

# Engaging Communities in Resource Monitoring: The Political Ecology of Science as the Language of Power

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There is something particularly tranquil about the Lakshadweep Islands – the communities that live there, the lagoons that surround the atolls, and perhaps even the reef fish that swim beneath the calm waters. It seems almost too good to be true, but Lakshadweep is an exception in many ways. The predominantly Muslim population is economically fairly well off, education levels are high (literacy is 100% or thereabouts) and they are largely comfortable with their dependence on coconuts and fishing as their main sources of income.

The Lakshadweep fisheries story is a heart-warming one. Pole and line tuna fishing came to the islands about 50 years ago. The method evolved in the Maldives and the southern most island of the Lakshadweep group, Minicoy, more than a thousand years ago. The pole and line method targets only tuna and has practically no bycatch at all. Planktivores (fish that feed on plankton), which are abundant in the lagoons, are used as live bait. The main target is the oceanic skipjack tuna and, ultimately, the catch is cured and sold as a dried product. In fact, Rohan Arthur, a marine biologist with the Nature Conservation Foundation, who has worked there for 20 years, calls them the fish that saved the reef. This is because the absence of extensive reef fishing has ensured relatively intact reef fish communities, including herbivores (surgeonfish, parrotfish, etc), which in turn has ensured that algal growth does not overwhelm reefs after bleaching events. This has meant that the reefs could recover over periods of time.

## Post-harvest processing of fresh Tuna. Pic.- Dakshin Foundation

There are of course some wrinkles in this fairy tale. There have been declines, or at least ups and downs in the tuna catch, particularly since the 2004 tsunami, a point in time that the fishers identify with a change in trends. Live baits, which were once abundant, also appear to be fluctuating. Of late, there is an increase in reef fishing, and talk of creating long-line fisheries and refrigeration facilities, both of which would open the floodgates for export. There is already a booming trade in grouper fisheries in the Andamans and it would take little for Lakshadweep reef fish to lock into that market chain. But, for now, the lack of infrastructure and transport (fewer flights), and a cultural affinity for pole and line fishing have ensured that reef fishing has remained largely at subsistence-level.

In 2012, Dakshin Foundation started a project on community monitoring of the tuna fisheries in the Lakshadweep Islands. The main goal was to monitor trends in tuna catch as well as live bait. Led by Mahima Jaini and Naveen Namboothri, the team designed “catch monitoring books” in consultation with the fishers and distributed these to each of the boats. Not all boats were interested in the program initially, and several took the books but did not enter any data. However, participation in the programme has improved over time, especially with the entry of Ishaan Khot (a Maharashtrian who learned Malayalam to engage better with the community) and Mahaboob Khan, a local from Kadmat Island with a degree in Social Work

## A page from the “Fish for the Future” calendar.

The data collected by the “catch monitoring books” has been used to compile reports to the Administration and indicates the need for more careful monitoring of trends. It also points out gaps in fishing infrastructure and facilities. Community support has also improved since 2015 when Dakshin began distributing ‘Fish for the Future’ calendars. In addition to featuring the boats that collected the ‘best data’, the calendars include info-graphics that provide visual representations of the data collected by the boats, and illustrations that promote sustainability and rights-based fisheries governance. As community-centric products, these calendars are printed in the local languages of Lakshadweep – Malayalam as well as Mahl, a dialect of the Dhivehi language of Maldives, spoken only in Minicoy, the southernmost island of Lakshadweep. This is one of the very few publications coming out in Mahl in India, outside of Minicoy. The printing of these calendars has gone a long way towards making the data meaningful and relevant to the fishing community. However, one can still ask a larger question about the role played by such community-based programmes in conservation and development. Do they merely provide datasets for management or do they play a larger social role?

## Science as ‘English’

Community-centric conservation has received a great deal of emphasis in recent years. One aspect of community involvement is monitoring of fisheries, wildlife and natural resources. This is generally viewed as contributing to the body of knowledge in conservation science, towards developing policy and management. However, we propose an alternate framework for understanding the role of such monitoring from the realm of language politics, where power is related to and can be exercised through the use of language, including specific dialects, accents and jargon. As is well known from both scholarly work in sociolinguistics as well as in popular currency, certain languages confer power, privilege and prestige. This is true at many scales. At both national and regional levels, some languages get privileged as ‘official’ and others not. At a global scale, many colonial languages have established dominance over native languages. Spanish in Latin America, French in North Africa, English the world over. In India, for example, the best jobs in most sectors are clearly available to those who can speak English fluently, a phenomenon enforced by and correlated to class, caste and economic status. The simple thumb rule here is, you have a better chance of getting what you want if you speak English.

In order to communicate knowledge, one needs to speak the same language. Despite all the efforts to privilege local knowledge, the official language of the State and of those in power remains that of ‘modern science’ and all of its trappings, including codification (data collection), representation (tables, figures), analysis (statistical) and communication (written forms such as reports and papers). Though it might seem that States pay little real attention to science (especially given the existence of climate deniers), they largely support the scientific industrial enterprise, and it pervades their entire structure in terms of how they recognize, record, document and use information.

This leaves communities doubly disadvantaged. First, local communities often speak an IM (indigenous and minority) language (or at least a dialect) which means that they either run the risk of marginalization by the State, or have to adopt a major language, which can result in the loss of culture and knowledge encoded in their local language. Second, the modern scientific method as a system of discourse itself acts as a major language and can be used to exercise power in society. Hence, metaphorically, local knowledge formulations involving observations (or local science) are like an IM, and Science is like a foreign language. So,

Science is really ‘English’, or ‘Latin’ if one wishes to go further back in history. If you don’t speak science, you cannot communicate knowledge in a form that has any influence. At least it is not sufficient to let these communities play a role in making decisions about their own resource use. For example, the tuna fishers in

the Lakshadweep were well aware of the challenges they faced (the variable catch, the decreasing size of tuna near fish aggregating devices (FADs), the lack of availability of diesel, etc). However, until they are able to show this in a 'language' that the modern State (including its scientific community) understands, i.e. data in the form of tables, figures and statistics, their knowledge provides them with little leverage.

### [A leap of language](#)

Rather than take the ideological (and idealistic) position that all knowledges should be privileged equally, it may be more pragmatic to take a two-pronged approach. We know English 'ain't going nowhere', and one may as well learn it (while trying as much as possible to preserve linguistic diversity). Similarly, we argue that, as much as or more than providing data for the science-State enterprise, community-based monitoring can provide an entry-point into the discourse of power, namely the scientific method, and thereby play a critical role in the empowerment of local communities and their engagement in conservation. 'Speaking science' thus becomes an enabler like speaking English. It provides access, acknowledgement and acceptance, all necessary for communities to have role in managing their resources.

*Integrating local languages into its communications practices has helped Dakshin Foundation promote a cooperative model of conservation in Lakshadweep. Pic. – Dakshin Foundation*

Simultaneously, a greater engagement in and strengthening of IM languages (like Mahl in the Lakshadweep) is required to prevent further devaluation and marginalization of local cultures. This can strengthen the influence of indigenous knowledge systems and their contribution to more inclusive and democratic strategies in management. Here it is critically important to acknowledge the role of 'cognitive justice' as a possible pathway that recognizes the validity of different forms of knowledge as well as endorses their right to coexist.

Many contemporary conservation paradigms acknowledge the need to empower local and marginal communities in their engagement with the State and dominant sections of society over the management of natural resources. In order for this to succeed, it is imperative that we explore collaborative initiatives and examine how these approaches can be applied in a manner that promotes the plurality of knowledge systems and empowerment in local communities in the context of natural resource management and conservation. At the same time, a community that is well-versed in the intricacies of modern scientific practice as well as confident in its own traditional knowledge-base will be a doubly-empowered one: it can not only contribute to hybrid, democratized knowledge processes but also hold its ground against dominant paradigms of language, knowledge and science, all of which are usually the stronghold of the elite. Participatory community engagements in resource management are therefore geared to serve several ideals: conservation, sustainability, democratic governance and social justice.

First published on *Radical Ecological Democracy* on Oct. 20, 2018