

BRIEFING PAPER

**TRADITIONAL KNOWLEDGE OF
INDIGENOUS PEOPLES**

**WHY SHOULD IT BE AT THE HEART OF DISCUSSIONS ON
EARLY WARNING SYSTEMS AND AGRICULTURE?**



AIPP Submission to the Subsidiary Body for Scientific and Technological Advise (SBSTA)
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A Briefing Paper on “Traditional knowledge of Indigenous Peoples: Why should it be at the heart of discussions on early warning systems and agriculture?”

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Indigenous peoples' territories are home to the world's remaining forests and these comprise 80% of the planet's biodiversity. More than 100 million indigenous peoples in Asia depend on forests and other natural resources for their subsistence, livelihoods, cultural practices and overall wellbeing. The indigenous peoples live in remote areas, which are geographically vulnerable to disasters, thereby increasing the risk that they face. The high level of risk to disasters is further compounded by the indigenous peoples' lack of access to basic facilities and infrastructures, their economic marginalization and social discrimination, and further imposition and incursion of development projects. Projects being implemented in indigenous territories include large-scale mining, dams, mono-crop plantations, commercial agriculture



Village flattened by the 25 April 2015 devastating earthquake in the Gorkha District of Nepal

and logging, among others. As a result, the natural buffers against storms, flooding, coastal and soil erosion, strong waves and other forms of disaster are severely being destroyed, further exposing indigenous peoples to face the brunt of such disasters. Furthermore, these projects deal adverse socio-cultural and economic impacts on the indigenous peoples.

The recent devastating earthquakes of magnitude 7.8 on 25 April 2015 and magnitude 7.3 on 12 and 13 May, respectively and its subsequent aftershocks in Nepal, have killed more 8600 lives and injured 22000. All of the 31 earthquake-affected districts, including the epicenters of the earthquake are the home districts of different indigenous peoples¹ in Nepal. As of 14 May 2015, 69.71% of the 3096 verified dead bodies belong to indigenous peoples. With monsoon closing in, these districts hit by earthquakes are at the risk of more casualties -human and infrastructure; leading to another natural disaster exacerbating the consequences of the previous one. Out of the 226-recorded global natural disasters in 2014, more than 50% occurred in the Asia-Pacific region. In 2014, disasters hit peoples in Asia and the Pacific: floods affected 28.6 million, droughts affected 31.5 million, landslides affected 0.18 million,



The Semai Community in Kampung Bantal at Serau, Malaysia was cut off by road when water rose 12 feet in December 2014. Food aid had to be delivered by way of river until the water subsided and the village was once again accessible by road

¹ Gurung, Tamang, Magar, Sherpa, Danuwar, Newar, Sunuwar, Majhi, Rai and Limbu



extreme temperature affected 1 million and storms affected 16.3 million. Many of them are indigenous peoples in the different countries such as the Philippines, Indonesia, Nepal, Malaysia and the Pacific islands, among others. The frequency and intensity of such disasters are now posing direct and serious threats to the collective survival of millions of indigenous peoples who are not equipped with early warning systems and disaster-management skills. The climate change impacts are endangering the resilient capacity of indigenous communities including their social cohesion, adaptation capacity and overall wellbeing.

ENSURE INDIGENOUS PEOPLES' PARTICIPATION AND INTEGRATION OF THEIR TRADITIONAL KNOWLEDGE IN THE DEVELOPMENT OF EARLY WARNING SYSTEMS

The development of early warning systems is pertinent and appropriate for early preparations and to avoid or at least reduce the risks induced by climate change disasters to lives, health, property, culture and the collective wellbeing of indigenous peoples. The development of early warning systems shall include the traditional knowledge as well as appropriate modern techniques, tools and innovations that will take into consideration the indigenous peoples' specific circumstances and conditions, as well as their cultural integrity. Through generations, indigenous peoples have cultivated and transferred their weather forecasting practices and predictions of disasters based on traditional knowledge linked with nature and behaviors of animals such as birds, animals, insects, as well as the condition of natural elements such as wind, clouds, and moon, among others.

Traditional Knowledge of Indigenous Peoples Receives International Recognition

The Simeulue community in Indonesia survived the 26 December 2004 tsunami by fleeing to nearby hills in response to their indigenous early warning system. The behavior of the sea and the reactions of the buffalos warned the community members about the imminent dangers of the tsunami. Because of this traditional knowledge, only seven people from this community lost their lives, compared to 163,795 deaths across the rest of Indonesia's northern Aceh province. In recognition of the importance of traditional knowledge and its application in saving thousands of lives, Simeulue community was awarded the prestigious United Nations Sasakawa Award for Disaster Reduction. The use of traditional knowledge among the sea gypsies along Thailand's southern coast and the indigenous communities on India's Andaman and Nicobar also saved thousands of lives from the 2004 tsunami. The behavior of their surroundings such as the cries of the bird, frenzy of the smaller mammals and even the change in the swimming pattern of the marine animals, were all hints and signals to the communities about the approaching natural disasters like storms and tidal waves.



The integration of traditional knowledge with the development of early warning system increases the community members' ownership of this and reduces their risk to disasters. Further, there is a need for widespread awareness raising about climate change among indigenous peoples, the risks and their vulnerability to the adverse impacts including on their agricultural systems. It is equally important to build the capacity of indigenous peoples to understand and use appropriate modern technology and tools relating to early warning systems. For example, indigenous peoples are now increasingly using radio and other forms of media tools such as mobile phones as an early warning device. The facilities and access to these technologies shall then be provided to them especially those living in remote and high risk-areas. Finally, in order for early warning systems to be successfully implemented and sustained, concerted efforts of all stakeholders and the full and effective participation of indigenous peoples including indigenous women, are key in the design.

Article 31 of the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) sets a framework for the recognition and protection of indigenous peoples' traditional knowledge. Article 8 (j) of the Convention on Biological Diversity (CBD), the Cancun Safeguards and the recent report of the Inter-governmental Panel on Climate Change (IPCC) have acknowledged the importance of traditional knowledge in biodiversity conservation, REDD+ (Reducing Emissions from Deforestation and Forest Degradations) and climate change adaptations, respectively. The Third World Conference on Disaster Risk Reduction held from 14 to 18 March 2015 in Sendai, Japan, adopted the Sendai Framework for Disaster Risk Reduction 2015-2030 which explicitly acknowledges the importance of traditional knowledge in early warning system as:

"Indigenous peoples through their experience and traditional knowledge, provide an important contribution to the development and implementation of plans and mechanisms, including for early warning."

These international instruments and agreements shall thereby serve as part of the framework in the development of early warning systems and the assessment of risk and vulnerability of indigenous peoples' agricultural systems.



TRADITIONAL KNOWLEDGE OF INDIGENOUS PEOPLES ON EARLY WARNING

- ▶ The indigenous Pagu and Gura communities in Indonesia have their own ways of predicting imminent dangers, particularly from Tsunami. The sudden low tide with strong smell of salt from the sea, the emergence of bubbles in large quantities followed by a loud roar from the sea and high-black and long waves, signal the impending danger in the island. Whoever sees these signals, will hit the “Toleng-toleng”. Toleng-toleng is a communication tool made from bamboo/iron and knocking it loudly is a sign of impending danger on the island².
- ▶ The Pagu and Gura communities use the signs of nature and animal behaviors to determine the changes in the season. This is called “nanaku,” which is the knowledge to predict an event based on their past experiences. Accordingly, the coming of the Korehara birds (local name) to the mangrove area on the islands of Kumo, Tagala and Kakara, is a sign of change of wind direction (wind is blowing from the south) and the beginning of the rainy season. The coming of the Maleo bird (*Macrocephalon maleo*) signals the change of the sea water level. The typical voice of this bird indicates the significant changes in the sea level. Also, the migration of Luo-luo birds (local name) to the mangrove on the island of Kumo and Kakara suggests the abundance of fish in the sea. These birds come to the islands to find food (fish). People often use these signs to find species of fish that will be caught in the sea. Similarly, “Mangele” is the knowledge to observe the position of clouds above the Mount Dukono, which is an active volcano. According to their reading, if the clouds are straight, thick and covers the top of the mountain, it is an indication that there will be big waves, strong winds and very strong currents. People must not go fishing during these conditions³.
- ▶ For the Tangkhul community In North East India, the appearance of giant earthworms after a dry period is a sign of rain. The communities predict drought by the behavior of animals that live in burrows such as the erratic appearance of the Pangolin towards the end of winter or beginning of spring as a sign of drought or late monsoon, and the content of moisture level in their burrow as a sign of good rain. The annual climatic forecast of the community is done by observing the weather pattern during the seed sowing festival, which falls towards the end of January. Their prediction is more related to the average weather conditions like the optimal rain that will result in good harvest, drought or changes of rain pattern that will disturb the plantation period or flowering period of their crops⁴.
- ▶ In Thailand, Karen communities can predict an earthquake by observing the behavior of cats. If the cat runs in an unusual way, it means that the earthquake is coming. Also, if the cat has kitten, it will secure its kitten.
- ▶ Still in Thailand, Karen communities observe the behavior of dogs to predict the flood. If the dogs run in total chaos or they walk in an unusual way, these are hints to the indigenous peoples living close to the river that a potential flood is coming in.
- ▶ The bird locally known as Tha Tho sings twice a day. When it sings for the first time, it means that it is noon time. When the bird sings for the second time, it means that it is around 4 pm, time to go home. So bird’s singing is like a clock to indigenous peoples.

² AIPP Briefing Paper on local actions, solution to global challenges: Initiative of indigenous peoples in climate change adaptation and disaster risk reduction on traditional knowledge” (unpublished)

³ AIPP Briefing Paper on local actions, solution to global challenges: Initiative of indigenous peoples in climate change adaptation and disaster risk reduction on traditional knowledge” (unpublished)

⁴ AIPP Briefing Paper on local actions, solution to global challenges: Initiative of indigenous peoples in climate change adaptation and disaster risk reduction on traditional knowledge” (unpublished)



ASSESSMENT OF RISK AND VULNERABILITY OF AGRICULTURAL SYSTEMS TO CLIMATE CHANGE SHALL INCLUDE SHIFTING CULTIVATION/ROTATIONAL AGRICULTURE



The New Year, in February, marks the beginning of the Shifting Cultivation Cycle, when each Indigenous Karen Family performs wrist string tying ceremony

The traditional land use system of shifting cultivation or rotational agriculture is one of the main agricultural systems practiced by indigenous peoples in Asia. The traditional knowledge, cultural, spiritual and nutritional values attached to this livelihood system demonstrate that this is not merely a technique of land use but the indigenous peoples' way of life. The recent case studies conducted by AIPP, International Work Group for Indigenous Affairs (IWGIA) and Food and Agriculture Organization-Regional Office for Asia and Pacific on "Shifting Cultivation, Food Security and Livelihoods of Indigenous Peoples" in Bangladesh, Cambodia, India, Indonesia, Lao PDR, Nepal and Thailand have provided solid evidence and reaffirmed what indigenous peoples have been advocating for many years--that shifting cultivation is providing livelihoods and food security to indigenous communities and enhancing biodiversity instead of causing forest degradation and deforestation.



However, shifting cultivation/rotational agriculture is legally prohibited or restricted in many countries in Asia as this is considered by states as a major cause and factor of deforestation and forest degradation, inspite of the solid evidence proving otherwise. These persistent approaches by states and some of their partners such as conservation organizations are resulting to food insecurity, malnutrition, loss of biodiversity and traditional knowledge. It is also causing the violation of civil and political rights of indigenous peoples as cases of arrest, detention, killing, sexual abuse and rape of indigenous women among others, are taking place when they go to their shifting cultivation areas that have been declared part of conservation areas and national parks. This condition requires the immediate review and reform of state policy relating to the practice of shifting cultivation and the declaration of national parks that are in violation of the rights of indigenous peoples, including the practice of their sustainable agricultural system.



Vegetables harvested from the Shifting Cultivation field

In addition to this, climate change is causing further challenges to the continuing practice of shifting cultivation. The occurrence of drought and erratic weather patterns is adversely affecting the production of food items in the shifting cultivation areas. For example in Thailand, the rice production period is now longer compared to the past, and they cannot combine the variety of seeds due to either prolonged rainy season and/or dry season. This demonstrates the effect of climate change on the agricultural system of indigenous peoples including the roles and contributions of women.



Further, the continuing conversion of indigenous peoples' forest and agricultural lands into commercial mono-cropping plantations such as biofuels, sugarcane, and other extractive projects such as mining and logging, as well as the construction of large hydropower dams and ensuing carbon emission are also posing serious threats to food security and biodiversity, among others. These types of projects should be regarded as high risks to sustainable agricultural systems of indigenous peoples. Corporations and International Financial Institutions have used the classification of large dams as clean energy under climate change mitigation measure as their "new license" to build more than 200 large dams across Asia. The construction of large dams has already displaced at least 40 million people worldwide, many of whom are indigenous. These activities have irreversible adverse impacts to the environment and to the social and cultural wellbeing of indigenous peoples, and to their livelihoods and traditional occupations. In Vietnam, over 90,000 people, mostly, ethnic Thai, were relocated to make way for the Son La Hydropower plant that Vietnamese scientist said left many without access to agricultural land by 2010.

In the context of the above, the assessment of the risks and vulnerability of agricultural systems require the full and effective participation of indigenous peoples at all levels. This means the food systems, food security, nutritional and cultural values of plants and food items, seed varieties and traditional crops, biodiversity, resource management systems and cultural practices of indigenous peoples relating to their agricultural system must be fully accounted for, including their traditional knowledge. Likewise, the requirement for the free prior and informed consent of indigenous peoples should be fully undertaken on projects and programmes that have serious implications on the respect for the rights of indigenous peoples over their land and resources, especially those utilizing sustainable agricultural practices including shifting cultivation. Indigenous women should be provided with equal representation and participation for their essential roles and contributions to sustainable agriculture, and to ensure the inclusion of their specific vulnerabilities and needs in programmes and measures on agriculture that affect indigenous peoples.



RECOMMENDATIONS

Asia Indigenous Peoples Pact (AIPP) would like to provide the following recommendations to the 42nd session of the SBSTA:

- ▶ Recognize, protect, document and promote the rich traditional knowledge of indigenous peoples relating to disasters and weather forecasting
- ▶ Build the capacity of indigenous peoples to understand and use appropriate modern technology and tools relating to early warning systems
- ▶ Guarantee the access of indigenous peoples to appropriate disaster risk reductions tools and techniques
- ▶ Integrate the traditional knowledge of indigenous peoples with appropriate modern techniques, tools and innovations by taking into account the specific circumstances and conditions of indigenous peoples while developing early warning systems
- ▶ Ensure the participation of indigenous peoples and pertinent stakeholders in the development of early warning systems
- ▶ Recognize and protect the sustainable practice of shifting cultivation/rotational agriculture as sustainable agro-forestry practice that enhances biodiversity, provide food security and livelihoods to millions of indigenous peoples
- ▶ Encourage the parties to undertake immediate review and reform of policy relating to the practice of shifting cultivation and the declaration of national parks that are in violation of the rights of indigenous peoples relating to their lands, territories and resources, and to food security
- ▶ Review other types of development projects and mitigation measures such as biofuel plantations, large hydropower dams which pose serious risks and increase vulnerability to sustainable agriculture including on the food security, traditional livelihoods/occupation of indigenous peoples
- ▶ Ensure the full and effective participation of indigenous peoples including women in the conduct of assessment of the risk and vulnerability of agricultural systems at all levels



References:

AIPP Press Release *“Upscale the recognition of land rights of indigenous peoples as key to forest-based solutions to climate change”*, 21 March 2015

UN Economic and Social Commission for Asia and the Pacific report on *“Disasters in Asia and the Pacific: 2014 year in review”*

Study by the Expert Mechanism on the Rights of Indigenous Peoples on *“Promotion and protection of the rights of indigenous peoples in disaster risk reduction, prevention and preparedness initiatives”*, July 2014

Asia Indigenous Peoples Pact (AIPP), International Work Group for Indigenous Affairs (IWGIA) Briefing Paper on *Shifting Cultivation, Livelihood and Food Security: New and Old Challenges for Indigenous Peoples in Asia*, 2014

The Sendai Framework for Disaster Risk Reduction 2015-2030

Indigenous Disaster Early Warning, Preparedness and Response

AIPP briefer on the Earthquake in Nepal and its effects on Indigenous Population

AIPP Briefing Paper on *“Local actions, solution to global challenges: Initiative of indigenous peoples in climate change adaptation and disaster risk reduction based on traditional knowledge”* (Unpublished)



AIPP at a glance

The Asia Indigenous Peoples Pact (AIPP) is a regional organization founded in 1988 by indigenous peoples' movements as a platform for solidarity and cooperation. AIPP is actively promoting and defending indigenous peoples' rights and human rights; sustainable development and management of resources and environment protection. Through the years, AIPP has developed its expertise on grassroots capacity building, advocacy and networking from local to global levels and strengthening partnerships with indigenous organizations, support NGOs, UN agencies and other institutions. At present, AIPP has 47 members from 14 countries in Asia with 7 indigenous peoples' national alliances/networks and 35 local and sub-national organizations including 16 are ethnic-based organizations, five (5) indigenous women and four (4) are indigenous youth organizations

Our Vision

Indigenous peoples in Asia are living with dignity and fully exercising their rights, distinct cultures and identity, and enhancing their sustainable management systems on lands, territories and resources for their own future and development in an environment of peace, justice and equality.

Our Mission

AIPP strengthen the solidarity, cooperation and capacities of indigenous peoples in Asia to promote and protect their rights, cultures and identities, and their sustainable resource management system for their development and self-determination.

Our Programmes

Our main areas of work among the different programmes are information dissemination, awareness raising, capacity building, advocacy and networking from local to global. Our Programmes are:

- Human Rights Campaign and Policy Advocacy
- Regional Capacity Building
- Environment
- Indigenous Women
- Communication and Development - Organizational Strengthening
- Organizational Strengthening

AIPP is accredited as an NGO in special consultative status with the UN Economic and Social Council (ECOSOC) and as observer organization with the United Nations Framework Convention on Climate Change (UNFCCC), Convention on Biological Diversity (CBD), Green Climate Fund (GCF), Global Environment Facility (GEF) and the World Intellectual Property Organization (WIPO). AIPP is a member of the International Land Coalition (ILC).