Indigenous Peoples' Diverse Contributions to Food Systems and Agro-ecology

Joji Carino, Forest Peoples Programme

1st International Conference on Food, Ecology and Culture

Benguet State University's Centennial Commemoration

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Outline

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. 21st century transformations - Indigenous Peoples and local communities' contributions to biological diversity and cultural diversity and social-ecological resilience

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.**

The Anthropocene ?

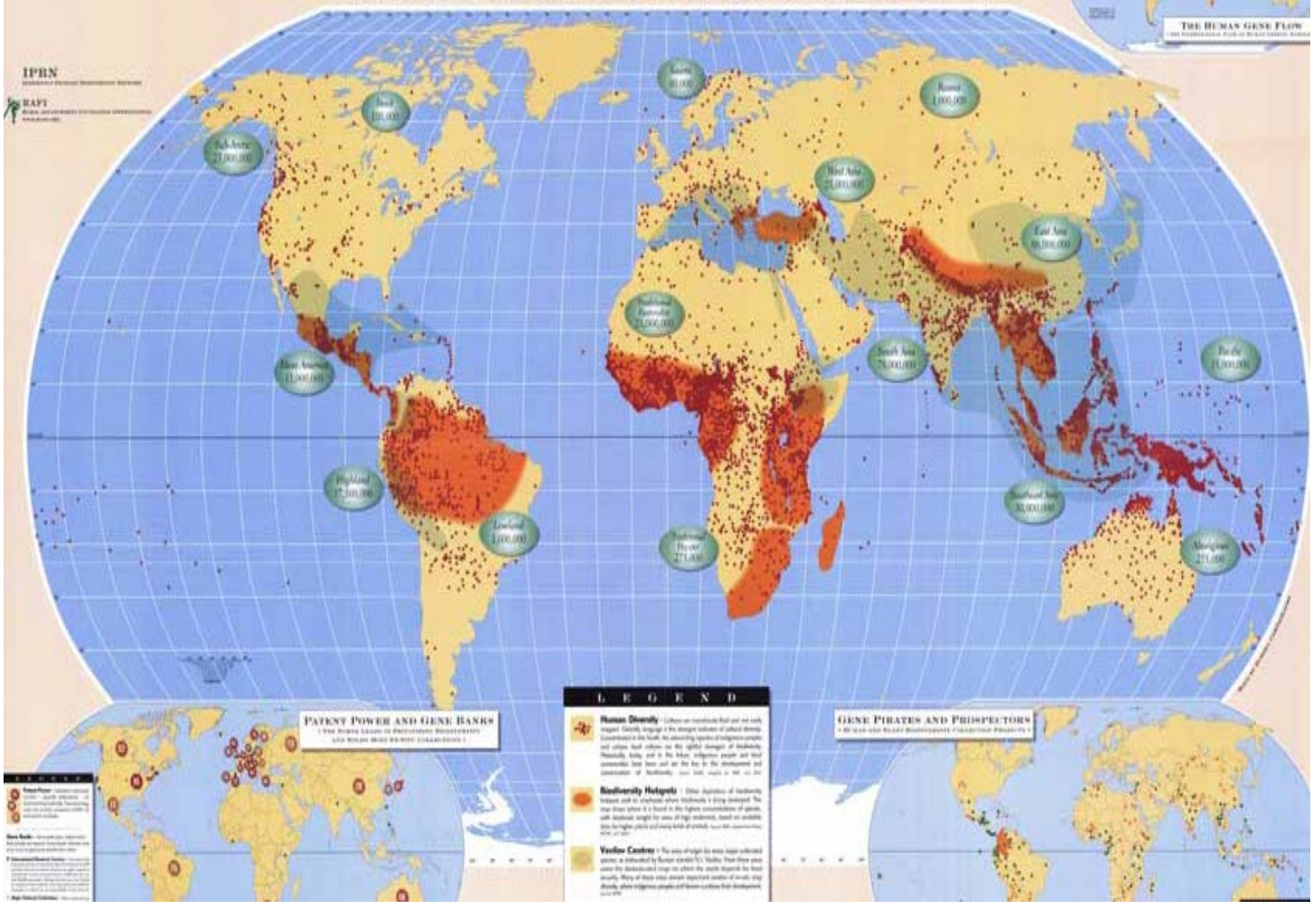
- *"the geological age that man created."*

- 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 18th or 19th century, or in the Post-WW2 period of global mass consumer society.
- 21st Century – rapid global change, transformations and transitions - are our institutions fit for purpose?

Worldwide Diffusion of Crops and Animals

Chief Centres for Diffusion of Major Crops and Animals

Southeast Asia	Europe	Americas	Africa
Sugar cane Rice Orange Lemon Lime Spinach Aubergine Banana	Wheat Barley Oats Sheep Cattle Horse Pig Bee Rabbit	Maize Tobacco Potato Tomato Manioc Cocoa Rubber Pineapple Avocado Peppers Squash/Pumpkin Sisal	Hard wheat Sorghum Coffee



Co-evolution: Creators and Conservers of Diversity

SOURCE: USC Canada

Inseparable connection between seeds and knowledge

"Without the the hands of farmers, there is no seed, and without the seed, there are no hands"

As our earth continues to change, the knowledge of dry farming and the strength of seeds that know how to exist without water may well be what keep our food systems intact. It is not dry farming that we must pay attention to, but rather the worldviews that give rise to these techniques of farming, seed cultivation and cooking. This interconnected form of thinking brings into focus deep understandings of the natural law of governance, respect for more than the human world, and a sense of reciprocity that guides human behaviour and maintains that we give thanks and gratitude. These important forms of knowledge are what guide the existence of diverse corn seeds.

- Kaylena Bray

A Poem (*Hta*) of the Elders

Pgaz mi le plez maz laux div,
Pgaz pgaj le plez maz lauz div,
Maz laux k'tauz hkuf av hkli,
Maz laux k'tauz nwaij av hkli,
K'tauz meij hsaiv htauf se hsi,
Taj hkav nax kei p't'si.

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.

As recorded by Prasert Trakansuphakon, Karen, Thailand

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

Customary sustainable use

And also for e.g.

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

- 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*

Unwritten laws: oral transmission and transmission in practice

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.)

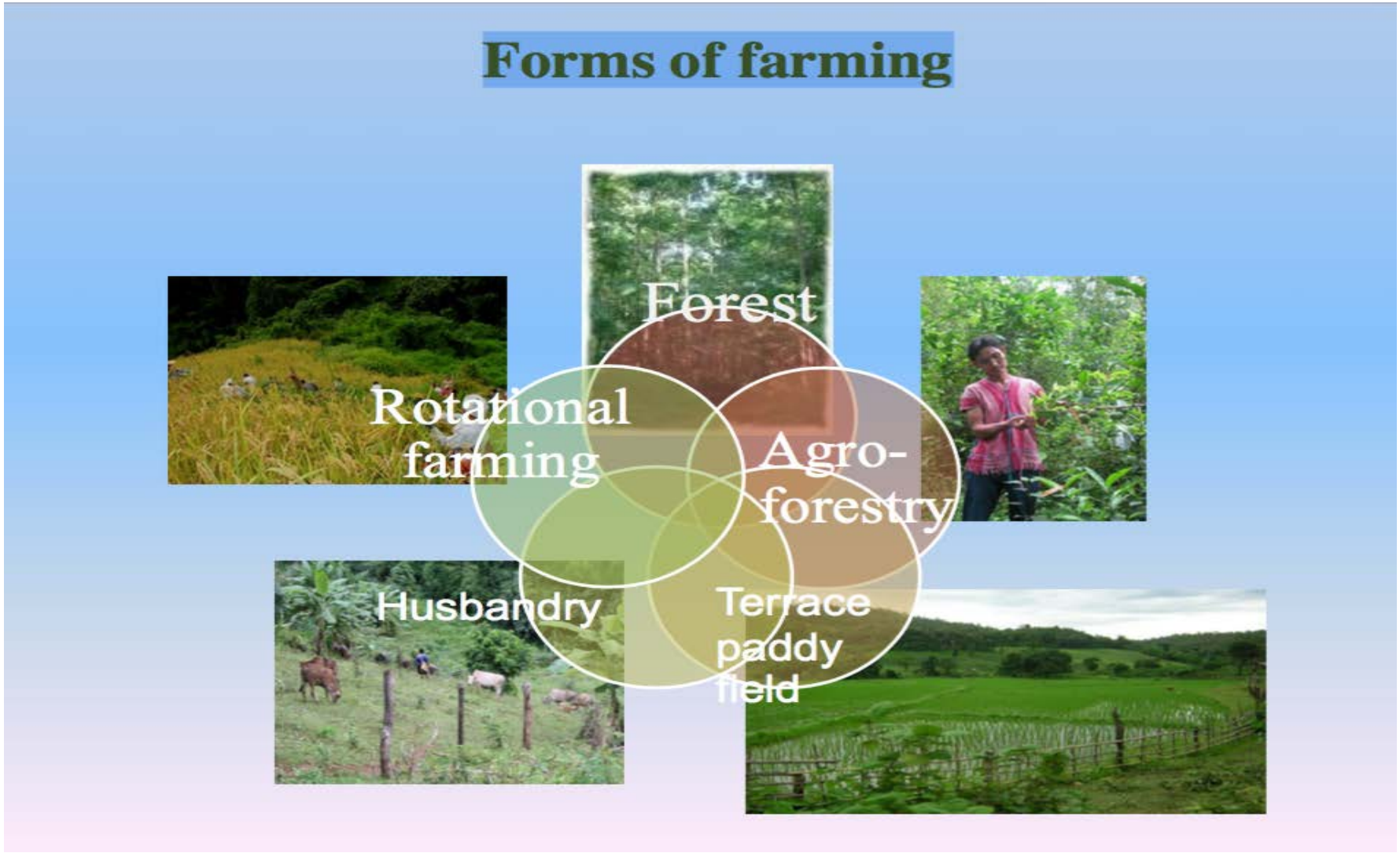
being respectful and avoiding upsetting the spirit beings

PASTORALISM

Source:

What is Pastoralism ?

- African pastoralism is defined by high reliance on livestock (cattle, sheep, goat, camels, horses, donkeys) as source of economic and social wellbeing
- Uses various types of strategic mobility to access water, pastures and other grazing resources in areas of high rainfall variability
- Occupies 40 per cent of Africa's land mass, but with significant variations between countries
- Livestock -related activities contribute at least 50 per cent of total value of marketed production and subsistence production consumed by an average pastoralist household
- Pastoralists are custodians of key national resources found in arid and semi-arid areas and 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.



KAREN MULTIPLE USE FARMING SYSTEMS,

Hin Lad Nai, Thailand


Source: discover-bali-indonesia.com

Indigenous and Local Knowledge(s)

- Collective traditional 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*

CBD COP13
Cancun, Mexico

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 GBO4

Decision XII/ of COP13 welcomed the LBO

You are invited to the launch of

Local Biodiversity Outlooks

Indigenous Peoples' and Local Communities' Contributions to the Implementation of the Strategic Plan for Biodiversity 2011-2020.

At the
Cultural night reception and 20th anniversary celebration of the International Indigenous Forum on Biodiversity

Moon Palace Arena Hotel
Sunday 11 December

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

Who feeds the world?

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

- 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.

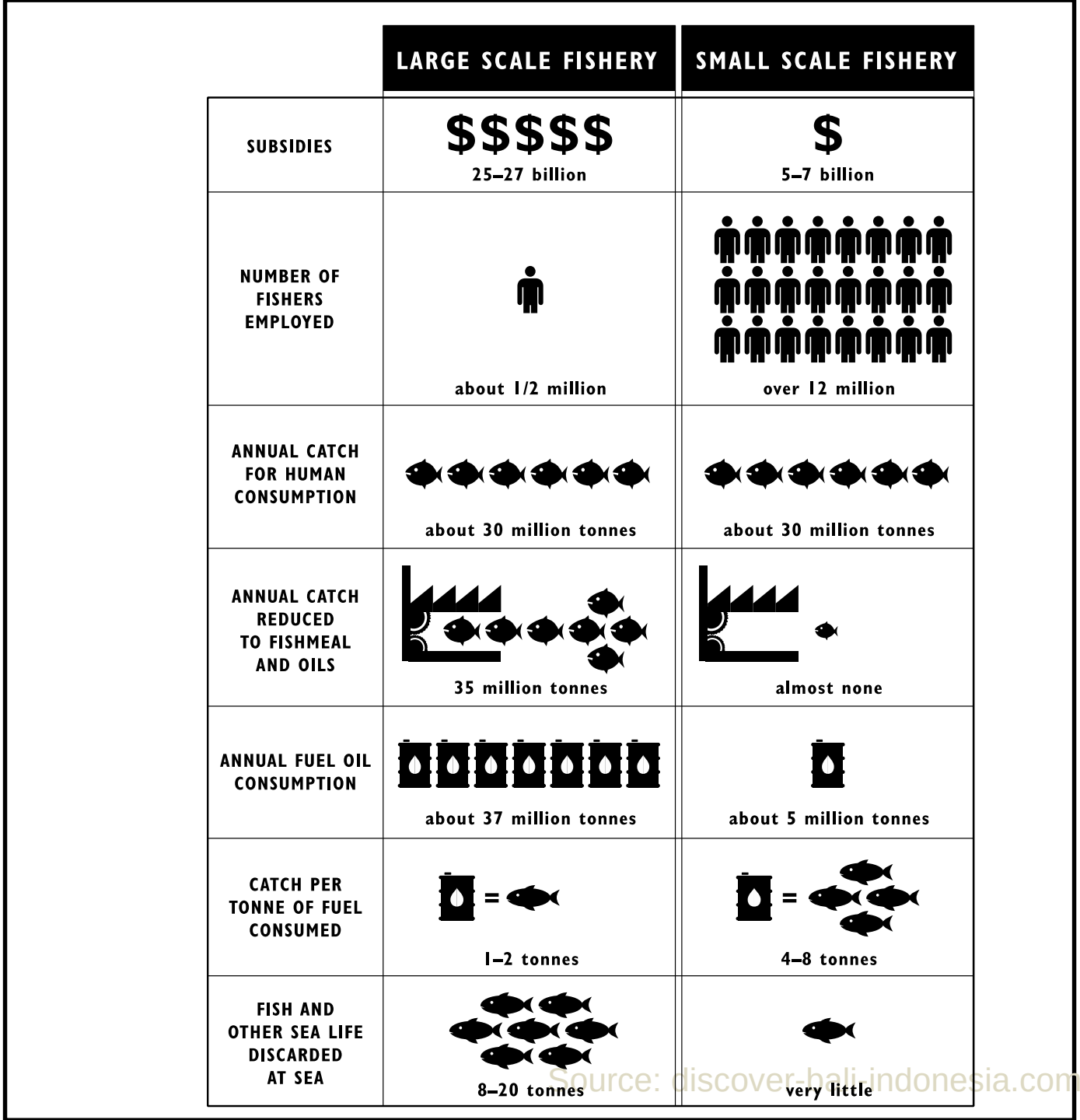
- Collectively, these smallholders are by far the largest investors in farming and land and produce at least 70 percent of the world's food.

- Smallholder agriculture is practised by families (including one or more households) using only or mostly family labour and deriving from that work a large but variable share of their income, in kind or in cash. Agriculture includes crop raising, animal husbandry, forestry and artisanal fisheries. The holdings are run by family groups, a large proportion of which are headed by women, and women play important roles in production, processing and marketing activities.

Small but many is big

Fisheries

Source: National Geographic 2008 / UBC



Global and Food Local Trends

Source: ETC Group, **With Climate Chaos, Who Will Feed Us?**
The Industrial Food Chain or The Peasant Food Web?

The Industrial Food Chain

- Provides 30% of all food consumed (crops, fish, etc.)
- Controls almost all of the 15% of food that is traded internationally, (i.e., 15% of all the food produced in the world) and dominates the $7 trillion commercial grocery market
- While leaving almost 3.4 billion either undernourished or overweight.

Small Holder Agriculture

- Provides >70% of total food eaten by people:
  - 15-20% via urban agriculture;
  - 10-15% from hunting and gathering;
  - 5-10% from fishing;
  - 35-50% from farms (harvests 60-70% of food crops from 20-30% of arable land);
- Dominates the 85% of the world's food grown and consumed within national borders;
- Is the major (often sole) provider of the food that reaches the 2 billion hungry and undernourished.

Ecological Impacts

The Industrial Food Chain

- Accounts for >80% of fossil fuels and 70% of water used in agriculture;
- Produces 44-57% of emitted GHGs annually;
- Uses about 70-80% of world's arable land to grow 30-40% of crop-derived food;
- Deforests 13 million ha and destroys 75 billion tons of topsoil each year;

Small-holder Agriculture

- Accounts for <20% of fossil fuel and 30% of water used in agriculture;
- Nurtures and sustainably uses biological diversity and sustains cultural diversity
- Avoids crop and livestock monocultures and encourages genetic diversity;

Ecological and Human Health

Industrial food chain

- Uses about 70-80% of world's arable land to grow 30-40% of crop-derived food;
- 50% of commercial seed sales and 10 companies control 95% of the pesticide market
- Controls almost all of the 15% of food that is traded internationally, (i.e., 15% of all the food produced in the world)
- Dominates the $7 trillion commercial grocery market,
- While leaving almost 3.4 billion either undernourished or overweight.

Local Food Systems

- Nutrient -rich dietary diversity is the safest, most affordable way (could save the world up to $4 trillion per annum) to overcome micronutrient deficiencies;
- Crop nutritional values, due to genetic diversity, can vary 1000-fold

- (e.g. 200g of rice per day can represent 25% or >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.

Who will feed us tomorrow?

Industrial Food Chain with "agribusiness as usual"

- Urban share of global population rises to 70%; obesity doubles;
- Meat and dairy production rise 70%;
- Total food demand grows 50% and water demand grows 30%;
- Agricultural GHG emissions increase 60%.

Local Food Systems

- 80% of households in rural South (often led by women) grow some food;
- 2.6 billion people depend on farming, fishing and pastoralism;
- Organic farms employ 30% more workers than non-organic farms;
- Peasant farming is more productive and produces more nutritious food

What policy changes will get us there?

***Strengthening the Industrial Chain*:**

- Accelerated landgrabs;
- Strengthen agribusiness-biased trade agreements;
- Accept broader patent monopolies;
- Acquiesce to cartel practices (e.g. 3 companies account for >50% of commercial seed sales and 10 companies control 95% of the pesticide market);
- End seed-saving;
- Access to cheaper fossil fuels;
- Transfer more food safety costs to consumers and peasants

Strengthening Local Food Systems

- Reduce the ecological footprint of production, distribution and consumption practices,
- Strengthen adaptive capacity and resilience of the farming system by maintaining agro-ecosystem diversity,
- Research must support the innovation that starts in farmers' fields.
- Recognition and dynamic conservation of agricultural heritage systems that allows social cohesion and a sense of pride and promote a sense of belonging and reduce migration
- Respect, protect and fufill human rights of indigenous peoples, peasants, fisherfolk, pastoralists, women and youth.

Declaration of Nyéléni, 2007
Now is the time for food sovereignty!

- 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 puts those who produce, distribute and consume food at the heart of food systems and policies rather than the demands of markets and corporations. It defends the interests and inclusion of the next generation.

- 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.

Declaration on Food Sovereignty and Traditional Knowledge for Climate Change Resiliency

- Our Earth Mother is our Life and Hope-

- *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.*

Salamat!
Thank You for listening!