

DISCUSSION PAPER

Biodiversity and Community Health: connecting and linking nature, knowledge and practices on the ground

Healthy ecosystems and biological diversity (biodiversity) are sources of various goods and services that nurture life on Earth and enhance human well-being. While the relevance of biodiversity to modern health care delivery may be clear, as seen in the commercial use of biological resources for pharmaceuticals, the relevance of biodiversity to the health care of people in economically disadvantaged and/or relatively isolated regions of the world can be considered to be fundamentally connected to their very survival. These regions may be rich in a variety of resources (such as medicinal or nutritional and related knowledge) and have naturally abundant biodiversity, but they often lack sufficient public health care infrastructure with adequate personnel.

Use of biodiversity and ecological resources for health care has been developed in different bio-cultural ecosystems based on available resources and the perceptual and intellectual acuity of local people. Commonly referred to as traditional medicine, and/or including elements of nutrition and diets, it is practiced both informally as local healing traditions by traditional healers/shamans and householders, and formally through recognized medical systems such as Ayurveda. These are often distinct from their western counterpart. Despite the differences among these diverse traditional systems, they share a common philosophy on health and healing, defined by their focus on a comprehensive approach to health that integrates physical, mental, social and ecological factors of well-being.

According to the World Health Organization, "Health is both a resource for, as well as an outcome of, sustainable development. The goals of sustainable development cannot be achieved when there is a high prevalence of debilitating illness and poverty, and the health of a population cannot be maintained without a responsive health system and a healthy environment. Environmental degradation, mismanagement of natural resources, and unhealthy consumption patterns and lifestyles impact health. Ill-health, in turn, hampers poverty alleviation and economic development" (WHO, 2002)¹.

¹ WHO, 2002, World Summit on Sustainable Development (AKA Earth Summit 2002), <http://www.who.int/wssd/en/> p.1.

Ensuring access (both physical and economic) to good quality health care has been a major challenge to planners and policymakers. This has been the case since the 1970s, when the Alma Ata declaration (1978) mandated "Health for All" by the year 2000 to the more recent Millennium Development Goals (MDGs) (2000), where three of the eight goals are direct health goals and three others are indirectly related to health. Implementation of policies for public health in a bio-culturally diverse context confronts various challenges, ranging from physical resource availability to peculiarities of socio-political and cultural contexts. Diversified approaches are therefore called for, and their formulation must be sensitive to local priorities and contexts. In the case of health, it has been shown that a pluralistic approach of intervention integrating traditional resources and medical knowledge enables better health outcomes (Dummer and Cook, 2008). Towards this, various elements need to be promoted to contribute effectively to this approach and the objective of this Discussion Paper is to highlight some of these elements as a basis for discussion to support inter-sectoral collaboration and implementation.

The following section identifies ten key elements that need to be considered to achieve good health at the community level, and suggests some key considerations for use by policy- and decision-makers.

1. Biological Resources

It has been well-documented that humanity uses highly diverse biological resources for health and nutritional purposes, as well as livelihoods, across and within countries and ecosystems. Estimates suggest that globally between 50,000 and 70,000 species of medicinal plants are used in traditional and modern medicinal systems (Schippmann et al., 2006²), of which about 3,000 are traded internationally. The trade in medicinal plants also provides a source of income to millions of households involved in collection, with women often playing the major role, and supplies industrial production of a wide array of medicinal and household products. Systematic, country-wide comprehensive documentation of such information is missing. Where they exist, efforts to promote sustainable management, transparency or increased benefit sharing, have to contend with widely distributed harvest communities and highly complex trade chains, calling for coordinated action, including the private sector to address the issue of sustainable use of medicinal plant resources. [Contd Pg4]

² Schippmann, U., Leaman, D. and Cunningham, A.B., 2006. A comparison of cultivation and wild collection of medicinal and aromatic plants under sustainability aspects. In: R.J. Bogers, L.E. Cracker and D. Lange, eds. 2006. *Medicinal and Aromatic Plants*. Springer: Dordrecht, pp.75–95.

Table: MDGs and Aichi Targets – Linkages and Potential Areas of Engagement with Traditional Medicine, Nutrition and Governance

Goal	Relevant Targets	Potential Areas of Engagement	Aichi Targets of the CBD and Community Health ³
Goal 1: Eradicate poverty and hunger	Target 1.C (Reduce hunger)	<ul style="list-style-type: none"> – Improving access to nutrition through promotion of traditional foods and products, create awareness and use of seasonal foods, preservation and processing methods – Preservation of diversity of knowledge and conservation of resources, that could lead to development of traditional food based dietary guidelines – Promotion of knowledge, resources and activities relevant to adaptation and enhanced resilience to environmental changes 	<p>T1, 2, 4, 13, 18, 19 (Awareness of values of biodiversity, poverty reduction strategies, sustainable production and consumption, genetic diversity, local traditional knowledge, increase knowledge, S&T)</p> <p>T4, 6, 7, 8, 13, 18 (Sustainable production and consumption, sustainable harvesting, sustainable management, pollution reduction, genetic diversity, local traditional knowledge)</p> <p>T1, 7, 8, 9, 10, 12, 13, 15, 18, 19 (Awareness of values of biodiversity, sustainable management, reduce pollution, invasive alien species, vulnerable ecosystems, prevention of extinctions, genetic diversity, ecosystem resilience, local traditional knowledge, increase knowledge, S&T)</p>
Goal 4: Reduce child mortality	Target 4.A (Reduce under-five mortality rate)	<ul style="list-style-type: none"> – Promotion of antenatal, post-natal and maternal care related cultural practices of positive value – Capacity building for better birth related practices 	T1, 14, 18, 19 (Awareness of values of biodiversity, ecosystem services, local traditional knowledge, increase knowledge, S&T)
Goal 5: Improve maternal health	Target 5.A (Reduce maternal mortality ratio) Target 5.B (Universal access to reproductive health)	<ul style="list-style-type: none"> – Assessment of local knowledge related to contraception, maternal health care and improvement of reproductive health practices and promotion of positive practices – Improvement of professional skills of traditional birth attendants – Integration of trained and skilled professionals in traditional medicine for obstetric care for antenatal care coverage 	T12, 14, 18, 19 (Prevention in extinctions, ecosystem services, local traditional knowledge, increase knowledge, S&T)

³ Also refer www.cbd.int/en/health. Aichi biodiversity targets of the Convention on Biological Diversity: T1 (awareness of values of biodiversity), T2 (poverty reduction strategies), T3 (reduce negative subsidies), T4 (sustainable production and consumption), T5 (reduce habitat loss), T6 (sustainable harvesting), T7 (sustainable management), T8 (reduce pollution), T9 (invasive alien species), T10 (vulnerable ecosystems), T11 (protected areas), T12 (preventing extinctions), T13 (genetic diversity), T14 (ecosystem services), T15 (ecosystem resilience), T16 (Nagoya Protocol), T17 (adoption and implementation of NBSAPs), T18 (local/traditional knowledge), T19 (increase knowledge, S&T), T20 (increase financial resources). For more information, please see <<https://www.cbd.int/sp/targets/>> Last Accessed 10 Sep 2012.

Goal 6: Combat HIV/AIDS, malaria and other diseases	Target 6.A (Halt and reverse the spread of HIV/AIDS) Target 6.B (Universal access to treatment for HIV/AIDS) Target 6.C (Halt and begin to reverse the incidence of malaria and other major diseases by 2015)	<ul style="list-style-type: none"> – Examination and promotion of the role of traditional knowledge and practices in malaria prophylaxis – Exploration of traditional medicine-based drug development – Integration of traditional health professionals in HIV care – Exploration of development of traditional medicine-based comprehensive programmes on other infectious diseases 	T5, 7, 8, 13, 14, 15, 18, 19, 20 (Reduction in habitat loss, sustainable management, pollution reduction, genetic diversity, ecosystem services, ecosystem resilience, local traditional knowledge, increase knowledge, S&T, increase in financial resources)
Goal 7: Ensure environmental sustainability	Target 7.A (Reduce biodiversity loss, achieving by 2010 a significant reduction in the rate of loss) Target 7.C (Reduce proportion of people without sustainable access to safe drinking water and basic sanitation)	<ul style="list-style-type: none"> – Encouragement of community level good practices on sustainable use and management of medicinal, nutritional and cultural resources – Identification and strengthening of traditional knowledge-based practices for safe drinking water 	T3, 4, 5, 6, 7, 8, 9, 14, 15, 18, 19 (Reduction in negative subsidies, sustainable production and consumption, reduction in habitat loss, sustainable harvesting, sustainable management, pollution reduction, invasive alien species, ecosystem services, ecosystem resilience, local traditional knowledge, increase knowledge, S&T)
Goal 8: Develop a global partnership for development	Target 8A (Develop trading and financial system) Target 8.E (Enhance co-operation for access to essential drugs)	<ul style="list-style-type: none"> – Improvement in access to safe and effective traditional medicines – Encouragement of fair and equitable standards for commercial presence in global markets 	T19, 20 (Increase knowledge, S&T, increase in financial resources)

Source: Unnikrishnan and Suneetha, 2012⁴

⁴ Unnikrishnan PM and Suneetha MS, 2012, Biodiversity, Traditional Knowledge and Community Health: Strengthening Linkages, UNU-IAS Policy Report, UNU-IAS and UNEP, Yokohama and Nairobi.

There is also high use of fauna and their products in traditional medicine, assessments on whose use are sparse. Sustainable use of medicinal resources would provide multiple benefits, to biodiversity, livelihoods and human health, latter, in particular, relating to their affordability, accessibility and cultural acceptability. The international policy efforts towards sustainable use of biological plant resources include WHO/IUCN/WWF/TRAFFIC Guidelines on the Conservation of Medicinal Plants (under revision), and the CBD Global Strategy for Plant Conservation.

Key Considerations

1. Assessment of use, trade and threat status of key biological resources at national and sub-national levels and development of suitable management plans integrating social, economic and ecological dimensions of resource use.
2. Build on and strengthen community based participatory models of conservation action (*insitu* and *exsitu*) and sustainable use within biodiversity planning strategies and integrate them with health care and livelihood programmes.
3. Regulate collection, encourage sustainable harvest practices and cultivation by communities to reduce stress on wild populations of biological resources.
4. Facilitate capacity building of resource managers and other relevant stakeholders in conservation related processes.
5. Encourage regional and international networking and up-scaling existing good practices in the area of conservation and sustainable utilization of medicinal resources.
6. Encourage and facilitate multi-stakeholder approach to sustainable use of biological resource, including the engagement of harvesting communities, private sector along the trade chain, resource managers and civil society.
7. Promote the use of the best practice framework for sustainable and equitable use of wild medicinal plants – viz., the FairWild Standard – including for sustainable harvesting and trade by communities, strengthening of governmental policies, and ensuring trade in medicinal resources is fair and sustainable.

2. Knowledge Resources

Some unique features of traditional knowledge are its diversity and its dynamic nature which evolves in response to new stimuli. Across sectors, it can be seen that some of the knowledge is codified, and some is even institutionalized. These range from highly developed ways of perception and understanding, classification systems (ethno-taxonomies) to metaphysical precepts. By extension, the level of expertise, unlike modern science, is heterogeneous and therefore internal validation methods differ substantially despite an underlying philosophical principle of the interconnectedness of the social and natural worlds.

Conventional approaches of natural product chemistry-driven health care solutions are time-consuming and resource-intensive. They are often hindered due to improper implementation and related costs. Community health contexts require simpler and rapid assessments. Traditional approaches have been tested over time empirically albeit without adequate documentation. A major challenge thus is to document such experiences and thereby foster a participatory learning process to identify and supplement current practices in a culturally sensitive way.

Key Considerations

1. Formulate interdisciplinary ethno medical studies based on community needs.
2. Support development of local pharmacopoeia through documentation and participatory assessment of community knowledge, and thereby generate primary evidence through a social process.
3. Develop capacity building in design, implementation and communication of experiences in a standard format.
4. Support activities that maintain or increase indigenous and local knowledge innovations and practices associated with plant resources to support customary use, sustainable livelihoods, local food security and health care.

3. Human Resources

Traditional medical knowledge holders or traditional health practitioners (THPs) are widely dispersed ranging from highly institutionalized practitioners to those who practice occasionally or from households, taking care of the health needs within their families, villages or neighbourhoods. Easy access, cost efficacy, cultural familiarity by healers, flexible fee payment systems (at times outcome payment) and perceived efficacy are characteristic reasons why patients choose such therapies (Diallo et al., 2006).⁵

Key Considerations

1. Plan integration of traditional health practitioners and other knowledgeable community members and their good practices in health programmes based on contextual needs.
2. Create processes of legal recognition for such practitioners and improve support as per local needs.
3. Promote self regulatory associations for health practitioners and accreditation systems.
4. Devise strategies for their amicable relationship with biomedical professionals and referral systems.

⁵ Diallo, D., Graz, B., Falquet, J., Traore, A.K., Giani, S., Mounkoro, P.P., Berthe, A., Sacko, M., Diakite, C., 2006. Malaria treatment in remote areas of Mali: use of modern and traditional medicines, patient outcome. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 100(6), pp.515–520.

5. Improve access to resources and devise mechanisms to assure intellectual property rights of undocumented knowledge.
6. Formulate educational strategies for continued intergenerational transfer of such relevant knowledge as active social traditions.
7. Promote regional and international exchange of learning among traditional health practitioners.

4. Community Health and Nutrition

Biodiversity, health and nutrition are vitally connected. Nutritional diversity required for a healthy life is dependent on diversity of crops, animals and other organisms. It can also provide a local solution to diet-related nutrition and health conditions, such as nutrient deficiencies and obesity, which are becoming a growing burden on stretched health budgets. Yet much of this biodiversity and traditional knowledge associated with it is disappearing. FAO estimates that of 10,000 plant species used for human food since the origin of agriculture, only 150-200 species have been commercially cultivated of which only four - rice, wheat, maize and potatoes supply 50% of the world's energy needs. Intensification of agricultural systems has led to a substantial reduction in the genetic diversity of domesticated plants and animals and the implications of this loss (and related ecological knowledge) for the quality of the global food supply are scarcely understood, especially from the perspective of nutrition. A recent survey⁶ summarizing information from 22 countries highlights that wild biodiversity still plays an important role in local contexts with around 90-100 wild species being used per community group, and 300 – 800 species in some individual countries. In many different parts of the world, replacing traditional foods with convenience foods has resulted in a decrease in the quality of the diet and soaring prevalence of diet-related chronic diseases among indigenous communities⁷. The important role of biodiversity has been highlighted by the CBD's "Cross-cutting initiative on biodiversity for food and nutrition".

Key Considerations

1. Strengthening the evidence base for the contribution of biodiversity to enhanced dietary diversity, nutrition and health.
2. Assessments of the nutritional value of biodiversity in select ecosystems and agricultural landscapes.
3. Development of information portals on local foods, and their nutritional properties.

⁶ Bharucha and Pretty (2010). The roles and values of wild foods in agricultural systems. *Philosophical Transactions of the Royal Society* 365: 2913-2926

⁷ Indigenous Peoples' food systems: the many dimension of culture, diversity and environment for nutrition and health, 2009, CINE, FAO.

4. Establishment of cross-sectoral policy platforms for mainstreaming biodiversity conservation/ sustainable use into nutrition & health strategies.
5. Creation of new markets and value chains for foods with high nutritional value

5. Equity and Livelihoods

There is a major increase in the international trade of biological resources. Trade in medicinal plants alone is expected to be over USD 800 million per year (Leaman and Mulliken, 2006⁸). A major portion of this is sourced from unorganized sectors that directly support rural livelihoods in a considerable way. Development is conventionally defined in terms of economic growth, and usually does not account for "informal" sectors such as traditional health delivery systems. The specific skills, capabilities and resources possessed by communities can be utilized to achieve development objectives in local communities. Traditional knowledge and resources from an ecosystem are parts of supply chains of products (e.g., medicinal products, raw materials) and services (e.g., health care, nutrition). Income that is generated and distributed equitably from such activities provides an incentive to conserve such knowledge and resources, while also resulting in better health and nutrition outcomes (Suneetha and Pisupati, 2009⁹).

Key Considerations

1. Promote community-based enterprises that utilize traditional medicinal resources and products.
2. Streamline policies related to access to resources and equitable sharing of benefits arising from its utilization (ABS) and include value addition activities at the local level.

6. Interculturality, Integration and Institutionalization

Traditional knowledge has been characterized as non-dualistic, dynamic, informal, secret and sacred, spiritual, time related and non-linear in nature. Methods are also intuitive and meditative, with an emphasis on reciprocity (Haverkort, 2010: 20¹⁰). For the same reasons, it is not an easy task to validate such knowledge using empirical standards of modern scientific methods. However, these sciences exist in parallel to dominant systems and are pursued by

⁸ Leaman D.J. and Mulliken, T., 2006. Preface. In: S. Miththapala, ed. 2006. *Conserving Medicinal Species: Securing a Healthy Future*. Colombo: IUCN Ecosystems and Livelihoods Group, Asia.

⁹ Suneetha MS and Balakrishna Pisupati, 2009, Learning from the Practitioners: Benefit sharing Perspectives from enterprising communities, UNU-IAS and UNEP, Yokohama and Nairobi.

¹⁰ Haverkort, B., 2010, The inter-university initiative CAPTURED: Bridging worldviews, ways of learning and ways of knowing. *Journal of Ayurveda and Integrative medicine*, 1(1), pp.56–62.

different populations implying a greater need for respectful co-existence between them, and for fostering appropriate integration between the sciences and methods (ICSU, 2002¹¹).

Key Considerations

1. Promote development of better academic methodologies for research on, and integration of, traditional knowledge systems.
2. Create awareness among health professionals on the relevance of integration.
3. Upscale good practices of integration through relevant policy measures.

7. Education

The dominant education and research systems tend to enhance knowledge and technologies with universal standards, rather than supporting the needs of specific regions or populations (Haverkort et al., 2003¹²). A dearth of comprehensive theoretical approaches to assess the role, economic potential and policy implications of traditional knowledge is a key reason for disregarding traditional cultures (Jenkins, 2000¹³). Since most of the traditional environmental and medical knowledge among communities is oral in nature, revival of the social processes of their generation, preservation and transfer within the communities needs to be well studied. Culturally and locally relevant educational practices need to be enabled and processes such as social learning should be promoted, as management of bio-cultural resources to achieve health and development cannot be approached uni-dimensionally. This then calls for a transformative or reflexive learning process and the development of transdisciplinary methodologies to studying nuances of TK, in addition to generation of evidence, development of skill assessment methods and mechanisms for collaboration and peer review.

Key Considerations

1. Promote education models that integrate experience-based subjective knowledge.
2. Foster receptivity of traditional healers and their knowledge systems into mainstream education systems.
3. Reinforce intergenerational transfer of knowledge and skills in communities through appropriate pedagogical systems.

¹¹ International Council for Science (ICSU), 2002. *Science, Traditional Knowledge and Sustainable Development*, ICSU Series on Science for Sustainable Development No.4. Paris: ICSU and UNESCO.

¹² Haverkort, B., Van't Hooft, K. and Wiemstra, W. eds., 2003. *Ancient Roots New Shoots*. Leusden: ETC/COMPAS and Zed Books.

¹³ Jenkins, T.N., 2000. Putting Postmodernity into Practice: Endogenous Development and the Role of Traditional Cultures in the Rural Development of Marginal Regions. *Ecological Economics*, 34, pp.301–314.

4. Reorient research and educational methods to include transdisciplinary perspectives.

8. Protection and Rights-based Approaches for Community Knowledge

Traditional knowledge exists in diverse categories. Much of the oral knowledge is held by individuals or closed groups within communities or even shared in parallel by communities in similar ecological systems. Policy planners and various stakeholders have been striving to find amicable mechanisms to protect and promote the rights of holders and innovators of traditional knowledge. It is important to ensure easy and free access to knowledge, and it is also equally important to ensure social equity. While attempts at inventorying knowledge have received increasing attention over the last decade, several of the experiential elements related to TK cannot be so protected, unless they are promoted as active social traditions (Shankar and Unnikrishnan, 2004¹⁴).

Key Considerations

1. Encourage the development of community knowledge registers and bio-cultural protocols and link them with national databases for protection.
2. Build on and upscale good practices of ethical and equitable agreements with international collections and industries related to use of traditional knowledge and natural resources for research or commercial purposes.

9. Socio-cultural Landscapes

Survival and vitality of knowledge and resources depend on the socio-cultural contexts in which they are embedded. Typically, such knowledge and resources are found to be most vibrant among communities close to culturally important landscapes. These could relate to socio-ecological production landscapes (e.g., *satoyama* in Japan) or conservation systems (e.g., sacred groves, ceremonial sites) or health domains (e.g., sacred healing sites). Such landscapes contribute immensely to health and well-being, therefore necessitating a close inquiry into the functional interlinkages within such systems, and maintenance of their dynamism.

Key Considerations

1. Encourage further interdisciplinary research studies examining the relationship between socio-cultural landscapes and health and well-being.
2. Identify key areas for protection and promotion of bio-cultural sites like sacred groves and therapeutic landscapes, including heritage education.

¹⁴ Shankar, D. and Unnikrishnan, P.M. eds., 2004. *Challenging the Indian Medical Heritage*. New Delhi: Foundation Books.

10. Partnerships and Networking

Based on the relationship between the sets of stakeholders, partnerships in this sector can be categorized as being 1) donor partnerships and/ or 2) knowledge and implementation partnerships. Strong networks are built between local civil society organizations, local communities, educational institutions and other relevant stakeholders including local scientific establishments utilizing ecosystems and resources. Supporting such linkages is vital to sustain any initiative on the ground. These also help to assure basic safety and quality standards of products and services.

Key Considerations

1. Devise innovative national, international funding mechanisms for upscaling existing good practices in cross-cutting domains related to health, biodiversity and traditional knowledge.
2. Develop an institutional framework for linking various local, regional and global initiatives in the sector.

Summing Up: What can be done?

Achieving better health access and sustainably using biodiversity at the level of local communities requires multi-pronged strategies. Some of these may include:

- *Assessment methods to inventorize resources and knowledge used in health care* – Conduct integrated assessments of biological resources and traditional health practices in an ecological and community context to prioritize conservation and development strategies.
- *Knowledge validation, generation and use* – Develop and promote appropriate integrative methodologies for assuring quality, safety and efficacy of traditional medical practices based on standards both within and across medical systems.
- *Capacity building for different stakeholders* – Better recognition and integration of traditional healers through an appropriate and culturally sensitive accreditation process, coupled with efforts at revitalizing household health and food traditions. Capacity building is also required in management, collaboration, skills for awareness building, research, and marketing, among communities, governments, traditional health practitioners as well as scientists.
- *Cross-learning between different knowledge systems* – Enhance traditional medical education and studies related to biological resources and management through formal, informal and non-formal learning processes. In addition to this, there is a need to strengthen policy-relevant research examining various intricacies in the biodiversity/natural resource-traditional knowledge-health-development domain.

- *Development of mechanisms for protection of traditional resources and knowledge* – Strengthen and promote existing tools that are sensitive to community values, and at the same time allow innovation and promote good practices as active social traditions.
- *Linking with economic development objectives* – Promoting enterprise development based on medicinal and nutritional resources and services, and development of new, appropriate and feasible technologies that could enhance productivity, would further complement biodiversity conservation measures.
- *Expansion of partnerships with different stakeholders* – Increase partnerships at multiple levels by facilitating enhanced networking among various stakeholders, such as in value chain partnerships and peer group learning partnerships.
- *Develop effective communication strategies* –to raise awareness of different stakeholders.

The development of a new joint initiative: International Initiative on Biodiversity and Community Health

Recognizing that:

- Identifying local health priorities and supplementing them with ecosystem and community specific traditional medical knowledge and resources through primary health programs is critical;
- Biological resources form an important aspect of this strategy, and it is critical to also ensure their survival and sustainable use;
- Strengthening local innovations through livelihood programmes and local enterprises also assumes significance;
- Mechanisms for protection of such traditional knowledge resources, prevention of their erosion and linking with scientific research are related areas that need attention; and
- Furthering awareness and contribute to the building of more robust, peer reviewed evidence about the importance of the interlinked domains of biodiversity conservation, health and nutritional security goals, and the use of different knowledge systems to achieve them.

Several agencies have come together to pool their individual institutional strengths to develop a work synergy to achieve the broad goals of this initiative. Current partners include United Nations University-Institute of Advanced Studies (UNU-IAS), Bioversity International, UNDP's Equator Initiative, UNEP, University Network on Biological and Cultural Diversity, COMPAS Network on Endogenous

Development, Foundation for Revitalisation of Local Health Traditions and the National Biodiversity Authority of India, in collaboration with the Secretariat of the CBD.

To achieve the different objectives, it is envisaged that a global network of centers of excellence addressing the various parameters of the theme will be developed. Towards this, the partners will undertake the following activities:

Research: Initiate a networked research and implementation activity highlighting the biophysical resource flows to health and food sectors.

Capacity building to enable participatory, rapid and integrated assessment of biological resource use and health practices

Policy engagement targeted inputs to specific policy forums on relevant areas

The joint initiative on Biodiversity and Community Health welcomes further collaborators and ideas to develop and enhance the effectiveness of our proposed activities. We invite suggestions and feedback that will enable us to refine our proposals further.

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