

Note for the SAREC Workshop on People's Participation in the Management of Natural Resources - Research Needs and Research Priorities held in Stockholm 5-6 October 1992, lightly revised 22 October 1992

BEYOND TRADITIONAL KNOWLEDGE: ENABLING THEM AND CHANGING US

I have been asked to address "traditional" knowledge and practices of natural resource management. In thinking this through, it has proved impossible, and unhelpful, to consider only "them" and their knowledge and practices. "We" too have our traditional knowledge and practices, and these are much of the problem. So the basis of this note is that "traditional" knowledge is of two sorts: local; and scientific. And its conclusion is that effective participation in natural resource management requires the development and spread of new methods: first, methods to enhance local people's own appraisal and analysis; and second, methods to change the behaviour and attitudes of the bearers of scientific knowledge.

Local knowledge and practices is the term I shall use for the "traditional" knowledge and practices of people who live in and from particular environments. Their richness and validity are widely acknowledged. The literature is perhaps biased by selective quotation citing the astonishing knowledge and management skills of people who live in and from biologically diverse and difficult environments (the Hanunoo in the Philippines, the Basarwa (Bushmen) in Botswana..). Even so, it remains strikingly true and obvious that people who gain their livelihoods in and from a physical and biological environment know a great deal about its particularities - spatially, temporally, materially, and as systems of linkages. They develop and use detailed taxonomies for those natural resources which exhibit differences, are observable, and matter to them, and they have typically evolved skilful practices for their exploitation and management.

Such knowledge, and such practices, are not a static stock. They are changing, constantly. Some are lost as environments and livelihoods change; some are passed on to new generations; some are transformed or replaced; and new knowledge and practices are added, both generated from within the local, and brought in from outside. Traditional knowledge and practices concerning natural resources are sometimes treated by outsiders like endangered species to be preserved, or like valuable minerals to be mined. But they are not like species or minerals. It is more accurate and useful to see them as dynamic, part of continuous adaptation in a world of flux, where ecological, social and economic changes are normal and often accelerating. The concern of outsider professionals should be then not just with the detail of local knowledge and practices, but also with understanding how they are generated and how they adapt and change; and with striving to see how those dynamic processes can be strengthened, and how the adaptive capabilities of local people can be enhanced.

Scientific knowledge and practices is the term I shall use for the "traditional" knowledge of scientists, universities, field bureaucracies and the state. More than local knowledge, these have fixed canons and rules. The power of reductionist methods, applied in controlled and simplified conditions, and the power of those who are bearers of scientific knowledge, combine to impose it on and over local knowledge. Mediated through the dominant institutions of the state and the market, this takes the form of the transfer of technology. Invasions and colonisations from the cores of scientific knowledge generation and of political and bureaucratic power add to local knowledge, but also undermine and weaken it; they simplify, standardise and control conditions and environments,

diminishing diversity and the local knowledge of managing and exploiting that diversity; and at the same time they provide new knowledge which is adopted and adapted in the dynamic of local knowledge.

Nor are local knowledge or scientific knowledge evenly distributed, nor do different actors have the same priorities. The poorer and the less poor in communities, women and men, the landed and the landless, artisans and shopkeepers - these and others have differing interests, knowledge, capabilities, needs and priorities. So too scientists, and the bearers of scientific knowledge, differ by discipline and specialisation. Within groups, too, individuals differ. The points are almost embarrassingly obvious, yet often overlooked. The implications for practice and equity include a need for outsiders to be sensitive to whose knowledge, whose analysis, and whose priorities are expressed, are strengthened, and count.

That said, commonalities can and should be sought. In the context of natural resource management, it can be argued that an integrating goal for humankind, combining human and environmental concerns, is sustainable livelihoods, a concept which applies at least as much to the North as to the South (for the argument, see Chambers and Conway 1992). In the South, for the 21st century, sustainable rural livelihoods at decent levels of living have to be sought not only for the current numbers of people in rural areas, but for hundreds of millions more. This requires many changes which are increasingly recognised - peace and democratic law and order, decentralisation, secure community and individual rights to natural resources, and empowerment of the poorer and weaker. Less well recognised are the implications for diversity, complexity and knowledge.

In the management of natural resources, sustainable livelihood-intensity is often linked with diversity, complexity and reduction of risk. The green revolution simplifies, standardises and controls the environment with external inputs. The revolution needed now is diversifying, complicating and kaleidoscopic. Farm families, especially but not only in irregular and unpredictable environments, often need to complicate, not simplify, their livelihood systems in order to achieve better and more secure levels of living. This includes the creation and management of heterogeneous microenvironments, and introducing and integrating additional enterprises and linkages into farming systems - aquaculture, multipurpose trees, new crops, new domestic animal species, agroforestry, intercropping, and the multiplication of synergistic nutrient flows; and the maintenance, management and enhancement of diversity in common resources such as forests, bushland, grazing lands, mountains and hills, wetlands, lakes, rivers and ponds. Intensification of labour and management follow. Contrary to common prejudice, this implies that denser populations can be (but are not always) a necessary condition for more sustainable natural resource management. The greater diversity and complexity needed for more sustainable livelihoods multiply the material, temporal and spatial linkages to be managed between natural resources, and require a wider and more intensive range of human activities. They also increase the comparative advantage of local knowledge over scientific knowledge.

For "us", development professionals, the implications go deep. The logic of the argument leads us to reversals - to shifts against the normal, from cores to peripheries, from powerful to weak, from the general to the particular, from the simplifying and standardising to the complicating and diversifying, from the package of practices to the basket of choices, from transferring scientific technology to enhancing local capabilities.

Two sets of priorities then stand out for action, research, learning and spread.

The first priority is how to empower local people through enhancing their capabilities. This includes enabling them better to conduct their own research and development, better to generate their own new knowledge, better to develop their own new practices, and better to spread their innovations. Rather little has been written on this. Until recently the almost universal assumption has been that development professionals have to be the researchers for knowledge and the developers and disseminators of practices: information has been extracted and analysed "by us", research and development conducted by "us", and then plans, technology passed back to "them" for their participation through adoption. But recently, more and more evidence has been showing that if conditions are right, local people have greater capabilities than outsider professionals had supposed. This applies to complex and subtle practices in the management of natural resources. One example out of many is the sequential creation of microenvironments which concentrate soil, water and nutrients, and of microclimates of shade, shelter and humidity. Perhaps more significantly, local people have demonstrated what for most of us have been unexpected analytical abilities, at which they themselves have also sometimes expressed surprise. These include their abilities to map, model, rank, score, diagram, analyse, plan, experiment and monitor.

There have been two keys to releasing and expressing these abilities: new methods for analysis by local people; and changed behaviour and attitudes among outsiders. Two sets of challenges can then be identified for research and action.

The first is to develop and disseminate more and better methods to enable and empower local people: methods to conduct their own appraisal and analysis; methods to place effective demands on centralised scientific knowledge systems; methods to choose, adapt, and generate technology for themselves; and methods to develop and adapt practices for managing their natural resources and their often increasingly complex and diverse livelihood systems.

The second set of challenges is to enable development professionals to change their behaviour and attitudes. The most credible explanation of our ignorance of the capabilities of local people is that almost universally, we outsiders have "held the stick", wagged the finger, lectured, criticised, put forward our own ideas, and believed that local people were not capable. It is sobering and humbling that it has taken so long (mea culpa) for us to realise this. To change our dominant behaviour, and our attitudes and beliefs of superiority, is a formidable task, reinforced as they are by bureaucratic hierarchy, social status, educational conditioning, and personal self-esteem. The top-down, North-South, centre-outwards magnetic field in which we are trapped is powerful and pervasive. The challenge is personal, professional and institutional: it is to find ways of enabling individuals, universities and training institutes, and bureaucratic and field organisations, all to turn around, to stand on their heads, to reverse their magnetic fields.

Priorities for research

These challenges imply, among others, two sets of priorities for research.

1. On methods to enhance local people's capabilities

This includes methods for local people's own appraisal, diagnosis, analysis, experimentation, management practices, extension, and training of each other and of us, for example:

- * to do their own farming systems analysis and research
- * to assess, measure, plan for, manage and monitor their own natural resource programmes (for water, fish, soil, grazing, trees, cropping, livestock and so on)
- * to search for materials, principles and practices to meet their needs
- * to conduct their own lateral extension activities
- * to make effective demands on the bureaucratic-scientific system
- * to teach and train outsider professionals in understanding

2. On ways of changing professional behaviour and attitudes

This includes many reversals - personal, professional and institutional, and many questions of strategy - where to start and how, who to seek to influence, what alliances to form, and what sequences to follow. Questions to explore include:

- * how to change roles as teachers and transferers of our technology and practices, to roles as convenors, facilitators, catalysts and consultants for local people, searching on their behalf for what they want and need, supporting their research and development, and enhancing their capabilities;
- * how to enable professionals personally and individually to change their behaviour, attitudes and beliefs;
- * how to decentralise, destandardise, and decontrol field bureaucracies;
- * how to reverse accountability and responsiveness from "upwards" to "downwards";
- * how to change universities and training institutes, their cultures, teaching styles, and curricula;

These two sets of priorities are not easy to grasp and tackle. To be done well, they may require innovative action, participatory research, and much exercise of judgement. Most of them fit badly with our traditional research methods, with requirements for theses, and with the competences or reward systems of university staff. Perhaps, as with the innovations of farmer participatory research (FPR) and of participatory rural appraisal

(PRA), much of the innovation and learning will come, not from universities, and not from government research institutes, but from NGOs. Which raises another agenda, and another set of practical questions.

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