The Indigenous Peoples Biocultural Climate Change Assessment

The Synthesis Report

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Cusco, Peru

The challenge of CC

Photo courtesy of FPCI

Climate change is an global phenomena with local impacts on ecosystems and people

Indigenous peoples:

- Only four per cent of the worlds population (around 400 million people)
- Utilize 22 %of the world's land surface from small islands, tropical forests, high-altitude zones, coasts, desert margins and the circumpolar Arctic
- Maintain 80 per cent of the planet's biodiversity in, or adjacent to, 85 %of the world's protected areas.
- Indigenous lands also contain significant carbon stocks critical to mitigate climate change.

Photo courtesy of Snowchange

Living in fragile ecosystems, indigenous peoples are at the frontlines of climate change

But…Indigenous Knowledge Also Holds the Key to Climate Change

- Indigenous peoples are inextricably linked with their lands and possess a unique collective knowledge of the land, sky and sea.
- Climate change is first noticeable though biophysical changes in the local agroecosystem, water availability, wildlife, and weather.
- These observed changes are responded with adjustments in behavior in the local biocultural system, which reduces the vulnerability of communities to changes in the climate system.
- Indigenous people used biodiversity as a buffer against variation, change and catastrophe. However, whether communities can adapt, and for how long, depends on maintaining diversity and resources available.

The IPCCA initiative

The IPCCA is an indigenous biocultural response to the narrow mainstream approach to CC with thus far little inclusion of local processes – both for understanding how they link to global processes in climate change and to build appropriate mitigation and adaptation strategies

Local Assessments

Currently there are nine IPCCA local assessments under implementation in a variety of biocultural systems worldwide. Local partners are facilitating assessments of climatic conditions and trends within local biocultural systems and their impacts on livelihoods and well-being, and are systematically documenting the role of indigenous knowledge and practices for building evidence-based community adaptation plans.

'Pacific North Western Tribes' Pacific North America

Assessing the environmental, cultural and socio-economic impacts of climate change and community adaptations employing traditional knowledge (TK).

Kuna Yala, Panama

In Kuna Yala, sea level rises are threatening the food sovereignty, health and survival of the Kuna People.

'Skolt Sami Nation' Lapland, Finland

Providing adaptation and survival mechanisms for the Sami community who is endangered by melting permafrost by documenting alternative traditions reindeer herding solutions and inovative solar methods.

'Huay Manao', Thailand

In Huay Manao, Thailand, a warmer climate, decreased rainfall and reduced water levels (due to government policies) have resulted in a need to develop indigenous adaptation strategies.

'Zapara Territory' Amazonia, Ecuador

Aim is to evaluate environmental impacts of climate change on indigenous subsistence. Especially on agriculture, hunting and gathe rings well as the impact of oil extraction activities and its contribution to local and global climate

'Parque de la Papa', Cusco, Peru

In the Potato Park, climate change is affecting agrobiodiversity, especially native potatoes and wild varieties, and thus food sovereignty. Therefore the delicate system with the Pacha Mama (Mother Earth) and "Buen Vivir" is endangered.

Maasai, Kenya

Longer cold seasons, frequent droughts and the loss of indigenous knowledge has meant a need to create coping mechanisms among the pastoralist Maasai people in Kenya.

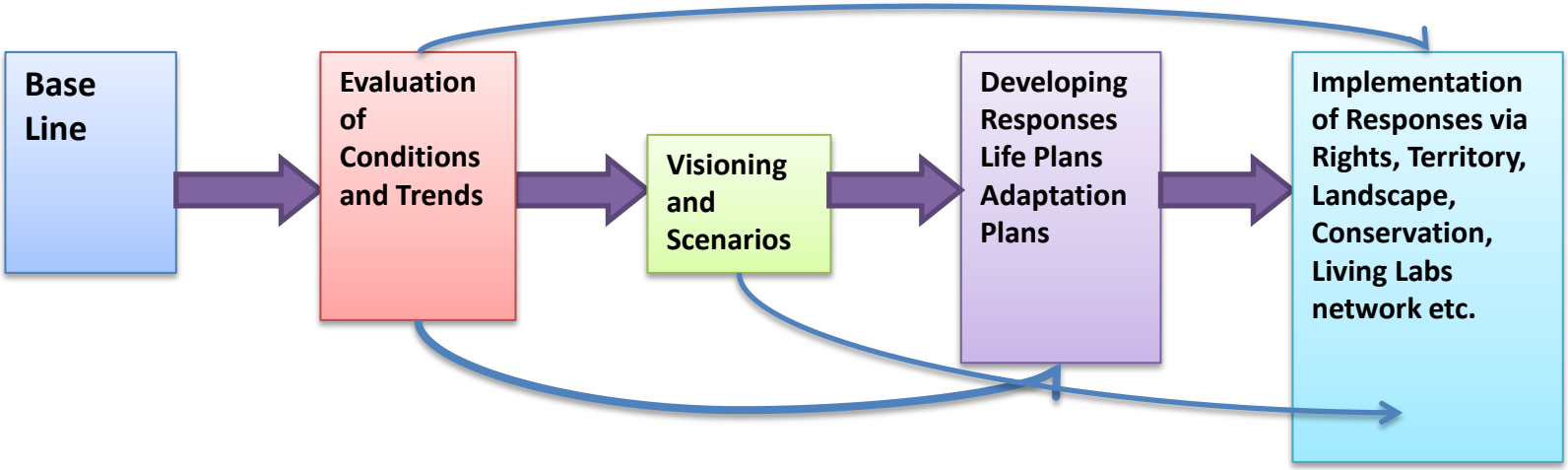
'Adivasi' Andhra Pradesh, India

In Andhra Pradesh, India, Adivasi communities aim to assess the impact of climate change and strengthen resilience by securing rights to natural resources.

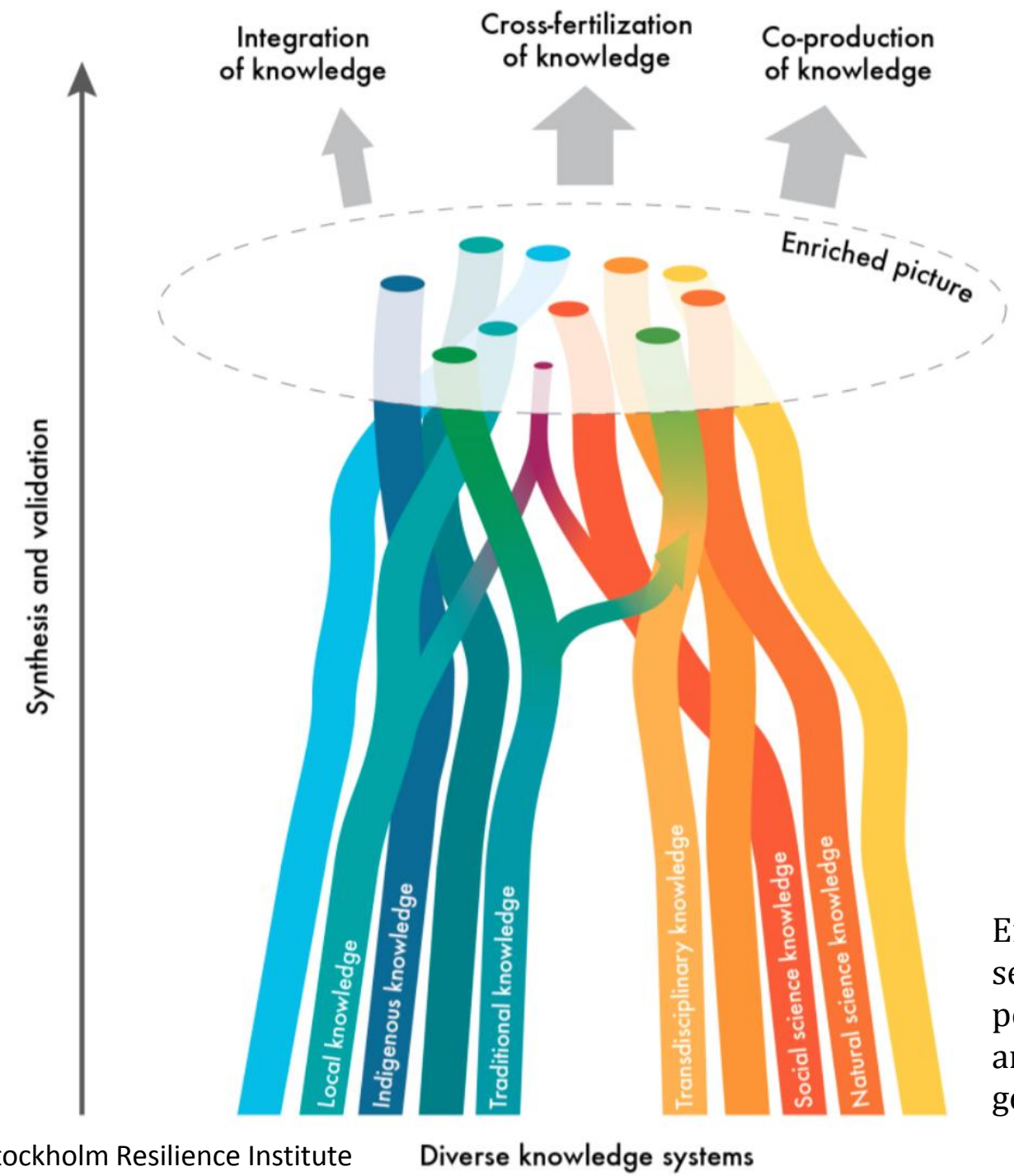
'Ifugao' Cordillera, Philippines

Collecting traditional climate change adaptation mechanism and identifying the observed Climate Changes and the impact in recent years on community ecosystems, livelihoods and culture.

Strategy

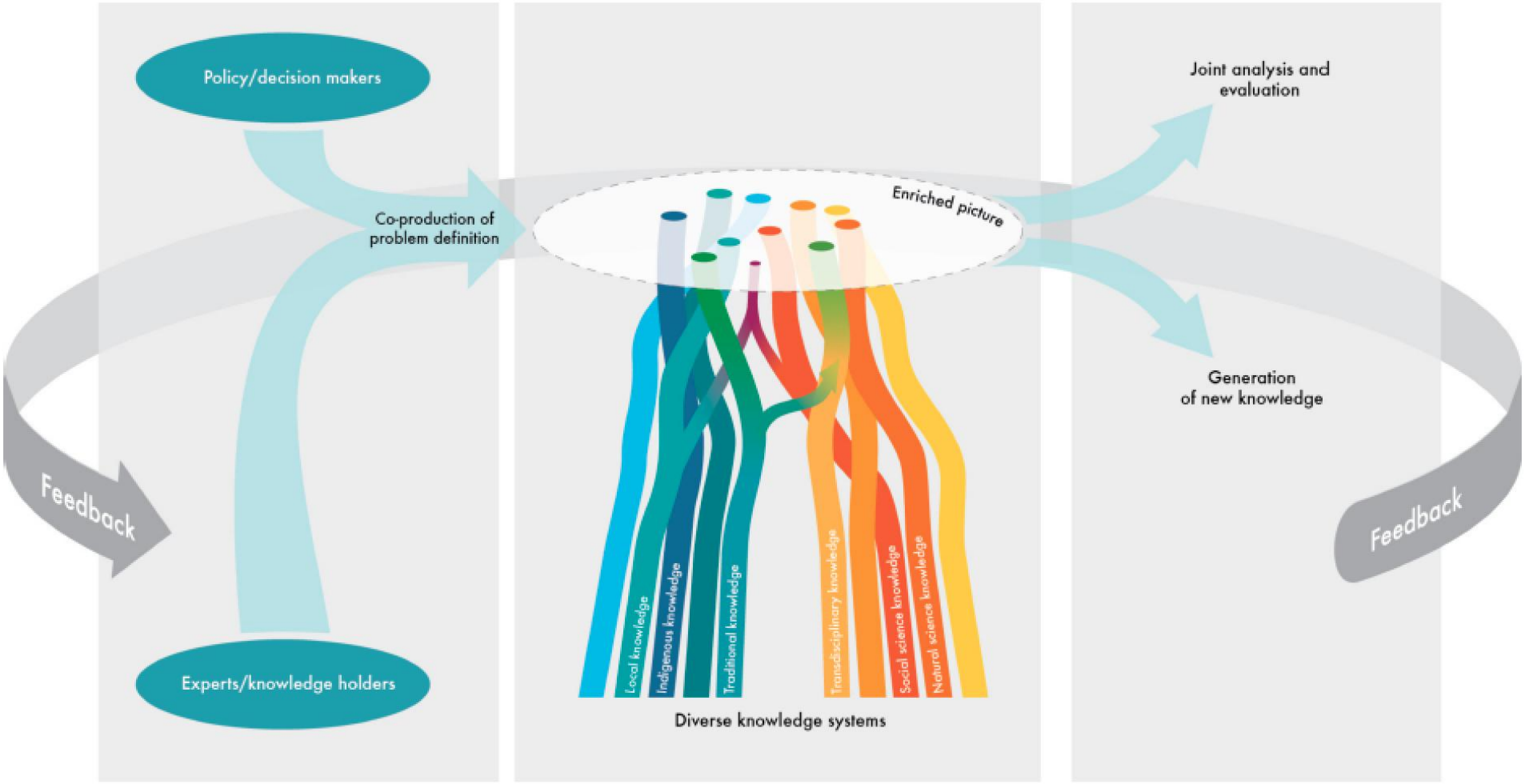


1. Developing a Base Line
2. Evaluating Conditions and Trends
3. Engaging in Visioning and Scenarios
4. Developing Life Plans or Adaptation Plans
5. Implementing Responses
6. Establishing a Network Community Living Labs for Climate Change Resilience



Enriched picture serves as a starting point for analysis and knowledge generation

Tengo et al, 2013. Stockholm Resilience Institute



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LA Synthesis Reporting

1. Multiple Evidence Base approach as **methodology** to identify main themes and most innovative and policy- relevant findings from LAs and relevant scientific literature.
2. Synthesis report will be published in 2017, illustrating:
   - Understanding local climatic phenomena and trends in 5 locations
   - Linkages of climate to livelihoods and well-being
   - Biocultural Responses
   - Contributions of Indigenous Managements Systems to national and global climate targets and goals
   - Key messages for policy makers to protect Biocultural Systems

Key Messages

- Climate change impacts on the 9 assessed sites in Asia, Africa, Europe and the Americas are projected to be especially severe, since these impacts are compounded by a number of persistent social and economic problems facing indigenous communities.
- The adaptive responses of indigenous peoples to multiple social and ecological challenges arising from climate impacts must take into account centuries-old colonial cultures which are stressed by contemporary events and new conditions of marginalization
- Individual community responses are being grounded in the particular biocultural heritage of each community, their land tenure history, spiritual values, indigenous knowledge, and worldviews.
- These responses will be informed by each group's distinct land rights and legal status, which includes the legacy of centuries of laws, relationships, policies, and practices of nation states where indigenous peoples live.
- There is often limited economic resources available for response options as well as indigenous deeply respect for the land creates additional challenges

Key Messages

- Droughts and glacier retreat in China and Peru are producing significant decrease in water quality and quantity affecting drinking water, farming, food, and cultures.

- Sea rice in Guna Yala is causing significant impacts to Guna communities, forcing relocation, damage and loss to settlements, food insecurity, harder fishing conditions, and socioeconomic and health impacts from loss of cultures, traditional knowledge, and homelands.

- Forest communities in Thailand are increasingly exposed to health and livelihood hazards from extreme events which is damaging critical infrastructure, adding to other stressors on traditional lifestyles.

- Climate change in Peru is creating a new set of local governance challenges causing loss of community and culture, health impacts, and economic decline
- Observed and future impacts from climate change threaten indigenous peoples food sovereignty in high mountains of Peru

Key Messages

- Observed and projected climate change indicate that indigenous peoples ways of life that have persisted for thousands of years is endangered
- Key vulnerabilities include:
  - the loss of indigenous knowledge in the face of rapidly changing biocultural systems
  - increased food insecurity due to reduced availability of traditional crop, foods
  - changing water availability
  - Arctic sea ice loss, permafrost thaw
  - Sea level rise and loss and relocation from homelands

Key Messages

- **Local Institutions and decision making in the face of uncertainty:** New institutions and decision-making processes are being developed to respond to uncertainty around climate impacts, including uncertainty around extreme weather events
- **Traditional resource management in a changing climate:** Indigenous people are using more (bio)diversity as a buffer against variation, change and catastrophe: **e.g.** in the face of new diseases, if one crop fails, others will survive. Excessive or low rainfall, drought and crop failure are being responded by growing many different crops and varieties with different susceptibility to drought and floods, and supplement these by hunting, fishing and gathering wild food plants. Use of diversity of locations of fields, as a safety measure to ensure that in the face of extreme weather some fields will survive to produce harvestable crops.
- **Local Economies for climate action: e.g.** Barter markets are reviving which enhances multifunctionality of agroecosystems, builds resilience and generates solidarity economies
- **Biocultural innovations and solidarity:** new integrated use of IK-based technologies, market instruments and local customary laws and institutions are supporting local climate adaptation and mitigation and are examples of how we can transition to a low carbon economy

Key Messages

- Climate change is portrayed as something non-human to which a monolithic 'society' must 'adapt'.
- CC is now more often defined in units that can be bought or rented
- These innovations perpetuate and deepen long-standing exploitative and neo-colonialist politics which affects directly the most marginalized peoples
- Challenging them requires leadership of indigenous peoples and other marginalized societies
- Unjust distribution of the effects of climate change and injustices being committed in name of 'mitigation' and 'adaptation' must take into account the injustices inherent in mainstream climate science, which marginalizes Indigenous Knowledge
- Indigenous Peoples have no emissions and are leading the way to keep fossil fuels in the ground, thus should be listed as Annex Zero.

Contributions to Post Paris Climate Policy: INDCs

1. The IPCCA local assessments provide key evidence in the areas of biodiversity and fragile ecosystem management, local climate change impacts, and time-tested adaptation strategies for environmental and social changes, that can contribute to and enhance to the county's INDCs. Channeling TK-based evidence through INDCs can be effective in linking indigenous knowledge and science and local realities with global policies.

2. INDCs are developed in order to plan solutions on national or country-levels. That involves everything on local, regional and national levels. Indigenous communities exists within all these levels. They should therefore be included to consider both: *how and to what extend* indigenous communities are impacted and AND *what* indigenous people can offer to national solutions for climate change. The IPCCA SR especially provides information useful to the latter question.

3. Indigenous peoples are traditional keepers of the land which means that they have time-tested and well-working environmental and land management practices. Since the INDCs address all relevant industries that either influence climate change or are affected by climate change and land management, the traditional knowledge provides valuable information that can be combined with (western) science to provide the most effective solutions on the broadest spectrums. The IPCCA SR gives examples of how TK is combined with science and what for and all of the TK methods that are useful and essential to adaptation strategies.

4. Both science and traditional knowledge need to be understood as real and valuable systems of knowledge. TK is not a fiction and its value, use and practice becomes evident in the LAs of the SR. When TK is understood in that way or is understood as THE body of knowledge for proper long-term environmental management because it is holistic and integral, we understand that it will help to exactly answer those questions and problems of which the INDCs are intended to bring solutions.

Global INDC Review

- 5 out of 47 INDCs included a special mention of indigenous peoples in mitigation strategies
- 16 INDCs make note of indigenous peoples and the other 26 do not integrate indigenous peoples in their national plans at all.

The RRI reviewed the INDCs of other countries, with less forest and rural lands, and they do not mention indigenous peoples what so ever.

All of the INDCs include mitigation strategies applied to land use and land management. Even though indigenous peoples inhabit 20% of the world's land mass, it seems that national governments do not appropriate an equitable amount of governance to the peoples.

- The iNDC of Cambodia is in fact the only iNDC that links the expansion of indigenous rights to proper mitigation strategies (Tonassi & Wilson, 2015).

INDC Peru

Peru's INDC refers to indigenous peoples 5 times.

1. In section 2.2 it is stated that the Peruvian governments facilitated a decentralized public consultation process to review the progress and preliminary results of the INDC. Indigenous organizations were present during this consultation.
2. In section 3.2. it is explained that indigenous peoples are extra vulnerable to climate change because their communities, environment and habitats are subject to extractive industries that depend on vulnerable eco-systems.
3. In Section 3.3. the most vulnerable populations of Peru are recognized and these are the indigenous peoples (living in rural areas).

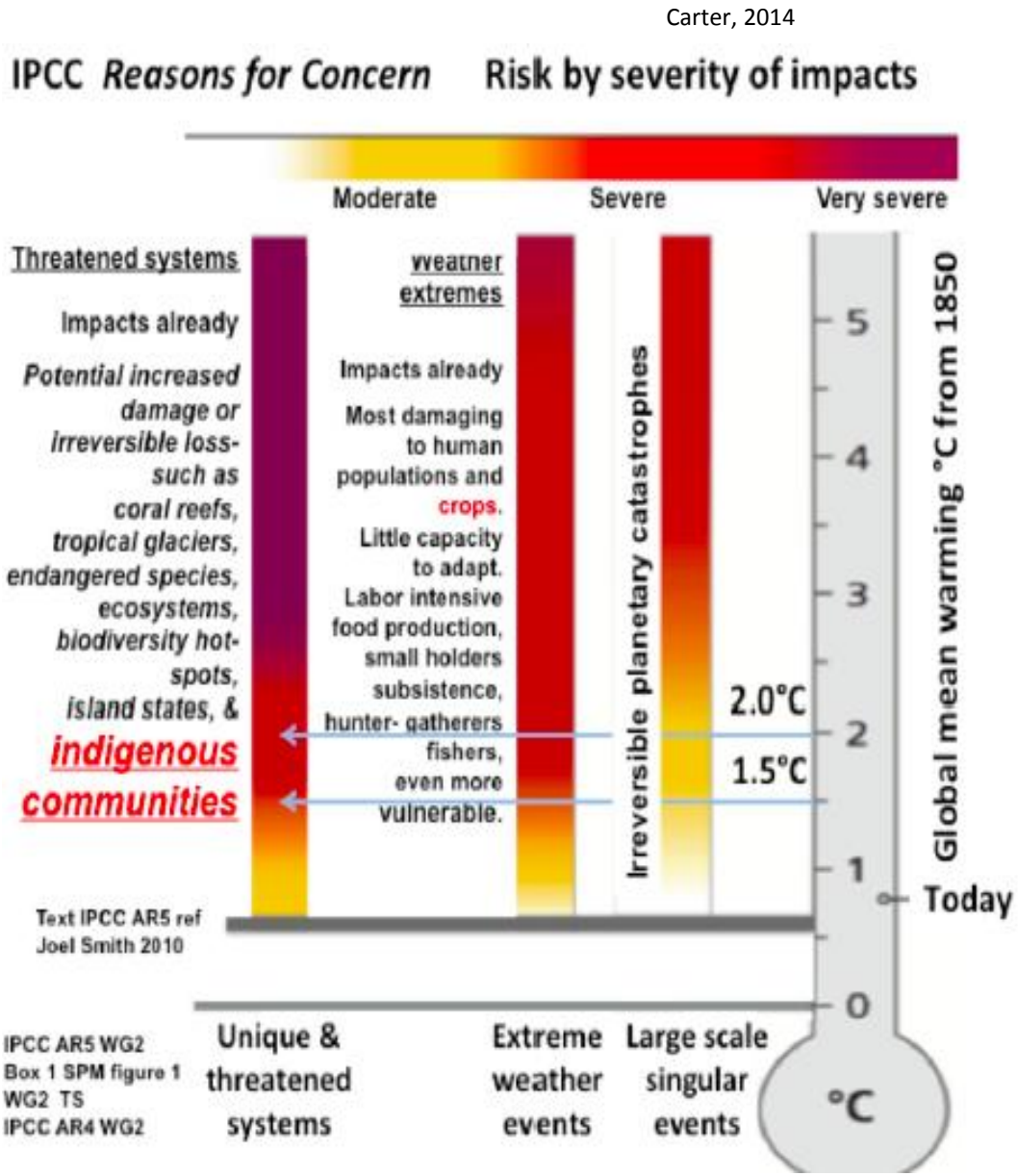
4 & 5. In the summary of the 'iNDC in Adaptation' the Peruvian government mentions that it will attend to the most vulnerable groups (the indigenous peoples) and that it will encourage indigenous organizations in actions on climate change.

Towards a Global Network of Living Labs of Climate Change

Key Post Paris Issues for Indigenous Peoples

1. Global warming survival limit of 1.5 C. Evidence is clear that indigenous peoples and their biocultural systems are unique and increase above 1.5 C will threaten their survival
2. Emissions must decline by 2020 at the latest for indigenous peoples survival.
3. Elimination of all fossil fuel subsidies in short order ($1.9Trillion/year IMF 2013)
4. Survival of BCS requires that by 2050 all fossil fuel energy has been phased out and replaced by clean zero carbon energy
5. Support IPCC AR5 best case scenario RCO2.6 (emissions slow and decline rapidly from 2020)
6. Support the 350ppm atmospheric CO2 limit.

Carter, 2014



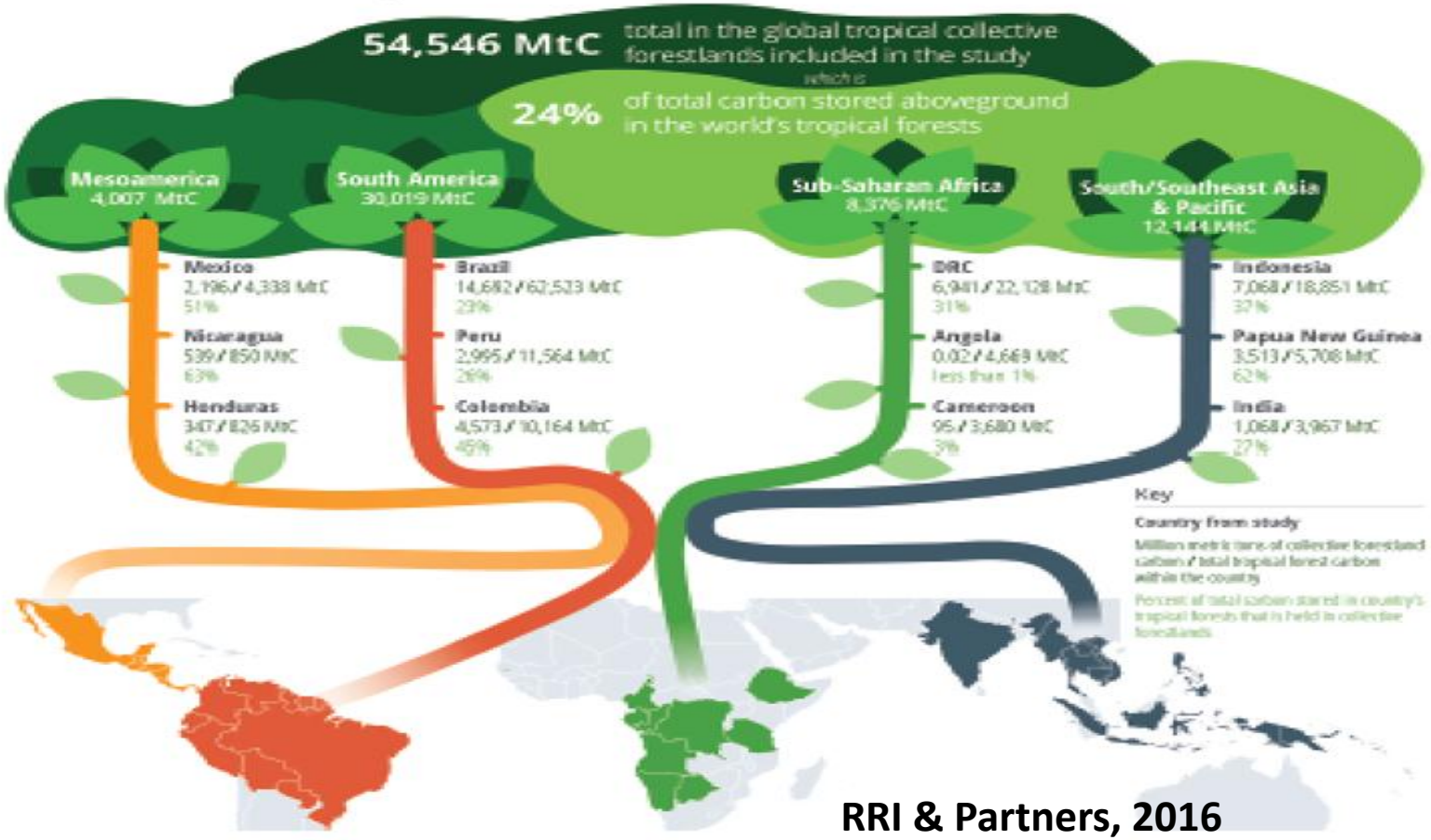
Toward a Global Baseline of Carbon Storage in Collective Lands

AN UPDATED ANALYSIS OF INDIGENOUS PEOPLES' AND LOCAL COMMUNITIES' CONTRIBUTIONS TO CLIMATE CHANGE MITIGATION

November 2016

Figure 1

This figure shows the total amount of aboveground carbon held in collective forestlands across the regions studied. The countries with the highest concentration of forest carbon per region are highlighted, and the proportion of carbon managed by Indigenous Peoples and local communities is presented as a percentage of the total carbon stored aboveground in each of these countries.



RRI & Partners, 2016

Key Objective/Elements of the Living Laboratories

- To provide an ongoing record of the climatological, ecological and cultural dynamics involved in adaptation built on sharing across traditional knowledge, science and social science
- To cooperatively test, learn, discover, teach, apply, and share the outcomes of our inquiries on climate change and advance sustainability and resilience of their nations.
- Long-term monitoring of how modifying factors influence large-scale climatic gradients and the mosaic of environmental stress on food systems.
- Help understand how changes in the mean and variability in climatic regimes, as modified by local and regional factors, can lead to complex patterns of species distribution and range shifts which are affecting food production.
- Involve local practitioners and students, under the collaborative guidance of elders and research scientists

Key Objective/Elements of the Living Laboratories (cont…)

- Local researchers will incorporate their empirical knowledge in their own research and extension projects, designed to generate the evidence needed to direct climate change adaptation policy and practice in ways that serve their communities and regions.
- Transversal tool for developing new models of food security, sustainable livelihoods and holistic development in the face of Climate Change.
- Promote the sharing of concepts, terms and methods arising from traditional knowledge and experiences through non-mainstream approaches to learning. Accordingly, we envisage the network as a "Contact Learning Zone" which will allow historically separated peoples to establish on-going relations, and create a democratic space of intercultural practice in which they can inquire and learn together, through participatory knowledge discovery, and the fostering of interdependent horizontal networking.
- Convene a group interested LAs and parties in establishing a global network of Living Labs for Climate Change in order to promote cooperation among indigenous and traditional communities and mobilize the tools and support such a network.

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Collecting traditional climate change adaptation mechanism and identifying the observed Climate Changes and the impact in recent years on community ecosystems, livelihoods and culture.

Global Network of Living Labs will also be used as a policy tool for maximizing the potential contribution of indigenous and traditional knowledge towards meeting the challenge of Climate Change in a broad range of areas from energy efficiency to sustainable agriculture, and food sovereignty, thus promoting social innovation together with traditional and new technologies to support it.

Thank you