

Chapter 30

Community-Based Natural Resource Management (CBNRM)

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30.1 Introduction

This chapter defines some of the relevant terms, and outlines some of the potential benefits of community-based natural resource management (CBNRM). It discusses some of the implications of CBNRM for Cambodia, suggests possible strategies for success, gives an example of a case study, and reviews the issues and approaches for CBNRM in the Cambodian context.

Community-based natural resource management (CBNRM) is associated with a variety of related terms such as community resource management, community-based coastal resource management, community forestry, co-management, and even natural resource management. The variety of definitions of the terms depends upon the context and country involved.

What is Community?

Communities can be defined according to spacial or social factors, internal make-up or external relationships, cultural, political or natural boundaries. In Cambodia, community is often defined by ethnic, spacial, or resource-based characteristics. Communities are often mistakenly thought to be homogeneous (uniform) but they are almost always heterogeneous (mixed). Community members have different interests, problems and needs which vary according to gender, class, age, and ethnicity. They thus have varying access to resources, entitlements, and political and economic power. In Cambodia, some communities have been heavily fractured because of war and civil strife while others have been recently formed as a result of migration. These differences must be taken into account and addressed in the context of community-based resource management.

What is Co-management?

Co-management requires that communities and government work together to manage the resources. This means that there must be power sharing between the government agencies and citizens with a stake in the common pool of resources. Co-management emphasizes a bottom-up rather than top-down process, is participatory and user groups play an active role in decision making.

What is Community-Based Resource Management?

Community-based natural resource management (CBNRM) is characterized by local communities playing the central role in identifying resources, defining development

priorities, choosing and adapting technologies and implementing management practices.

The CBNRM approach is often compared to the government centered or top-down approach. In the latter system, government agencies and officials take the lead role in formulating policy related resource management. Senior officials usually make decisions regarding resource use and the distribution of resources. The degradation of the environment and declining resource stocks is often blamed in part on the failure of the highly centralized management system, which involves planning and decision making only at the government bureaucratic level and does not allow for the ideas and wishes of local resource users (Mam Kosal, 1996).

Community-based natural resource management (CBNRM) is a potential development option in order for Cambodia to address problems of rural poverty and environmental degradation. A variety of CBNRM approaches have been tried in several developing countries during the last decades and there are working models which exist in India, Nepal, Indonesia, Philippines, Thailand, and other countries.

30.2 Potential Benefits of CBNRM

The promotion of a community-based management system is an opportunity to address at the local level some of the problems of resource over-exploitation. Berkes (1987) advocates four social, economic and environmental principles in the management of common resources:

- The solution of the common problems starts with the control of the access to the resource.
- Increasing production from a common property resource depends on the conservation of the resource base.
- The sustainable utilization of a resource is closely connected to the use of appropriate technology for the harvest of that resource.
- Local level management improves prospects for the sustainable use of a common resource.

Development theorists and practitioners are increasingly promoting the multiple benefits of community-based resource management systems (Berkes, 1989; Ferrer, 1992; Charsnoh, 1993; McManus, 1995; Mam Kosal, 1996). There are many potential benefits to promoting community-based resource management systems in Cambodia.

30.2.1 Ensuring Livelihood Security

Firstly, CBNRM can be a principle means for ensuring livelihood security for local people. If the people of the communities are given access rights to vital resources, they are then assured a better opportunity of meeting their basic needs and improving their livelihood options.

30.2.2 Mechanisms for Conflict Resolution

Common property systems can provide mechanisms for access equity and conflict resolution. Provided that all members of the user group can mutually agree upon the rules, there can be equitable use of resources with a minimum of internal conflict. The mode of production forms the basis of the community-based resource management system. Although within the community, the work teams may be fluid and flexible, the community members share common interests and knowledge. The knowledge of resource-use rules is facilitated by the simple rule that, 'you must live in this community to use the resource' (Ostrom, 1985).

30.2.3 Promotion of Resource Conservation

Community-based systems aim at self-sufficiency and are basically conservative in the way resources are utilized. The emphasis is on taking what is needed and not on accumulation of surplus or excessive individual gain. There are social sanctions, which promote resource conservation. The social controls in community-based systems serve to reinforce the maintenance of a productive resource from generation to generation, promoting ecological sustainability.

Community-based natural resource management has the potential to address problems of rural poverty and environmental degradation in Cambodia, if it can be characterized by local communities playing central roles in identifying resources, defining developmental priorities, choosing and adapting technologies, and implementing management practices, but CBNRM approaches also have some implications.

30.3 Some Implications of CBNRM for Cambodia

Community-based natural resource management has some basic principles: local participation, communal property rights, and some amount of local control over the resources (Cernia, 1985; Gibbs, 1989; Ferrer, 1992; Rivera, 1992; Chatterjee, 1994). These principles have certain implications in the context of the Cambodian social, economic and political situation.

30.3.1 People Centered Local Participation

The issue of local public participation is complex. There are various forms and degrees of participation. Some forms of participation may be included in consultation, decision making or in program implementation (Mam Kosal, 1996). Development programs in Cambodia often advocate community participation in principle but seldom implement such practices in reality.

Community-based natural resource management means that the user communities should be, at the very least, involved in defining the priorities and developing rules regarding the sharing of the resource, as well as penalties for violations. Cernia (1985) defines local participation as "empowering people to mobilize their own capacities, be social actors rather than passive subjects, manage the resources, make decisions, and control the activities that affect their lives".

30.3.2 'Ownership' of the Resources

One of the most crucial tasks is to promote ownership of the resource. Participation alone is not sufficient. 'Ownership' should be interpreted as responsibility, accountability and readiness to take risk. Communal property rights is defined as "where individuals have access to resources over which they have collective claims as members of recognized groups" (Gibbs, 1989). It will need to be examined how communities and government agencies can work together to determine what types of agreements need to be reached in order to promote community-based management approaches.

30.3.3 Community Oriented Control of Resources

Finally, community-based resource management implies that "control over local resource management decisions should rest with the people who bear the direct impact of these decisions" (Rivera, 1992). There are several important social, legal and political conditions necessary to foster and strengthen CBNRM. Addressing a workshop in Cambodia on "Sustainable Management of Natural Resources through Community Participation", Chatterjee (1994) identified some key elements that facilitate the carrying out of community-based activities. According to Chatterjee "firstly, legislation should be established to empower the community by defining their rights over the community property rights; next, support needs to be given to the grassroots level initiatives; finally, trust needs to be built in the community, and between the community and the government".

In order to bring about the necessary conditions to foster CBNRM in Cambodia, relevant government agencies such as the Forestry and Fisheries Departments, the Ministry of Environment and other agencies must support appropriate policies. This implies that authorities must clearly and explicitly delegate to communities and community groups some degree of management authority over the resources (Sorensen, 1997). Resource dependent communities need to be given legal access and user rights that are recognized by the government.

30.4 Strategies and Recommendations for Successful CBNRM

There is no widely agreed upon strategy for successful CBNRM approaches. In the Philippines, Ferrer (1992) advocates a three-pronged approach, which includes community organizing, technical-economic work and networking/support group building. Some important components for successful CBNRM may include community organizing, environmental education, institutionalization, resource management options, sustainable livelihoods for local people, advocacy and networking (McManus, 1995; Ferrer, 1992; and Mam Kosal, 1996).

30.4.1 Community Organizing

Community organizing has different meanings depending on different contexts, but it is generally recognized to relate to the principle of empowering people to determine their own development and shape their own future. Community

organizing is the process of building awareness, promoting new values, developing leadership capabilities, and enabling communities to take action. Good community organization is at least as important to success as good technologies. It is more than just setting up organizations. It facilitates the process of change, which promotes more equitable and life sustaining conditions.

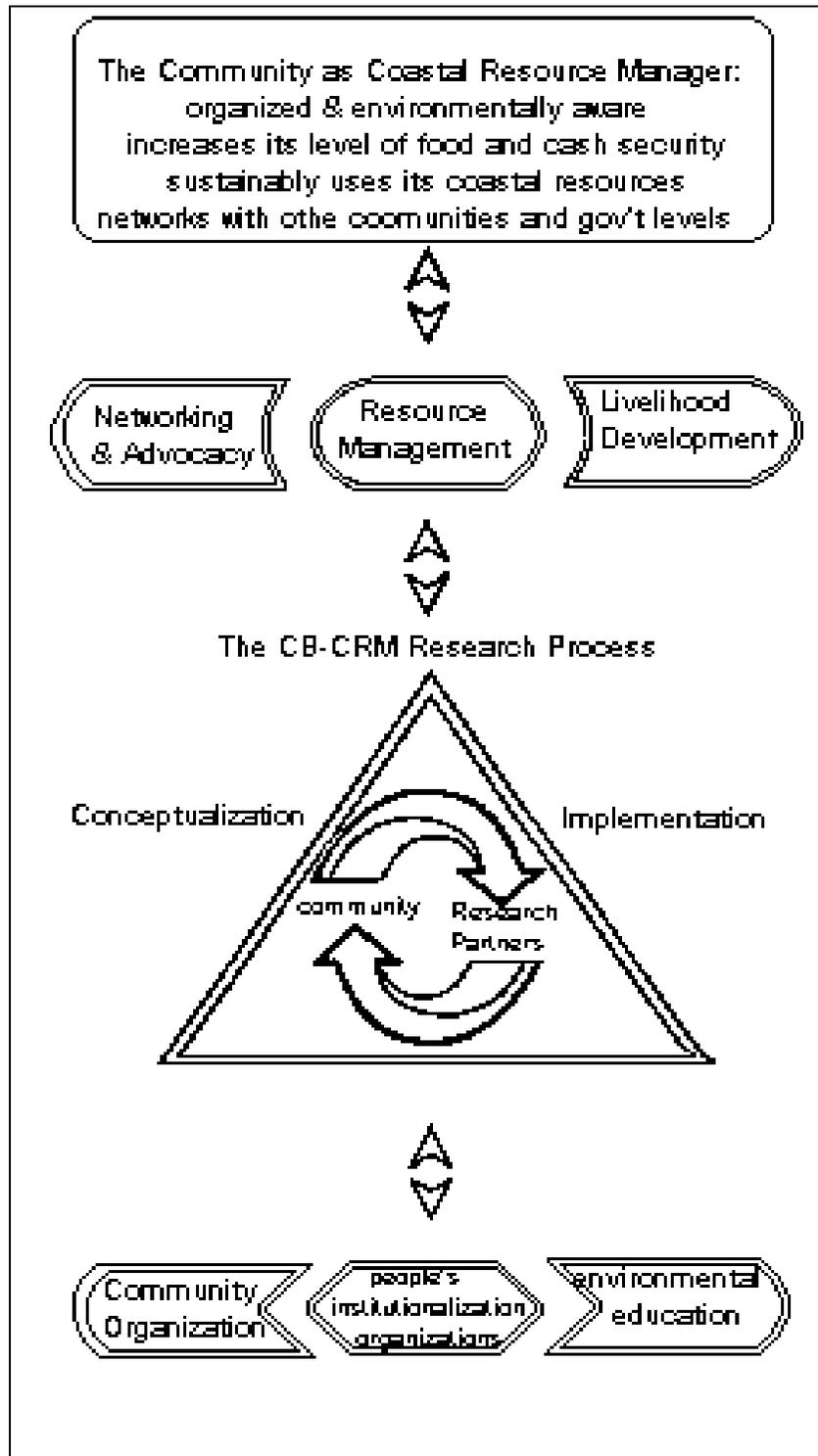


Fig. 30.1 Community involvement in the management of coastal resources

30.4.2 Environmental Education

The concepts and tools of environmental education can help empower communities to determine their economic and social problems and needs within an environmental management framework. Environmental education should draw upon indigenous and local knowledge as well as scientific aspects of resources. Local environmental knowledge is usually not documented but is passed on over generations through daily life experiences.

30.4.3 Institutional Analysis

Institutional analysis is the process of identifying and assessing stakeholders, community groups and institutions important for CBNRM approaches. Throughout the process of organizing and enhancing community organization and environmental awareness, communities can build their capacity to form necessary institutions that promote CBNRM principles (McManus, 1995). Institutional analysis should examine how communities and government agencies can work together and determine what types of agreements need to be reached in order to achieve sustainable and community-based management of resources.

30.4.4 Resource Management Options

The identification and assessment of resource use patterns and management options should be identified through participatory research. In order to identify the real problems, it is necessary to assess the perceived problems carefully from the perspective of the local people and the various aspects of the resource management. This component is closely linked to the sustainable livelihoods and networking/advocacy components in evaluation and implementation of management. Successful resource management options must be economically viable, environmentally sustainable and socially equitable.

30.4.5 Sustainable Livelihoods

People must have capacities to generate and maintain livelihoods, while enhancing their well-being and that of future generations. These capacities should be based on equity, ownership of resources and participatory decision making. They are dependent on the availability and accessibility of sustainable options, which take into account economic viability and efficiency, ecological integrity, and social equity. Economic efficiency refers to the production of a given level of goods and services with a minimal level of inputs. Ecological integrity means that the effects of livelihood development must not exceed the ability of the natural ecosystems to recover from shocks and stresses. Social equity means that the way one household makes a living must not adversely affect the way another makes a living (Naresh Singh, 1997). Successful CBNRM will relate the development of the local resources (including forestry, fisheries, agriculture, tourism, etc.) with overall community development and environmental conservation.

30.4.6 Networking and Advocacy

Networking establishes linkages with other groups and agencies working for a common goal. Advocacy is a mechanism through which organized groups and communities institutionalize their goals in policies and laws of other groups and government agencies (McManus, 1995). In both networking and advocacy, the strategy is to share information with other groups and communities so as to bring about greater understanding as well as social and policy changes. Maintaining dialogue and flexibility will facilitate better learning and sharing of information as the process progresses. It is important to include all stakeholders in the CBNRM process, especially the villagers, local government, line agencies, and NGOs in the process.

Successful CBNRM strategies can lead towards communities that are organized and environmentally aware, effectively manage their resources with sustainable livelihoods, and have networks with other communities and government levels. The approach for CBNRM should be kept people-centered because it is the local people that depend on the resource for their livelihoods; therefore, they should be the ones that manage it. It should be noted, however, that all of the component strategies mentioned above take time to be successful.

30.5 Case Study Example of CBNRM in Action

Widespread depletion of natural resources has already occurred over the past two decades in the neighboring country of Thailand. There are now several examples where community-based natural resource management has been promoted as a solution to development problems. One example is of a local non-governmental organization, the Yad Fon Association, which was established in 1985 to help improve the quality of life of coastal villagers adversely affected by mangrove destruction in Southern Thailand. The destruction of Thailand's mangrove forests have been accelerated by indiscriminate cutting for commercial charcoal production, the rapid proliferation of intensive shrimp farms, as well as uncertainty and conflicts over land-tenure status (Rittibhonbhun et al: 1993). Obvious parallels can be drawn to the situation in Cambodia.

The case study of the Yad Fon programme provides an example of a project promoting community-based mangrove rehabilitation and management. During the first stages of Yad Fon's community development work in 1985, it was found that villagers were well aware of the adverse effects of mangrove destruction on their livelihoods. This awareness, however, did not translate into any positive actions to alleviate their problems because of a general feeling of powerlessness. According to Rittibhonbhun et al (1993), the villagers were constrained by two main forces that were beyond their control. The first force was that of the intensifying influence of the market economy. The villagers were being gradually trapped into a vicious circle of poverty whereby they were compelled to increasingly destroy mangroves in

order to satisfy daily survival needs. Furthermore, as increased cash was needed, they found less and less time to work towards common goals, such as mangrove rehabilitation and management. The second force was the apparent inconsistency between the national forest policy and community needs. These constraining forces are also present in Cambodia.

{An example of community based management of fisheries resources in Laos was described in Chapter 15, *Fisheries* and community forestry was described in Chapter 17, *Forest Resources*}.

30.6 Issues and Approaches for Cambodia

The conflicts and constraints to sustainable resource management in Cambodia can also be found in neighboring countries of the ASEAN region. Cambodia can potentially learn from experiences in Thailand, Philippines and other countries. In order for villagers to take positive action to overcome the problem of resource depletion and forest destruction, they will have to be given power to take control of seemingly uncontrollable forces. They will have to be allowed to escape the vicious cycle of poverty while national policies will have to be made consistent with local community needs.

The strategy of promoting community-based resource management for Cambodia must take into account many economic, political and ecological issues. These issues are both complex and interrelated.

Cambodia has suffered from decades of war and widespread poverty. It is now under threat from development and over-exploitation. Experience from neighboring countries demonstrates that development can occur rapidly, and that local communities can play a major role helping to shape the development process toward sustainable and equitable distribution of benefits.

Some organizations and government agencies are attempting to address resource depletion and poverty issues through the promotion of community-based principles and approaches. Some of the NGO's and international organizations working at varying degrees in this area include the Mennonite Central Committee (MCC), Japanese Volunteer Centre (JVC), CIDSE, Concern Worldwide, Wetlands International, the International Development Research Centre (IDRC), UNDP/CAREERE, and OXFAM.

Relevant projects that are using CBNRM principles to varying degrees include the:

- Community Forestry and Plant Propagation projects in Takeo Province (MCC and IDRC);
- Community Forestry Projects in Kompong Chhnang and Banteay Meanchay provinces (Concern Worldwide);

- Non-Timber Forest Products (OXFAM/NOVIB NTFP Project) project and the Highland Resource Management Project (CARERE and IDRC) in Ratanakiri Province; and
- Participatory Management of Mangrove Resources Project in Koh Kong Province (MoE and IDRC).

Some government agencies that have shown at least some support for these initiatives include the Ministry of Environment, the Department of Forestry and Fisheries as well as many government departments at provincial levels. The formation of Community Forestry Units within the Ministries of Environment and Agriculture is particularly supportive of CBNRM related approaches.

30.7 Conclusion

Community-based natural resource management approaches in Cambodia should consider at least six related components in order to be successful. Firstly, the local institutional capacity of communities needs to be enhanced to assist with community organizing. Secondly, environmental and ecological awareness is essential to the long-term sustainability of the natural resources. Legal and institutional frameworks are needed that support the community's rights to use and protect their resources. People will only be motivated to support resource conservation if there are livelihood alternatives. Finally and perhaps most importantly, participation must be fulfilled in practice not just in theory.

List of Resource Documents

Berkes, F. and M.T. Farvar, (eds) (1989). *Common Property Resources: Ecology and Community-Based Sustainable Development*. Belhaven Press, London.

Burkley, Stan (1993). *People First: A Guide to Self-Reliant Participatory Rural Development*. Zed Books Ltd. London and New Jersey.

Chambers, Robert (1997). *Beyond "Whose Reality Counts? - New Methods We Now Need"*

Chansnoh, Pisit (1993). *Community Management of Coastal Resources, Southern Thailand*. Naga, the ICLARM Quarterly, October 1993.

Coastal Communities Network (1996). *Community-based Co-management Resource Guide*

Dela Cruz, Quirinol (1994). *Community-based Coastal Resource Management: A Response to an Open-Access Coastal Fishery Resource*. In Lun Da Yan Journal, Vol. 5, No. 4. Tambuyog Development Center.

Ferrer, Elmer M. (1992). *Learning and Working Together: Towards a Community-Based Coastal Resources Management*. Research and Extension for Development Office University of the Philippines Diliman, Quezon City.

Environment: ETAP Reference Guide Book

Ferrer, Elmer M., Lenore Poltan dela Cruz, and Marife Agoncillo Domingo (eds) (1996). *Seeds of Hope: A Collection of Case Studies on Community-Based Resources Management in the Philippines*. College of Social Work and Community Development, University of the Philippines, Quezon City.

Japanese Volunteer Center (JVC), OXFAM, and CIDSE (1994). *Report on Sustainable Management of Natural Resources through Community Participation*. Indochina Regional Workshop: 12 to 15 December 1994. Phnom Penh, Cambodia.

Johannes, R.E. (1981). *Working with Fisherman to Improve Coastal Tropical Fisheries and Resource Management*. In Bulletin of Marine Science, 31(3): 673-680.

Kurien, John (1994). *Towards an Integrated Community Management of Coastal Fisheries*. In R.S. Pomeroy (ed.) *Community management and common property of coastal fisheries in Asia and the Pacific: concepts, methods and experiences*. ICLARM.

Madras, India (1985). *Helping Fisherfolk to Help Themselves: A Study of People's Participation in Fisheries Development*.

Mam, Kosal (1996). *Community-Based Resource Management: General Concept and Implication for Cambodia*. Prepared for the workshop on coastal fishery management organized by NEAP and MoE.

McManus, Linda T. (1995). *Community-Based Coastal Resources Management, Bolinao, Philippines: An Evolving Partnership Among Academe, NGOs, and Local Communities*. Coastal Management in Tropical Asia. No 5.

Patterson, Gordon (1994). *Community-Based Management of Forests in Cambodia: First Steps and Strategies for the Future*. Phnom Penh, Cambodia.

Patterson, Gordon (1994). *Local Peoples Participation in Reforestation: The Case for Forest Land Tenure*. Phnom Penh, Cambodia

Prak, Marina, Katlijn Demuyneck *et al* (June 1995). *Participatory Natural Resources Management in Tonle Sap Region*. Food and Agricultural Organization of the United Nations.

Quarto, Alfredo (1992). *Fishers Among the Mangroves*. Cultural Survival Quarterly, Winter 1992.

Rittibhobhun, Niti and Pisit Chansanoh (1993). *Community-Based Mangrove Rehabilitation and Management: A Case Study in Sikao District, Trang Province, Southern Thailand*. Regional Development Dialogue, Vol. 14 No. 1, Spring 1993.

Singh, Naresh (1996). *Community Adaptation and Sustainable Livelihoods: Working Paper*. International Institute for Sustainable Development.

Sorensen, Kim Worm (1997). *Community-Based Resource Management (NRM)*. European Commission Support Programme to the Environment Sector in Cambodia (SPEC).