Challenging

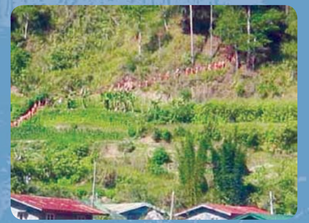
the assumptions of western science

Western conservation philosophies separate humans from nature. This leads to the notion that people must be excluded if environments are to be preserved. In indigenous worldviews, however, such a division is unacceptable, as ecosystems and social systems are intertwined. Landscapes are rendered meaningless when one excludes the human relationships and attachments that create them and that are in turn created by them.

Unlike science, indigenous thought does not oppose the rational and the spiritual, nor value one above the other. Instead, they flow together and intermingle. For this reason, efforts to extract indigenous knowledge from its moral and spiritual foundations often result in its misinterpretation and fragmentation.

Mt Pulag, Benguet, the second highest mountain in the Philippines, is one of the government's protected areas because of its rare biodiversity such as the Philippine oak, dwarf bamboo and cloud rat, and is the headwaters of Eddet and Karao rivers, tributaries of the powerful Agno River.

For generations, the Ibaloi and Kalanguya people have protected it as a sacred site, even before the government declared it as a protected area. It is believed to be where *Kabunyan* [supreme being] and other spirits dwell. Mt Pulag is different from other rainforest mountains in the Philippines because of its open space [no trees] and its changing seasonal colors.



Begnas in Sagada, Mt. Province. Male elders climb up in single file towards the sacred mountain. After which, they will gather at the *dap-ay*, a traditional socio-political structure in the village. Begnas is a community ritual of animal-offerings, prayers, omen reading, gong-playing and dancing and rest days for a bountiful harvest and thanksgiving. It is performed before planting season and when the first seedlings have sprouted. The last begnas is done during the harvest season.

Synchronized sowing. An old practice among rice growing communities in the Cordillera region, synchronized sowing or seeding helps prevent the subsequent build up of pests and rats and allows the reuse of irrigation water and whatever nitrogen it carries for other paddies. Today, a sound agricultural development still observes this principle and includes the encouragement of integration of other agricultural crops.

Protecting

indigenous knowledge from inappropriate use

Indigenous knowledge is vulnerable to exploitation by outsiders for commercial profit. In many cases, it is obtained without consultation with indigenous communities or any effort to explain how it may be used.

Today, many communities are calling for the protection of their knowledge from inappropriate use, emphasizing the need for free, prior and informed consent, and the sharing of benefits.

However, existing regimes for protecting intellectual property are ill-adapted to indigenous knowledge and the needs of indigenous societies. Efforts are being made to develop more appropriate methods, such as *sui generis* systems based upon customary law.

Plants are an important part of traditional healing. Traditional knowledge of medicinal plants is actively sought after by scientists working for the pharmaceutical industry. In the Cordillera, indigenous healers usually act as herbalists who use medicinal plants to treat illnesses, as *hilot* or midwives, or priests who conduct healing rituals. *Mambunong, mombaki, man-ated, mansip-ok* are some terms used to refer to indigenous healers or priests.

The Talaandig, indigenous peoples of Sungco, Lantapan, Bukidnon, have established a community protocol to ensure that visitors and outsiders comply with customary law and are sensitive to the local culture. This ritual signifies the community's acceptance and welcoming of its visitors. It is performed by the elders and women, involving the offering of one peso by each participant, the butchering of four chickens, prayers and chants. Through this protocol, the visitors are assured of their safety and health while inside the territory of the tribe.

Holok refers to a distinctive pest management system practiced by the Ifugao people of Hingyon that utilizes the various parts of more than 25 plants to produce a pesticide against army worms and other rice pests. The holok, as traditionally practiced, was part of the *honigan di pagéh*, the system of Ifugao rituals on rice culture. Today, mainstream religion has contributed to the deterioration of traditional rituals and practices associated with agricultural production.

Revitalizing

knowledge transmission within indigenous communities

While education programmes provide important tools for human development, they may also promise the transmission of indigenous knowledge.

With formal education, children spend much time learning passively in classroom settings, rather than engaging in hands-on learning on the land. Teachers replace parents and elders as the holders of knowledge and authority. National languages become the medium of instruction, while vernacular languages are sidelined. Formal education may therefore contribute to an erosion of cultural diversity, a loss of social cohesion and the alienation and disorientation of indigenous youth.

There is an urgent need to enhance the intergenerational transmission of indigenous knowledge, as a complement to mainstream education. Efforts are now being made to bring indigenous language and knowledge into school curricula, and to move learning back into the community, thus reaffirming the status of elders as knowledge holders.

The *dap-ay*, the traditional meeting place in a Sagada Kankanaey village, is the space for discourse on community concerns and affairs. It is in the dap-ay where disputes are settled through consensus, where problems are aired, and where lessons are shared. Recently, this dap-ay hosted a cultural exchange among members of the Philippine Traditional Knowledge Network.

The Dap-ayan ti Kultura iti Kordilyera (DKK) conducts a workshop on indigenous bamboo music among young Igorots. The DKK is an alliance of cultural organizations that are working to safeguard and revitalize Cordillera cultural heritage through education and training, organizing, workshops, performances, and productions. The DKK also use indigenous art forms to promote social change and cultural awareness and sensitivity.

Talaandig youth are involved in revitalizing their people's culture and arts. The Talaandig School of Living Tradition was established in 1996 to help preserve the traditional culture, music, and arts. This was to counter the influence of western and modern culture which was prevalent at that time. The school was instrumental in preserving and transferring the culture and knowledge of the cultural experts to the youth. Talaandig elders support the effort and play the role of teachers.

Value Indigenous Knowledge!

This education material provides information on various forms of indigenous knowledge systems and practices showing the diversity and vitality of cultures of the indigenous peoples in the Philippines. Different facets of indigenous knowledge from indigenous peoples all over the country are shown through pictures and captions.

It aims to promote understanding about traditional livelihoods, sustainable natural resource management practices, socio-political institutions, spirituality, arts, and cultural values of indigenous peoples. It also hopes to build greater appreciation for the contributions of indigenous knowledge to society as a whole, and the importance of its continued transmission, promotion and protection.

Credits for the original text and poster design go to the United Nations Educational, Scientific and Cultural Organization - Local and Indigenous Knowledge Systems programme (UNESCO LINKS). Photos and captions were contributed through the collaboration of the Philippine Task Force for Indigenous Peoples Rights (TFIP), Institute of Social Research and Development - Benguet State University (ISRD-BSU), Philippine Traditional Knowledge Network and Tebtebba.

A collaborative effort of:

TEBTEBBA
Indigenous People's International Centre for Policy Research and Education

Philippine Task Force for Indigenous Peoples Rights (TFIP)

Institute of Social Research and Development - Benguet State University (ISRD-BSU)

Philippine Traditional Knowledge Network

Stonewall building or *tuping* is a remarkable indigenous engineering skill among the Cordillera Igorots, who developed the expertise through centuries of building rice terraces and stabilizing steep mountain slopes. It involves laying a strong foundation, called *pegnad*, that is crucial in ensuring the stability of the stonewall, then piling and fitting stones together in a neat and systematic way. The tuping is integral to the sustainability of indigenous livelihoods and communities in the Cordillera.

Strong roots

for sustainable development

Local and indigenous knowledge' refers to the understandings, skills and philosophies developed by societies with long histories of interaction with their natural surroundings. For rural and indigenous peoples, local knowledge informs decision-making about fundamental aspects of day-to-day life.

This knowledge is integral to a cultural complex that also encompasses language, systems of classification, resource use practices, social interactions, rituals and spirituality.

These unique ways of knowing are important components of the world's cultural diversity, and provide a foundation for locally-appropriate sustainable development.

A Kalahan of Nueva Vizcaya measures the circumference of a tree in their forest. To the Kalahan, the forest and their *ricefields* are integral to their life, history and culture. Therefore, they are bound by tradition to conserve and manage their forest to sustain the sources of their livelihood. Mapping and conducting an inventory of trees are part of the sustainable management of the forest.

Heirs to their forest hunting and gathering ancestors, the Magbukun Ayta can identify and name the diverse flora and fauna of their territory, the Bataan Nature Park, as a source of food, medicine, and other needs. To ensure the survival of the biodiversity of the forest, the Ayta established seedling nurseries in the community and in the forest for indigenous tree species. The tree seedlings are used to replant their dipterocarp forest.

An indigenous community of La Union uses an iron press to squeeze sugar cane juice to be cooked into natural sugar. Traditionally, the *dapilan* or sugar cane press was made of two upright logs, powered by a carabao. The sticky cooked sugar is poured and set to cool in coconut bowls. The result is solidified bowl-shaped sugar that is consumed by the family. Surplus is sold in the market.

Continuity & change

the dynamism of traditional knowledge

Local and indigenous knowledge is frequently represented as a fixed body of ancient wisdom that is passed down intact from generation to generation. Terms such as 'tradition' and 'heritage' evoke constancy, immutability and inflexibility. In reality, local knowledge has always been reassessed, renewed and expanded. Each generation reinterprets the knowledge of their forebears to confront the emerging challenges and opportunities of a changing world.

The adoption of modern technologies by indigenous peoples is often misinterpreted as the abandonment of their distinct values and ways of life. In reality, the capacity to incorporate new tools and skills has always been fundamental to the dynamism of indigenous cultures. Indeed, it is by blending new ways with old that many indigenous communities are able to uphold their unique lifestyles and worldviews.

An indigenous blacksmith polishes a small axe with the use of an electric powered grinder. Traditionally, the axe was polished by hand with the use of a file. The axe is a multi-purpose implement used to cut trees and underbrush to prepare the land for planting rice.

An Ifugao man plowing a ricefield. Traditionally, the ricefields are prepared by men and carabaos stomping on the soil to turn and aerate it. Today, a plow pulled by a carabao is also used to prepare ricefields. The Banawe Ifugao Rice Terraces are recognized as a living cultural heritage and recognized as a World Heritage Site.

A Tagbanua-driven boat carry products and people around Coron, Palawan and outlying islands. The Tagbanua adopt modern technologies to strengthen their fishing, gathering and agricultural way of life. Motorized transport allow them to gain access to distant fishing grounds and markets for their products.

Gender & knowledge

the complimentary ways of knowing

Women and men possess extensive bodies of knowledge and skills. However, women have their own areas of expertise and their own modes of knowledge transmission. Their knowledge is vital for sustaining community livelihoods, values and well-being.

Indigenous knowledge research has mainly focused on knowledge held by men. Today, it is recognized that the two ways of knowing complement each other and that they are both essential to the continuing vitality and dynamism of indigenous knowledge systems.

Photo credit: Kelvin Oliquino Kindat Bansan

Mother Petra Madi-ing of the indigenous Bontoc tribe, in Mountain Province, Cordillera, Philippines has been practicing indigenous farming techniques for decades. She has consistently declined to convert to chemicall farming, despite aggressive promotion by the government and agro-chemical companies in the region. Her determination and commitment stems from her traditional belief in the value of the land for her people, and in their sound practice of naturally organic and sustainable agriculture in their mountain homeland.

Subsistence rice farming is the main source of livelihood for many Philippine indigenous peoples. Indigenous Ifugao women spend many productive hours in the farm throughout the agricultural cycle, from transplanting, sowing, weeding, cleaning, harvesting, pounding and winnowing the rice. They also play a critical role in seed selection, seed storage and seed exchange to ensure the continued survival of traditional varieties of rice.

Photo credit: Dave Richards

Indigenous Ibaloi and Kankanaey women of Itogon, Benguet have been involved in traditional small-scale mining for centuries as a stable source of livelihood. Women assume important roles in processing the gold ore - hammering, milling, sluicing and refining the gold particles - using rudimentary but environment-friendly methods.

Synergies

between scientific & indigenous knowledge

Indigenous knowledge may advance scientific understandings, providing new information and perspectives that supercede those currently held by scientists. This is particularly evident in remote areas that have not been at the heart of mainstream scientific research.

The recognition that local and indigenous peoples have their own ecological understandings, conservation practices and resource management goals has important implications. It transforms the relationship between biodiversity managers and local communities. While previously they were perceived simply as resource users, indigenous peoples are now recognized as essential partners in environmental management.

However, differences between scientific and indigenous worldviews continue to create barriers to meaningful collaboration, as does the widespread assumption that science is superior to other knowledge systems.

The *uma* or *swidden* is considered an agroforestry area of upland communities, where they plant cash crops and seasonal fruits. For many indigenous peoples, rotational or shifting cultivation has sustained them for generations. Modern agriculture, however, renders this farming practice as illegal and destructive. Yet, what modern farming advocates as 'modern' largely depend on oil-based resources such as pesticides and fertilizer.

Ifugao traditional knowledge of hydrology is the basis for building a micro-hydro at Ba-ang, Hungduan. The micro-hydro battery charging system has been developed by the Benguet State University (BSU)-Affiliated Non conventional Energy Center [ANEC, now AREC or Affiliated Non-Conventional Renewable Center] developed during the mid 1990s for use in far-flung areas where electricity is unavailable. The unit was designed to utilize the energy of falling water to generate electricity. The kinetic energy of the water drives the turbine at speed of up to about 1500 rpm which has been found sufficient to drive the alternator and produce enough energy to charge 12-volt batteries which can then be used to power lamps, radios, among others.

A boy using *tunol* or trap in Karao river, a tributary of Agno river. Tunol is a sustainable means of fishing as it is done only seasonally – giving time for the fish to repopulate in time for the next fish catching season. It has also been told from generation to the next generation that fish catch such as eel or *bunog* [belonging to the gobi species] is a valued gift for the sick and the elderly.