

CBNRM Net Papers

Community-based natural resource management: Knowledge management and knowledge sharing in the age of globalization

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Preface

The document refers to a number of knowledge management elements organized hierarchically, including Sections, Categories, Groups, Items and Pages, located within an overall knowledge management structure that has been built up on the CBNRM Net website for management of CBNRM knowledge (definitions of these and other knowledge management terms are available at: www.cbnrm.net/resources/terms/). References throughout this document to these knowledge management elements accordingly are to specific parts of the CBNRM net website.

This document is identical with CBNRM Net's knowledge management Category *Overview*, available at: www.cbnrm.net/about/overview. In adapting it to PDF format, some changes had to be made, including removing all hyperlinks. Please consult the online version to access the many CBNRM Net pages that are referred to in this document.

The online HTML version of this document is being updated and revised regularly, based on user feedback. The first PDF version of this document was posted on the CBNRM Net website in January 2001, and was regularly updated – along with the HTML version – as follows: February 2001, March 2001, April 2001 and June 2001. The present version (August 2001) is the final one.

In connection with applying the new CBNRM Net Papers series layout in June 2006, some mistakes were corrected, especially old website links.

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Community-based natural resource management

Knowledge management and knowledge sharing in the age of globalization

Lars T. Soeftestad ^{1/}

Abstract. This document presents a framework for community-based natural resource management (CBNRM), including intellectual roots, inter-disciplinary approaches, historic evolution, and the developmental context. It also gives an overview of, as well as introduction to, CBNRM Net. The emphasis is on how a global emphasis on networking CBNRM knowledge, based on sensitive application of Information and Communication Technology (ICT), can yield results.

Keywords. Globalization, ICTs, Knowledge management, Network, Networking.

1 Introduction

Worldwide, people working on Community-Based Natural Resource Management (CBNRM), as practitioners, managers and researchers are talking about an urgent need for capabilities that enable direct communication between them. Such CBNRM networking capabilities would make it possible for people to exchange experiences, manage relevant knowledge, and support learning across countries, sectors, cultures, and languages, and in this way achieve better results.

The context for these changes includes increased emphasis on culture, local institutions, traditional knowledge, participation and participatory approaches, and NGOs and civil society, within an overall nation-state framework characterized by increasing weight on decentralization, governance and transparency.

CBNRM Net is a response to this call. It provides a powerful set of broad, robust and useful networking tools aimed at linking stakeholders. As a complete, integrated, and adaptable knowledge management tool, CBNRM Net is presented as a service to the global CBNRM community of practice.

To address these issues successfully is certainly a tall order. There are, however, three main reasons why one can be optimistic in this regard. First, there already are a large and growing number of people that are practicing CBNRM, at the local level and beyond, as well as others working towards the same goals in other ways, as managers, funders, researchers and in the private sector. Second, these CBNRM stakeholders are increasingly connecting with other CBNRM stakeholders. Thirdly,

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the growing availability of fast and cheap means of communication, that is, email and the World Wide Web, function as facilitating and amalgamating factors in making CBNRM stakeholders located in different countries and regions aware of each other and of the body of knowledge that constitute CBNRM, in short, in amalgamating and solidifying a CBNRM community of practice. Thus, the field of Information and Communication Technology (ICT) is very important for advancing the CBNRM agenda on a global level.

This document traces the development of these factors, and looks at the implications of their interaction and coming together, including the synergies. Also, it discusses the role of CBNRM Net in: (1) exploring the implications of these factors, (2) contributing to create the means for communicating knowledge and data between the CBNRM stakeholders that constitute this community of practice and (3) defining and moving this CBNRM process and agenda forward.

It is important to understand that CBNRM to a large extent is a grassroots agenda, a bottom-up approach to understanding how best to achieve results in connecting people around specific problems and developmental tasks, along both horizontal and vertical channels of communication and integration. CBNRM is an approach to building upon what exists at the local level, as well as at other societal levels, and connecting it. CBNRM is about taking local communities as a point of departure and empowering them, and create a social movement around managing local natural resources. In achieving this, CBNRM Net can contribute in important ways, including: (1) providing the tools and opportunities for CBNRM stakeholders globally to exchange views and experiences, (2) giving local communities a say in determining their future and in presenting this future to the outside and (3) providing opportunities for CBNRM practitioners and other stakeholders to influence the development of CBNRM. While a causal logic between these factors can be seen to exist – as presented above – this causality is more complex and there is in reality a complex dialectic and reinforcing relationships between them.

What is CBNRM? We can say something in response to this query with certainty. It came about, to a large extent, as the result of two types of processes. One process is a grassroots, bottom-up agenda, inspired by the goals of sustainable development and biodiversity conservation, gradually broadening and transforming itself to include also a social agenda, and becoming a broad social movement of sorts. The other process is a macro-level, top-down effort spear-headed by multilateral funding agencies, bilateral donors, and, above all, transnational NGOs and organizations devoted to practical work and research. The many actors, that is, stakeholders, and agendas that constitute these two processes are increasingly meeting, somewhere in the middle, aligning their experience, realizing that they have the same goals, and that they stand a greater chance of making a difference by joining hands, as well as their often different means and resources.

Beyond this, it is in the nature of CBNRM that it is not easy to define. It is so broad and vibrant as to elude easy classification and definition. The growing number of activities within the realm of CBNRM, as witnessed, for example, by the number of website that discusses or are devoted to CBNRM, is testimony to this. Also, it is very much an evolving agenda. Finally, many argue that CBNRM is a composite, an amalgam of different insights, methods, tools and approaches. A very important aspect of CBNRM is that it is not “owned” by anything or anybody, be it a discipline, a sector, a methodology or an approach, and that it continue in this way. That is, we must strive to prevent the institutionalisation and formalization of CBNRM, that it ends up as yet another catchphrase devoid of political content and loses its ability to inform, support and guide local people

to change their lives for the better. Above all, we must resist that it be reduced to yet another tool that is automatically employed. Thus, in a situation where people utilize CBNRM based on specific needs and idiosyncrasies and contribute their own knowledge to the existing knowledge base, a ready-made and straightforward definition may not only be difficult to arrive at, but may work against the very essence and broad goals of this subject.

Thus, it would probably be counterproductive, as well as defeating the purpose of the growing CBNRM project, to try to do so at this point in time. A formal definition of CBNRM will accordingly not be provided on *CBNRM Net* at the present time. There are, however, several instances where CBNRM can be demarcated, through tracing its perimeter to what lies beyond (see *Category Terminology*, www.cbnrm.net/resources/terminology).

Further down the road, the experiences with ICT in connection with CBNRM will be useful for employing such technologies in other sectors and development aid arenas in developing countries and countries in transition. Likewise, as CBNRM develops into its own, we need a discussion of CBNRM itself, a meta- or outside approach to the relationship between CBNRM, on the one hand, and a host of other issues, including the development business itself, on the other hand. Included in this are how these changes and developments impacts and affects CBNRM as a body of knowledge. There will be room for this too as CBNRM – and CBNRM Net – develops.

The argument in this document proceeds in a logical way. It starts with a broad overview of the *Background* (www.cbnrm.net/about/overview/background.html) to CBNRM, including the various existing initiatives and approaches and the experiences and lessons resulting from them, and leading to a set of *Propositions* (www.cbnrm.net/about/overview/propositions.html) about what needs to be done to advance the CBNRM agenda. In *Rationale* (www.cbnrm.net/about/overview/rationale.html) and *Goals and Means* (www.cbnrm.net/about/overview/goals.html) the reasons for proposing a global CBNRM networking capability, together with associated goals and means, are put forth. The issue of *Knowledge Management and Knowledge Sharing* (www.cbnrm.net/about/overview/km.html) in connection with devising and implementing such a networking capability is treated in detail. From this follows a detailed overview over the *Architecture and Content* (www.cbnrm.net/about/overview/architecture.html) of CBNRM Net together with some key *Design* (www.cbnrm.net/about/overview/design.html) principles. There are a number of *Challenges* (www.cbnrm.net/about/overview/challenges.html) with creating and implementing such a CBNRM networking capability that merits close attention and discussion. Key aspects of the *Implementation* (www.cbnrm.net/about/overview/implementation.html) of CBNRM Net are presented, including the pilot phase that lasts through December 2001. Finally, important aspects of *The Future* (www.cbnrm.net/about/overview/future.html), that is, the period beyond the pilot phase, are discussed, and some *Final Comments* (www.cbnrm.net/about/overview/final.html) are given.

2 Background

A number of separate advances, intellectual developments, events and issues, several of which are linked and mutually supportive, have come together and resulted in the emerging local-level management and developmental approach of CBNRM. It follows that CBNRM is a very eclectic and robust mix of ideas and approaches, contributed by a large number of people. CBNRM is very much a live, active and evolving agenda and approach.

The issues that together constitute CBNRM, in order of importance and/or relationship with each other, with the more fundamental issues listed first, are: (1) Knowledge management and knowledge sharing, (2) Civil society, local communities and NGOs, (3) Culture and local knowledge, (4) Resource rights, (5) Stakeholders and roles, (6) Sustainability and equity, (7) Practical work, (8) Research, (9) Networking activities, (10) Analysis and knowledge production, (11) Funding, (12) Training and capacity building and (13) Information and communication technologies.

Knowledge management and knowledge sharing

A structured approach to identifying, collecting, managing, producing, disseminating and using appropriate knowledge about development is emerging. As part of this, a specific knowledge management and knowledge sharing terminology is emerging, and is being utilized by CBNRM Net (see Category *Terminology*, www.cbnrm.net/resources/terminology).

The World Bank plays an important role in advancing knowledge management and knowledge sharing in development cooperation (see Page *Knowledge management and knowledge sharing* (www.cbnrm.net/about/overview/km.html)).

Specifically for Sub-Saharan Africa, the United States Agency for International Development (USAID), together with, among others, Associates in Rural Development, Inc. (ARD) and International Resources Group Ltd. (IRG), are developing various management tools to address a limited set of issues. These efforts rely heavily on electronic media and means of communication to address perceived problems in natural resource management (NRM) and CBNRM knowledge management.

In Sub-Saharan Africa, specifically in Southern Africa, there is an increasing amount of experimentation with knowledge management strategies applied to CBNRM, involving print, audio, and World Wide Web (WWW) media. These latter efforts are to some extent the result of collaboration between civil society, the public sector, and training and research institutions, with funding from international donors and transnational NGOs.

Civil society, local communities and NGOs

Since the 1980s we have witnessed an enormous increase in activities at the local level in developing countries and countries in transition. This activity and participation is testimony to an increasing understanding, on the part of local people in these countries, of the importance of becoming involved in determining the goals of local (as well as national) development, and the means to achieve them. International development has, to some extent, been instrumental in bringing about this watershed.

More important, the global changes in terms of increased local activity are contributing dramatically to changing the face of international development. Civil society is increasingly becoming an important factor in connection with democratization movements and decentralization of fiscal and governing bodies. Various types of participatory approaches to local development are fast becoming mainstreamed (see Item *NGOs*, www.cbnrm.net/resources/topics/issues/ngos1.html).

NGOs that are active in CBNRM have a whole host of responsibilities, from funding, through planning, implementing and managing activities and projects, through monitoring and evaluating such activities, to advocacy. In doing so, they in many cases act as intermediaries between various stakeholders, from the local community to the national level and beyond. It follows that NGOs cover the whole range from local NGOs to transnational NGOs. NGOs may be understood as initiators and

key actors in emerging social movements, and a case can be made for understanding the increase in CBNRM activities in Sub-Saharan Africa, in particular in Southern Africa, as a growing social movement.

Culture and local knowledge

Along with the attention given to participation and the local level comes a growing focus on the role and importance of culture and local knowledge (also called indigenous or traditional knowledge) in the development process. On the one hand, this has led to an understanding of the cultural foundation and context for local natural resource management, and the importance of local knowledge for CBNRM activities. The role of chieftaincy in West Africa is a case in point. On the other hand, culture and local knowledge is more and more used as a tool in organizing local people around specific CBNRM activities. In Southern Africa dance and theater is being used in this way.

Local knowledge also addresses local natural resource management regimes, including traditional rights to natural resources.

Resource rights

Rights to natural resources have, in the West, traditionally been conceptualized as being private and individual. This understanding was only too easily applied to how the West dealt with the management of local natural resources in developing countries. The course of events in countries in transition, on the other hand, led to a very different situation.

Civil society and NGOs in many developing countries and countries in transition have played a key role in raising new issues and giving them credibility and acceptance. One such issue deals with the concept of ownership of natural resources. Against the prevalent Western idea of individual or private property rights to natural resources, a broader conceptualization is emerging. This broader and more complex picture of how local natural resources are owned, utilized, accessed and managed is increasingly becoming an important issue also in investment and project activities (see Item *CPRNet*, www.cbnrm.net/web/cprnet/index.html).

As the knowledge about traditional forms of managing natural resources is growing, the complexity and variation in these systems or management regimes are becoming apparent. Likewise, the integration of these management regimes with almost all parts of culture and social organization is becoming clear. The next step, understanding that this traditional knowledge is not an obstacle to optimal NRM, but an aid and strength, is taking longer to take root. CBNRM plays an important role in making the necessary connections to enable and speed up this institutional and value change.

Stakeholders and roles

More and more people are becoming active in CBNRM. In addition to civil society and NGOs, recent additions include the private sector. As these broad stakeholder groups, as well as the public sector, increasingly interact, their approaches to using CBNRM makes clear certain fundamental differences, for example, in terms and goals. At the same time is also evidence of convergence. A case in point is the 'social marketing' approach that, while partly employing a terminology originating with the private sector, basically talks about the same issues of local-level economic, social and environmental sustainability that civil society stakeholders are concerned with.

A growing population and a diminishing resource base (these are of course causally connected factors) lead to increasing competition over these scarce resources. These changes, coupled with societal changes (including in economics, politics and value systems), contribute to increasing differentiation in needs and interests, in particular at the local level. Increasing differentiation in access to the means with which to satisfy these needs and interests leads to actual differences in livelihood standards. Such means include degree of control over local natural resources, which is diminishing at the local level.

These developments, and the synergies between them, are important for understanding the increasing levels of complexity when it comes to managing local-level activities.

On a related track, and largely caused by political developments that favor decentralization of fiscal and political arrangements, we are witnessing a move towards decreasing hierarchies, more democratization and increasing efforts at recognizing and involving local people. This contributes to the increase in number of stakeholder categories, through processes of objective and subjective definition of separateness and uniqueness.

Sustainability and equity

The recognition of environmental ills and the call for the necessity of achieving sustainable development has contributed to understanding the complexity of natural and environmental linkages. Furthermore, it has led to an increasing understanding of the equally complex nature of positive and negative feedback between local environments and the people living – and making a living – in these environments.

Sustainable development is gradually understood as being based on recognizing and supporting the close linkages between natural and social systems located on several levels. This, in turn, leads to giving equal emphasis to environmental and social sustainability. As a result, we are gradually coming to an understanding of both the preconditions and the means for achieving equity and justice in access to and use of natural resources.

Practical work

An increasing amount of practical CBNRM work is going on at the local level throughout the world. This work is found in different ecosystems and sectors, and in all parts of the world, but is most widespread and advanced in Sub-Saharan Africa. However, little is known about the extent of these activities, the results achieved, and the experiences gained. Furthermore, next to nothing is known about the amount, content and quality of any knowledge sharing and learning that may take place between CBNRM practitioners.

The growing emphasis on participatory approaches in development is addressing also NRM. In some cases this work is leading to more structured, progressive and adaptive approaches. To give an example, Participatory Rural Appraisal (PRA) shares some of the ways of working, insights and results that is the starting point both for CBNRM and for CBNRM Net.

A particularly noteworthy trend concerns the increase in cooperation between stakeholders at the local level, some of them fairly new to CBNRM. There is a growing understanding of the complexity caused by more stakeholders, with different interests, agendas, needs and resources, etc., becoming parties to CBNRM activities. This is, together with a general emphasis on the importance of collaboration for achieving sustainable management of local natural resources, paving the way for

efforts to align stakeholders located on different levels, and get them to collaborate also vertically. Solutions are more and more seen to lie in increased and structured collaboration between CBNRM stakeholders located on different levels, partly as a tool or a means, and partly as a goal in itself. Such collaborative approaches are known under several names, with 'co-management' being perhaps most widely used.

An interesting connection is developing between practical field-based work and research as regards co-management.

Research

Since the early 1990s there has been an increasing focus on doing research. Some of this research is done without any applied goals, and some is done with a more practical orientation and output in mind. Perhaps with the exception of CBNRM in Sub-Saharan Africa, this research deals largely with various sub-fields, specializations or sub-components, and often has a special geographic or regional focus (see Item *Research* (www.cbnrm.net/resources/topics/issues/research1.html) and Category *Internet*, www.cbnrm.net/resources/internet). Key organizational foci for such research include:

- Collective action and property rights – IFPRI's System-Wide Program on Collective Action and Property Rights (CAPRI),
- Common property resource management – International Association for the Study of Common Property (IASCP), and
- Conflict management, specifically in Asia – International Development Research Centre (IDRC).

Networking activities

Networking activities are here understood as activities that connect CBNRM stakeholders, in particular CBNRM practitioners, across existing boundaries, including sectors, cultures, languages, sectors and national borders.

The general model for traditional efforts at networking can be characterized as being more or less vertically integrated (through being funded and managed by international donors), country-focused and/or sector-oriented. Furthermore, many of these networking activities rely heavily on the Internet and an accompanying centralized management and one-way flow of information and knowledge.

Networking activities that are built upon the new vision of CBNRM knowledge management and knowledge sharing are beginning to emerge at the national and regional levels. Examples include agriculture and rangeland management (West Africa, Anglophone and Francophone countries), forestry (South Asia, Sub-Saharan Africa), rangeland management (the Sahel), and tourism, parks and wildlife management (East Africa, Middle East, South America, Southern Africa).

CBNRM began emerging as a term and a separate approach only in the early 1990s. This came about in an evolutionary way, following the increasing emphasis on this at the local, national and international levels, and for the reasons spelled out here. Two additional reasons should be mentioned: namely as part of the growing efforts to combat the negative effects of environmental management, and through increased emphasis on research.

The Common Property Resource Management Network (CPRNet), founded in 1995 and now available on the CBNRM Net website under a web-hosting agreement, is an early player in raising these participation and stakeholder issues on a global level, and in networking among producers and

users of CBNRM knowledge pertaining to various forms of collective rights to natural resources. A breakthrough for CBNRM work on the international level came, however, with the international CBNRM workshop in Washington D.C., United States in May 1998, organized jointly by World Bank Institute, International Development Research Centre and Ford Foundation (see Page *Knowledge management and knowledge sharing* (www.cbnrm.net/about/overview/km.html)).^{2/}

Networking is an important linkage between research on the one hand, and analysis and knowledge production on the other hand. The growing emphasis on networking plays an important role in analysis of CBNRM activities and in producing CBNRM knowledge.

Analysis and knowledge production

The traditional model of analysis was one in which research and applied work on CBNRM was largely separated from each other. There was a dichotomized situation built around – and in turn reinforced by – a division of labour between researchers that were largely working in the West, and practitioners working in developing countries. Research was largely confined to the academic sphere, and results did not necessarily make it back and down to the practitioners, and when it did, it arrived in a form that was seldom useful in applied work. To the extent that feedback linkages existed, they were often confined to a specific sector, the activities of one particular donor, or a particular country.

This is changing. Research and practical work is increasingly feeding into each other, and contribute to breaking down these boundaries. Participatory approaches, PRA, stakeholder analysis and social analysis/assessment are some examples of emerging bridging approaches that make this possible as well as carries the new way of linking research and practical work forward. The democratization and decentralization processes in developing and transition economies represent important pre-conditions for this to take place.

This is, in effect, the essence of the new thinking that sees CBNRM research and practice as integrated under the umbrella of knowledge management and knowledge sharing. Research produces CBNRM knowledge that is utilized in concrete CBNRM projects. Conversely, practical CBNRM activities produce CBNRM knowledge that informs research and analytical activities as well as other CBNRM stakeholders. Thus, the emerging vision of CBNRM is built around an integrated approach to use and production of CBNRM knowledge.

The growing global CBNRM networking activities are important in this picture. Through emphasizing contacts across sectors and countries along a South-South parameter, these activities are contributing to bridging the traditional research-practice division of labour.

Funding

The increasing amount of practical CBNRM work, some of which is research-related, has been possible partly due to a growing interest in financing such work. Key sources of funding for specific CBNRM-related activities include: Ford Foundation, International Development Research Centre, Rockefeller Brothers Fund and USAID. A lot of these funds go to Sub-Saharan Africa, but other regions are also targeted.

^{2/} The workshop is presented at: <http://www.cbnrm.net/web/cbnrm98>. All output can be accessed or downloaded from this page, including the list of participants, plenaries, case studies, regional working group recommendations, and the workshop report. An internal USAID report on the workshop is also available.

Transnational NGOs, including IUCN - The World Conservation Union, as well as multilateral and bilateral agencies, are becoming interested in CBNRM, and elements of CBNRM are gradually being mainstreamed in NRM investments and regular projects, specifically in Sub-Saharan Africa. This means, additionally, that CBNRM in some cases is being scaled up from the local level, for example, to sectors and countries.

Training and capacity building

There is a growing realization of the importance of training and capacity building, and work on this is increasing. It is noteworthy that some of this activity is taking place at the national level, with links down to the local level and up to the regional level. Traditional means of training and capacity building are largely employed, including meetings and workshops, but there are efforts to rethink the available tools. A lot of this activity is taking place in Sub-Saharan Africa, specifically Southern Africa (see Item *Training and capacity building*, www.cbnrm.net/resources/training)

There is increasing interest in using the new electronic media and channels of communication in advancing learning and capacity building in development work. The World Bank Institute is involved in this work, in particular in connection with distance learning.

The important international CBNRM workshop in May 1998 adopted very strong and broad-ranging recommendations to continue the work on CBNRM training, capacity building and networking (see Page *Rationale*, www.cbnrm.net/about/overview/rationale.html, and Group *Regions*, www.cbnrm.net/resources/regions).

Information and communication technologies

The ongoing changes with regard to ICT have an enormous impact on the overall context for development co-operation. ICT is changing the way we interact and do business in this area dramatically. In this connection the so-called digital divide is of major concern.

Among the recent work that has influenced the conceptualization of CBNRM Net is a report by the Norwegian Agency for Development Cooperation (Norad).^{3/}

3 Propositions

The preliminary experiences and results with CBNRM give rise to the following conclusions, arguments and propositions:

- *Nature and culture.* CBNRM is founded on the realization that ecological and social systems are closely interlinked, as are the goals of environmental and social sustainability. They are two sides of the same story, and must be accorded equal emphasis in the definition of problems as well as the search for solutions,
- *CBNRM is a process and a strategy.* Local people around the world are increasingly faced with similar problems in trying to manage local natural resources. CBNRM, as a growing body of knowledge and experience, is well suited to the diverse set of problems, issues and goals that confront them. This is because the CBNRM approach is not a checklist or a

^{3/} The report, titled "Information & communication technologies. Challenges and opportunities to Norad and its development partners," was published in 2000, and is available at Norad's website at www.norad.no.

blueprint, but an approach and a strategy. As such, CBNRM is adaptable to any local situation involving management of natural resources, independent of the resource in question, the problem at hand, past history of resource use, current organizational and institutional set-up, and future trends,

- *CBNRM stakeholders are users and producers of knowledge.* Following the gradual breakdown of the old dichotomy and division of labour between donors and recipients that was based on the premise that the North made resources and know-how available to the South, it is becoming evident that use of CBNRM knowledge is broadening. It is no longer limited to practitioners working in the field, but include, among others, politicians, managers and researchers. At the same time, these *users* of CBNRM knowledge are, in their various capacities, also *producers* of such knowledge,
- *CBNRM is broad.* CBNRM is very broad, and encompasses all disciplines. It is thus interdisciplinary in approach. In this way, it is able to link to and interact with a multitude of otherwise often contradictory views, goals and means,
- *CBNRM is transparent.* CBNRM is based upon the existence of an open and transparent society that furthers dialogue, exchange and sharing of knowledge between citizens. Conversely, CBNRM furthers these societal qualities,
- *The CBNRM community of practice is becoming increasingly complex.* The number of types of stakeholders – and their concomitant roles and means/goals sets – involved in CBNRM are growing fast, resulting in an increasingly complex situation,
- *Little communication between stakeholders.* A large amount of CBNRM activities are going on around the world, resulting in interesting experiences and valuable results. However, very few get to learn about and benefit from these experiences and results,
- *Need for CBNRM stakeholders to interact more.* There is a need for all users and producers of CBNRM knowledge to interact more and better, at the local level, within countries and internationally,
- *Email and the Internet as key means of communication.* Email and the Internet appear to be the best means of connecting the diverse group of CBNRM stakeholders, located in various settings around the world, and
- *Knowledge management and knowledge sharing.* CBNRM practitioners need to be involved in, and responsible for, CBNRM knowledge management and knowledge sharing.

From these propositions (see also Page *Background*), www.cbnrm.net/about/overview/background.html, and Group *Mission statement*, www.cbnrm.net/about/cbnrmnet/mission.html) it is clear where CBNRM is coming from. We are also beginning to see the shape of what is likely to come in terms of how CBNRM will develop. Here CBNRM appears to parallel or reflect the trends apparent elsewhere in international cooperation. We are beginning to understand the many and serious obstacles to influencing and channelling some of these trends. In the case of CBNRM, they include large and growing lacunae in terms of making available and sharing existing and new CBNRM knowledge, as well as the lack of an integrated, common and broad networking capability accessible by all CBNRM stakeholders.

4 Rationale

It is crucial to determine the rationale, or the underlying principles, for establishing a relevant networking capability to serve the global CBNRM community of practice. This rationale will have to reflect the views and standpoints and, ultimately, the needs of CBNRM stakeholders, in particular the practitioners.

Among other sources, the reports of the regional working groups among participants in the May 1998 international CBNRM workshop contain very explicit recommendations as to what is needed (see Category *International Workshop on CBNRM*, www.cbnrm.net/web/cbnrm98, and Category *Regions*, www.cbnrm.net/resources/regions/index.html). According to available information, including the needs among different stakeholders in the global CBNRM community of practice, key elements of this emerging rationale are:

- As the field of CBNRM grows, including the increase in activity on several levels and sectors throughout the world, it becomes increasingly difficult to achieve and maintain overview over all activities. Overall knowledge management will become very difficult, thus hampering the exchange of experiences and furthering of CBNRM. Because of this, it becomes important to devise integrative mechanisms on a high abstract level to facilitate such overview, to enable knowledge management, to maintain internal coherence and integration, and to aid CBNRM in developing in a broad, informed and unified way,
- Advanced CBNRM networking activities are optimally suited to societies and cultures where political and societal values and organizational principles support a certain degree of freedom in managing affairs at the local level. Such values and principles include accountability, governance and transparency. CBNRM, in turn, will have optimal impact in such societies and cultures, and will nurture such values,
- CBNRM activities are characterized by three main factors that determine the character of a networking capability: (1) activities take place at the local level, with links to the outside, but are nonetheless largely unknown to all but those directly involved, (2) CBNRM knowledge production and use is located in different domains, including: countries, cultures, ethnic groups, languages and sectors, and is thus fragmented and (3) CBNRM activities are processual in nature, with often vaguely identifiable beginnings and ends,
- CBNRM networking should aim at meeting the needs for knowledge, practical advice and management at the local, sub-national and national levels,
- CBNRM stakeholders are, at one and the same time, both users of CBNRM knowledge and producers of such knowledge. This means that stakeholder participation and involvement in such networking will be crucial,
- Stakeholder involvement should aim at CBNRM knowledge management and knowledge sharing. To achieve optimal results it is necessary to organize such networking capabilities on several levels, from the local through the national and regional to the global level. This, in turn, necessitates an overall and thorough approach to CBNRM knowledge management and knowledge sharing, and
- CBNRM is based on collaboration between stakeholders, in a structural and processual sense, in two main types of configurations: (1) horizontal collaboration and (2) vertical collaboration. In *CBNRM Net's* knowledge management structure these two separate types of collaboration are referred to as, respectively, cooperation and co-management (see *Group Structural terms*, www.cbnrm.net/resources/terminology/terms_structural.html).

As the global CBNRM community of practice is growing in numbers and strength, the need for such networking, and for relevant knowledge management and knowledge sharing services and tools, is increasingly being called for. This is so particularly among practitioners in developing countries and countries in transition.

5 Goals and means

There are websites that address specific needs for data and knowledge by the global CBNRM community of practice, including research, conflict management, common property resource management and institutions. There are no websites, or networking capabilities more generally, however, that address CBNRM broadly in terms of overall knowledge management and knowledge sharing, that are practice-oriented, that link all CBNRM stakeholders into an adaptive framework of using, producing and managing CBNRM knowledge, and that do this based on an advanced concept of networking, user involvement and user management. CBNRM Net aims to deliver such broad networking capabilities in the area of CBNRM.

As a gateway to and clearinghouse for CBNRM knowledge, CBNRM Net will move from the traditional and limited approach of *gathering* and *disseminating* knowledge, to a broader, more inclusive and interactive model that emphasizes *production* and *use* of knowledge. A key element, as well as necessary precondition, for this networked approach to CBNRM knowledge management and knowledge sharing is user/producer participation in managing the knowledge available on *CBNRM Net* (see Page *Knowledge management and knowledge sharing*, www.cbnrm.net/about/overview/km.html).

In collaboration with the CBNRM community of practice, CBNRM Net will work to identify, develop and provide such relevant and useful services and tools as to realize these goals for a truly interactive, equity- and knowledge-focused networking capability.

Based on the rationale identified for such a CBNRM networking capability (see Page *Rationale*, www.cbnrm.net/about/overview/rationale.html, and Group *Mission statement*, www.cbnrm.net/about/cbnrmnet/mission.html) the following goals and accompanying means for *CBNRM Net* are set forth:

Goals

CBNRM Net will:

- Play a key role in implementing the recommendations in recent CBNRM workshops and conferences, including the May 1998 international CBNRM workshop,
- Contribute to realize the potential inherent in civil society, participatory approaches, local social organization, culture and traditional knowledge in connection with managing local natural resources (this potential can be understood also as a means),
- Provide a broad and unified network interface for the use of the global CBNRM community of practice,
- Function as a gateway to, and clearinghouse for, all manner of CBNRM knowledge,
- Be a virtual meeting place for the growing CBNRM community of practice, thus making possible easy exchange of CBNRM knowledge, and through this support the increasing amount of practical work,
- Produce new CBNRM knowledge, and thus move the CBNRM agenda and community of practice forward, and
- Advocate the importance of training and capacity building in CBNRM. Specifically, contribute to determine the role of Internet in training and capacity building in CBNRM, in combination with select CBNRM Net networking tools.

Means

To reach these goals, CBNRM Net is:

- Building relevant and adaptive knowledge management and knowledge sharing structures and processes, and, through this, contributes to developing a structured and globally networked approach to CBNRM knowledge management and knowledge sharing (see Page *Knowledge management and knowledge sharing*, www.cbnrm.net/about/overview/km.html, and Category *Terminology*, www.cbnrm.net/resources/terminology),
- Supporting and utilizing the potential inherent in civil society, participatory approaches, local social organization, culture and traditional knowledge (this potential can be understood also as a goal),
- Recognizing the importance of involving CBNRM stakeholders and CBNRM Net users in managing the website,
- Giving equal emphasis to the use and production of CBNRM knowledge,
- Using the WWW and email as primary means of communication, and as backbone of its networking capabilities. It is important to be aware that they provide great opportunities and potentials, but also represent constraints and limitations that have to be taken into account (see Page *Knowledge management and knowledge sharing*, www.cbnrm.net/about/overview/km.html), and
- Collaborating with relevant organizations, be they donors, funding agencies, the media, NGOs or individuals. Such collaboration is essential in order to utilize existing knowledge and insight and to create synergies.

6 Knowledge management and knowledge sharing

Knowledge management and knowledge sharing in the context of CBNRM is concerned with identifying relevant knowledge, managing and analyzing knowledge, disseminating knowledge, and producing new knowledge. As part of the growing emphasis on knowledge management and knowledge sharing, a specific CBNRM terminology is emerging (see Category *Terminology*, www.cbnrm.net/resources/terminology/index.html).

It is a fundamental premise that the stakeholders have to be directly involved in all knowledge management and knowledge sharing activities. In the context of *CBNRM Net* this means user involvement in determining the website's architecture and content, as well as in managing and maintaining it. This is fundamental in order for *CBNRM Net* to become a useful tool for the global CBNRM community of practice.

An ongoing learning process

The Common Property Resource Management Network (CPRNet), which is hosted on CBNRM Net, and the May 1998 international CBNRM workshop, provided the initial inspiration and motivation (see Page *Background*, www.cbnrm.net/about/overview/background.html).

Valuable experiences to come out of these initiatives contributed in a decisive way to a needs assessment and the subsequent decision to set up CBNRM Net. Both seminal initiatives in the emerging global CBNRM community of practice, they are featured prominently: CPRNet as an integral part of CBNRM Net's knowledge management and knowledge sharing structure, and the

workshop as a source of CBNRM knowledge. CBNRM Net is building upon the substantial momentum created internationally by these and other advances.

Whereas the May 1998 workshop gave major emphasis to institutions and to institutional and organizational aspects of CBNRM, CBNRM Net addresses also other important issues, largely located in the realms of culture, environment and law. This is not to say that these issues are more important (they are not), or that they do not have institutional aspects to them (they most certainly do). However, issues like culture, environment and law are clearly important in their own right, and merit a special focus.

The conceptualization and understanding underlying these initiatives were informed and complemented by experiences and results from other events, notably a regional CBNRM workshop for West Africa (Niamey, Niger, October 1998) that broke important ground in several respects.

Regular and extensive contacts between a large number of CBNRM practitioners and other stakeholders worldwide are a key element in this learning process. The increasing involvement of CBNRM practitioners and *CBNRM Net* users in guiding the development of CBNRM Net are also important elements of this learning process.

Knowledge management structure

The knowledge on CBNRM Net is organized in a system of knowledge management elements that are structured hierarchically (see Table 1).

All knowledge management elements are extensively linked and cross-referenced throughout CBNRM Net. Depending upon the character of the knowledge in question, the knowledge management element 'Group' and 'Item' may or may not be available.

Table 1. The hierarchical structure of knowledge management elements

Level no.	Element name	Comments
1	Knowledge Management Section (abbreviated "Section")	Contains Categories, Groups, Items and/or Pages
2	Knowledge Management Category (abbreviated "Category")	Contains Groups, Items and/or Pages
3	Knowledge Management Group (abbreviated "Group")	Contains Items and/or Pages
4	Knowledge Management Item (abbreviated "Item")	Contains Pages and CBNRM knowledge
5	Knowledge Management Page (abbreviated "Page")	Contains CBNRM knowledge

Notes: (1) For definition of terms, cf. Group *Structural terms*, (2) The lowest KM element in anyone part of the structure, be it an Item or a Page, will contain CBNRM knowledge.

Overview of knowledge management elements

The key knowledge management Sections are: (1) *Resources* (www.cbnrm.net/resources) and (2) *Members* (www.cbnrm.net/members). Section *Resources* contains knowledge on a wide range of activities, events, issues, resources and topics, and Section *Library* contains, among others, several types of structured CBNRM knowledge.

Section Resources

The Categories in this Section contain the following knowledge elements:

1. *Activities and interventions* – Knowledge on the bureaucratic, judicial, policy and political levels,
2. *Countries* – Knowledge on countries,
3. *Events* – Knowledge on training and capacity building, meetings, workshops and conferences,
4. *Funding* – Knowledge on information about opportunities for funding,
5. *Internet* – Groups: (1) Electronic conferences, (2) FTP, (3) Gopher, (4) Newsgroups and (5) WWW. These Groups consist of Items, that is, Internet resources, and
6. *Literature* – Groups: (1) Literature and (2) Periodicals. These Groups consist of Items, that is, literature references and information about periodicals, and
7. *Regions* – Knowledge on the world's regions:
8. *Special* – Specific knowledge that for various reasons does not fit into other knowledge management elements.
9. *Terminology* – Groups: (1) Structural terms, (2) Processual terms, (3) Acronyms and (4) Dictionary. These Groups consist of Items, that is, terms and acronyms,
10. *Tools* – Specific tools,
11. *Topics* – Groups: (1) Ecosystems, (2) Sectors and (3) Issues. These Groups consist of Items, that is, specific ecosystems, sectors and issues,

Section Members

The categories in this Section contain the following knowledge elements:

1. *Members* – Select knowledge about each member,
2. *Forum* – Mewsgroup discussion items,
3. *CV's and jobs* – Members' CV's and information about jobs and consultancy opportunities,
4. *Announcements* – Networking knowledge between members, and
5. *Networking* – Knowledge on organizational aspects of *CBNRM Net*.

Implications for overall website knowledge management

The outlined approach to, and process of, knowledge management and knowledge sharing is, to a large extent, an extension of the emphasis on user involvement and user management. This determines overall website management (see Page *Design*) www.cbnrm.net/about/overview/design.html). Specific aspects of this include: no frames, boiled down HTML coding, no imagery, short pages, material in PDF format for easy and fast downloading, decentralized management, user involvement and user management, parallel emphasis on production and use of CBNRM knowledge, and strong emphasis on using, producing and sharing knowledge via email and the CBNRM Net Newsletter.

At the same time, the implications of using the Internet, specifically WWW, as a means of establishing contact between CBNRM stakeholders, as well as the limitations of the Internet for optimal and effective CBNRM knowledge management and knowledge sharing, and how to address any limitations of this approach, have to be focused upon.

CBNRM Net addresses the growing need for broad, in-depth and multi-faceted communication and sharing of data, information and results – that is, *knowledge* – between CBNRM stakeholders

worldwide. The fundamental connection between use and production of CBNRM knowledge is a key driving force behind CBNRM Net, and it includes a broad array of networking tools, approaches and services aimed at connecting the emerging global CBNRM community of practice. The intention is to contribute to managing global CBNRM knowledge through identifying, producing, collecting, analyzing, organizing and disseminating such knowledge, and, furthermore, to *use* this knowledge, and through this bridge the gap between policy and practice.

For many, knowledge management and knowledge sharing is closely connected with ICT. From the point of view of knowledge management and knowledge sharing, ICT is often understood as providing the arguments and tools with which to achieve the goals of knowledge management and knowledge sharing, partly through providing the necessary economy of scale. From the point of view of ICT, knowledge management and knowledge sharing is often seen as a possibility for broadening this technology beyond the traditional realms of the technical/technological sphere into the society at large. It is important to understand that there is no easy and straightforward connection between the two.

It is basic to CBNRM Net's approach to knowledge management and knowledge sharing that the promise of ICT not be accepted wholesale, but rather cautiously. CBNRM Net aims to try and avoid the several pitfalls of ICT in connection with management and sharing of developmental knowledge in various ways, as argued throughout the website. In its strong emphasis on *user involvement* and *user management*, CBNRM Net will contribute to implementing the recommendations in recent writing on ICT, and hopefully move beyond them, while maintaining a clear view of both the promises and limitations of ICT.

CBNRM knowledge is identified and prepared in collaboration with CBNRM practitioners and CBNRM Net users. Content provision and management responsibility for a large part of CBNRM Net will, in this way, over time be decentralized to Distributed Web Teams. These Web Teams will be responsible for determining, locating, producing, preparing, writing and submitting CBNRM content, as well as maintaining and updating such content (see Page *Terms and conditions*, www.cbnrm.net/admin/terms.html). Guidance on how to prepare and submit CBNRM knowledge is available (see Category *Guidance*, www.cbnrm.net/support/guidance.html).

The CBNRM knowledge network

It is important to be very open in determining what CBNRM is. The task of doing this is not about what to exclude but what to include. At the same time, the outcome is not the establishment of borders between what is inside and what is outside, what is considered to be important and what is not. Rather, it is the establishment of relevant categories of natural and social (including cultural, economic, political and social organizational) foci, or nodes, that exist on several levels, the knowledge that constitute these nodes, and the multiple and crosscutting relationships, or links, between them. Finally, the outcome implies increased ability to organize and generalize the resulting interactive knowledge, and share and disseminate it.

The CBNRM knowledge network has an open and adaptive architecture. There are two important aspects of this: (1) the borders that separate the realm of CBNRM are not fixed, but gradual and (2) the knowledge nodes will change over time, as will the relations between them and, accordingly, the position and character of the border area between the CBNRM knowledge web and the outside.

In this way, CBNRM will appear as a networked web of knowledge that consists of, and are organized around, nodes that are linked in various ways, directions and strengths. Some of the nodes in this knowledge network or web are core and permanent, with strong positive and negative links to each other. Moving gradually away from the core towards the periphery, one encounters smaller nodes that are linked to fewer of the core nodes and to increasing numbers of other peripheral nodes, in causal relationships that are less deterministic and/or of a more transient nature. This web of CBNRM knowledge should be understood as existing in a three-dimensional spatial continuum.

This understanding and representation makes clear the two-sided and mutually reciprocal structural and processual character of CBNRM. It also points to some important implications for accessing, using, producing, managing and sharing CBNRM knowledge that are networked in this way: (1) Knowledge is time-, level- and space-specific but also general, (2) knowledge is factual but also relational and (3) knowledge is concrete but also relative.

Specific local CBNRM issues or problems will, to a large extent, determine the exact node or point where one enters the knowledge web, how one goes about navigating and searching for relevant knowledge, and how one accesses and utilizes this knowledge. The open architecture means that CBNRM stakeholders largely will come to CBNRM through self-definition, and that – in each case – their relationship with CBNRM as a field of knowledge and practice is likely to be unique.

As a result of this, as well as the specific needs, interests, and agendas of individual CBNRM stakeholders that utilize the network, it will appear different to each. Because of this, they are likely to use and produce different knowledge. This will contribute to maintaining and developing CBNRM as a composite, robust and alive web of knowledge that will continue to inform, guide, instruct and benefit future generations of CBNRM practitioners.

7 Architecture and Content

CBNRM Net consists of the following Sections: (1) *Resources*, (2) *Webhosting*, (3) *Members*, (4) *Support* and (5) *About*.

In each Section, knowledge is organized in up to three knowledge elements that are organized hierarchically (see Page *Knowledge management and knowledge sharing* www.cbnrm.net/about/overview/km.html, and Group *Structural terms*). www.cbnrm.net/resources/terminology/terms_structural.html).

Section 1: Resources

This Section, which is the main knowledge archive aside from Section Members, has the following categories:

1. *Regions* contains CBNRM knowledge for regions,
2. *Countries* contains CBNRM knowledge about countries,
3. *Activities* contains CBNRM knowledge on projects and other applied activities,
4. *Events* contains CBNRM knowledge about events, including training and capacity building, meetings, workshops and conferences,
5. *Topics* contains CBNRM knowledge for ecosystems, issues and sectors,
6. *Tools* contains CBNRM knowledge on analytical and practical tools,

7. *Funding* contains knowledge on funding
8. *Internet* contains links and references to CBNRM sources on the Internet, and
9. *Terminology* contains definitions and usage of key CBNRM terms and acronyms,
10. *Literature* contains CBNRM literature references, including information on CBNRM-related periodicals, and
11. *Special* contains special knowledge.

Section 2: Library

This Section has the following categories:

1. *Newsletters* contains *CBNRM Net* newsletters,
2. *Cases* contains CBNRM case studies on projects and other applied activities,
3. *Logs* contains links to CBNRM material on the Internet,
4. *Documents* contains CBNRM documents, including reports, evaluations and papers that can be downloaded, and
5. *Administration* contains documents in connection with management of *CBNRM Net*.

Section 3: Webhosting

This Section provides web-hosting services. CBNRM Net makes available server space and gives technical advice to local groups, NGOs and networks that would like to have a presence on the Internet.

Section 4: Members

This Section addresses CBNRM Net members' knowledge and communication needs. Access is limited to members of CBNRM Net (see *Category Membership*). Categories: (1) *Members*, (2) *Forum*, (3) *CV's and jobs*, (4) *Announcements* and (4) *Networking*:

1. *Members* contains information about members (to be implemented),
2. Category *Forum* is a threaded discussion group devoted to practical CBNRM issues (to be implemented),
3. *CV's and jobs* contains information about members' CV's and information about jobs and consultancies,
4. *Announcements* is a place where members can post announcements about CBNRM knowledge management, including activities, events, issues and topics (to be implemented), and
5. *Networking* addresses issues pertaining to networking aspects of the global CBNRM community of practice generally, and CBNRM Net specifically (to be implemented).

Section 5: Support

This Section contains information and services aimed at supporting CBNRM Net members and other CBNRM Net users. Categories: (1) *Membership*, (2) *Forms*, (3) *FAQ*, (4) *Guidance* and (5) *Contact information*:

1. *Membership* gives details about membership in CBNRM Net,
2. *Forms* includes various on-line forms to facilitate communication between CBNRM Net members, website users and CBNRM Net management (to be implemented),
3. *FAQ* (Frequently Asked Questions) presents key information on CBNRM and CBNRM Net,

4. *Guidance* contains general and specific guidelines on preparing knowledge for CBNRM Net, and
5. *Contact information* includes contact information for *CBNRM Net* management.

Section 6: About

This Section contains overviews and introductions to CBNRM, the website and CBNRM Net. Categories: (1) *Overview*, (2) *Website* and (3) *Us*:

1. *Overview* presents the larger framework on what CBNRM is, and is a general introduction to the subject of CBNRM and CBNRM Net,
2. *Website* presents the website and CBNRM Net, and
3. *Us* presents the individuals and organizations involved in the website.

Other

Other important pages, elements and functions include:

1. *Contents*, *Page Map* and *Page Index* are navigational aids that increase the functionality of CBNRM Net,
2. *Main search interface* includes a search engine for searching CBNRM Net, as well as links and advice on researching CBNRM knowledge on the Internet, and
3. *Help* contains general help on a number of topics,
4. *News* gives brief notes on changes, updates and knowledge posted,
5. *Suggest* contains a 'tell-a-friend' form,
6. *Supporters* acknowledges the individuals and organizations that are contributing to CBNRM net, in one way or another, and
7. *Terms and conditions* sets out the reciprocal rights and obligations of CBNRM Net members, other website users and CBNRM Net management.

8 Design

The website emphasizes optimal sharing of CBNRM knowledge. This leads to the following two overall design principles: (1) cautious adaptation of the written word to the format and medium of the Internet and (2) form follows content and function. The content is CBNRM knowledge, and the function is to achieve optimal management and sharing of CBNRM knowledge.

The design is tailored to achieve this. The emphasis is on *communicating* CBNRM knowledge fast, reliably and effectively between members of the global CBNRM community of practice. Design elements like, for example, images and graphics are accordingly used very sparingly, while animations and audio and video streaming are not used at all (a separate photographic archive may be included at a later point in time).

Reasons for choice of design principles

There are three main reasons for this choice: (1) many CBNRM practitioners and CBNRM Net users, especially in developing countries and countries in transition, use low-end hardware, have slow connections and pay costly connection fees, (2) the task of managing a distributed and decentralized CBNRM content provision becomes easier and (3) maintenance is easier and requires fewer resources.

9 Challenges

There are several challenges with preparing, implementing and maintaining a complex, multi-page, and extensive portal website for CBNRM knowledge management and knowledge sharing. As a user of CBNRM Net, you may consider evaluating the website in light of the following questions and challenges:

1. How broad to define CBNRM – and CBNRM knowledge management and knowledge sharing – for the purposes of this website? That is, what to include and what not to include? A corollary is how to link with existing Internet resources?
2. How to divide the overall field of CBNRM into smaller parts that are concrete and practical, that is, manageable? As discussed above (see *Knowledge management and knowledge sharing* and *Architecture and content*), CBNRM knowledge is organized hierarchically in: (1) Sections, (2) Categories, (3) Groups, (4) Items and (5) Pages. Is this a useful way of identifying, organizing and structuring CBNRM knowledge?
3. How to integrate the various parts of CBNRM Net, and create a seamless way of navigating the website? Are there other ways of doing this, in addition to, for example, hyperlinks, navigations bars, search functions, table of contents, and a site map?
4. Who is the audience, that is, the CBNRM stakeholders, for this website? How to reach them? How to bridge the digital divide? How to determine their needs in terms of CBNRM knowledge, knowledge management and knowledge sharing?
5. CBNRM Net is, at present, aimed at those that have a certain understanding of CBNRM, or that are a CBNRM practitioner. At the same time, people who want to learn about CBNRM should also be targeted. How to cater to their needs? What about organizing training and capacity building in CBNRM? Could such training become part of CBNRM Net, that is, an online CBNRM training and capacity building capability?
6. A key feature of CBNRM Net is the parallel and mutually supportive emphases on user involvement and management, on the one hand, and knowledge management and knowledge sharing, on the other hand (see *Rationale* and *Knowledge management and knowledge sharing* above) is realized through, among others: (1) users submitting CBNRM knowledge and (2) users being responsible for CBNRM content provision and management. What are your views on this? How to achieve the separate but connected goals of user involvement and user management?
7. How to link the *use* of CBNRM knowledge with the *production* of CBNRM knowledge?
8. What is the need for technical advice on doing CBNRM? How to structure CBNRM Net in order to achieve optimal sharing and exchange of CBNRM knowledge?
9. What about languages? That is, how much of the website should be available in languages other than English? Which parts of the website? Which languages?
10. The aim is that CBNRM Net members – and members of the CBNRM community of practice more generally – can communicate in a fast and cost-effective way. The available means of communication are, mainly, email and the Internet. How to balance these means of communication, and when to use what form? Are there other ways and means of communicating that should be explored? What should CBNRM Net's overall communication strategy be?

10 Implementation

A number of strategic decisions have to be made in connection with the initial implementation of the website and CBNRM Net.

Pilot phase

The implementation takes place through a pilot phase that will last from March through December 2001. The pilot phase will be implemented by means of: (1) a set of *Tasks*, (2) clear *Priorities*, (3) specific *Resource constraints*, (4) a flexible *Timetable* and (5) early *Knowledge management activities*.

Evaluation of the Pilot Phase.

Following the pilot phase, an evaluation of CBNRM Net's activities and results will take place. You, the CBNRM practitioners and CBNRM Net users, will be invited to prepare the Terms of Reference and select those that will be responsible for the evaluation. This will be discussed in a future CBNRM Net Newsletter.

Tasks

A number of tasks will be performed during the pilot phase. Some of the more important ones are:

1. Prepare and implement a public relations campaign,
2. Identify Items and Pages, in collaboration with interested CBNRM stakeholders and practitioners, and collaborate with them on the content,
3. Once an Item or Page is prepared, identify and work with CBNRM practitioners that are interested in sharing the responsibilities for maintaining and updating it,
4. Organize specific CBNRM Net knowledge, including case studies and literature, into searchable databases, and
5. Publish the CBNRM Net Newsletter.

Priorities

The following two priorities have been made:

Geographical focus

In the pilot phase the focus will, to a large extent, be on Sub-Saharan Africa. This has to do partly with the fact that a large and increasing number of CBNRM activities are going on in this region, partly with a needs assessment, and partly with the necessity of identifying a manageable area to cover during the pilot phase.

Breadth versus depth

In the pilot phase, the focus will be on showing the potential of this networked approach to CBNRM knowledge management and knowledge sharing, involving use and production of CBNRM knowledge. Towards this, the emphasis will be on breadth of coverage, especially in Section *Resources*. As a consequence, some among you may find that the depth and detail are lagging somewhat behind. With time and increased user involvement this imbalance will be rectified.

Resource constraints

Setting up and maintaining a large, interactive website of this nature requires resources. The Norwegian consulting firm "CBNRM Networking" has agreed to function in a coordinating role, with overall responsibility for preparing, launching and maintaining CBNRM Net, including financial obligations, before as well as during the pilot phase. It would be important to begin discussing fairly soon how to secure resources to manage and develop CBNRM Net beyond the pilot phase.

The suggestion to create Distributed Web Teams with responsibility for content provision and management is a means to realize the goals of user involvement and user management. At the same time it will reduce the costs.

The website is currently available only in English. It would be crucial if key parts, including *Category Overview* (that is, this document), would become available also in French and Spanish. If possible, these key parts should be translated also into Portuguese and Russian.

Timetable

A timetable for key activities to take place during, and immediately following, the pilot phase has been prepared (see Table 2).

Table 2. Timetable over key implementation activities

No.	Period	Activity
1	March – June 2001	Information and public relations campaign
2	May - December 2001	Populate and revise the website according to plans and user feedback, as well as contributed and solicited knowledge
3	Summer 2001 - onwards	Publish the CBNRM Net Newsletter
4	December 2001	Organize the evaluation of the pilot phase
5	January 2002	Evaluate CBNRM Net. Distribute the evaluation report in a CBNRM Net Newsletter

Knowledge management activities

Work on identifying specific knowledge Items and Pages in collaboration with selected CBNRM stakeholders is ongoing. This applies specifically to Section *Resources* and Section *Library*. Information about new knowledge Items and Pages are posted regularly (see *Page News*, www.cbnrm.net/support/news.html).

If you are interested in contributing CBNRM knowledge, or would like to prepare a specific Item, detailed guidance is available (see *Category Guidance*). To discuss this, write to: <mail at cbnrm.net>.

11 The Future

Beyond implementing the website and CBNRM Net, and evaluating the pilot phase, and granted that necessary funding will be secured, several important changes and developments can be envisioned. Among them:

1. Some changes would centre on further decentralization of content provision, and could include regional editorial boards for the CBNRM Net website and the CBNRM Net Newsletter. Such regional initiatives would likely utilize regionally important languages, for example, French in West Africa. To further increase access and usability, regional mirror sites could be set up,
2. One important change would be to move from a limited stakeholder involvement in knowledge management and specific content provision, through Distributed Web Teams, to stakeholder involvement in overall website management,

3. Initial comments from CBNRM practitioners indicate that there is substantial interest in building up the online case study database (see *Category Cases*, www.cbnrm.net/members/cases). A concerted strategy to develop this tool should be made, together with efforts to locate existing material, and invite CBNRM Net members and other CBNRM practitioners to produce case studies specifically for CBNRM Net, and
4. In a concrete CBNRM context, we often find that the right technical, environmental, social, language or facilitating expertise is not available, when and where it is needed. CBNRM Net can play an important role in connecting those that *have* specific CBNRM knowledge expertise with those that *need* it. This can be done through use of existing CBNRM Net tools as well as new ones, for example, an online CBNRM consulting service.

12 Final Comments

According to many CBNRM practitioners, the most important challenge and need lies in connecting CBNRM practitioners within countries and regions. CBNRM Net aims to contribute to increase the communication and learning *between* stakeholders located in specific countries and regions.

The emphasis on distributed knowledge management, and on knowledge provision and knowledge sharing, is important because it enables stakeholder participation and involvement while ensuring that the users determine how CBNRM Net should be structured and evolve. The other side of this argument is that active and concerned CBNRM stakeholders will have a unique possibility to influence and determine the content of CBNRM Net and, through this, the direction in which international CBNRM activities will develop.

CBNRM Net is keenly aware of the existing structural inequalities with regard to the management of, and access to, global development knowledge, and takes them as a point of departure for its own mission. To address these inequalities in the area of CBNRM knowledge management and knowledge sharing, CBNRM Net aims to develop and utilize a South-South perspective. Guided by an appreciation of the current limitations and bottlenecks in realizing the full potential of ICT, efforts will be made to use such technologies to develop direct, horizontal and broad ways and means of communicating between CBNRM practitioners and other members of the global CBNRM community of practice. The major problem of the digital divide will be addressed through the parallel emphasis on *user involvement* and *user management* on the one side, and *use* and *production* of CBNRM knowledge on the other side.

Annex 1

Overview of the knowledge management structure on CBNRM Net

No.	Section	Category	Group	Item	Comments
7	Resources	Regions	NA	Region	
8		Countries	NA	Country	
9		Activities	NA	Activity	
10		Events	NA	Event	
11		Topics	Ecosystems	Ecosystem	TBI
12			Sectors	Sector	TBI
13			Issues	Issue	partly implemented
		Tools	NA	Tool	
		Funding	NA	Posting	
16		Internet	Electronic conf.	Posting	
17			FTP	Posting	TBI
18			Gopher	Posting	TBI
19			Newsgroups	Posting	TBI
20			WWW	Link	
14		Terminology	Structural terms	Term	
15			Processual terms	Term	
			Acronyms	Abbreviation	
			Dictionary	Term	
21		Literature	Literature	Reference	
22			Periodicals	Reference	
		Special		Issue	To be used intermittently
23	Library	Newsletters	NA	Newsletter	
24		Cases	NA	Case study	
25		Logs	Electronic conf.	Posting	
26			Gopher	Posting	TBI
27			FTP	Posting	TBI
28			Newsgroups	Posting	TBI
29			WWW	Link	
30		Documents	NA	Document	
31		Administration	NA	Document	
	Webhosting	na	NA	Network/Group	
32	Members	Members	NA	Person data	TBI
33		Forum	NA	Discussion group	TBI
34		CV's and jobs	CV's	Personal info.	
35			Jobs	Posting	
36		Announcements	NA	Document	TBI
37		Networking	NA	Document	TBI
38	Support	Membership	NA	Document	
39		Forms	NA	Form	TBI
40		FAQ	NA	Q & A set	
41		Guidance	NA	Document	
42		Contact info.	NA	Document	
1	About	Overview	NA	Document	
3		Website	NA	Document	partly implemented
4		Us	Reg. of members	List	
5			Supporters	Individual	
6			Management	Individual	

Notes : (1) NA = not available, (2) TBI = to be implemented.