a useful and clear manner.
- Do not forget to put your own organization on the map.

Elements of the map:

●● ○	All stakeholders are represented as circles. The size of the circle indicates their power and influence with regard to the issue.
——	A straight line indicates a link or a close relationship.
═══	A double line indicates an alliance.
▪▪▪▪▪	A dotted line indicates an informal link.
——▶	An arrow indicates the predominant direction or influence of the activity or relationship.
∧∧	A zig-zag line indicates a conflict.
—‖—	A double line crossing a straight line indicates a broken link.
▭	Squares represent other issues or information, not individuals or organizations. These squares should be used to add additional information and descriptions to the map.
◗	Large half circles represent external parties that have an influence but are not directly involved.
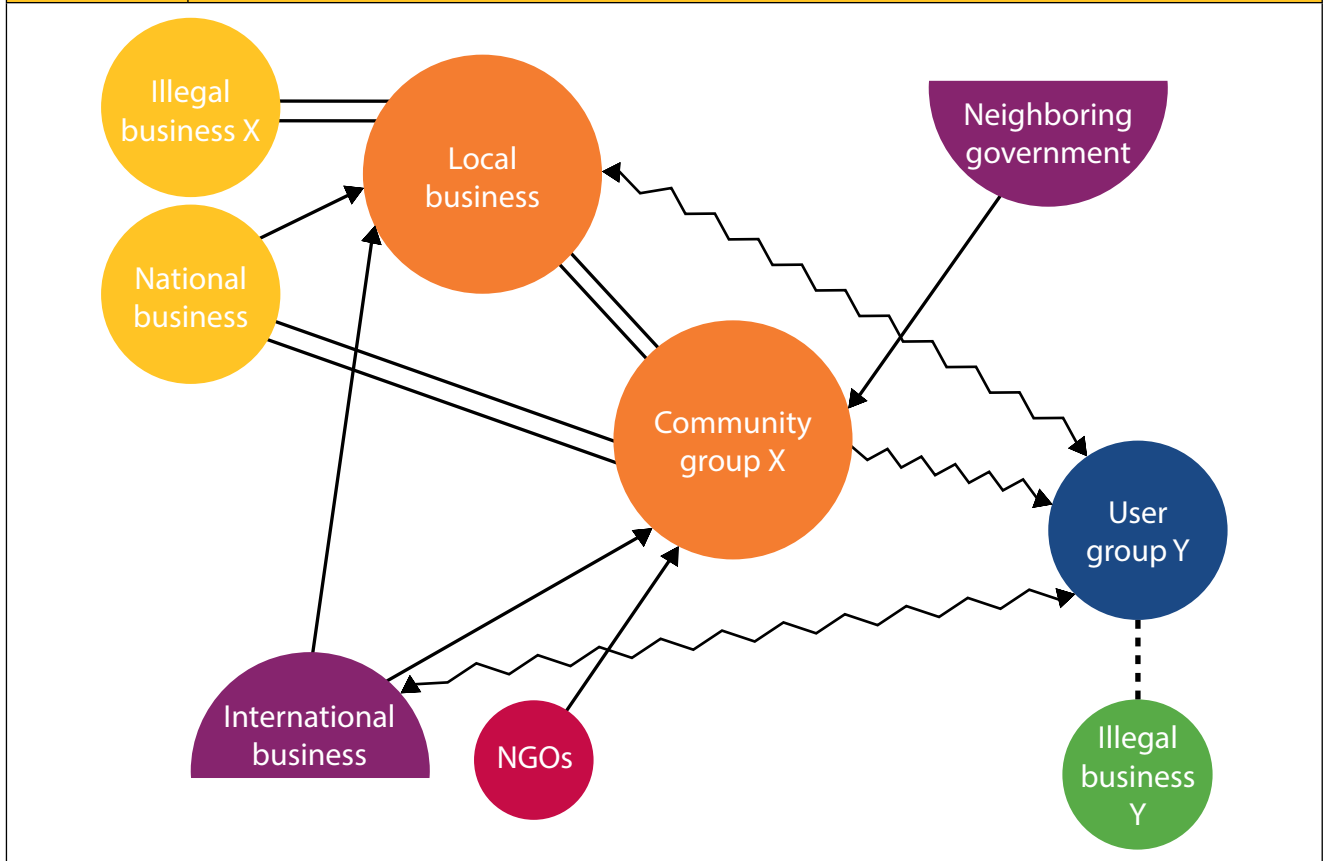
Source: Fisher et al. 2000

Figure 10. Stakeholder Conflict Mapping

Further reading:
Conflict Resolution Network:
http://www.crnhq.org/

Fisher, S., Abdi, D.I., Ludin, J., Smith, R., and Williams, S. (2000). *Working with conflict: Skills and strategies for action*. London: Zed Books.

Herrera, A., and Guglielma da Passano, M. (2006). *Land tenure alternative conflict management*. Rome: Food and Agriculture Organization of the United Nations. Retrieved from ftp://ftp.fao.org/docrep/fao/009/a0557e/a0557e00.pdf

Analytical tool: Resource Mapping

Goals	
	• To better understand the conflict by looking at its geographical and spatial dimensions
	• To identify disputed areas and hot spots
	• To identify solutions based on a better understanding of competing resource uses

Tool in a nutshell:
Resource mapping analyzes conflicts spatially. This allows a specific focus on competing resource uses. Since the map is based on the physical context of the conflict, it can provide an easy entry point for conflict analysis. A resource map is a good tool to visualize disputed areas, hot spots and multiple resource uses. It can also be used to identify entry points and solutions.

Strengths	Limitations
Hands-on	Can only give a snapshot of the current situation; conflict dynamics are not visible
Good tool to visualize competing uses of resources	Actors and dynamics from other levels (for example, national and international) are sometimes hard to incorporate

Step-by-step instructions:
This exercise can be done with the whole group working on one resource map, or different stakeholder groups can make different maps and then present them to each other. Small groups may comprise members of one stakeholder group or a mix of stakeholders.

Step 1: Explain the exercise. Make sure to state the goals of the exercise. You can also note the goals on a flip chart.

Step 2: Through group discussion, decide on the issue, problem or conflict. Write it down as the title of the map.

Step 3: The participants start working on the map or maps. Facilitate the group discussion or walk around and support the different groups as needed. Participants start by sketching a basic map of the area on which the conflict is centered, showing main landscape features and relevant boundaries. Try to avoid contentious issues such as disputed boundaries for now.

Step 4: Mark out areas of existing or proposed resource use. Examples include fisheries, fish ponds, protected areas, nesting sites and industries, as well as cultural and religious sites. If possible, also try to mark down stakeholders and actors involved in the conflict.

Step 5: When all participants feel like all necessary information is included, move to the conflict issues by asking the participants to mark areas of conflict. If possible, include a list of specific points or disputes and distinguish between primary and secondary sites of conflict.[68]

Guidance and lessons learned:

- A resource map can also be drawn and laid out on the floor using materials like stones and sticks.
- A resource map can also be used to track and understand changes in an area and how they contribute to conflict.[69] For example, past resources and resource uses (e.g., when participants were young) are marked in green and blue, while significant changes that have caused conflicts are marked in red. The group discussion should focus on how these changes interrelate and lead to conflict. This exercise can be a good starting point for a scenario development.

Further reading:

Deutsche Gesellschaft für Internationale Zusammenarbeit. (2009). Practitioner's guide: Participatory community peace and conflict assessment. "Conflict Transformation Mindanao – Preparation of the Caraga Programme" Team. Retrieved from http://www.methodfinder. net/pdfmethods/gtz-ctmpcp/gtz-ctmpcp_ method90.pdf

Engel, A. and Korf, B. (2005). *Negotiation and mediation techniques for natural resource management*. Rome: Food and Agriculture Organization of the United Nations.


Resource mapping exercise in the Tonle Sap basin.

Analytical tool: Problem Tree

Goals	
	• To decide upon a core issue or problem • To better understand the complexities of the problem by breaking it into smaller pieces • To identify the most contentious or important parts of the problem • To identify possible solutions

Strengths	Limitations
Creates a common understanding of the core problem **A visual tool to generate group discussion about causes and effects**	Runs the risk of oversimplifying the picture. Conflicts often defy the simple distinction into causes and effects, since many relationships are circular in nature, with effects becoming causes A structure to better understand complexity

Tool in a nutshell:

The problem tree is a good tool to develop a better understanding of the causes and effects of a conflict. By separating causes from effects and discussing them in detail, this tool helps to break issues into smaller and more manageable parts. The problem tree can also be used to identify solutions.
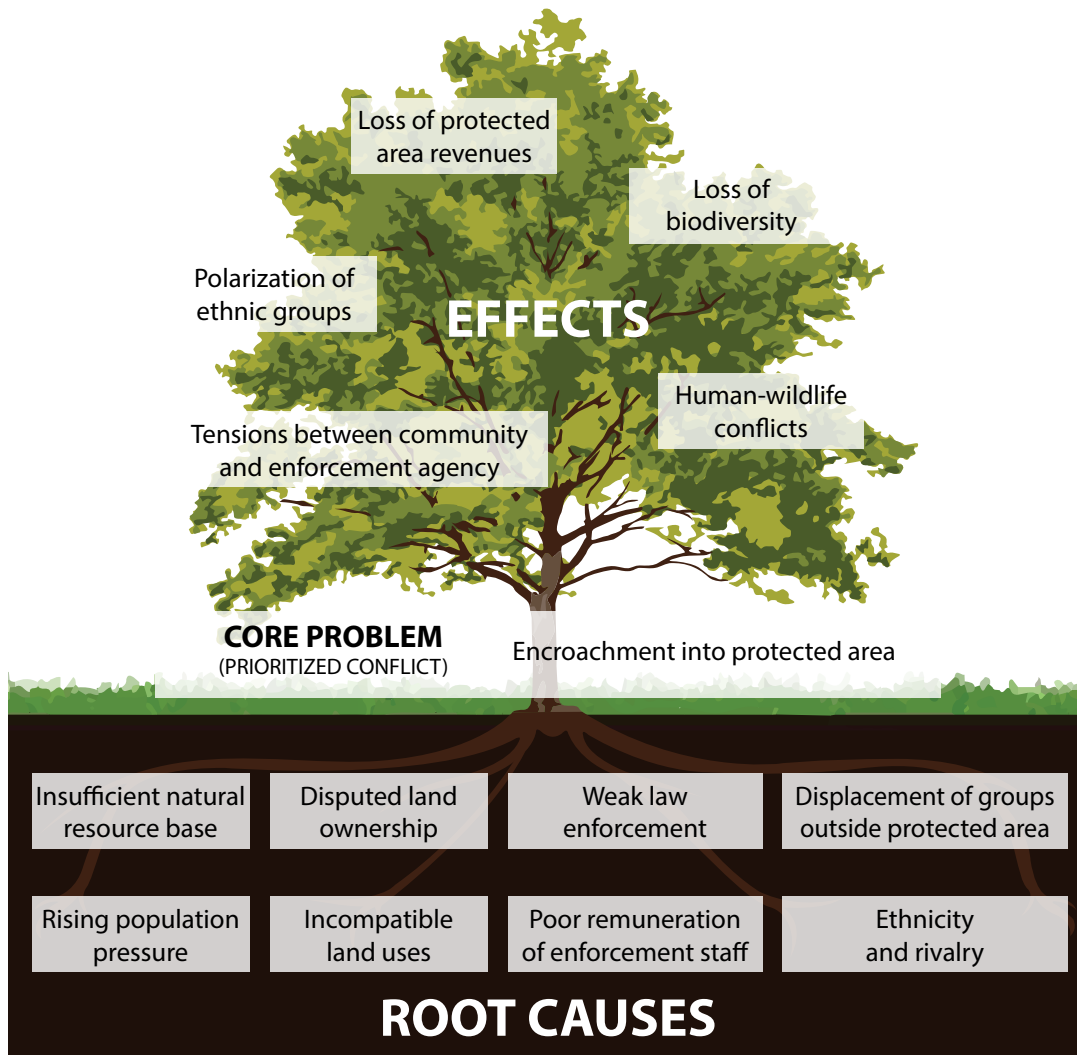
Figure 11. Problem Tree[70]

Step-by-step instructions:
This exercise can be done in three ways: (A) the whole group works together on one problem tree; (B) individual participants contribute to a single problem tree;[71] or (C) different stakeholder groups make different problem trees and then present them to each other. Small groups may comprise members of one stakeholder group or a mix of stakeholders.

Step 1: Explain the exercise. Make sure to state the goals of the exercise. You can also note the goals on a flip chart.

Step 2: The participants start working on the problem tree or trees.
    A. For configuration A, facilitate the group discussion.

- As a group, decide on the issue or problem that will become the trunk of the tree. The problem can be broadly defined at this stage, but it is important to avoid taking the cause or effect of another problem or the absence of a solution as the central issue.
- Discuss and define the causes of the conflict. These are the roots of the tree. Then discuss the effects — the branches of the tree. Lines are drawn to connect the causes and effects with each other or the main problem. Parts of the tree can be moved or subdivided to add more detail. The participants can also place themselves or their organization on the tree to indicate an aspect they are working on.

    B. For configuration B, give each participant six cards. Ask them to write a word or two, or draw a symbol or picture indicating a key issue in the conflict as they see it. Have them place each card on the tree:

- On the trunk, if they think it is a core problem
- On the roots, if they think it is a root cause
- On the branches, if they see it as an effect

Facilitate a group discussion about the placement of issues, especially the core problem. Create a hierarchy of causes and effects, adding more detail if needed. Connect the main problem, causes and effects with arrows. The participants can also place themselves or their organization on the tree to indicate an aspect they are working on.

    C. For configuration C, walk around and support the different groups as needed. After the groups finish their maps, let them present their findings without discussion, then follow up with a group discussion to identify similarities and differences.

Step 4: Start a group discussion to prioritize the different factors. The following questions can help to focus and structure the discussion:[72]

- What are the most serious effects of the conflict? Which are of most concern? What causes or effects are important to us in thinking about a way forward?
- Which causes and effects are getting better, which are getting worse and which are staying the same?
- Which causes and effects are easiest or most difficult to address? Which causes and effects can be addressed at which level and by whom?

Guidance and lessons learned:

- Allow for ample discussion, and let people express their feelings and reasoning.
- Use a separate flip chart to record ideas and interesting points that come up during the discussion but which do not fit on the problem tree.
- The strength of this exercise is to explore the cause-and-effect chains that are connected to a central issue. Thus, make sure that enough detail is added, and encourage the participants to add more levels. For each major cause, ask "What leads to … ?" five times or until the participants cannot add any further detail.

Further reading:

Fisher, S., Abdi, D.I., Ludin, J., Smith, R., and Williams, S. (2000). *Working with conflict: Skills and strategies for action*. London: Zed Books.

Hammill, A., with Crawford, A., Craig, R., Malpas, R., and Matthew, R. (2009). Conflict-sensitive conservation: Practitioners' manual. Winnipeg: International Institute for Sustainable Development. Retrieved from http://www.iisd.org/pdf/2009/csc_manual.pdf

UNDP [United Nations Development Programme]. (2011). Community peace recovery and reconciliation: A handbook for generating leadership for sustainable peace and recovery among divided communities. Nairobi: United Nations Development Programme, Agency for Cooperation and Research in Development, and National Steering Committee on Peace Building.

Dialogue and consensus-building tool: Communication Agreement

Goal	• To agree on a set of rules for the discussion

Tool in a nutshell:
A common tool for improving communication and group discussion is an agreement that outlines certain ground rules to help ensure fair and open communication. This is especially helpful if discussions are very heated and hard to facilitate. The key is for the participants to come up with their own rules, making them easier to enforce later.

Strengths	Limitations
Very easy and effective way to ensure some ground rules for interaction	Participants may react badly to the perception that their negotiations are being constrained in some way, or may feel patronized

Step-by-step instructions:

Step 1: Explain the need for some ground rules on how to engage with each other. This will ensure that everybody gets treated fairly and equally, and that the time is effectively used.

Step 2: Ask the participants for rules they would like to have in place. At this stage, just collect the suggestions and write them down. Here are some example rules:

- Respect the other parties when they are speaking.
- Do not ask questions or make comments until the person is finished.
- Focus on the issues, and be considerate of people with whom you are negotiating.
- Private meetings may be held periodically for clarification and review (Note that this rule might work against the desired transparency).
- Remember that the goal is to formulate an integrative solution that is acceptable to all parties.

Step 3: Let the participants vote on which rules they would like to have. Write these on a big sheet of paper and keep them always visible. Do not hesitate to refer to them if people break them.

Photo Credit: Sree Kumar/ Foundation for Ecological Security

Active listening, Gujarat, India.

Further reading:
Means, K., and Josayma, C., with Nielsen, E., and Viriyasakultorn, V. (2002). Community-based forest resource conflict management: A training package. Rome: Food and Agriculture Organization of the United Nations. Retrieved from ftp://ftp.fao.org/docrep/fao/005/y4300e/y4300e01.pdf

Dialogue and consensus-building tool: Best Alternative to a Negotiated Agreement

Goals	• To clarify the potential scope for solutions • To define goals and desirable outcomes for a stakeholder group • To show potential costs if no agreement is reached

Tool in a nutshell:
The term BATNA is an abbreviation of "best alternative to a negotiated agreement." This tool helps participants to better understand the status quo and the consequences if no agreement is reached. To use this tool effectively, participants need to know their interests and needs (see Stakeholder Onion tool) and be aware of potential power imbalances (see Opening Windows tool).

Strengths	Limitations
Identification of the alternatives to a successful process and their costs **Explores the scope for collaboration**	May reinforce the idea of powerful stakeholders that they can enforce their goals without negotiation Very useful in "prisoner's dilemma" situation (see Prisoner's Dilemma tool)

Step-by-step instructions:

Step 1: Explain the tool and its purpose. Divide the stakeholders into groups according to their interests.

Step 2: Discuss the possible outcomes of the negotiation process. Try to clearly define the benefits and costs that would arise from a successful process. You can use the following guiding questions:

- What would be the best outcome of the process?
- What would be the minimal outcome?
- What would be the worst outcome?

Step 3: Identify the possible alternatives to a successful process. This may include business-as-usual projections, as well as actions that could lead to an aggravation of the situation. You can use these guiding questions to facilitate the discussion:

- Are there any issues that you are unwilling to negotiate?
- What alternatives do you have to satisfy your interests and needs if you do not reach an agreement?

Step 4: After collecting all the alternatives, identify the best alternative to a successful process. Try to clearly define the benefits and costs of the different alternatives. Here are some possible guiding questions:

- What is the best alternative?
- Why is that the best alternative?
- What benefits does this alternative have?
- What are the costs?
- What is the most feasible option?
- What are the consequences of this course of action?

Step 5: (OPTIONAL) After having identified its own BATNA, a stakeholder group can also analyze other groups' BATNAs.

Step 6:   The last step depends on the specific goal of this exercise. For example, if you want to strengthen one group's negotiation position, you can lead a discussion on how to strengthen its BATNA or how to weaken another group's BATNA. If you want to find common ground with other stakeholder groups, you can continue with the Finding Common Ground tool. If you just want to show alternatives to the process, you can close the exercise by leading a short discussion on what participants thought were important insights won during the exercise.

Guidance and lessons learned:

- The facilitator has to be aware of potential misbalance of capabilities (through previous use of the Opening Windows tool).
- Stakeholders often overestimate their own BATNA and underestimate the BATNA of others. Try to ask probing questions to test the strength of a BATNA.

Further reading:
Engel, A., and Korf, B. (2005). *Negotiation and mediation techniques for natural resource management*. Rome: Food and Agriculture Organization of the United Nations.

Means, K., and Josayma, C., with Nielsen, E., and Viriyasakultorn, V. (2002). Community-based forest resource conflict management: A training package. Rome: Food and Agriculture Organization of the United Nations. Retrieved from ftp://ftp.fao.org/docrep/fao/005/y4300e/y4300e01.pdf

Spangler, B. (2012). Best alternative to a negotiated agreement (BATNA). In G. Burgess and H. Burgess (Eds.), *Beyond intractability*. Conflict Information Consortium. Boulder, CO: University of Colorado. Retrieved from http://www.beyondintractability.org/essay/batna

Dialogue and consensus-building tool: Stakeholder Onion

Goals	
	• To better understand the complexities of the problem by breaking it into smaller pieces
	• To identify the most contentious or important parts of a problem
	• To overcome obstacles or entrenched positions in a conflict transformation process
	• To clarify each group's positions, interests and needs

Tool in a nutshell:
The Stakeholder Onion is an assessment tool that clarifies the positions, interests and needs of the parties involved in a conflict. It can be used by one of the parties to better understand its own positions, interests and needs, as well as those of the other parties involved. This can open up new areas for mediation, negotiation, compromise or action. Or it can be used if a process is stuck at a point where conflicting parties feel that they have mutually exclusive positions, making any solution impossible.

The image of the onion is used in this exercise to distinguish different layers. The outer layer of the onion represents the public position of the stakeholder. The second layer represents their interests. At the core lie their needs. While positions can alter and interests can often be negotiated, basic needs are usually non-negotiable.

Strengths	Limitations
Can help to overcome obstacles or entrenched positions	Focusing on needs may be too sensitive or reduce the scope for compromise

Step-by-step instructions:
This exercise can be done with one stakeholder group or with several groups. One stakeholder group can analyze its own position and the position of the other stakeholder groups. Or stakeholder groups can analyze their own positions and discuss these with others as one step in a negotiation process that builds trust around common needs and interests.
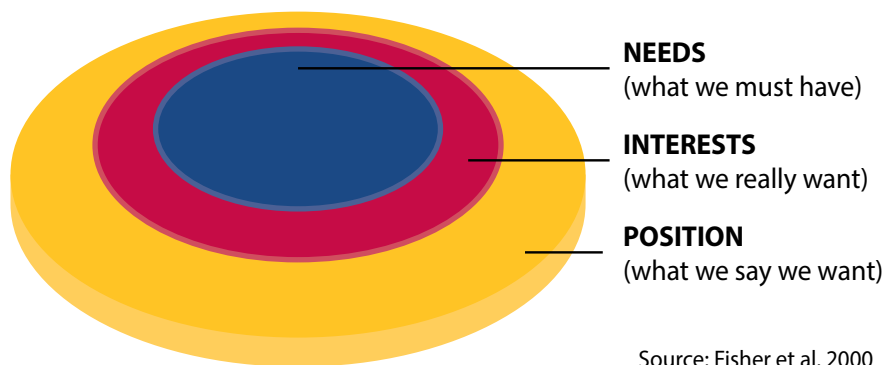
Figure 12. Stakeholder Onion

Source: Fisher et al. 2000

Step 1: Explain the exercise and define what positions, interests and needs are.

Step 2: If you are working with multiple groups, let each stakeholder group start to work on its onion. Be aware that when it comes to the core, some parties may feel uncomfortable revealing their needs in detail. Appeal to their mutual willingness to move the process forward. If you are working with one group, start by working with the group to create an onion outlining its positions, interests and needs. You can use a brainstorming method such as letting everybody write down their positions, interests and needs on cards. Continue the process by analyzing other stakeholders' positions, interests and needs. Or split the group into smaller working groups, each analyzing a different stakeholder.

Step 3: If you are working with multiple groups, let the different groups present their onions without discussion. Facilitate a group discussion concentrating on shared needs and common interests. The goal is to identify possible ways forward. Here are some guiding questions:

- Is there something new you learned about your own position or the position of another stakeholder?
- Are there any common interests or needs?

Guidance and lessons learned:

- For this exercise, one of the facilitator's most important tasks is to make sure that conflict parties accept each other's interests without necessarily agreeing with them.
- While needs may not be negotiable, it builds trust to let other parties know about one's core needs.
- The identification of clear positions and interests helps to structure the next steps in the conflict management process. When conflict stakeholders have identified mutual interests from which all can benefit, they have reached a point from which the actual conflict management process can begin.
- When working through the wants and needs of both parties, be careful not to jump to conclusions. Rather, try to identify root causes. Often, positions are not as far away from each other as they look at first glance.

Further reading:
Engel, A., and Korf, B. (2005). *Negotiation and mediation techniques for natural resource management*. Rome: Food and Agriculture Organization of the United Nations.

Fisher, S., Abdi, D.I., Ludin, J., Smith, R., and Williams, S. (2000). *Working with conflict: Skills and strategies for action*. London: Zed Books.

Layer	Definition	Example
Positions	What we say we want	Demand for funds; income-generating activities
Interests	What we really want	Access to fisheries; improved income
Needs	What we must have	Food security, recognition and respect

Dialogue and consensus-building tool: Opening Windows

Goals	
	• To explore perceptions of communication flows between different groups • To identify potential power imbalances between stakeholders

Tool in a nutshell:

This tool is based on a model for analyzing communication patterns called the Johari window. This model can be used to explore the perception of communication and information flows between conflicting groups. Information flows are often decisive in driving a participatory process forward.

The tool is especially useful for looking at and improving communication patterns between communities and local authorities.

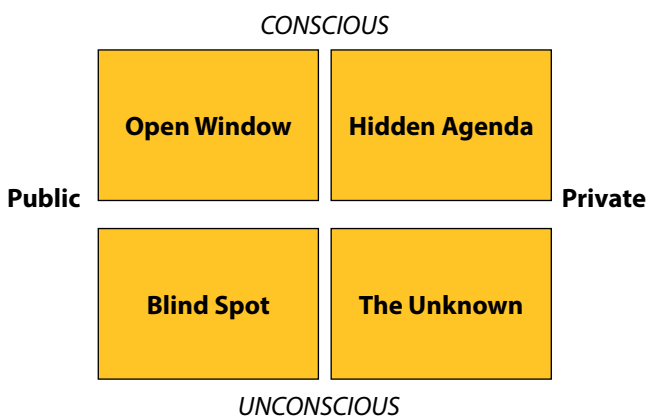| Strengths	Limitations
Highlights the existing state of information flows and patterns between groups	Offers no solutions Quite conceptual and can be difficult to grasp

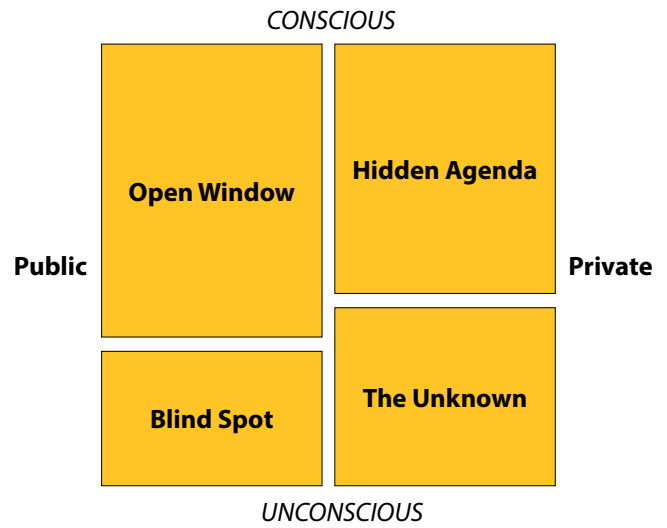**Figure 13.** Opening Windows

Figure 14. Opening Windows 2

Step-by-step instructions:

This exercise is designed for two stakeholder groups.

Step 1: Explain the open window framework by using Figure 13. The different panes in this window of communication represent different information flows and patterns between two groups (group A and group B) seen from group A's perspective:

- Open window: information shared between group A and B
- Hidden agenda: information known only by group B
- Blind spot: information known only by group A
- The unknown: information not known by either group A or B

Step 2: Let the two stakeholder groups draw their own window of communication. By adjusting the size of the different windowpanes, they can describe their perception of the state of communication between them and the other group; the bigger the pane, the larger the information flow.

Step 3: After each group is finished, let them present their results. Ask specific questions regarding the information flows to clarify the points made. Compare and discuss the perceptions, similarities and differences. Also, discuss the implications these perceptions have on the ability of both groups to work together.

Step 4: As a last step, this analysis and discussion can be used to identify possible solutions.

Guidance and lessons learned:

- If power imbalances are too big or if one group resists cooperation, this exercise will most likely lead to conflict or preclude the desired insights.

Further reading:
Fisher, F. (n.d.). Building bridges between citizens and local governments to work more effectively together through participatory planning. Part II – Toolkit. United Nations Centre for Human Settlements (UNCHS).

Dialogue and consensus-building tool: Prisoner's Dilemma

Goals	
	• To better understand the price of not cooperating
	• To better understand the need for trust in successful cooperation

Tool in a nutshell:
The prisoner's dilemma is a role-play activity that illustrates the potential of cooperation to produce mutually beneficial outcomes, as well as the cost of not cooperating. It also highlights the difficulties of establishing cooperation among distrustful parties.

Strengths	Limitations
Very illustrative and practical way of explaining the benefits of cooperation, the role of trust and the costs of not cooperating	Participants might not be comfortable with a game exercise

Step-by-step instructions:
This exercise can be used with small working groups of four to eight people or with one larger group of 10 to 16 people.

Step 1: Divide the participants into two or more pairs, depending on the overall group size. Each pair will do the role play.

Step 2: Tell the following story:
Arne and Bert were arrested for robbing a bank and have been placed in separate isolation cells. Both care much more about their personal freedom than about the welfare of their accomplice. A clever prosecutor makes the following offer to each of the prisoners: "You may choose to confess or remain silent. If you confess and your accomplice remains silent, I will drop all charges against you and use your testimony to ensure that your accomplice does serious time. Likewise, if your accomplice confesses while you remain silent, he will go free while you do the time. If you both confess, I get two convictions, but I'll see to it that you both get early parole. If you both remain silent, I'll have to settle for token sentences on firearms possession charges. If you wish to confess, you must leave a note with the jailer before my return tomorrow morning."
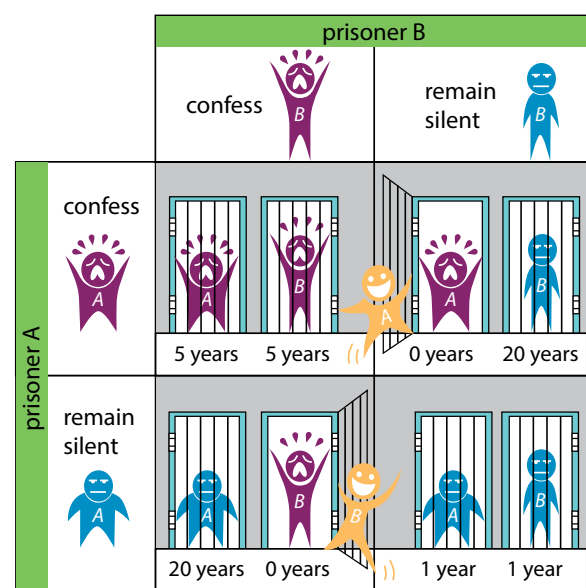
Figure 15. Prisoner's Dilemma

Step 3: Participants take the roles of Arne and Bert. Explain that they cannot talk to each other — just like the prisoners — and that the one who ends up with fewer years in prison will win the game. Offer a small prize for the winner to create a more realistic incentive.

Step 4: Ask each team about their experiences and the strategy they used. Discuss the role of trust, and ask if there are similarities to the conflict or problem the participants are facing in real life.

Guidance and lessons learned:

- Try to use a country-specific example for the accused crime; people may identify better with the prisoners.
- You can also allow the participants to play multiple rounds. This changes the logic of the game, allowing participants to react to the behavior of the other player. For example, they can reward cooperative behavior in the previous round with cooperative behavior in the next round. The key lesson here is that continued interaction allows the development of trust and cooperative behavior.

Further reading:
Kuhn, S. (2009). Prisoner's dilemma. The Stanford Encyclopedia of Philosophy. Retrieved from http://plato.stanford.edu/entries/prisoner-dilemma/

Spangler, B. (2012). Best alternative to a negotiated agreement (BATNA). In G. Burgess and H. Burgess (Eds.), *Beyond intractability*. Conflict Information Consortium. Boulder, CO: University of Colorado. Retrieved from http://www.beyondintractability.org/essay/batna

Dialogue and consensus-building tool: Finding Common Ground

Goal	• To identify common interests or a shared purpose

Tool in a nutshell:
This tool helps participants identify common interests between stakeholder groups by articulating and trying to find commonalities or broader goals between groups. This exercise works best if the stakeholder groups have already analyzed their positions, interests and needs (see Stakeholder Onion tool).

Strengths	Limitations
Identifies common interests or a shared purpose, which serves as a starting point for more concrete actions	Participants might not be willing to articulate or reveal their needs and interests

Analyzing group roles, Gujarat, India.

Step-by-step instructions:

Step 1: Explain the exercise. Make sure to state the goals of the exercise. You can also note the goals on a flip chart.

Step 2: Start by identifying the interests of each of the stakeholder groups. Put the stakeholder interests up on a board. Try to cluster them around different topics.

Step 3: Ask the stakeholders to identify interests that intersect or are close to each other. Put these interests together. If there are enough specific interests in common, you can use these as a basis for collaboration. If the interests are close to each other, try to combine them by coming up with headings that represent new, broader interests that all stakeholders can agree upon. Ask the groups if they agree that the new heading represents their interests. If not, try to find a different heading.

Step 4: You can continue this exercise until you have one broad interest that combines almost all or all interests, or you can stop earlier. In a next step, the identified common ground can serve as a basis for strategy development.

Guidance and lessons learned:

• Do not be afraid of developing a common interest that is broad and vague. Sometimes it is more important that there is a common goal than a detailed goal — even if it is as broad as sustainable development. This goal can later be broken down into specific goals and actions.
• Be patient. Sometimes a group needs time to come up with common goals. If you stand back and let the group take responsibility, often individuals feel compelled to stand up and find a solution.

Further reading:
Spangler, B., and Burgess, H. (2013). Zone of possible agreement (ZOPA). In G. Burgess and H. Burgess (Eds.), *Beyond intractability*. Conflict Information Consortium. Boulder, CO: University of Colorado. Retrieved from http://www.beyondintractability.org/essay/zopa/

Dialogue and consensus-building tool: Visioning

Goals	• To plan strategically for the long term • To build trust and find common ground

Tool in a nutshell:
Creating a common vision for the future is not only a powerful tool to create a basis for collaboration but can also provide a different, more long-term perspective on problems that seem to be unsolvable at first.

Strengths	Limitations
Creative and inspiring tool to identify common goals, wishes or values	Challenging if the group is not inspired or willing to look beyond the past and status quo

Photo Credit: Sree Kumar/Foundation for Ecological Security

Facilitating a dialogue over future options, Gujarat, India.

Step-by-step instructions:
This exercise is best done in small working groups that consist of representatives from all stakeholder groups. There is no need for the presentation at the end if there is only one group.

Step 1: Explain the exercise and its goals.

Step 2: Ask the participants to draw a picture, stage a play, prepare a news show or express themselves in another way on what the optimal future would look like in 20, 30 or 40 years. The group members are free to approach the task however they want; the only condition is that every group member must participate. Make sure that the point in time is far enough away to allow people to think freely and not be constrained by the status quo. You can focus this exercise by using a more specific question such as one of the following:

- What will the future look like if the task is fully completed?
- What will the future look like if the problem, conflict or obstacle is solved?
- What will the future look like if the opportunity is fully exploited?

Step 3: Give all the groups enough time to develop their vision. Then let each group present, and summarize in a word the most important take-away from each group's vision on a flip chart. At the end, try to combine the collected words into one convincing phrase.

Step 4: Discuss the different visions. Try to identify commonalities as well as differences. In the best case, you will be able to combine the different visions into a common vision that consists of elements of each.

Guidance and lessons learned:

- Pick the right time frame for visioning: A good vision is both realistic and stretching. If it is too far into the future, it does not create a pull. If it is too close to the present, it is just another plan.

- Visioning can also be done in more complex ways; for example, by developing a best-case scenario for a certain point in the future. This scenario can then be used to identify steps, decisions and strategies in the present that helped to create this future.

Further reading:
Fisher, F. (n.d.). Building bridges between citizens and local governments to work more effectively together through participatory planning. Part II – Toolkit. United Nations Centre for Human Settlements (UNCHS).

Strategy development tool: Boats and Rocks

Goal	• To identify resources that can be used to solve a conflict or problem, as well as obstacles standing in the way

Tool in a nutshell:
This tool helps participants identify opportunities and capacities that can help to solve a problem, conflict, issue, etc., as well as obstacles standing in the way. This analysis can be used to develop robust strategies, but works best if participants have already identified goals (see Visioning tool and Finding Common Ground tool).

Strengths	Limitations
Easy-to-use, graphic tool	Playful, visual character of the exercise might be uncomfortable for some participants

Boats and Rocks exercise in Cambodia.

Photo Credit: Sree Kumar/Foundation for Ecological Security

Step-by-step instructions:
This exercise is best done in small working groups. These groups can work on the same or different problems and then report back to the whole group.

Step 1: Explain the exercise. Make sure to state the goals of the exercise. You can also note the goals on a flip chart.

Step 2: Decide on the conflict, issue or problem. This can be done during a discussion, be accomplished by using other tools (such as the Problem Tree), or be decided by you in advance.

Step 3: If you have not defined goals or a vision, discuss what the desired goal or solution to the problem at hand would be. Write down or place an object representing the goal on a paper or board. Place an object representing a boat at a distance from the goal, facing in the direction of the goal. The boat represents the community aspiring to move toward the goal.

Step 4: Ask the groups what resources or capacities are available to help the community succeed in this effort. For each resource identified, place an object in front of the boat, representing an animal harnessed to the boat to pull it toward the goal.

Step 5: Ask the groups to identify the obstacles that stand in the way of reaching the goal. For each obstacle, the group places an object (for example, a rock) into the boat or in front of the boat. At the end, ask the group to assess the likelihood that the boat will reach its destination.

Step 6 (OPTIONAL): The positive and negative forces can be analyzed one by one and in relation to one another.

Step 7 (OPTIONAL): Encourage each group to present their results to the overall group (by using either a flip chart or the objects).

Guidance and lessons learned:

• Encourage realistic judgments of the positive and negative forces. The model should reflect the real situation, which in turn helps to identify possible solutions to overcome constraints.

Further reading:
Means, K., and Josayma, C., with Nielsen, E., and Viriyasakultorn, V. (2002). Community-based forest resource conflict management: A training package. Rome: Food and Agriculture Organization of the United Nations. Retrieved from ftp://ftp.fao.org/docrep/fao/005/y4300e/y4300e01.pdf

Strategy development tool: Logical Framework Analysis

Goal	• To develop a strategy based on a general goal, including results and indicators

Tool in a nutshell:
Logical Framework Analysis (LogFrame) is a powerful but complex tool for developing a strategy, including outcomes, outputs and results.[73] It is often used for development projects, and many donors ask for one as part of a proposal. This tool should be used during a later stage of a participatory process. To develop a LogFrame, the overall goal or vision should already be defined and a problem and stakeholder analysis done.

| Strengths	Limitations
Can be used to develop a comprehensive strategy **Results and indicators provide a basis for monitoring and evaluation**	High rigidity of the approach Complex and time consuming Based on a linear, causal relationship between actions and impacts

Step-by-step instructions:

Step 1: Explain the exercise. Make sure to state the goals of the exercise. You can also note the goals on a flip chart.

Step 2: Summarize and condense the findings of the problem analysis. (This can also be done before the exercise.) Make sure you cover the root causes of the problems you are addressing, the larger picture in which those problems and their root causes exist, and the links between the problems.

Step 3: Create an objectives tree (see Figure 16). The objectives tree can be viewed as the positive mirror image of the problem tree. The objectives tree includes the following categories:
- Goal and vision: What is the overall goal of the initiative? What potential vision can all stakeholders agree on?

- Specific objectives: What are the specific objectives that are intended to contribute to the overall goal and vision?
- Outcomes: What are the expected results or changes in behavior, structures or capacity of the target groups that directly result from activities of the initiative?
- Activities: What are the goods and services — the direct deliverables — of the initiative that are intended to create the expected outcomes?
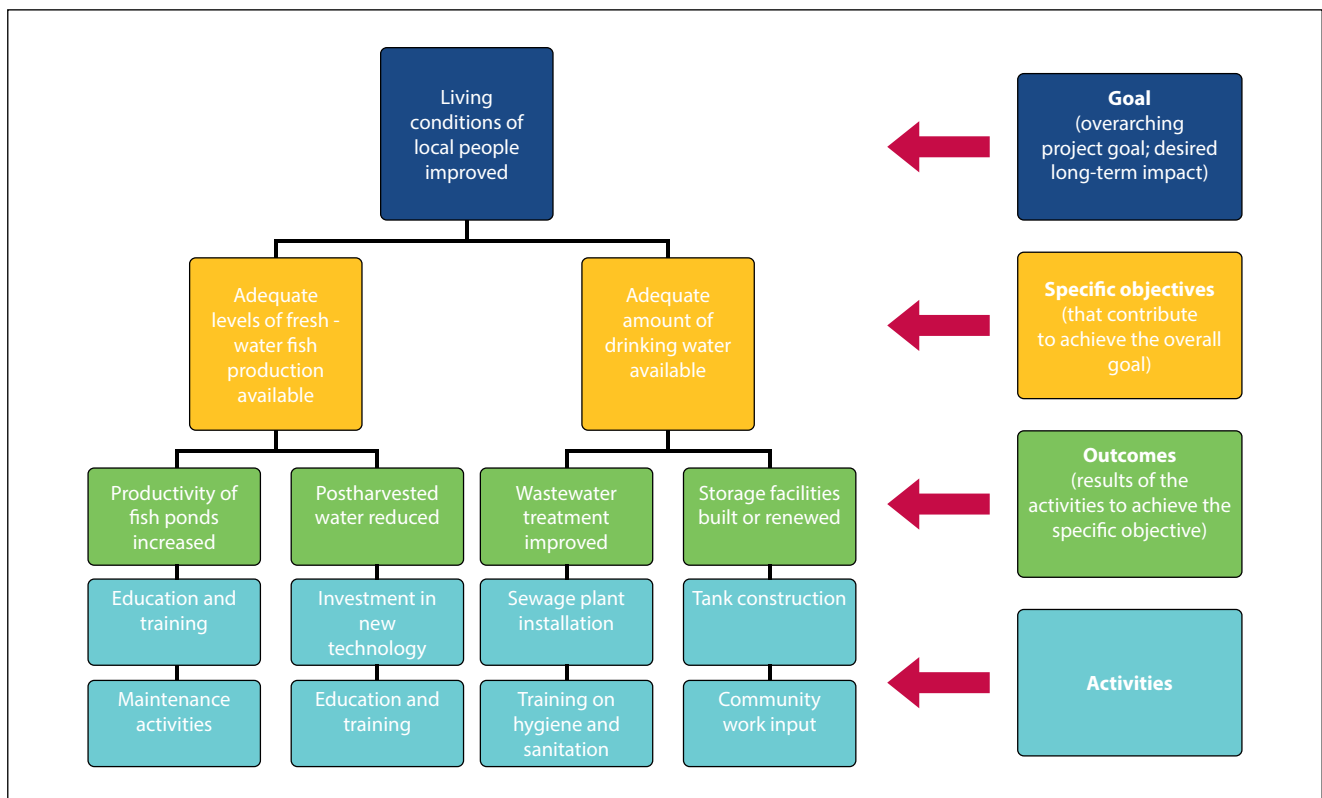
Figure 16. Logical Framework Analysis: Objectives tree

Step 4: Based on the objectives tree, a LogFrame like the one below can be used to summarize the results in a narrative way. Then the following categories are added:

- Indicators:[74] How can we measure or assess success?
- Verification: Where and how can we find the data or information to verify success? This includes the format of the information, who will provide it or how it will be obtained, and how regularly it should be provided.
- Assumptions and risks: What are assumptions that if not fulfilled will impact success? What are risks that might impact success? This information will support the monitoring of risks during implementation.

Guidance and lessons learned:

- The key to a successful LogFrame analysis is good preparation, especially a thorough problem analysis or overall agreement on the main problems and overall goal.
- Translate the categories in the LogFrame into terms that are understood by all participants. Use a lot of examples.

Further reading:
Gawler, M. (2005). Logical framework analysis. Resources for Implementing the WWF Standards. World Wildlife Fund.

WHO [World Health Organization]. (2010). Logical framework analysis: Presentation with UNDP. Retrieved from http://unpan1.un.org/intradoc/groups/public/documents/un/unpan032816.pdf

Intervention logic	Indicators	Source and means of verification	Assumptions and risks
Goal and vision (overarching goal; desired long-term impact)			
Specific objectives (contribute to achieving the overall goal)			
Outcomes (results of the activities to achieve the specific objectives)			
Activities			

Figure 17. Logical Framework Analysis: Narrative summary

Strategy development tool: Peace Flower

Goals	• To better understand how to build peace • To identify actors, structures and processes promoting peace

Tool in a nutshell:

The Peace Flower tool focuses on existing entry points for building peace. It helps participants identify peace processes, ongoing peace efforts and underlying support factors. These entry points can then be used to develop strategies for conflict prevention and resolution.

Strengths	Limitations
Puts peace and not conflict at the center of the discussion	Peace processes and peace efforts are fluid and not always clearly distinguished

Step-by-step instructions:

Step 1: Explain the exercise. Make sure to state the goals of the exercise. You can also note the goals on a flip chart.

Step 2: The participants start working on the peace flower. Give each participant six cards. Have them write a word or two, or draw a symbol or picture, indicating a key point regarding peace. Alternatively, facilitate a whole-group discussion to cover the three main parts of the flower:

  • **Stem**: the peace processes currently in place. Examples are intervillage meetings, elders' dialogue processes and institutions for natural resource management. You can define peace processes as broadly as you like. Sometimes it makes sense to include more general patterns of interaction and cooperation, such as trade and cooperation in areas beyond natural resources.

  • **Roots**: the structural or systemic factors supporting peace. Examples include traditional norms that regulate community relations, a culture of cooperation, etc. Connect the roots by lines to each other or to the stem. Parts of the flower can be moved or subdivided to add more detail at any time.

  • **Petals**: ongoing peace efforts. Examples include specific actions and measures resulting from the peace processes represented on the stem. Again, lines are drawn to connect the peace efforts with each other or the peace processes. Look at different levels, from local to national and international. The participants can also place themselves or their organization on the flower to indicate which part they are working on.

Step 3: If the participants have placed cards on the flower individually, facilitate a group discussion to generate agreement about the placement of cards. If possible, create a hierarchy of processes, efforts and supporting factors, adding more detail if needed. Connect the cards with arrows indicating cause and effect.

Guidance and lessons learned:

• Try to define peace processes as broadly as possible. It might help to write down some terms that clarify the concept, such as cooperation and conflict resolution mechanisms.
• It might be more useful to use a different term than peace — for example, cooperation — since some people might have too narrow of an understanding of the term.
• This tool is focused on peace and cooperation; avoid a discussion of conflict or roots of conflict.

Further reading:

UNPAN [United Nations Public Administration Network]. (2003). Developing capacity for conflict analysis and early response: A training manual. Retrieved from http://unpan1.un.org/intradoc/groups/public/documents/un/unpan011117.pdf

Strategy development tool: SWOT

Goals	• To analyze the strength and weaknesses of a strategy • To identify potential for tensions caused by certain strategies

Tool in a nutshell:

SWOT stands for "strengths, weaknesses, opportunities, threats." This tool is intended for use after specific strategies have been identified (see Logical Framework Analysis tool or Z-Tool). It analyzes negative and positive aspects of a strategy or action to test its strengths and weaknesses. More specifically, the tool can identify the threat perception of different stakeholder groups and the potential for tensions.

Strengths	Limitations
Quick and easy-to-use tool	Line separating strengths from weaknesses or opportunities from threats is not always clear

Step-by-step instructions:

This exercise can be done in small working groups, each testing a different strategy or action. Or different stakeholder groups can analyze the same strategy or action to better understand differing threat perceptions.

Step 1: Explain the exercise and its goals by using the following table.

Strengths	Weaknesses
Opportunities	**Threats**

Step 2: Decide on a strategy or action to test.

Step 3: Identify strengths. You can use the following guiding questions:

- What are stakeholders' capacities (resources, experience or knowledge) to support the strategy or action?
- Are there other factors that make this strategy especially strong or effective?

Step 4: Identify weaknesses. You can use the following guiding questions:

- What could be improved?
- What capacities are lacking to implement this strategy or action?
- What are obstacles to success?

Step 5: Identify opportunities. You can use the following guiding questions:

- Are there innovative ways of making this strategy or action more successful?
- Are there factors outside of the control of the participants that could work in their favor or help them succeed?

Step 6: Identify potential threats. You can use the following guiding questions:

- Are there any unintended consequences the strategy or action could have?
- What factors or risks outside of the control of the participants could negatively impact the strategy or action?

Step 7: Review the SWOT analyses. Try to identify potential solutions for the weaknesses and threats, as well as ways to maximize strengths and opportunities.

Guidance and lessons learned:

- Formulate all strengths and weaknesses as precisely as possible, and ask for supporting arguments and data.
- Be accurate in distinguishing between internal and externally driven factors.
- The SWOT methodology can also be merged with resource mapping. In this case, the elements of SWOT are located on a map. See http://www.methodfinder.net/example10_2.html for more information.

Further reading:

Means, K. and Josayma, C., with Nielsen, E., and Viriyasakultorn, V. (2002). Community-based forest resource conflict management: A training package. Rome: Food and Agriculture Organization of the United Nations. Retrieved from ftp://ftp.fao.org/docrep/fao/005/y4300e/y4300e01.pdf

Strategy development tool: Z-Tool

Goal	• To identify solutions to a specific problem while taking into account obstacles and defining concrete goals

Tool in a nutshell:

The Z-Tool is a solution-oriented tool that can be used at most stages during the process after stakeholders have identified problems (see Problem Tree or Stakeholder Conflict Mapping tools). It takes a problem as the starting point, sets goals, identifies obstacles along the way to the goals, and points to a solution based on this analysis.

Strengths	Limitations
Quick and easy-to-use tool to find robust solutions to concrete problems	Not very good at finding solutions to problems that are too broad or complex
Makes different solutions comparable	

Step-by-step instructions:

Let a group work on only one problem at a time.

Step 1: Explain the exercise and its goals by using Figure 18. Emphasize the importance of following the steps in exactly the way the arrows indicate and not jumping between them.

Step 2: The chosen problem is the starting point for identifying the goals. The goals should describe a state in which the problem is solved; for example, if the problem is a lack of drinking water, a goal could be "50 percent of all households have access to clean drinking water." Encourage stakeholders not to create an abstract wish list; all goals should be as concrete as possible.

Step 3: Ask the stakeholders what obstacles are in the way of reaching the goals. Again, the obstacles should be as concrete as possible.

Step 4: Encourage the stakeholders to step back and think about how the problem, goals and obstacles are connected. Identify solutions that are goal-oriented and take into account the obstacles along the way.
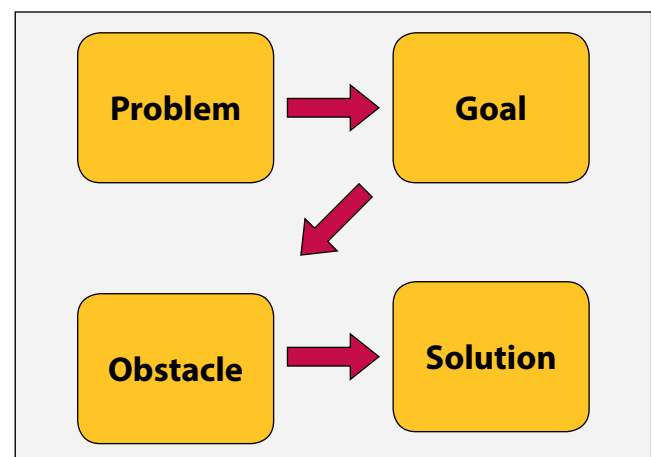
Figure 18. Z-Tool

Guidance and lessons learned:

- Keep in mind that the better the problem is defined, the more efficient the tool. Very complex and broad problems, such as the unsustainable management of fisheries in Lake Victoria, should be broken down into more manageable and clearly defined problems.
- Feel free to change the descriptions of the squares. For example, instead of "problems," use "status quo".

Further reading:
Prossinagg, R. (2013). Seminare. Retrieved from http://www.orbium.de

Support tool: Brainstorming

Goals	• To collect and structure ideas regarding a problem, strategy, solution, etc • To define and better understand terms such as "conflict" and "cooperation"

Tool in a nutshell:
Brainstorming is a tool that allows a group to quickly collect ideas by gathering a list of spontaneous thoughts and associations on a specific topic; for example, to find a solution for a specific problem. The goal is to collect as many ideas as possible and to structure them. The assumption behind this technique is that the higher the number of ideas, the greater the chance of producing radical, new and effective ideas and solutions. Brainstorming is often the first step of an analysis, providing the input that will later be assessed in more detail.

Strengths	Limitations
Can quickly collect many ideas	Can be hard to keep the focus on the initial issue. In extreme cases, groups can head down a path of irrelevant ideas
Encourages people to express their thoughts without lengthy discussion	
Builds group momentum	If done for too long, group momentum can be lost

Step-by-step instructions:

Step 1: Introduce the technique to the group and put the central term, problem or issue at the center of a pinboard or flip chart.

Step 2: Ask the participants what they associate with the term or problem. At this stage, encourage the participants to come up with as many associations and ideas as possible. Write contributions on the flip chart or note them on Post-its and pin them to the board. Try to structure the terms by using arrows or circles to combine similar ideas or to show differences.

Step 3: When the brainstorming comes to a deadlock, ask the participants to concentrate their thoughts on the existing terms or to rearrange them in order to find more links. Don't start this process too early, because in this exercise quantity can improve quality.

Step 4: When the stream of ideas has stopped and you have structured them, summarize the main insights gained and explain how these will be used in later exercises. You can also ask the participants to summarize what they found most interesting, valuable or surprising.

Guidance and lessons learned:

- Make sure that the central term, problem or issue is clear.
- Make sure the group has a good mix of people — of varied ages, both men and women — since ideas and thoughts may not differ enough in a homogenous group.
- Welcome unusual ideas.
- Combine and improve ideas where possible. Sometimes the combination of two ideas will create a better solution.

Further reading:

Folk-Williams, J. (2009). What is conflict? Brainstorming with Mindmap — fast! Cross Collaborate. Retrieved from http://www.crosscollaborate.com/2009/07/conflict-brainstorming-mindmap/

Sloane, P. (2007). *The innovative leader: How to inspire your team and drive creativity*. London: Kogan Page Limited. Retrieved from http://education.systemgroup.net/DocLib2/Innovative%20Leader%20How%20to%20Inspire%20Your%20Team%20and%20Drive%20Creativity%202007.pdf

Support tool: Storytelling

Goals	
	• To foster trust and team building
	• To explore and integrate different perspectives
	• To understand different perceptions

Tool in a nutshell:

Storytelling is a very easy-to-use and versatile technique. It is a group exercise that combines different viewpoints into a comprehensive narrative. Storytelling together builds trust, is inherently collaborative and is nonhierarchical. This tool can also be used to collect quantitative data by letting focus groups or individuals create their own narratives.

Strengths	Limitations
Empowering	Inherently subjective
Easy to use	Can perpetuate negative stereotypes

Step-by-step instructions:

This exercise is done in either homogenous or mixed stakeholder groups.

Step 1: Explain the process and provide each group with paper and pens. If you have done the Time Line exercise, review key events and milestones. If not, start by creating a time line with the participants.

Step 2: Ask the participants to integrate the most important events of the time line into a short, coherent story. Let the groups discuss which events they want to choose; if they cannot agree, mediate and highlight possible alternatives. Do not facilitate too much, however; if participants do not agree on certain points, they can also tell both views in their story.

Step 3: The groups present their story to the other groups.

Step 4: The listeners quickly jot down their immediate reflections. You can use the following guiding questions:

- How is this story also my story?
- How similar or different is the story to my experience?

Then let the participants share their reflections with the group, one at a time with no interruptions. People can opt to pass if they prefer not to share.

Storytelling by Lake Kariba, Zambia.

NOTES

1   Castro, P.A., and Nielson, E. (2003). *Natural resource conflict management case studies: An analysis of power, participation and protected areas.* Rome: Food and Agriculture Organization of the United Nations.

2   Ratner, B.D., and Smith, W.E. (2014). Collaborating for Resilience: A practitioner's guide. Manual. Collaborating for Resilience.

3   Ratner, B.D., Burnley, C., Mugisha, S., Madzudzo, S., Oeur, I., Kosal, M., Rüttinger, L., Chilufya L., and Adriázola, P. (2014). Dialogue to address the roots of resource competition: Lessons for policy and practice. Program Report. Collaborating for Resilience.

4   Ecosystems supply a multitude of benefits to humankind. These are known as ecosystem services and include products such as fish and fresh water and processes like climate regulation.

5   Means, K., and Josayma, C., with Nielsen, E., and Viriyasakultorn, V. (2002). Community-based forest resource conflict management: A training package, p. 9. Rome: Food and Agriculture Organization of the United Nations. Retrieved from ftp://ftp.fao.org/docrep/fao/005/y4300e/y4300e01.pdf

6   Ibid., p. 34.

7   Houdret, A. (2008). *Scarce water, plenty of conflicts? Local water conflicts and the role of development cooperation*. Duisburg: Institut für Entwicklung und Frieden. Retrieved from http://inef.uni-due.de/page/documents/PolicyBrief03_en.pdf

8   Engel, A., and Korf, B. (2005). *Negotiation and mediation techniques for natural resource management*. Rome: Food and Agriculture Organization of the United Nations.

9   Bächler, G. (1994, February). *Desertification and conflict: The marginalization of poverty and of environmental conflict*. Paper presented at the Symposium on Desertification and Migration, Almeria, Spain; Bächler, G., Spillman, K., and Suliman, M. (Eds.). (2002). *Transformation of resource conflicts: Approaches and instruments*. Bern: Peter Lang AG/European Academic Publishers; Carius, A. (2006). Environmental cooperation as an instrument of crisis prevention and peacebuilding: Conditions for success and constraints. Study commissioned by the German Federal Ministry for Economic Cooperation and Development. Berlin: Adelphi Consult; Carius, A., Tänzler, D., and Maas, A. (2008). *Climate change and security: Challenges for German development cooperation*. Eschborn: Gesellschaft für Technische Zusammenarbeit.

10 Marginalization is the exclusion of certain individuals or groups from economic, social and political means of promoting self-determination, according to Kagan, C., and Burton, M. (2005). Marginalization. In G. Nelson and I. Prilleltensky (Eds.), *Community psychology: In pursuit of liberation and well-being*, pp. 293–308. New York: Palgrave Macmillan.

11 Houdret, A., Kramer, A., and Carius, A. (2010). *The water security nexus: Challenges and opportunities for development cooperation*. Eschborn: Gesellschaft für Technische Zusammenarbeit.

12 Richards, A. (2002). *Coping with water scarcity: The governance challenge*. San Diego: Institute on Global Conflict and Cooperation; Houdret, A. (2008). *Scarce water, plenty of conflicts? Local water conflicts and the role of development cooperation*. Duisburg: Institut für Entwicklung und Frieden. Retrieved from http://inef.uni-due.de/page/documents/PolicyBrief03_en.pdf; Gehrig, J., and Rogers, M.M. (2009). *Water and conflict: Incorporating peacebuilding into water development*. Baltimore: Catholic Relief Services. Retrieved from http://www.indiaenvironmentportal.org.in/content/water-and-conflict-incorporating-peacebuilding-water-development

13 UNDP [United Nations Development Programme]. (2004). *Human development report 2004: Cultural liberty in today's diverse world*. New York: Oxford University Press.

14 Enns, D. (2007). Identity and victimhood: Questions for conflict management practice. Berghof Occasional Paper No. 28. Retrieved from http://www.berghof-conflictresearch.org/documents/publications/boc28e.pdf

15 Engel, A., and Korf, B. (2005). *Negotiation and mediation techniques for natural resource management*, p. 20. Rome: Food and Agriculture Organization of the United Nations.

16 Warner, M. (2000). Conflict management in community-based natural resources projects: Experiences from Fiji and Papua New Guinea, p. 13. Working Paper 135. London: Overseas Development Institute. Retrieved from http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/2738.pdf

17 Smith, D. (2004). Trends and causes of armed conflict. In *Berghof handbook of conflict transformation*. Berlin: Berghof Research Center for Constructive Conflict Management. Retrieved from http://berghof-handbook.net/documents/publications/smith_handbook.pdf; Geiss, R. (2009). Armed violence in fragile states: Low-intensity conflicts, spillover conflicts, and sporadic law enforcement operations by third parties. *International Review of the Red Cross* 91(873): 127–142. Retrieved from http://www.icrc.org/eng/assets/files/other/irrc-873-geiss.pdf

18 Ruettinger, L., Morin, A., Houdret, A., Tänzler, D., and Burnley, C. (2011). Water, Crisis and Climate Change Assessment Framework (WACCAF). The Initiative for Peacebuilding – Early Warning Analysis to Action. Berlin: adelphi. Retrieved from http://www.adelphi.de/files/uploads/andere/pdf/application/pdf/2011_water_crisis_and_climate_change_assessment_framework.pdf

19 Charles, A.T. (1992). Fishery conflicts: A unified framework. *Marine Policy* 16: 379–393; Bennett, E., Neiland, A., Anang, E., Bannerman, P., Rahman, A.A., Huq, S., Bhuiya, S., Day, M., Fulford-Gardiner, M., and Clerveaux, W. (2001). Towards a better understanding of conflict management in tropical fisheries: Evidence from Ghana, Bangladesh and the Caribbean. *Marine Policy* 25: 365–376; Salayo, N.D., Ahmed, M., Garces, L., and Viswanathan, K. (2006). An overview of fisheries conflicts in South and Southeast Asia: Recommendations, challenges and directions. *NAGA, WorldFish Center Quarterly* 29(1&2): 11–20.

20 If you would like to use the more in-depth analysis in WACCAF for an aquatic resource conflict or for a conflict around fisheries, you can substitute "access to and availability of aquatic or fishery resources" for "water access and availability."

21 "Conflict constellations" are defined as typical causal linkages at the interface of environment and society, whose dynamic can lead to social destabilization and in the end to violence (WBGU [Wissenschaftlicher Beirat der Bundesregierung]. (2007). *World in transition: Climate change vulnerabilities (Welt im Wandel: Sicherheitsrisiko Klimawandel)*. Berlin, Heidelberg: Springer-Verlag).

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45 This section provides the methodological backbone to Guidance Note 3, "Evaluating Outcomes and Sustaining Collaboration," which describes how to integrate learning, monitoring and evaluation in a multistakeholder dialogue and collaborative planning effort aimed at managing conflict in aquatic resource management (Ratner, B.D., and Smith, W.E. (2014). Collaborating for Resilience guidance note. Guidance Note. Collaborating for Resilience).

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53   Different development organizations use different terms to describe the deliverables and results that a project creates. In this document, **outputs** refer to the immediate deliverables (what we did); for example, a workshop in conflict management. **Outcomes** refer to the immediate and short-term changes created by the workshop (what happened because of what we did); for example, that participants used the skills learned in the workshop to successfully manage a resource conflict. **Impacts** are the longer-term changes created by the participants and their new skills (what changed as a result); in this example, their new conflict management skills could have led to improved natural resource management.

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NOTES

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