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Gumare-Qangwa Workshop Report

Towards developing a community-based natural resources assessment system

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Background

The Agency for Co-operation and Development is a consortium of international non-governmental organisations whose aims are to establish local non-government structures with a view to promoting self-reliant, participatory development. Community Based Natural Resources Management is one of the areas within the ACORD programme with the aim of working towards improved natural resources management and more equitable access to the resources. The Natural Resources Management (NRM) team has been established whose purview is to facilitate all issues pertinent to CBNRM; such as,

- Increasing awareness of NRM related policies;
- Helping communities to develop strategies to better manage their natural resources; and
- Helping communities to develop sustainable projects.

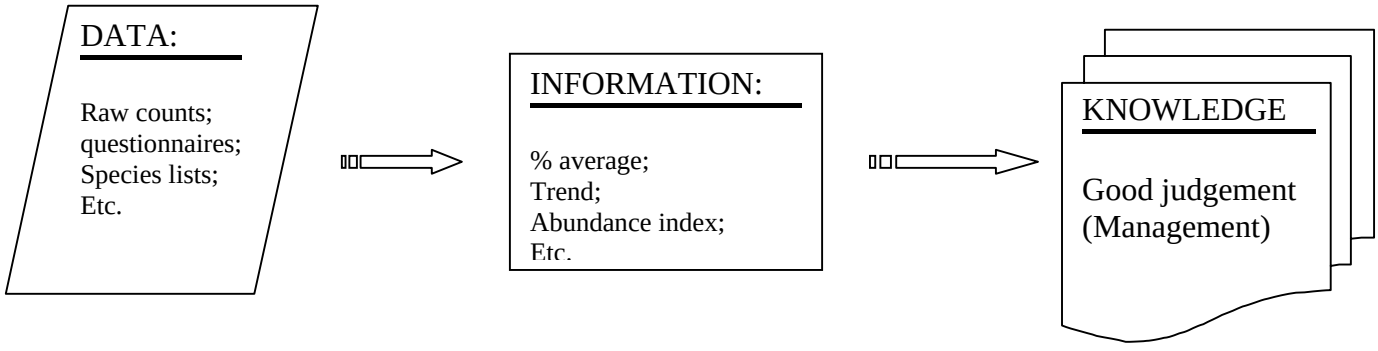
The CBNRM projects within ACORD currently entail the strengthening of communities in Controlled Hunting Areas (CHA) NG 12/22/23, as well as assessing the potential for CBNRM activities in CHA NG 3.

Introduction: Natural Resources Inventory and Monitoring Workshop

Innovative Investments (Pty) Ltd. (Natural Resources Management Consultants) were engaged by the Agency for Cooperation in Research and Development (ACORD) to provide training for ACORD staff (from 4th to 5th May, 2002) on the theory and practice of natural resources inventory and monitoring. The consultants later facilitated a field exercise on natural resources assessment (inventory) in Qangwa, one of the communities supported by ACORD in Ngamiland.

An essential first step in the process of CBNRM development is to undertake an assessment of natural resources in an area to be managed. That is so because any system must be understood in order to be managed.

Which means



Therefore,

- Natural resource assessments can generate knowledge about:
  - which resources are useful commercially;
  - what the consequences of exploitation are on the resource itself;

- Natural resources assessments can inform sensible and appropriate management of natural resources.

- Different types of assessment can be made which can focus on:

  - a specific natural resource, including its abundance or potential for future supply, through resource inventory; or
  - use of the natural resource in the market, such as market or product surveys, biodiversity inventories (or species lists), and cultural studies.

Definition of CBNRM

CBNRM is an evolving agenda that is so broad and vibrant as to preclude easy classification and definition. However, CBNRM practitioners do recognize and agree that it essentially came about as a 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 spearheaded, perhaps, by multilateral funding agencies, bilateral donors, and, above all trans-national NGO's and organisations devoted to practical work and research" (CBNRM Net). Furthermore, "the many actors (stakeholders), and agendas that constitute these two processes are increasingly meeting, somewhere in the middle, aligning their experiences, 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 different means and resources" (CBNRM Net). Due to its very 'complex' nature, most practitioners are bound to avoid any offer of a definition for CBNRM; however, it is submitted that at the least a working definition should always be provided so that in the end we would all know "what we are talking about". It was in that context that in early 2001, the Netherlands Development Organisation (SNV) convened a workshop for its CBNRM practitioners from east and southern Africa in order to exchange experiences and, most importantly, to formulate a common language for CBNRM.

After intense deliberations, CBNRM was defined as follows:

Community-Based (**CB**): Actions that are controlled by and benefit a community.

Resources (**NR**) : Naturally existing common-property resources excluding minerals:

- Water;
- Soil;
- Wildlife;
- Forests;
- Non-timber forest products;
- Rangeland;
- Non-grass products (veld products)
- Freshwater and marine products.

Management (**M**) : Decision-making and action by a community based on its understanding of the state of a resource with an aim to ensure a sustained contribution to livelihoods.

Management actions might include the following:

- Counts / inventories / catch assessments;
- Sustainable harvesting techniques;
- Monitoring;
- Domestication;
- Rehabilitation;
- Definition of rules and regulations (e.g. when or where to harvest, net sizes, etc.)
- Definition of management objectives.

The above definition is significant especially when one considers that CBNRM in Botswana can be taken to be almost synonymous solely with utilisation rather than management *per se*. Indeed such a scenario may have led to others referring (perhaps esoterically so) to ***Community Based Natural Resources Utilisation (CBNRU?)*** and the ***monetarisation*** of CBNRM.

Uses of information from natural resources assessments

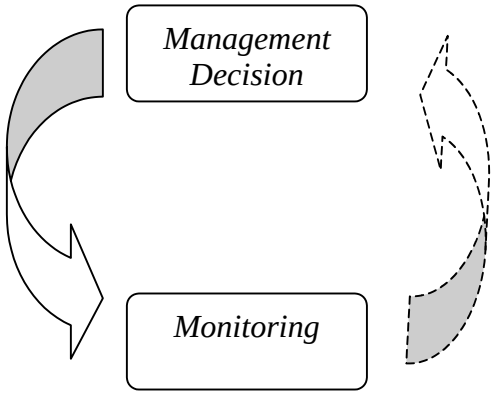
Natural resources assessments can generate information at different levels of management for a variety of purposes:

LOCAL LEVEL	■ determining sustainable harvesting quotas ■ monitoring the state of the resource ■ demonstrating sustainability to persuade authorities to allow harvesting (that is, to dictate policy)
NATIONAL LEVEL	Strategic planning, including: ■ deciding whether to allow export quotas ■ considering promotion of resource-based industries
INTERNATIONAL LEVEL	Informing conservation of endangered species, e.g. CITES. Note: This usually relies on national level data.
OTHER (USUALLY INTERNATIONAL)	Fora discussing: ■ criteria and indicators for sustainable forestry ■ certification ■ Convention on Biological Diversity

Given that natural ecosystems are dynamic, static baseline knowledge (for example, natural resources inventory) alone is not sufficient for long-term management.

Monitoring, data collection and analysis on a continuous systematic basis, based on a periodically updated inventory should be designed to form an integral part of management plans.

That is to say:



A sound management decision will among other things:

- use sound scientific data and observations that are reasonably available and derived from generally acceptable professional practices;
- incorporate human values and social implications;
- contain feedback, evaluation, and modification mechanisms to continually correct course; and
- be supported by an adequate record that documents the process and a reasoned connection between the decision and the facts or data upon which it is based.

In the diagram above, a feedback mechanism is represented by the dotted arrow. The process is essentially a part of a science-based approach known

as **Adaptive Management** . In this approach management actions are considered to be experiments which accommodate the uncertainties inherent in natural and social systems, thus integrating economic, social and ecological issues in decision-making. The approach works on the basis of best-bet models that are modified as new information is made available through monitoring and other means, and achieving quality improvement through a "plan-do-check-adapt" process that continually infues new information from science, laws, and human values.

Justification for science-based approaches in natural resources assessments

'Science is not the acquisition of truth, but rather the perpetual quest for it' (Futuyma, 1983).

In science the objective is to provide the most reliable and reasonable explanations for natural phenomena using experimental and analytic procedures. Peer review of the application of such procedures and the resulting conclusions provide a systematic understanding about whatever phenomena is studied. Hence, scientific information is more reliable than common sense or experiential knowledge. Biometry, or the application of statistical methods to the measurement (or assessment) of biological objects (or natural resources) is an example of a science-based approach to natural resources management.

CBNRM practitioners are faced with the challenge to make biometric methods accessible to communities. That is due to the realization that communities do need biometric (quantitative) data. For example, communities might be required to provide quantitative data as the basis of a management plan for submission to government for approval; or there might be an urgent need for reliable quantitative information where a resource is severely threatened.

Although the value of local people's participation in resource assessments cannot be questioned, there is a debate about whether participatory inventory can or should be biometrically rigorous, since

- Biometric methods typically require sophisticated techniques, which are inappropriate and/or undesirable for use by local, untrained people. Where participation and learning is more important than biometric rigour, it is argued that the latter can be sacrificed.
- However, non-biometric social science techniques rarely collect information that is reliable enough to guide management decision regarding sustainable harvesting levels. Sacrificing biometric rigour would mean denying that local people need reliable information or robust management prescriptions.

Statistics is important because it provides reliable, good quality information.

According to the FAO, biometric rigour is critically important for:

Livelihoods	Giving the right advice. Decisions based on resource assessments can influence the long-term survival of species and thus livelihoods.
Exploitation	Avoiding over-harvesting. Good quality information is important to ensure that decisions do not lead to decline of the target species.
Valuation of tropical forest resources	Allowing comparisons. The use of natural resources data by people not involved in the inventory requires some level of standardisation of what is measured and data quality. It is difficult to compare results from assessments that are carried out differently.
Strategic overviews	Planning and prioritisation. Often data used for national, regional or international statistics come from local assessments of natural resources. Such large-scale data would only be as reliable as the data it uses.
Credibility	Avoiding political bias. Ensuring that data are biometrically sound can add weight to recommendations based on that information. Where governments are to defend their reasons for setting quotas to those who lobby for higher (industry/trade) or lower (conservationists) levels, reliable data are important.

For a solid science base for decision-making, data accuracy and precisions as well as the techniques used for data collection should be those that would generally be accepted by the natural resources profession. For biometric rigour it means:

- Objectivity in sampling design – to avoid bias in choice of sampling plots.
- Number of plots – sample size should be representative of the target population.
- Independence of observations – sample plots should ideally not be close together.

Natural resources inventory and monitoring activities

According to Mentis (1984), 'to monitor is to maintain a regular surveillance to test a null hypothesis of no change in predefined properties of a system which is vulnerable to impacts, the nature, timing and location of which are not necessarily known'. Monitoring can be short-term or long-term. It

allows one to assess whether the interventions made have been successful and how they could be improved.

The first step in this activity is to undertake an assessment, or inventory, of the existing natural resources, so as to provide baseline data against which any changes in the future may be compared.

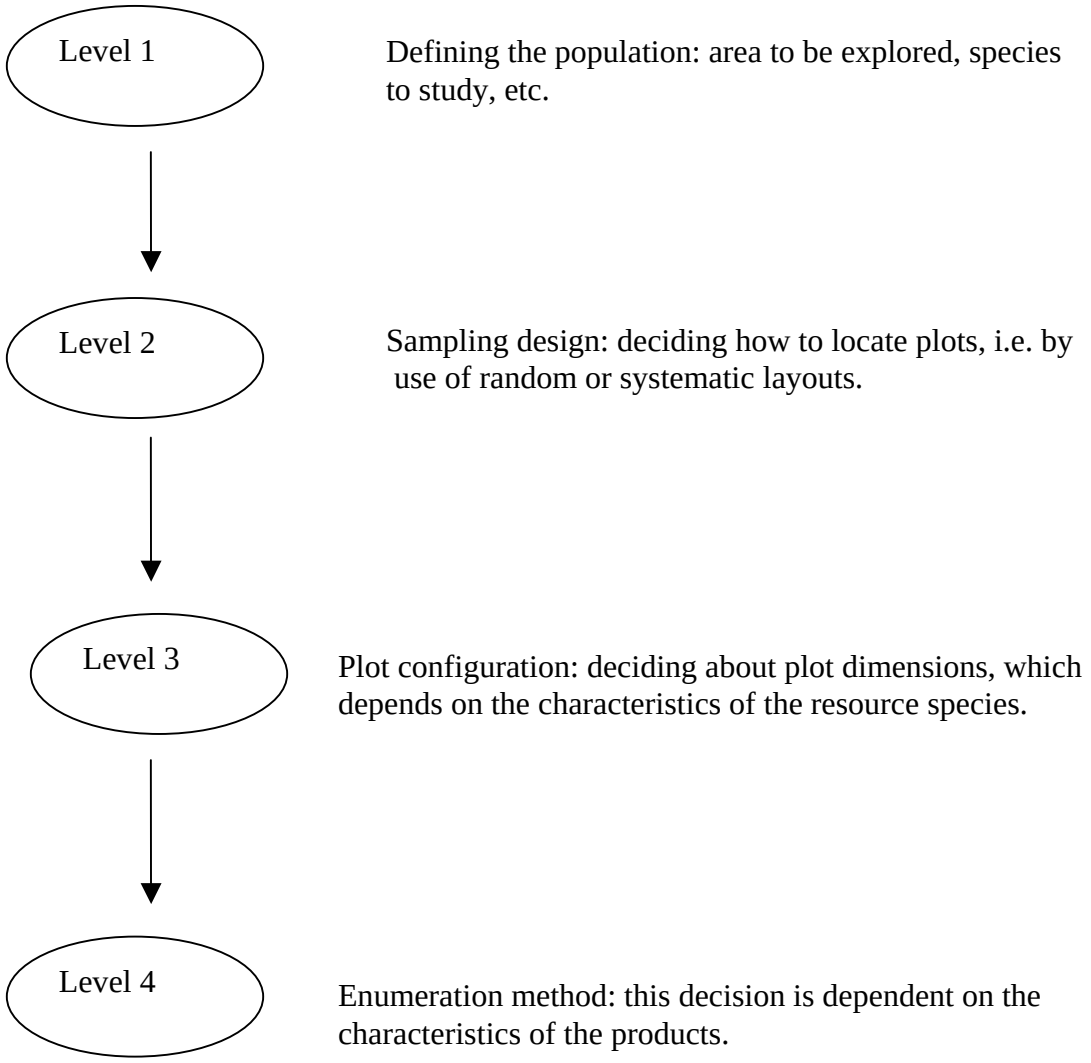
The most important well established measurable quantities in vegetation sampling are:-

- Density = the number of individuals.
- Frequency = the number of times a species is recorded at a given number of sample points.
- Cover = either of crown and shoot area or of basal area.
- Biomass = obtained through cropping and usually expressed in fresh weight and/or dry weight.

Quantitative inventories

Quantitative (or biometric) inventory essentially refers to how much of a resource is present (ABUNDANCE). There are many designs which can be adopted to undertake natural resources inventories because there are many different types of natural resource – plant and animal. However, all methods to inventory these natural resources contain four basic elements, as illustrated below:

Figure 1: Showing the basic structure of a quantitative inventory design



Methodologies can be adapted according to the species being assessed and the available time, money and human resources; the level of adaptation would also depend on the importance of any respective natural resource in the inventory. The following clear contexts can however be distinguished:

- **Single resource inventory**: where the inventory seeks to quantify the abundance and distribution of a single natural resource.
- **Single purpose, multiple resource inventory**: where the inventory looks at more than one resource for the same reason, that is, a strategic inventory for several different natural resources. The purpose for inventory in this context is usually to provide qualitative information to assist management planning.
- **Multi-purpose inventory**: where natural resource inventory takes place during inventories for other purposes, such as timber management or watershed management.

The type and purpose of inventory in Qangwa

A single purpose, multi resource inventory was carried out for Qangwa following the theoretical session in Gumare. The exercise was effectively a follow-up to earlier initiatives by ACORD to evaluate and promote use of natural resources in the area. For example, a community meeting was held in Qangwa in April 1999 to launch the Ngamiland West Participatory Development Initiative (NWPDI), which had been initiated as early as 1995. One of the objectives of the NWPDI was 'to promote sustainable natural resources management techniques'. A participatory Rural Appraisal (PRA) was later conducted in Qangwa from October 1999 to January 2000, where natural resources were identified as one of the opportunities for the development of the Qangwa community some of which, when developed, could benefit the people.

Involving the Qangwa people

Without a doubt, if natural resources inventory and monitoring is to contribute to improved sustainability of local livelihoods then local people should participate actively at all stages of decision making, namely:

- Deciding whether to do an inventory;
- Deciding on objectives and design of the inventory;
- Deciding on protocols for field work and data analysis.

Reasoning

Participation can:

- be an opportunity for a two-way learning process;
- help to generate a sense of responsibility for the environment;
- help people to understand how and why management decisions are made, making decisions more acceptable locally in the long term, and making the whole process more sustainable;
- help people see the potential economic benefit of management changes and thus ensure that those management practices are adhered;
- help to resolve conflicts between managers and harvesters of the resource by building trust and securing access; and
- ensure that the data collected will actually be useful for management.

To what extent can communities be involved?

According to the FAO (2001) there are varying degrees to which local peoples can become involved in natural resources assessments:

Degrees of participation – from co-option to collective action (After FAO, 2001):

Mode of local people's participation	Type of participation	Outsider control	Potential for sustaining local action and ownership	Role of local people in research and action
Co-option	Tokenism – representatives are chosen but have no real input of power	**********		Subjects
Co-operation	Tasks are assigned, with incentives; outsiders decide agenda and direct the process	*********		Employees / subordinates
Consultation	Opinions asked; outsiders analyse information and decide on a course of action	*******		Clients
Collaboration	Local people work together with outsiders to determine priorities; outsiders have responsibilities for directing the process	*****	***	Collaborators
Co-learning	Local people and outsiders share their knowledge to create new understanding and work together to form action plans; outsiders facilitate	***	*****	Partners
Collective action	Local people set and implement their own agenda; outsiders absent		*********	Directors

**** denotes relative strengths

During the workshop it was agreed that the most relevant mode of participation for Qangwa community was 'Co-learning' which was also in line with ACORD's overall strategy for intervention.

Once the local people have become involved, there are various ways in which their indigenous knowledge might be put to use; such as:

Local knowledge	Example of use in inventory
Species identification	Local tree spotters can be useful in the field
Important economic species	Can highlight species to include in inventory (e.g. Resource Vulnerability Assessment (RVA))
Vegetation classification/description	Can be used for stratification
Micro-climate types and distribution	Can be used for stratification
Soil types and distribution	Can be used for stratification
Harvesting techniques and frequency	Can improve enumeration methods and frequency
History of availability	Helps to prioritise species to include according to the level of threat or change
Current estimation of availability	Helps to prioritise species to include – and influences the decision on whether inventory is necessary
Ecology and distribution of species	Helps to decide on the most appropriate sampling method
Human interaction with environment (e.g. existing management)	Influences inventory objectives and design
Forest and resource value	Influences management objectives and hence inventory objectives
Socio-economic factors affecting natural resource management	Influences decision on whether to have inventory and its objectives and influences interpretation of inventory results

Some of the methods in social science data collection include:

- Rapid Rural Appraisal (RRA)
- Participatory Rural Appraisal (PRA)
- Participatory Learning and Action (PLA)
- Gender Analysis
- Objectives Oriented Project Planning (ZOPP)
- Appreciation-Influence-Control (AIC)
- Social Assessment

The methods are based on participatory approaches to gain local involvement and are more concerned with including local knowledge than providing biometrically sound information about the natural resources.

Other methods used in natural resources assessments are:

Biodiversity inventory

It is basically a list of biological entities from a particular site or area. For example, *Botanic survey,* looking for landscape scale patterns.

Ethnobotany

The study of the interaction between people and their environment, including the plants they use.

For example,

- Species Use Values for plants
- Rapid Appraisal Method for approximating wildlife presence and relative abundance (Flyman and Mading, 1997)

Economic methods

They assess the contribution of natural resources to local and macro economies through marketing and adding value, and evaluate the costs and benefits of including natural resources in management plans.

For example,

- Market and income studies assessing the income generating potential of natural resources.
- Cost-benefit and valuation studies looking at the current value of the resource to different stakeholders, and can be used to compare values of different land uses. For example, retaining forest cover VS. conversion to agriculture.

Outputs of the Gumare workshop

The following can be taken as outputs of the workshop in Gumare:

1. Criteria and and considerations towards developing a quantitative natural resources inventory and monitoring system for Qangwa were made.

    - The techniques employed in the inventory method must be fast, repeatable and efficient;
    - The system must embody strong local participation;
    - A reasonable level of biometrics must be incorporated into the system. The workshop participants evaluated a range of objectives from other natural resources assessments and concluded that the level of biometric rigour needed for Qangwa was HIGH, where three levels of biometric rigour would be identified as:
        - HIGH – needed when quantitative data are required for national strategies or for management decision-making.
        - MEDIUM - for example, mapping studies that indicate relative abundances.

- LOW – adequate for value judgements and non-quantitative issues, and for 'quick sweeps'. (Source: FAO, 2001).

- The system must generate information for both plant and animal (wildlife) resources.

2. Designing the inventory and monitoring system

Using a hybrid of conventional ecological and participatory techniques, the Qangwa Natural Resources Assessment (QNRA) system was developed by the participants. The system will be elaborated in a separate report but contains the following components:

A. Vegetation field data sheet to collect information on plant resources abundance and rangeland conditions.
B. A 'Rapid Appraisal Method' to provide a first approximation of wildlife (animals) presence and relative abundance, by employing interviews with local people.
C. House-to-House interviews to collect information on plant species use by local people. The information is collected on all species recorded during the vegetation survey.

3. Field exercise in Qangwa and surrounding areas

The exercise was conducted from the 8th to 12th May 2002 in partnership with selected members of the Qangwa community. Before the exercise, the Headman at the *Kgotla* (communal meeting area) convened a community meeting to introduce the system; community members known to have a good knowledge of plants (names and use) were then appointed to join the NRM team members and consultant from ACORD.

Preliminary appraisal of the QNRA system

1. Vegetation sampling

Field operators for the vegetation sampling technique were trained at the first sampling and were able to apply the technique immediately thereafter; the operators had gained sufficient efficiency after the first three sites only. After that no coaching from the facilitator (consultant) was required. The consultant was then able to execute other essential tasks of the field exercise.

The principle of 'multiple operators' was used for all visual estimates and plant species identification, always employing at least three operators per event (observation). All disagreements among operators were debated and the most reasonable compromise value was recorded on the data sheet. Any disagreements over local species names were referred to other

'indigenous knowledge experts' back at the village; however, there were a few problems where the 'Baherero experts' disagreed with their Basarwa counterparts on the same individual plant. In most cases the issue was resolved by other team members simply going with either of the parties, depending on which side appeared more certain about their identification. Such scenarios may have had some implications since the species names generated during the vegetation sampling exercise were later applied during the house-to-house surveys for plant uses. The latter exercise was based on plant species recognition by name rather than reference to either dried plant specimens or actual on-site observations.

A team of at least 12 members was employed including 4 indigenous knowledge experts designated by the local community. Each 30metre x 30metre plot was sampled in 20 – 30 minutes. At that rate, it was possible to sample up to 10 plots per day after account of travelling time between plots and two breaks for lunch and drinks. Sampling efficiency was greatly improved by dividing different tasks among team members.

2. Wildlife assessments

The interview technique was based on *post facto* recollections of untrained observers. This meant that the results were crude and could not warrant any meaningful conclusions on observations such as age (whether an animal was adult or juvenile) and number of individuals seen. There may have been problems due to difficulty in identifying animal species by some respondents; however, a reasonable assumption that all interviewees were well versed in species identification was made.

Local people frequently make incursions into the forest to gather veld-products, collect firewood and herding cattle, and are therefore pre-disposed to observe greater portions of their communal areas than any external researchers. The collective response of the interviewees would therefore be useful as a window to the forests wildlife. The method used in the current study entailed asking questions to any community members who had travelled in the forest since the beginning of the year for whatever reasons. No animal names were suggested; responses were left to be volunteered by interviewees to avoid imposing any bias by the interviewer.

There was reluctance by some local people to participate in the interviews, apparently interpreting the exercise to be some sort of undercover investigation by agents of the Department of Wildlife and National Parks. This could especially be judged among the Basarwa approached, who would often exchange warnings in their vernacular language to the effect that admission to having a wild animal was tantamount to having been engaged in illegal hunting activities. On the other hand, some local people unfortunately had their expectations raised hoping that the interviews were perhaps a prelude to re-instatement of their 'special game licences' or at least a guarantee that some arrangements for them to engage in hunting activities would be effected in the near future. It is possible that

some respondents belonging to the latter even exaggerated their wildlife sightings in order not to jeopardise their fortunes.

3. House-to-House surveys

The first problem was difficulty in using the original data-sheet, which necessitated re-designing the datasheet for follow-up exercises. The data sheet had inadequate spaces for recording the findings, and was generally reported to be not user-friendly. Secondly, the time allocated for interviews was inadequate since all species encountered during the vegetation sampling exercise were to be treated equally. That meant the interviewees were expected to respond on at least 223 non-woody species and 67 woody species all at one sitting. Indeed, the length of the interviews was found taxing on the respondents, some of who may have ended up rushing their responses in order to 'get it over and done with'.

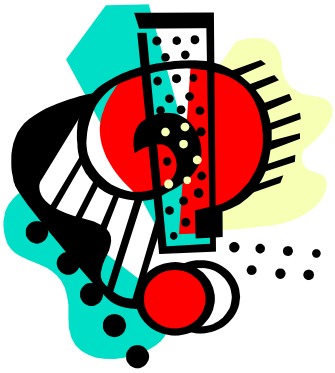
The house-to-house surveys were meant to generate data to calculate "Relative species use values". The approach is both quantitative and focuses on plants; however, a comprehensive application of some methodologies for calculation of species use values could potentially be time-consuming, especially if the number of species is large. Various "species use value" methodologies typically have the following problems (FAO, 2001):

- Data are collected on very limited time frames (usually lasting a single day), providing a snapshot of local priorities, which might be different on another time through mood or seasonal changes.
- It is usually assumed that a plant with several uses (for example, a plant used occasionally for several illnesses) is more valuable than one with a single use (for example, a staple food), since the frequency of use and amount collected is often ignored.
- Some natural resources, which are important to only a few members, might be missed, justifying requirements for large sample sizes.

In the QNRA system information was collected for plant parts used, frequency of use, and amount collected per use in addition to total number of uses per plant species.

Matters arising

During the workshop, the following question was posed:



Is it worthwhile designing an inventory and monitoring system if the very communities it is intended to benefit cannot make any management decisions?

Or as Dr. Perkins implied (personal communication): community-based natural resources assessment and/or monitoring are futile exercises because the communities have no powers to make any management decisions.

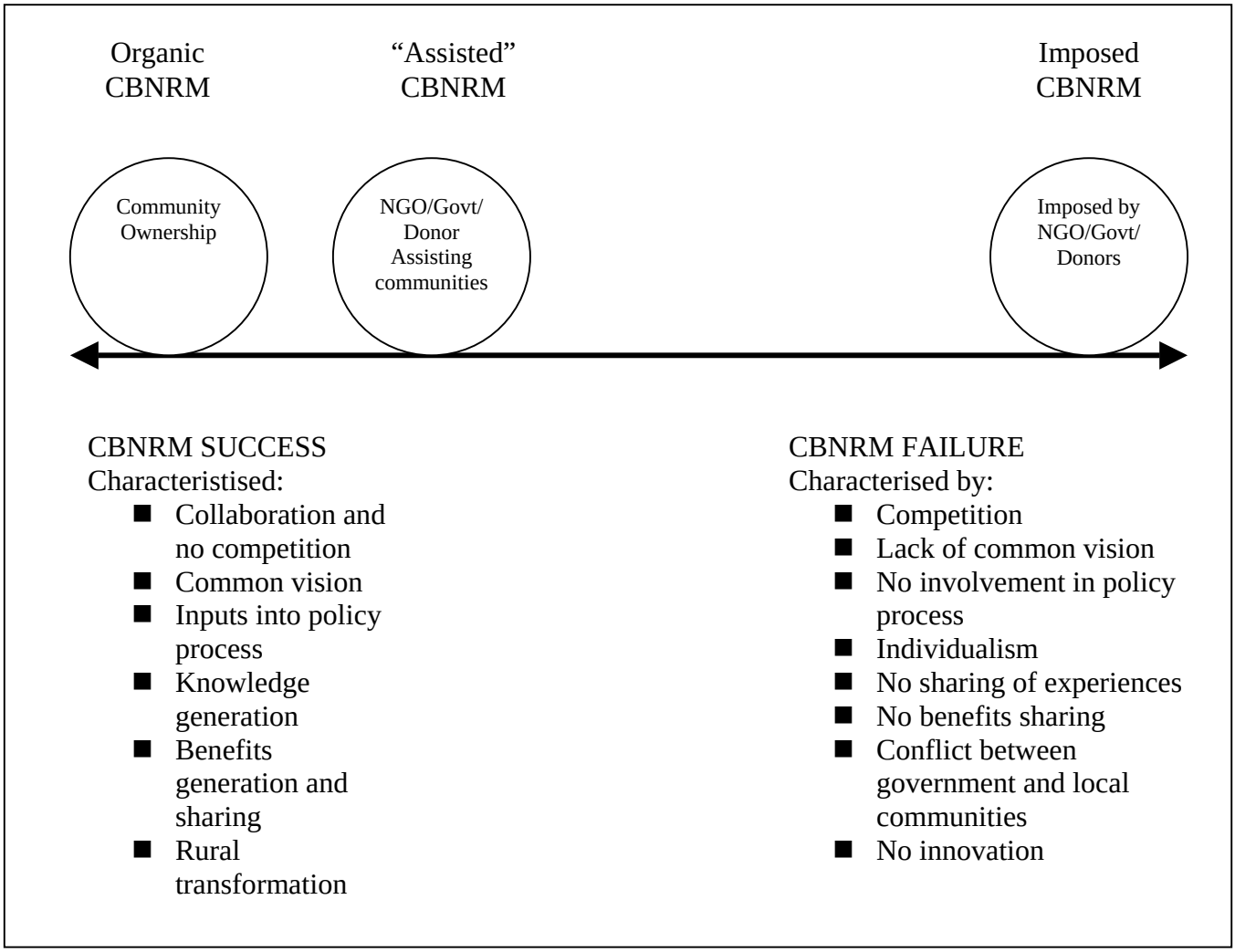
To illustrate:

- Although CBNRM in Botswana is widely perceived as an empowerment process where communities have a true sense of ownership and responsibility, there has been no proper decentralisation since tenurial powers are still vested with the District Land Boards. Communities may be issued with a 'Community Natural Resource Management Lease', which merely governs access (resource user rights) rather than control; hence, community management plans are subject to approval by the Land Boards which dictate what may or may not be included.

- The prevailing management systems are "rooted in a paternalistic and technocratic attitude" where communities are seen as lacking the capacity to make technical decisions over the use of natural resources (Ribot, 2001). There is still an enduring, and perhaps unjustified, notion by 'technocrats' that natural resources are being threatened by the actions of unregulated community people; hence, harvesting permits based on sometimes dubious quota systems are often issued because 'such expert systems' are needed to control the risks of overexploitation. According to Ribot (2001) arguments that communities first need capacity building have been used as excuses to stop devolution of natural resources control to rural communities.

In reality, it can be seen that the nature of CBNRM in Botswana and the region is a contested notion (as illustrated below) characterised by intense debates over where the management aspects lie (Hachileka and Kokwe, 2000).

Contested model of CBNRM (Source: Hachileka and Kokwe, 2000)



Elsewhere (Winter, 1998), principal preconditions and features of successful Decentralised Natural Resource Management (DNRM) have been identified as:

Preconditions for DNRM:

- **Valued natural resources**, justifying local investments in management.
- **An enabling environment**, within which local level NRM jurisdictions are able to exercise authority and make rules about resource use.

Features of successful DNRM:

- **A high degree of resource user participation in NRM**, such that a maximum of users has the possibility of being actively involved in rule-making procedures and in influencing decision-making.
- **A high degree of transparency in management**, such that resource users know what local rules are, how they are made, how financial resources are managed.

- **Adequate monitoring**, such that NRM jurisdictions monitor compliance, identify rule-breakers and assess the evolution of their natural resources.
- **Financial autonomy and access to money**, such that resource use can be taxed to fund the costs of management.
- **Transparent and legitimate conflict resolution mechanisms**, such that disputes are managed within the system in a timely and acceptable manner.
- **Sufficient knowledge and skills**, such that resource managers can pursue sustainable policies/practices and maintain adequate records.
- **Differing scales of operation**, such that management functions are ascribed to appropriate levels for implementation.

Meanwhile,

"Policy makers are rushing to empower communities to manage their own natural resources; it will not work, not unless they change the world first".

Recommendations

Recommendation 1: ACORD must adopt the Qangwa Natural Resources Assessment (QNRA) system as the standard approach for replication at other target communities	**Time-frame:** June 2002
Although the system is still subject to modifications and refinements, it has all the essential elements of a good inventory design in that it is biometrically rigorous and participatory.	

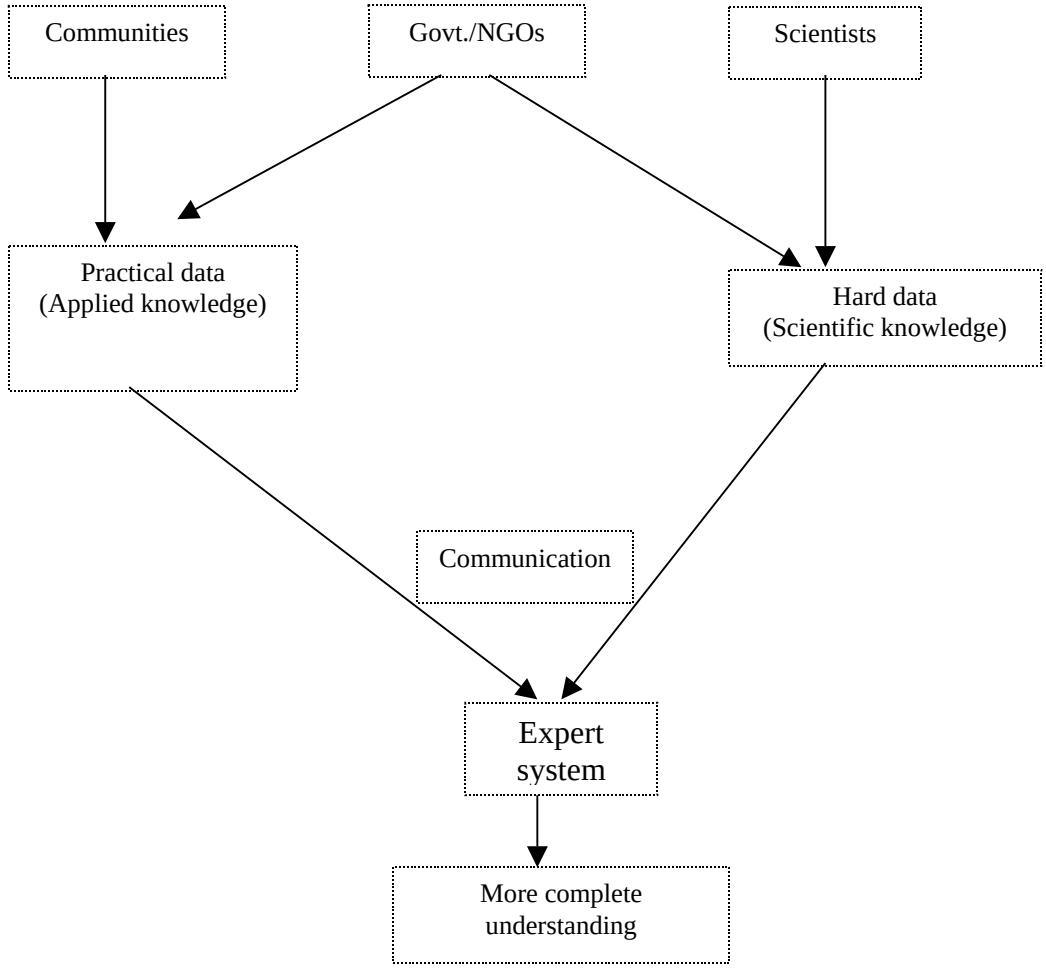
Recommendation 2: A monitoring component of the QNRA system must be designed and activated as soon as practically possible.	**Time-frame:** July/August 2002
Such a monitoring component would also be based on reasonably sound biometric principles. It is only through monitoring that the success or otherwise of any management interventions can be made.	

Recommendation 3: ACORD must continue to subscribe to 'Co-learning' as the best mode of local people's participation in natural resources management.	**Time-frame:** Ongoing

It is futile to expect that communities can ever be empowered to the extent of being directors of their own natural resources management agenda, given the complexity of issues in CBNRM. Rather, facilitating agencies like ACORD must seek to promote partnership among all stakeholders for improved and sustainable community livelihoods.

Recommendation 4: ACORD must design and facilitate implementation of a 'feedback mechanism' for all actions and decisions, to promote adaptive co-management of natural resources in Ngamiland.	**Time-frame:** June 2002

Adaptive co-management means "the involvement of the people and a two-way information flow between all stakeholders (Kolawole, 2001)." For example, it is commendable that the ACORD members arranged a Kgotla meeting in Qangwa to hold discussions before the field exercise. ACORD must now make the necessary arrangements to report-back the findings of the exercise and to chart the way forward with the community. Such a flow of information can be illustrated as follows (After Perkins, 1999):



Recommendation 5: ACORD must facilitate the formation of **Lobbying and Advocacy Committees** to ensure that expert systems such as illustrated in recommendation 4 above are duly recognized by policy makers.	**Time-frame:** July/August 2002
This recommendation is a direct result of a suggestion made by a participant during the Gumare workshop. *The premise is that if communities are to meaningfully participate in natural resources assessment, they must be assured that their inputs will be incorporated into national level management planning to bring about the desired changes. Lobbying and advocacy is necessitated by the fact that at present, there are no guarantees that data generated through community-based assessment systems can be acceptable to the national policy makers.*	

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