Traditional Knowledge in Policy and Practice

APPROACHES TO DEVELOPMENT AND HUMAN WELL-BEING

EDITED BY
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Introduction

Suneetha M. Subramanian and Balakrishna Pisupati

The ingenuity of humankind to constantly innovate and adapt over the millennia has put all contemporary thinkers on development into cycles of dismay and disbelief when they consider the manner in which humans in their own times have survived. In our journey through history, starting from discovering the utilities of different resources, modifying them to suit our requirements to technological refinements to our innovation processes, we have witnessed several changes, especially related to how we use, manage and govern resources, territories and the values we attach to production, consumption and exchange processes. As a consequence, today we find ourselves with two sets of divergent worldviews: (1) the mainstream, dominant Cartesian worldview (also commonly referred to as the western/European) and (2) other worldviews, commonly referred to as traditional knowledge (TK), which are different from the mainstream and include those from non-western cultures.

Many argue that the predominant discourses on knowledge and science show an inherent bias towards the Cartesian/modern worldview, preferring principles advocated by this stream of knowledge system to explain the underlying basis of all phenomena and actions. The relevance of TK knowledge systems has generally been considered obscure, irrelevant and/or exotic, despite the fact that almost 370 million indigenous people are estimated to live in 90 countries, with the population in some countries predominantly subscribing to traditional worldviews. The colonization of indigenous territories (that gained momentum during the late fifteenth century) facilitated the rapid diffusion of the Cartesian

worldview, which was effectively supported by political institutions. The impact this has had on local cultures has been tumultuous.

Consider the following, in a timeline extending from pre-colonization to the present, while the global economy in terms of industrial output and services has increased (and become more technologically sophisticated), it has also resulted in a decline in the diversity of natural and social systems. To illustrate this, we will examine changes to indigenous populations and natural ecosystems in the last 1,000 years. This timespan can be divided here into three periods, the pre-colonial (before the late fifteenth century), colonial (late fifteenth century) and modernization/industrialization periods (late eighteenth century to mid- to late nineteenth century) period. During this 1,000-year period around 60 per cent of supporting ecosystem services such as fresh water, fisheries, air and water, and regional climate regulation were degraded or used unsustainably. And since then, in a period coinciding with the Green Revolution, ecosystems have changed more markedly than in any other period. For instance, it is estimated that we have lost 35 per cent of mangroves since the 1980s and 20 per cent of the world’s coral reefs. An analysis by the Millennium Ecosystem Assessment (MA, 2005) reveals that those regions with highest GDP have also seen the highest transformation, and this includes urban centres, forest lands (led by temperate forests) and cultivated lands (MA, 2005). While this change corresponds to increased demand for food, fuel, timber, fibre and basic necessities due to increasing population pressure, it also corresponds to increasing conversion of land to croplands. Croplands expanded in Europe during the eighteenth century, and in the Soviet Union and North America during the mid-nineteenth century (during the industrial period), resulting in a 70 per cent loss of original temperate forests, grasslands and Mediterranean forests by the mid-twentieth century. Coupled with the intensive use of nitrogen fertilizers (especially since 1985), this has led to a consequent loss of diversity of life, threatening up to 30 per cent of mammal, bird and amphibian species with extinction (MA, 2005). The rate of known species extinctions during the twentieth century surpassed fossil records of extinctions (0.1–1 extinction per 1,000 species per 1,000 years) by a range of 5 to 500 times. Other services that have been widely compromised are capture fisheries and fresh water, estimated to be at levels insufficient to even sustain current demands (ibid.). These changes to natural assets are likely to significantly affect our productive capacities and the livelihood opportunities of communities dependent on these ecosystems and resources.

In the same vein, there has also been a decline in the diversity of cultures and use of traditional ways of managing natural resources. It is estimated that today around 3,000 languages are endangered, with about 250
languages becoming extinct since 1950 (UNESCO, 2009). It is believed that the population of indigenous people in the Americas during the pre-colonization period was about 8 to 140 million, 80 per cent of whom lost their lives during colonization, chiefly due to new diseases, with population regaining pre-colonization levels during the industrial period (Kolebka, 2007). Clearly, in the modern era, the world has become more homogenous – not just in terms of races but also biodiversity: for instance, of the over 50,000 edible plants in the world, currently only 15 species contribute to total food energy intake and three species (rice, maize and wheat) supply 60 per cent of that energy (Loftas, 1995). This is believed to have affected the nutritional security of the foods we consume, and increased human vulnerability to natural and economic shocks to the supply of these limited numbers of foods (Johns and Stapith, 2004).

Loss of resources also implies loss of cultures, as arts, crafts and livelihoods centred on the resource(s) are no longer relevant. The conventional quest for higher growth has brought forth a paradox: while GDP levels have gone up over the years, we also see that almost 40 per cent (of 179) countries do not show a corresponding improvement in overall Human Development Index (UNDP, 2007/2008). Sustained poverty in several regions of the world, inequities in economic growth and distribution, food insecurity, inadequate access to health and services, and unsustainable consumption and production patterns are some of the challenges that confront us.

Hence, it is clear that the visible progress of the human race has been to the detriment of the well-being of the world’s productive biophysical systems and supportive socio-cultural systems. The relevant policy forums have taken cognizance of this issue, and the mid-twentieth century saw the coming together of various determined and concerned voices on how we use our resources, which eventually led to a rethink on how alternative worldviews could be included in development activities. The emergence and development of several multilateral environmental agreements are indicative of such a change in attitudes, whereby decision-makers recognize the need to put in place formal mechanisms to identify, encourage and share the benefits of traditional systems of managing human well-being.

It is in this context that this book is set. Traditional knowledge as a dynamic knowledge system distinguishes itself from mainstream knowledge in its methods of knowledge generation, transmission and the principles and values related to its use for various purposes. It advocates, in general, a respectful and reciprocal relationship with natural resources, including habitats and plants and animals that humans interact with. With this in mind, customary norms for use, governance and access to resources are evolved and adhered to. The Cartesian worldview considers nature and
its components as productive resources with marginal utility; clearly, there are epistemological and political tensions in the interactions between these different knowledge systems. To assess one knowledge system using parameters at total variance with its philosophy (for example, to assess TK using modern scientific parameters) is likely to lead to misplaced conclusions, and indeed this has often been the case. While it is true that today there are many initiatives that address the conservation of cultural diversity, whether this is a basis for us to enhance our well-being and meet objectives of sustainability is a question that requires further enquiry and action. There is certainly a need to develop appropriate methodologies to understand and assess TK, as we move to better integration between the two streams of knowledge, modern and traditional.

Traditional communities have, within the values of mutuality and reciprocity, obtained several services from the ecosystem – food (from agricultural activities and prey), water, medicine, crafts, spiritual satisfaction (e.g., sacred groves, totems, etc.), among others. To reiterate a point made earlier, since the sustained availability of these products and services was (and still is) crucial to their livelihoods and well-being, traditional communities have also devised ways and measures to maintain homeostasis and adapt to changes in the status of the services, based on their worldviews and ingenuity. Hence, such knowledge systems are constantly evolving, adapting to changing circumstances and realities, and contributing at the same time to ecological resilience. It bears noting that the approach of traditional knowledge is not one of linear causality (single problem–single solution), but usually attempts to include a multi-causality framework (multiple factors–multiple impacts) and synergistic effects. As mentioned above, more work needs to be done linking these different aspects of the knowledge systems and their utilities to the global good. We hope that this book will to some extent fill a gap in this literature.

To understand the significance of such knowledge systems, identify opportunities and challenges in their adoption through different models and experiments that have been initiated in various parts of the globe, and determine how they can possibly be integrated into a modern milieu we believe that a sectoral understanding of contributions of TK will be useful. Hence, the chapters have been organized into categories dealing with production activities/services (agriculture, health, water management, biodiversity, arts, economic development), adaptive capacity (environmental management, climate adaptation), learning and governance processes (communities, women, education, governance, ethics and equity, intellectual property rights), highlighting in the process how traditional practices relevant to a sector or theme have been influenced by
mainstream policies, and how again there is a move to include these practices in planning processes. All chapters are written by experts in their field, by virtue of their research interests, activities and in some cases by their belonging to traditional communities. Consequently they have an in-depth understanding of and perspective on the various challenges involved in the promotion of traditional knowledge especially pertinent to their sector.

Bertus Haverkort and Coen Reijntjes highlight the diversity and evolution of worldviews among knowledge communities and point out possible relations between different knowledge societies and sciences. Advocating the need for a healthy co-existence between dominant and other worldviews, they argue the need for fostering processes including appropriate higher education programmes that facilitate the co-evolution of different streams of knowledge and mechanisms that help address real issues using available tangible and intangible resources to achieve what they term “endogenous development”. This is a concept that the authors have been working on and promoting with local communities in different parts of the world. By illustrating the differences in pedagogical methods between indigenous and conventional education, Marie Battiste brings out the challenges faced by indigenous communities when they are exposed to an educational process that is insensitive to their cultural learning. She goes on to demonstrate how an integration of different worldviews is possible through an initiative of the Canadian Council of Learning – the Aboriginal Learning Knowledge Centre – that brings indigenous organizations together with academic institutions to foster aboriginal lifelong learning. Marie has been personally involved in the implementation of these programmes, and her chapter vividly captures challenges in bicultural education.

Equity within traditional societies is multi-layered. There is clearly a hierarchy within societies regarding the division of rights and obligations due various members of a community. Stephen B. Kendie and Bernard Y. Guri use the case of traditional leadership in Ghana to highlight the importance of traditional governance to achieve development objectives, while at the same time showing the challenges to and opportunities for these traditional structures when they operate within a broader national governance framework. The chapter captures both an insider and an outsider perspective. The role(s) and status of women in traditional societies is another issue of interest from the viewpoint of both equity and governance. Fatima Alvarez Castillo and Maria Nadja A. Castillo highlight the challenges women in such societies face both on account of their gender and the communities they belong to. They demonstrate that policy approaches suffer from “gender blindness”, which does not help in forming a desegregated view of the impacts of loss of resources or implementation
of policies on different members of a society. They go on to suggest some practical ways to address gender inequities. All this brings us to the question of what equity and ethics mean in traditional societies, and whether they can be integrated into the value systems of modern societies. Doris Schroeder brings out subtle and inherent intercultural contradictions, clarifying what ethics, exploitation and justice mean in different contexts during interactions between those who provide knowledge and resources and those who commercialize them. Kelly Bannister, Sarah A. Laird and Maui Solomon highlight a best practice case of intercultural research partnership, with the development of the International Code of Ethics by the International Society of Ethnobiologists (ISE), which is based on the concept of “mindfulness” promulgated by the late Darrel Posey. One of the most contentious issues on TK relates to ownership rights of the intellectual contributions from such knowledge systems. This, again, is an issue of governance, ethics and equity since traditional worldviews regarding the exclusivity of knowledge are steeped in a value system different from contemporary intellectual property rights (IPR) models. While clearly bringing out the inconsistencies relating to IP protection between the two broad value systems and exploring how these different worldviews can co-exist, Ikechi Mgbeoji makes an argument for the need for TK-rich countries to have regional initiatives and protocols to protect TK on terms they deem appropriate.

The management of ecosystems for survival and well-being has been pursued actively by traditional communities over generations. Management includes production activities such as agriculture, services for health and maintenance, regulation and adaptation activities such as water management, environmental management and adaptation to climate changes/variability. R. Rengalakshmi dwells on traditional land management and crop improvement practices, the roles of women in traditional agricultural practices and highlights global initiatives that seek to ensure sustainable agriculture by incorporating best practices from the chemical input-based agriculture and principles followed in traditional farming. In a similar vein, Oladimeji Idowu Oladele and Ademola K. Braimoh draw attention to traditional soil and land management practices that can be effectively deployed to mitigate the impacts of climate change on agricultural production. Gerard Bodeker examines health cultures around the world, and provides a comprehensive account of policies related to promotion of traditional medicine in certain countries, particularly in the tropics. He argues that traditional medicine practitioners should be recognized and provided with the necessary requirements to deliver health care to the populations they cater to, since they are the first points of health care contact for such peoples. Additionally, he also draws attention to the fact that traditional medicine can easily fit into public health care
programmes and into affluent sectors of lifestyle care. Using the case of traditional medicine, Unnikrishnan Payyappalli argues that in addition to focusing on traditional practices there is an urgent need to focus on the plight of the practitioners who constantly add to the body of traditional knowledge and practices. Guillen Calvo Valderrama and Salvatore Arico make a case for using traditional environmental management principles as the basis for territorial development. Environmental management spans all activities related to enhancing and maintaining the productive capacity of the ecosystems they are dependent on. Hence, depending on the ecosystem, various landscape-use decisions have been patterned that closely link to the development of subcultures (such as food cultures, etc.). Fikret Berkes’s example of the relevance/appropriateness of Traditional Ecological Knowledge (TEK) and practices, based on his long interactions with the James Bay Cree communities, demonstrates the fact that there is much to be gained by including insights from knowledge-rich communities.

The chapter on biodiversity by Suneetha M. Subramanian focuses on traditional communities’ use and management of biological resources and the challenges involved in ensuring the co-evolution of human cultures and biodiversity. While, on the one hand, it is well recognized that biological diversity is coterminous with cultural diversity, such resources and the knowledge associated with them were long considered the common heritage of mankind and hence appropriated by commercial and research interests for economic gain, without thought for the providers of the resource/knowledge as partners in the product development. Perhaps this can be considered one sector that has catalysed the articulate demonstration of the different concerns of traditional communities. A policy forum where discussions on issues related to resources and traditional knowledge are held is the Convention on Biodiversity (CBD). At the time of writing, intense negotiations are under way between various countries with the objective of finding a mechanism to ensure commercial access to genetic resources on equitable terms with all stakeholders, especially indigenous and local communities. Commonly referred to as principles related to access to genetic resources and fair and equitable sharing of benefits (ABS), the concept serves as a rallying point for discourses on equity and economic development. For this reason, readers will also note that the arguments of most contributors here are in line with CBD principles. Joaquim Shiraishi Neto, Noemi Miyasaka Porro and José Antonio Puppim de Oliveira use the example of the babassu breaker women in Brazil to clearly bring out the challenges faced by businesses and communities in the context of new definitions of community rights and regulations related to the access and use of biological resources in their custody. Rachel Wynberg highlights the various challenges that arise in decisions related to accessing shared genetic resources and traditional
knowledge and sharing benefits, through the example of the Hoodia case in Southern Africa.

Water is given a premium position, both in material and spiritual terms, in most communities, and hence its access and use are governed by norms and rules relevant to the ecosystem and culture. Alphonse Kambu throws light on community water management practices and international policies that aim to regulate the use of water. He concludes by calling for an expansion of participatory planning processes. This argument is strengthened by Ameyali Ramos Castillo, who presents a best practice case of urban water management in the San Cristobal region of Mexico, based on traditional principles of water use by the Chiapas.

That traditional communities can be considered the sentinels of the impacts of climate change is gaining global acknowledgement. Agni Klintun Boedhiharmono provides several examples of this in her chapter, elaborating on various adaptation techniques deployed by traditional communities, especially in areas vulnerable to droughts and floods. She also provides case studies of the successful integration of traditional and modern technologies in addressing problems impacting on human welfare, and calls for the sensitive integration and co-evolution of knowledge systems.

Kabir Bavikatte, Harry Jonas and Johanna von Braun critically examine the current trend to commoditize traditional knowledge as a means for securing economic development. Through relevant case studies, and by basing their arguments within current international negotiations within the Convention on Biodiversity related to fair and equitable sharing of benefits from commercial use of genetic resources, they identify how the best intentions of fairness and equity can be misplaced during implementation, in the absence of adequate consultations with traditional communities and failing to account for their priorities and definitions of TK.

Tom Lanauze, Susan Forbes and Maui Solomon narrate the renaissance of the Moriori community through sensitive research and documentation of its archaeological “art”, in which all of them are actively involved. The case study effectively captures some of the major challenges faced by communities on how their art forms, totems and sacred symbols have to be treated. In the process the authors also subtly bring out the tensions present between communities with varying cultural beliefs and political strengths.

Together, these chapters highlight the relevance of TK on two fronts. First, from an epistemological view, each chapter provides evidence that traditional communities generally base their decisions and actions on clear precepts and principles within an overarching cosmo-vision of the interrelatedness of all things in nature; secondly, each chapter clearly
brings out practical and ecologically sound ways in which communities have used their knowledge and skills to address their various needs. Another feature that emerges is that traditional worldviews are essentially holistic and encompassing in nature. This is evident from the similarity of arguments and principles for ensuring sustainable resource use that is described across the chapters. Similarly, human well-being is achieved through balancing various needs, from basic material needs to equity and spiritual needs: it cannot be assessed merely in terms of material possessions. Traditional land and resource use mechanisms across ecosystems are premised on achieving a balanced co-existence between humankind and nature.

An underlying challenge faced by traditional communities is the relegation by mainstream science and society of their rights to their traditional lands and the practice of their knowledge and beliefs and the increasing tendency to modernize (homogenize) at the cost of traditional values. On the global platforms, these issues are brought to the fore by institutions such as the International Labour Organization (ILO) and the UN Permanent Forum on Indigenous Issues (UNPFII). There is also a growing international consensus that such knowledge and the principles underlying the use of such knowledge and practices can be integrated into mainstream planning processes to bring about equitable development and sustainable consumption and production processes. On the other hand, it is also important to note that there are challenges both from within traditional societies and from outside. As several of the authors point out, inter- and intra-community conflicts are as damaging as conflicts with mainstream society.

The way forward

By bringing out best practices and challenges regarding the inclusion of traditional principles and practice within any given sector, the chapters emphasize two issues: (1) while there certainly are sector-specific measures that need to be taken, we also need to think beyond sectors because most practices extend beyond the cognitive boundaries of a single sector, (2) it is clear that in the development of policies related to any sector, the involvement of traditional communities, even in cases where it is of direct relevance to them, is generally a reactive process. More often than not, traditional communities, as a stakeholder group, have to struggle to make a point regarding opacity and non-inclusiveness of policy measures. The evolution of proactive institutions representing their interests, the increasing ability of members of such communities to articulate their views in the terms and language of mainstream society, and the role of
postmodern researchers in highlighting traditional practices without derision or romanticism have certainly enabled a realistic portrayal of the strengths and shortcomings of these knowledge systems. One of the overlapping conclusions in all the chapters is to encourage participatory planning processes and facilitate endogenous development pathways that allow people to choose from the abundance of tools and methods and from different knowledge systems, those that are appropriate to their well-being and that create minimum disturbance to the environment. It is a sign of the times that cultural legacies are now examined for their economic attribution. The reverse paradigm, where mechanisms for economic development also promote meaningful principles from our cultural legacies, are definitely welcome winds of change. Such processes also enable stronger linkages between different cultures, and it is to be hoped that they will also help us to secure the diversity and richness of the natural and human landscapes we have managed to create and evolve over time. We have done reasonably well over the years discussing these issues: it is now time to start acting on them effectively. We hope that this book will be the “spark” to initiate such action.

Notes


REFERENCES


Traditional Knowledge in Policy and Practice: Approaches to Development and Human Well-being

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Traditional knowledge (TK) has contributed immensely to shaping development and human well-being. Its influence spans a variety of sectors, including agriculture, health, education and governance. However, in today's world, TK and its practitioners are increasingly underrepresented or under-utilized. Further, while the applicability of TK to human and environmental welfare is well-recognized, collated information on how TK contributes to different sectors is not easily accessible.

This book focuses on the relevance of TK to key environment- and development-related sectors, discusses the current debates within each of these sectors and presents suggestions as to how TK can be effectively integrated with conventional science and policy. A valuable resource to researchers, academics and policymakers, *Traditional Knowledge in Policy and Practice* provides a comprehensive overview of TK, and its links and contributions to social, economic, environmental, ethical and political issues.

"This collection, which comprises chapters by experts from a wide range of backgrounds, including traditional knowledge-holding communities, should leave policy makers in no doubt that protecting TK is not only vital for indigenous peoples but for the common future of all of humanity."

—Graham Dutfield, Professor of International Governance, School of Law, University of Leeds

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