

***Indigenous Peoples' Diverse Contributions to Food Systems and Agro-ecology***  
Benguet State University: 1<sup>st</sup> International Conference on Food, Ecology and Culture

Talk by Joji Carino, Forest Peoples Programme

**I. Introduction (Slide 1)**

I wish to pay respects to the indigenous people of Baguio and Benguet - the Ibaloi - and to express my thanks to Benguet State University for inviting me to speak and be here at my ancestral home.

The topic originally assigned to me was - "*Indigenous Peoples and Sustainable Development*" – an extremely important subject at this critical point of global and local change, in light of the contemporary inter-related social-ecological crises, characterized by unprecedented loss in biological diversity and cultural diversity, extreme social inequality and climate change.

I reflect on the Filipino saying, "*Ang hindi marunong lumingon sa pinanggalingan, ay hindi makakarating sa pinaroroonan*". As put by Indigenous Peoples during the Rio Conference on Sustainable Development in 1992: "*Walking to the future in the footsteps of our ancestors*." Many other cultures have similar sayings about understanding the past, learning from historical mistakes, in planning for the future.

At this conference, we are urged to look at the nexus of food, ecology and culture, and I shall do so from the lens of ***Indigenous Peoples diverse contributions to food systems and agro-ecology***.

**II. Slide 2 - Outline of My Talk**

- I. Human - Nature Relationships and technologies – understanding our past, the present and the future
- II. Indigenous Peoples' customary sustainable use and management of lands, waters and resources: co-evolution, reverence, protection and revitalization
- III. Who feeds the world? - present trends in global and local food systems – Contested visions about the future of agriculture
- IV. 21<sup>st</sup> century transformations - Indigenous Peoples and local communities' contributions to biological diversity and cultural diversity and social-ecological resilience

**III. Slide 3 - History of human tools and technology**

- **2 million years - gathering, herding and hunting**  
*Principal technology - stone tools such as axes, then spears*  
*Later use of fire*  
*Global population - 4 million - 5 million by 5000 BC*
- **10,000 years ago - agriculture, settled societies, emergence of cities**

*Known as the neolithic revolution*

*Southwest Asia, China and Meso-america*

*Population began doubling every millennium to 50 million by 1000 BC*

- **Past 200 years – industrial revolution(s), exploitation of earth's fossil fuels, industrialization of food**

*Emergence of modern nation-states, Europe and colonies,*

*Science and modernisation, developmentalism and economic globalisation*

*Population over 7.5 billion*

- **For most of human history people have lived sustainably, and many indigenous and traditional societies still do.**

#### **Slide 4 – The Anthropocene? – “the geological age that man created.”**

- The start of the Anthropocene continues to be debated, but it is described as the “the geological age that man created” characterised by human impacts in the Earth's systems. Humans (like other species) have long relied safely on the robustness of the self-sustaining natural systems of which we are a product and an active part. But no longer: these are times of unprecedented global change and transformation. The 21<sup>st</sup> Century is a time rapid global change, transformations and transitions. Are our institutions fit for purpose?
  - Some say it began with the Neolithic Revolution ~9000 years ago in Mesopotamia that brought sedentary farming, which in turn was made possible by climatic change during the Holocene interglacial period.
  - 1610 is a contender for marking the transition: this is when the irreversible transfer of crops and species between the new and old worlds was starting to be acutely felt.
  - The Industrial Revolution of the 18<sup>th</sup> or 19<sup>th</sup> century, or in the Post-WW2 period of global mass consumer society.
  - 21<sup>st</sup> Century – rapid global change, transformations and transitions - are our institutions fit for purpose?

#### **Slide 5 and 6 - Table of Centres of Diffusion and Map of Co-evolution of Seeds**

#### **Slide 7 - Quotes from Kaylena Bray on Inseparable connections between seeds and knowledge**

#### **Slide 8 - A poem (Hta) of Karen Elders**

The elders still order us  
The elders still tell us,  
Order us to conserve the taro seeds  
Tell us to preserve the yam seeds  
To save at least 30 kinds of seeds  
Even in a famine, we will not die.

## **Slide 9 and 10: Indigenous Peoples: *nexus of food, ecology and culture***

Customary sustainable use and management of lands, waters, territories and resources

- ✓ For food sustenance
- ✓ rotational farming/
- ✓ agricultural practices
- ✓ foraging, hunting
- ✓ and fishing
- ✓ wood, honey, nuts,
- ✓ forest fruits, palms and
- ✓ other non-timber forest products

And also for

- ✓ home-building
- ✓ tools
- ✓ boats
- ✓ fishing nets
- ✓ traditional medicines
- ✓ hammock- making
- ✓ pottery, weaving, beading
- ✓ musical instruments
- ✓ clothing

## **Slides 11 – 12 - Customary Sustainable Use**

- Collective ownership and management
- Indigenous territories are governed and regulated through customary institutions, and cultural and spiritual values

Customary rules and laws (oftentimes unwritten) make sure that over-use is prevented and that there will be enough resources left for future generations.

- *Do not waste or overuse (take only what you need and can carry)*
- *Make sure a resource can recover: no shooting of young or pregnant game, no cutting of young trees, etc.*
- *No, or very rare use, of natural poisons in fishing*
- *Avoid taboo, sacred or otherwise special areas or species*

## **Slide 13 and 14 and 15 - Cultural Control Mechanisms**

- Inter-relationship and inter-dependence with nature
- Internal control (elders, traditional institutions)
- Spiritual beliefs (spiritual sanctions when balance between humans and nature is upset by incorrect use)
- Spiritual beliefs and values guide the care of territories and resources
- Beliefs imply deep respect for nature and interconnection with past and present generations
- Practice of rituals and ceremony – honouring sacred relationships

Customs and rituals when interacting with nature

- ✓ 'seeking permission and good fortune'
- ✓ Paying respect or praying before entering the forest or using resources (planting, hunting, cutting trees, etc.)
- ✓ being respectful and avoiding upsetting the spirit beings

#### **Slide 16 and 17- What is Pastoralism?**

- **African pastoralism is defined by high reliance on livestock as source of economic and social wellbeing.** Livestock -related activities contribute at least 50 per cent of total value of marketed production and subsistence production consumed by an average pastoralist household
- **It uses various types of strategic mobility to access water, pastures and other grazing resources in areas of high rainfall variability**
- It covers 40 per cent of Africa's land mass and pastoralists are custodians of key national resources found in arid and semi-arid areas. As a system, pastoralism helps to protect and safeguard these resources.
- Pastoralist culture is part of the cultural heritage of Africa. Animal and plant resources in pastoral areas among of the most important genetic resources on the continent.

#### **Slides 18-19 - Karen Multiple Use Farming Systems, Hin Lad Nai, Thailand And Landscape in Bali**

#### **Slide 20 - Indigenous and Local Knowledge(s)**

- Collective indigenous and local knowledge reflects the multi-use strategies of men and women farmers, indigenous peoples, pastoralists, fisherfolk and forest dwellers deriving their food and livelihoods in culturally specific ways in highly diverse contexts.
- Customary Sustainable Use and traditional livelihoods are not frozen in time and are adaptive to indigenous peoples' self-determined development – *buen vivir, sumak kawsay*

#### **Slide 21 - COP13 CBD –**

- Launching of *Local Biodiversity Outlooks: Indigenous Peoples and Local Communities Contributions to the Implementation of the Strategic Plan for Biodiversity (2011-2020)* A complement to GB04
- Decision XII/ of COP13 welcomed the LBO

#### **Slide 22 - Global recognition of Traditional Knowledge/ Indigenous and Local Knowledge diversity**

- **UN Declaration on the Rights of Indigenous Peoples (2007)**
- **Outcome Document of the World Conference on Indigenous Peoples (2014)**

- **Convention on Biological Diversity (CBD)**
  - ✓ Articles 8(j) and 10 (c)
  - ✓ Target 18 of the Strategic Plan for Biodiversity (2011-2020)
- **Inter-governmental Science-Policy Platform for Biodiversity and Ecosystem Services (IPBES)**
  - ✓ Approach Paper for recognising and working with Indigenous and Local Knowledge
- **UNFCCC**
  - ✓ Establishment of a Local Communities and Indigenous Platform on Traditional Knowledge

### Slide 23 – *Who feeds the world?*

The High Level Panel of Experts on Food Security and Nutrition (HLPE 2013) and UN FAO confirm:

- Most of the world's food is still grown, collected and harvested by over 2.5 billion small-scale farmers, pastoralists, forest dwellers and artisanal fisherfolk.
- Collectively, these smallholders are by far the largest investors in farming and land and produce at least 70 percent of the world's food.

### Slide 24 - Infographic on Fisheries: Small but many is big

### Slides 25-29 - Comparing Industrial Food Systems and Local Food Systems

Industrial Food System	Small-holder/ Local Food Systems
<b>Production and Consumption</b>	
Provides 30% of all food consumed (crops, fish, etc.)	Provides >70% of total food eaten by people: <ul style="list-style-type: none"> <li>• 15-20% via urban agriculture;</li> <li>• 10-15% from hunting and gathering;</li> <li>• 5-10% from fishing;</li> <li>• 35-50% from farms (harvests 60-70% of food crops from 20-30% of arable land);</li> </ul>
Controls almost all of the 15% of food that is traded internationally, (i.e., 15% of all food produced in the world)	Dominates the 85% of the world's food grown and consumed within national borders;
Dominates the \$7 trillion commercial grocery market	Is the major (often sole) provider of the food that reaches the 2 billion hungry and under-nourished.
<b>Ecological Impacts</b>	
Accounts for >80% of fossil fuels and 70% of water used in agriculture;	Accounts for <20% of fossil fuel and 30% water used in agriculture;
Produces 44-57% of emitted GHGs	Nurtures and sustainably uses biological

annually;	diversity and sustains cultural diversity
Uses about 70-80% of world's arable land to grow 30-40% of crop-derived food;	Avoids crop and livestock monocultures and encourages genetic diversity;
Deforests 13 million ha and destroys 75 billion tons of topsoil each year	
<b>Ecological and Human Health</b>	
50% of commercial seed sales and 10 companies control 95% of the pesticide market	Nutrient-rich dietary diversity is the safest and most affordable way (could save the world up to \$4 trillion per annum) to overcome micronutrient deficiencies;
Current modern diets leave almost 3.4 billion either undernourished or overweight.	Crop nutritional values, due to genetic diversity, can vary 1000-fold - 200g of rice per day can represent 25% >65% of protein requirement;
	-1 banana can provide 1% or >200% of daily vitamin A requirement).
	- Peruvian potato has 28 times more cancer-fighting phytonutrients than its industrial cousin).
	- Tortillas made from indigenous varieties of blue maize contain >20% more protein and are more easily digested than tortillas made from commercial corn.
<b>Who will feed us tomorrow?</b>	
Urban share of global population rises to 70%; obesity doubles; • %; •	80% of households in rural South (often led by women) grow some food; •
Meat and dairy production rise 70%	2.6 billion people depend on farming, fishing and pastoralism;
Total food demand grows 50% and water demand grows 30%;	Organic farms employ 30% more workers than non-organic farms;
Agricultural GHG emissions increase 60%	Peasant farming is more productive and produces more nutritious food
<b>What policy options will get us there?</b>	
Accelerated land use change and land grabs ;	Recognize and secure customary land tenure of indigenous peoples and local communities
Strengthen agribusiness-biased trade	Recognition and dynamic conservation of

agreements;	agricultural heritage systems that allows social cohesion and a sense of pride and promote a sense of belonging and reduce migration
Accept broader patent monopolies	Research must support the innovation that starts in farmers' fields.
Acquiesce to cartel practices (e.g. 3 companies account for >50% of commercial seed sales and 10 companies control 95% of the pesticide market);	Strengthen adaptive capacity and resilience of the farming system by maintaining agro-ecosystem diversity
End seed-saving;	Support local seed-saving / seed banks
Access to cheaper fossil fuels;	Reduce the ecological footprint of production, distribution and consumption practices
Transfer more food safety costs to consumers and peasants	Respect, protect and fulfill human rights of indigenous peoples, peasants, fisherfolk, pastoralists, women and youth.

### **Slide 30 - Declaration of Nyéléni, 2007 – Now is the time for food sovereignty**

The Declaration of Nyeleni, puts those who produce, distribute and consume food at the heart of food systems and policies.

- Food sovereignty is the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems.
- It offers a strategy to resist and dismantle the current corporate trade and food regime, and provides directions for food, farming, pastoral and fisheries systems determined by local producers.
- Food sovereignty prioritises local and national economies and markets and empowers peasant and family farmer-driven agriculture, artisanal fishing, pastoralist-led grazing and food production, distribution and consumption based on environmental, social and economic sustainability.

### **Slide 31: Declaration on Food Sovereignty and Traditional Knowledge for Climate Change Resiliency, Shiprock, SW Dine Nation, August 2016**

- *Our struggle is to live and is one of resistance...*
- *In our wisdom, we know we have the roots, songs and courage to survive...*
- *Our strength and our power is in our indigenous identity, history, culture and politics...*
- *In healing our inter-generational, historic and unresolved trauma, we also heal the Earth...*
- *We accept our life responsibility to remain warriors uncompromising , to defend the sacred*