eco-ethic
The INECC Newsletter

Climate Change - What has el nino got to do with it?

This season has been dominated by el nino and the spectre of drought, in spite of some sort of revival in a parts of the country. This phenomenon was discovered by Chilean Fisherfolk, a piece of traditional science that evolved into community wisdom, and now underpins contemporary, global science.

In the hundred years or so that modern scientists have got into the act, there is a greater insight into the effect it has on our weather patterns, especially the likely broad impacts on regional precipitation.

The latest IPCC report AR5 brings greater clarity to the understanding of the science and impacts of Climate Change. We need to focus on issues specific to our region.

How El Niño will change the world's weather in 2014
El Nino and Indian Droughts - A Scoping Exercise
El Nino's complex link to the monsoon
The IPCC's Fifth Assessment Report: What's in it for South Asia

Adaptation – and mitigation happens; and so does food security!

Adaptation moves centrestage as mitigation remains a distant dream both internationally and domestically. INECC partners, engaged with this at the Grassroots, met in February earlier this year. The notes from the reflection make interesting reading - the larger lessons and integration of the widespread efforts towards Sustainability remains an issue.

A related discussion was on the revival of millets, in the context of rainfed agriculture, food security and autonomy.

An initiative linked with Peru provides optimism that the basic response is widespread, positive and relevant. Yet a serious crisis faces small farmers the world over. Land is increasingly being devoted to livestock feed and bio-fuels in the developed and emerging markets, much of it with intensive inputs.

Ongoing Reflections on Adaptation: Peoples' Voices, Peoples' Choices
Hungry for land: small farmers feed the world with less than a quarter of all farmland
How much of the world's cropland is actually used to grow food?
The millet campaign in Karnataka
Indigenous Seed Savers Gather in the Andes, Agree to Fight Climate Change with Biodiversity
Celebrating a Revival

The UNFCCC COPs and India

What transpired at Warsaw (COP19) shows peripheral and technical movement on some issues; but the dull re-statement of issues put out by BASIC countries recently does not inspire confidence. India takes the brunt of the lack of credibility with African Least Developed Countries and Island Nations.

India remains as obdurate as ever on the word 'equity' in the negotiations – will the new dispensation concretely spell out what that means – for India and for developing countries as a whole? And what it means for domestic equity?

Early signals from ongoing policy and budgetry decisions indicate a rough road ahead for domestic climate action.

A Note on CoP 19 at Warsaw
Climate assessment of the Union Budget, 2014-15 - a Summary
India 'Last Man Standing in Paris'?
Joint Statement issued at the 18th BASIC Ministerial Meeting on Climate Change held in New Delhi, India on 7-8 August 2014

Living Religion

Climate Change is part of the larger problem of Development, which focus on economics, growth and material gain, to the detriment of social integration and a cultural diversity rooted in our environment. Underpinning this malaise is the loss of an ethical and moral perspective that celebrates such rootedness, integration and diversity.

Siddhartha of Fireflies has conceptualised a secular spirituality that resonates with such a perspective.

Earth spirituality - a new eco-social paradigm

Tailpiece

The liberal reform agenda of the environmental establishment contines to dominate the climate movement.

Real change won't come from professional activists rooted in the existing political and economic system; it'll come from a mobilization of people willing to engage in risk and sacrifice.

Reflections

No. 47, August 2014 For private circulation

How El Niño will change the world's weather in 2014

El Niño events occur every five years or so and peak in December, but the first, and potentially greatest, human impacts are felt in India. The reliance of its 1 billion-strong population on the monsoon, which usually sweeps up over the southern tip of the sub-continent around 1 June, has led its monitoring to be dubbed "the most important weather forecast in the world". This year, it is has already got off to a delayed start, with the first week's rains 40% below average.

What is El Niño?

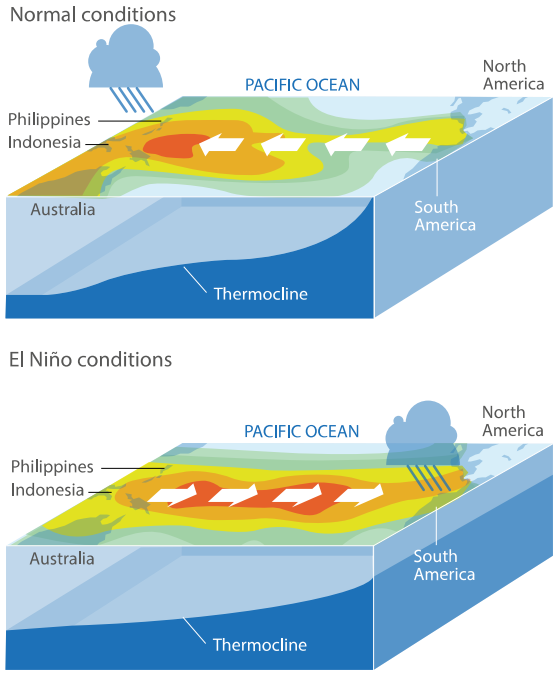
El Niño is a climate phenomenon that occurs when a vast pool of water in the western tropical Pacific Ocean becomes abnormally warm. Under normal conditions, the warm water and the rains it drives are in the eastern Pacific.

El Niño occurs every few years. Its most direct impacts are droughts in normally damp places in the western Pacific, such as parts of Indonesia and Australia, while normally drier places like the west coast of South America suffer floods. But the changes affect the global atmospheric circulation and can weaken the Indian monsoon and bring rains to the western US.

It is not certain what tips the unstable Pacific Ocean-atmosphere system into El Niño, but a weakening of the normal trade winds that blow westwards is a key symptom. In 2014, the trigger may have been a big cluster of very strong thunderstorms over Indonesia in the early part of the year, according to Dr Nick Klingaman from the University of Reading in the UK.

An El Niño is officially declared if the temperature of the western tropical Pacific rises 0.5C above the long-term average. The extreme El Niño year of 1997-98 saw a rise of more than 3C.

El Niño is one extreme in a natural cycle, with the opposite extreme called La Niña. The effect of climate change on the cycle is not yet understood, though some scientists think El Niño will become more common.



India is expected to be the first to suffer, with weaker monsoon rains undermining the nation's fragile food supply, followed by further scorching droughts in Australia and collapsing fisheries off South America. But some regions could benefit, in particular the US, where El Niño is seen as the "great wet hope" whose rains could break the searing drought in the west.

Krishna Kumar, an Indian meteorologist and El Niño expert, said that even if the 2014 El Niño turns out not to be a very hot one, it can still have a major effect on the monsoon because it is the specific location of the warm Pacific water which is the critical factor. "The moderate El Niños of 2002 and 2009 impacted the monsoon in India much more greatly then the major 1997 event," he said, adding that the biggest cut in rainfall is not usually felt until September.

Damian Carrington in London,
Suzanne Goldenberg in Washington DC
and Graham Readfearn in Brisbane

Read the full article

El Nino and Indian Droughts - A Scoping Exercise

Weather experts around the world are foreseeing a strong El Nino in 2014. In India, these developments are feared to lead to droughts. In the last 14 years, out of the four El Nino years globally, three resulted in Indian droughts. Since the 1980s, all the six droughts faced by India were in El Nino years, but not all El Nino years led to drought situations in the country. The paper approaches the question of disconnect between El Nino and Indian droughts by exploring the timing of El Nino developments in a year and its relation with monsoon rains.

We construct an India specific El Nino (ISEL), based on tracking temperature anomalies of three months moving averages for specific months (April - May - June to September - October - November), captured in the Oceanic Nino Index (ONI). The choice of these months is dictated by the fact that June - September rainfall months must be part of three monthly moving ONI anomalies, either as the ending month or beginning month.

As El Nino may hit in the second half of Indian monsoon season in 2014, favourable water reservoir levels, and high stocks of grains with the government, may offer some relief to the farmers and the consumers.

But to mitigate the impact of any such drought on Indian farmers in particular and on the economy at large, it is suggested that in the short run, there is a need to create a dedicated fund of say, INR 5000 crore, towards insurance/income stabilisation of farmers likely to be hit by drought. However, in the long run, the country needs to invest in agriculture, mainly in irrigation.

For the consumers, in the short run, government can liquidate excessive buffer stocks of grains in the open market, cut down import tariffs on fruits and vegetables, skimmed milk powder, and chicken legs, etc to contain potential abnormal price increases, in case it turns out to be a drought year. In the medium to long run, building more efficient value chains for perishables is the way to go.

Shweta Saini and Ashok Gulati,

Working Paper - ICIER | June 2014

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El Nino's complex link to the monsoon

Although not every El Nino retards the monsoon, the Pacific becoming exceptionally warm greatly heightens the risk of a monsoon turning deficient. When the Pacific is neither unusually warm nor cool, there is only a 16 per cent chance of a monsoon ending in a drought. Rainfall data for 126 years indicates that the odds of a drought jump to over 40 per cent when there is an El Nino.

Nevertheless, predicting how an El Nino will shape up and, more importantly for India, forecasting what might thereby happen to the monsoon are still challenges.

El Ninos come in two 'flavours,' noted K. Krishna Kumar, who was then with the Indian Institute of the Tropical Meteorology (IITM) in Pune, along with a group of other scientists in a paper published inScience in 2006.

In 1997, the eastern Pacific had become exceptionally warm, thereby limiting the atmospheric circulation changes that adversely affected the monsoon. It was when the sea surface temperature anomalies were highest in the central Pacific that an El Nino had drought-producing effects over India.

Central Pacific El Ninos had appeared in 2002 as well as in 2004 and 2009, with all three years ending in drought, said Dr. Krishna Kumar, currently a consultant with the Qatar Meteorology Department.

Not clear

What happens in the Indian Ocean also shapes the course of the monsoon.

Toshio Yamagata's research group at the Japan Agency for Marine-Earth Science and Technology (JAMSTEC) has studied the 'Indian Ocean Dipole' (IOD) and its effect on rains over India. During a 'positive IOD', the eastern equatorial Indian Ocean off Sumatra in Indonesia becomes colder than normal while the western tropical part of the ocean near the African coast becomes unusually warm. Such an event has been found to be beneficial for the monsoon. On the other hand, a 'negative IOD,' when temperatures at either end of the Indian Ocean swing in the opposite direction, hampers the monsoon.

An IOD can counter or worsen an El Nino's impact on the monsoon, according to a paper by K. Ashok, currently at IITM in Pune, along with Dr. Yamagata that was published in Geophysical Research Letters in 2001.

A positive IOD had facilitated normal or excess rainfall over India in 1983, 1994 and 1997 despite an El Nino in those years. But during years such as 1992, a negative IOD and El Nino had cooperatively produced deficit rainfall.

Sulochana Gadgil, a much respected atmospheric scientist who was with the Indian Instititute of Science (IISc) in Bangalore, has along with colleagues been examining wind patterns over the equatorial Indian Ocean that are associated with changes in cloud formation.

During the positive phase of the 'Equatorial Indian Ocean Oscillation (EQUINOO),' there is enhanced cloud formation and rainfall in western part of the equatorial ocean near the African coast while such activity is suppressed near Sumatra.

This phase is associated with good rains over India. Its negative phase, when cloud formation and rainfall flares up near Indonesia, retards rains over India.

"The monsoon has a mind of its own," cautioned Raghu Murtugudde, professor of atmospheric and oceanic sciences at the University of Maryland in the U.S. It was not a one-way street with an El Nino affecting the monsoon. What happened to the monsoon in the key months of July and August might determine how the El Nino evolved.

"We need to be able to forecast the monsoon without relying totally on the predictability of El Nino."

N. Gopal Raj, The Hindu, June 18, 2014

Read the full article

The IPCC's Fifth Assessment Report: What's in it for South Asia

What's in it for South Asia presents key findings from the IPCC's Fifth Assessment Report (AR5) for South Asia. The report extracts South Asia-specific data, trends and analysis directly from AR5, summarising it in a short volume to make it accessible to all audiences, and highlights key opportunities to achieve adaptation, mitigation and development.

Download executive summary

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Ongoing Reflections on Adaptation: Peoples' Voices, Peoples' Choices

Notes from an INECC Network Meeting and field visits
March 2014, Addatigala

Our work with marginalised communities informs, or at least ought to inform, our view of adaptation. The vulnerability of marginalised groups extends to contemporary, prospective as well as retrospective relationship with livelihood resources. Thus we view adaptation in the context of climate change as well as of sustainable development. There is a further dimension, which relates to the autonomy of communities, and their development choices, in the face of the onslaught of the impacts of climate change.

In hilly regions for example, earlier and ongoing clearing of forests exacerbates impacts of climate change through flash floods, drying up of perennial streams, reduction of sub-surface water, and of course the availability of uncultivated foods and eco-system services. Erratic rainfall impacts agricultural operations directly. The change in land use pattern, loss of diversity, and even of knowledge affects communities' own resilience systems, making them vulnerable to external development solutions. External elements like major mining operations, development projects, and construction of dams induce displacement and migration.

The INECC core group visited a few villages in the East Godavari adivasi region where Laya has been working through a "cluster of solutions" towards adaptation. In Decentralised Energy, these included a package of micro-hydro, solar lanterns, collective solar charging stations and improved chulhas. There is also a specific intervention for gravity based drinking water filters. Such programmes are combined with low carbon farming efforts, herbal gardens, protection and multiplication of local seed varieties and promotion of locally determined adaptation to cash economy needs like cashew plantation to constitute the current package of practices promoting adaptation. These interventions are worked out within the sustainable development framework.

The micro-hydro solution would be overrun when the mainstream grid comes to the area, even though the reliability of the grid leaves much to be desired. Further the costs of maintenance of the micro-hydro is still a challenge, even as the water management from the micro dams constructed does provide major benefits to the local community. Can we scale such decentralised energy options as climate change adaptation to make it viable? Micro-hydro could be made feasible if the mainstream grid allowed decentralised options like solar and micro-hydro power to be fed into the grid. But that is a policy question that we need to take up at the larger level. The micro-hydro project is a great achievement, but for it to be seen as adaptation, it would require a widespread institutional framework at the decentralised level.

One of the low carbon projects we visited was the plantation of cashew trees. This raised the question of whether it is good adaptation if the forests have to be cleared by the people in the programme to promote cashew plantation, which is feeding cash economy? While this may be happening in some other areas, in this programme, cashew is being promoted only in private lands or in lands regained under the Forest Rights Act and not in common lands or reserve forests.

If people shift to cash crops, and food production in these areas goes down, they would rely on the highly subsidised grain under the Public Distribution System for their food needs. They would perhaps go into for intensive cultivation practices, digging bore wells etc. Wouldn't that affect our sustainability agenda? Similar trends are observed in other areas. Why fight it? Why are we insisting that the small farmers should cultivate ragi or other dry land crops? Instead of swimming against the tide, if we went along with it, hypothetically, are there other ways of

Hungry for land: small farmers feed the world with less than a quarter of all farmland

It is commonly heard today that small farmers produce most of the world's food. But how many of us realise that they are doing this with less than a quarter of the world's farmland, and that even this meagre share is shrinking fast? If small farmers continue to lose the very basis of their existence, the world will lose its capacity to feed itself.

How much of the world's cropland is actually used to grow food?

A fascinating map from National Geographic shows the proportion of the world's crops that are grown for direct human consumption versus all the crops that are grown for animal feed or biofuels.

The millet campaign in Karnataka

Over the years the rural communities in India, influenced by the green revolution and market forces, have changed their food and farming culture from one that was diverse and nutritional to one that is harmful to their health and environment.

Indigenous Seed Savers Gather in the Andes, Agree to Fight Climate Change with Biodiversity

As climate change makes it more difficult to practice agriculture in their ancestral homelands, indigenous communities are exchanging seeds in hopes of finding the hardiest varieties.

Celebrating a Revival

Local communities in Meghalaya are holding a series of food festivals to revive locally adapted foods that are being lost.

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looking at the whole question of sustainability, or even the whole issue of mitigation, and adaptation?

What would this mean? It would mean, for example, instead of low carbon farming, we as persons working with the marginalised in the field, encourage HYV in agriculture. This we know will not take us in the direction of sustainable agriculture. So we will not go that way. At the same time it does not mean that we need to be purist about being organic, for example.

What about podu land (shifting cultivation) being used for cashew plantations?

Wherever a potential food land is converted into cashew plantation mindlessly, we would perhaps not promote it. Also if common property or reserve forests is cleared, which is not the experience here, we would have a problem. The decision is that of the farmer. A farmer having fifteen acres can say that the food needs of his family are met by ten acres and that he would like to make used of five acres to generate cash that he now needs – even for things like education, health etc. That is his choice, as he is bearing the risk of climate change. After all, the cashew is grown on his own land and the shift to cashew is culturally and socially acceptable, and economically viable. If we do a nuts and bolts analysis, we could have issues with production practices to say that pruning is not done, that life cycle analysis is not considered, that sufficient manure is not used, that the seeds are not collected properly or that the produce is sold for a low price. But these are institutional issues that we could address to make the adaptation more effective, but at the moment we can only keep our intervention at the production level.

The Example of the Millets Campaign

While Horticulture, albeit a non-mono plantation option, has been pursued by several organisations as an adaptation measure as in the mountainous regions, groups in the semi arid regions have focussed on rain-fed agriculture. It is n this context that the millet promotion campaign in Karnataka has been taken up. Being a hardy crop, tolerant to rainfall fluctuation, and low rainfall, and more nutritious than rice and wheat, the culture around Millets needs to be promoted. Pipal Tree has taken up taken the millet campaign forward in South Karnataka. INECC could take up, or at least support, an advocacy campaign for the promotion of millets in states like Orissa, Andhra Pradesh, Tamil Nadu and Maharashtra. Pipal Tree is also campaigning to introduce millets in the mid-day meal scheme, and to address the problem of the attitude of the middle class towards millets.

Along with production of millets we must look at other crops and food too. This adds to the holistic perspective of food sovereignty in the context of food security and climate change.

Towards Intermediate Institutional Development

There are several policy and institutional issues that arise. Some of them are inclusion of millets in the PDS system, particularly the procurement and support price mechanisms. The imbalance in the price ratio of subsidised rice to open market rice vis-a-vis the ratio between subsidised millet to the market price will insure that even those wanting millets, will opt for rice, which can then be sold or exchanged for a higher amount of millets or cash as compared to the market price of millets.

Other investment and supply support for inputs, and even insurance, for rice and wheat also exhibit a similar economic skew. Thus institutional issues that favour more adaptation friendly options need to be addressed.

This is similar to the issues we face in other adaptation options. The mini-hydro, solar and improved woodstove decentralised energy options required locally managed institutions that can interface with the mainstream grid system. Similar is the situation for low carbon farming where besides technical support like LCF network, we need intermediate packaging, branding, and marketing institutions.

Notes made by Myron Mendes and John D'Souza

Kong Redian Syiem, a custodian farmer, Khweng village, Ri-Bhoi district, Meghalaya

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Hungry for land: small farmers feed the world with less than a quarter of all farmland

Governments and international agencies frequently boast that small farmers control the largest share of the world's agricultural land. Inaugurating 2014 as the International Year of Family Farming, José Graziano da Silva, Director General of the United Nations Food and Agriculture Organisation (FAO), sang the praises of family farmers but didn't once mention the need for land reform. Instead he stated that family farms already manage most of the world's farmland – a whopping 70%, according to his team. Another report published by various UN agencies in 2008 concluded that small farms occupy 60% of all arable land worldwide. Other studies have come to similar conclusions.

But if most of the world's farmland is in small farmers' hands, then why are so many of their organisations clamouring for land redistribution and agrarian reform? Because rural peoples' access to land is under attack everywhere. From Honduras to Kenya and from Palestine to the Philippines, people are being dislodged from their farms and villages. Those who resist are being jailed or killed. Widespread agrarian strikes in Colombia, protests by community leaders in Madagascar, nationwide marches by landless folk in India, occupations in Andalusia – the list of actions and struggles goes on and on. The bottom line is that land is becoming more and more concentrated in the hands of the rich and powerful, not that small farmers are doing well.

Rural people don't simply make a living off the land, after all. Their land and territories are the backbone of their identities, their cultural landscape and their source of well-being. Yet land is being taken away from them and concentrated in fewer and fewer hands at an alarming pace.

Then there is the other part of the picture: that concerning food. While it is now increasingly common to hear that small farmers produce the majority of the world's food, even if that is outside of market systems, we are also constantly being fed the message that the "more efficient" industrial food system is needed to feed the world. At the same time, we are told that 80% of the world's hungry people live in rural areas, many of them farmers or landless farmworkers.

How do we make sense of all this? What is true and what is not? What action do we take to deal with these imbalances? To help answer some of these questions, GRAIN decided to take a closer look at the facts. We tried to find out how much land is really in the hands of small farmers, and how much food they produce on that land.

The figures and what they tell us

When we looked at the data, we came across quite a number of difficulties. Countries define "small farmer" differently. There are no centralised statistics on who has what land. There are no databases recording how much food comes from where. And different sources give widely varying figures for the amount of agricultural land available in each country.

In compiling the figures, we used official statistics from national agricultural census bureaus in each country wherever possible, complemented by FAOSTAT (FAO's statistical database) and other FAO sources where necessary. For statistical guidance on what a "small farm" is, we generally used the definition provided by each national authority, since the conditions of small farms in different countries and regions can vary widely. Where national definitions were not available, we used the World Bank's criteria.

In light of this, there are important limitations to the data – and our compilation and assessment of them. The dataset that we produced is fully referenced and publicly available online and forms an integral part of this report.

Despite the inherent shortcomings of the data, we feel confident in drawing six major conclusions:

- **The vast majority of farms in the world today are small and getting smaller**
- **Small farms are currently squeezed onto less than a quarter of the world's farmland**
- **We are fast losing farms and farmers in many places, while big farms are getting bigger**
- **Small farms continue to be the major food producers in the world**
- **Small farms are overall more productive than big farms**
- **Most small farmers are women**

Many of these conclusions might seem obvious, but two things shocked us.

One was to see the extent of land concentration today, a problem that agrarian reform programmes of the 20th century were supposed to have solved. What we see happening in many countries right now is a kind of reverse agrarian reform, whether it's through corporate land grabbing in Africa, the recent agribusiness-driven coup d'état in Paraguay, the massive expansion of soybean plantations in Latin America, the opening up of Burma to foreign investors, or the extension of the European Union and its agricultural model eastward. In all of these processes, control over land is being usurped from small producers and their families, with elites and corporate powers pushing people onto smaller and smaller land holdings, or off the land entirely into camps or cities.

Industrial soya bean harvest in progress

The other shock was to learn that, today, small farms have less than a quarter of the world's agricultural land – or less than a fifth if one excludes China and India from the calculation. Such farms are getting smaller all the time, and if this trend persists they might not be able to continue to feed the world.

Read the full article

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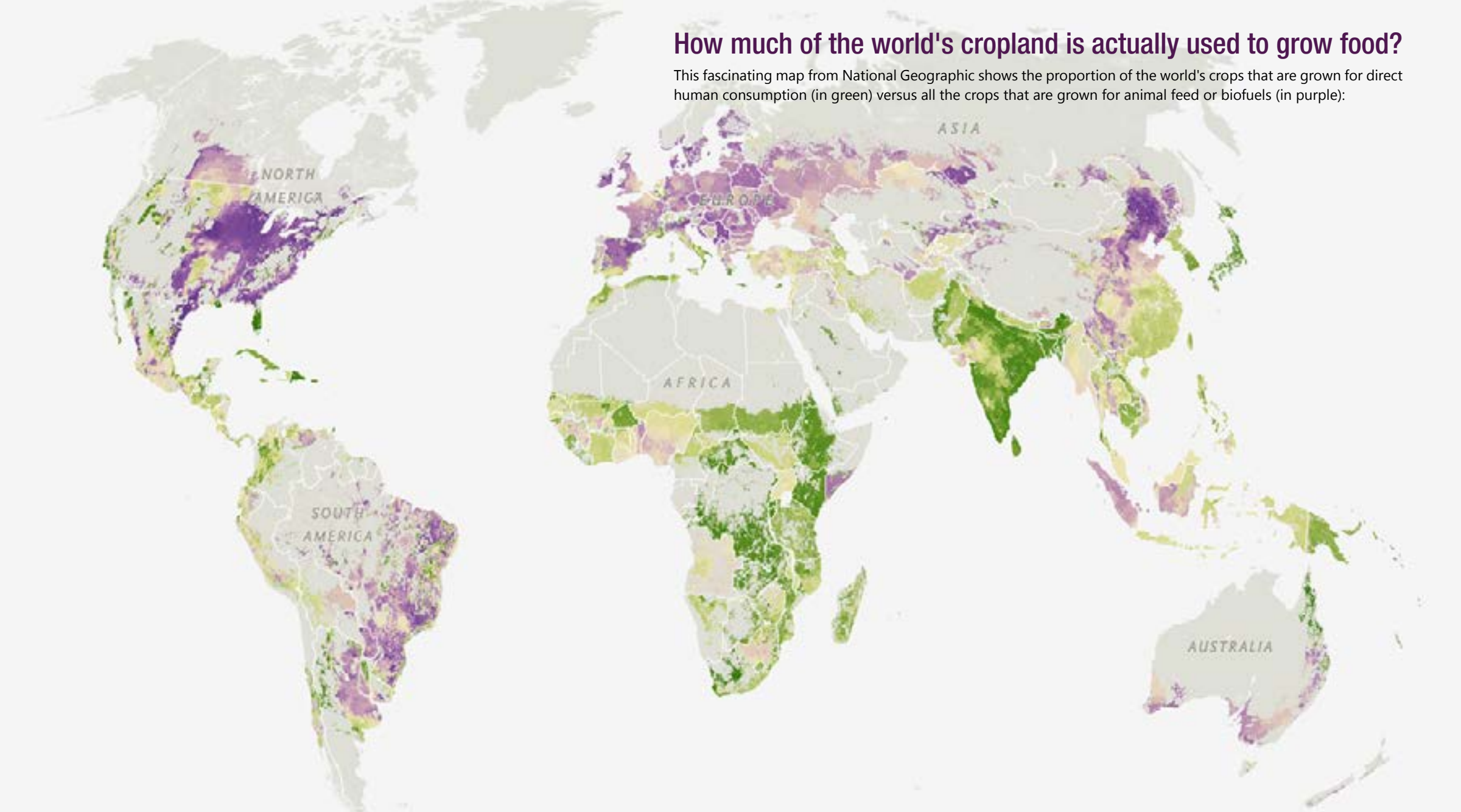
How much of the world's cropland is actually used to grow food?

This fascinating map from National Geographic shows the proportion of the world's crops that are grown for direct human consumption (in green) versus all the crops that are grown for animal feed or biofuels (in purple):



Just 55 percent of the world's crop calories are actually eaten directly by people. Another 36 percent is used for animal feed. And the remaining 9 percent goes toward biofuels and other industrial uses. (Those figures come from this paper by Emily Cassidy and other researchers at the University of Minnesota's Institute on the Environment.)

The proportions are even more striking in the United States, where just 27 percent of crop calories are consumed directly — wheat, say, or fruits and vegetables grown in California. By contrast, more than 67 percent of crops — particularly all the soy grown in the Midwest — goes to animal feed. And a portion of the rest goes to ethanol and other biofuels.

Some of that animal feed eventually becomes food, obviously — but it's a much, much more indirect process. It takes about 100 calories of grain to produce just 12 calories of chicken or 3 calories worth of beef, for instance.

So why does this map matter?

The map itself comes from Jonathan Foley's fascinating, visually rich exploration in National Geographic of how we can possibly feed everyone as the world's population grows from 7 billion today to 9 billion by mid-century. (Foley directs the University of Minnesota's Institute on the Environment.)

Feeding 9 billion people won't be easy: that's basically like adding two new Indias to the world in the next few decades. And, making matters even trickier, humans have now cultivated most of the world's arable land and are pushing up against the limits of freshwater consumption. So the traditional strategy of "find new farmland to grow more food" is getting even harder.

There are lots of possible strategies here. Farmers could increase agricultural productivity by boosting crop yields — either through new farming techniques or through improved crop genetics. But even if the rapid rate of improvement in crop yields over the 20th century continued, that still wouldn't produce enough food for everyone.

Another possibility, as the map above shows, is that the world could devote more existing farmland back to feeding people. Again, as the numbers suggest, just 55 percent of crop calories go directly toward people. The rest goes toward biofuels or animal feed. Humans can't eat biofuels, obviously. And animal feed is also an inefficient way of feeding people — about one-tenth as efficient, on a calorie basis, as eating crops directly.

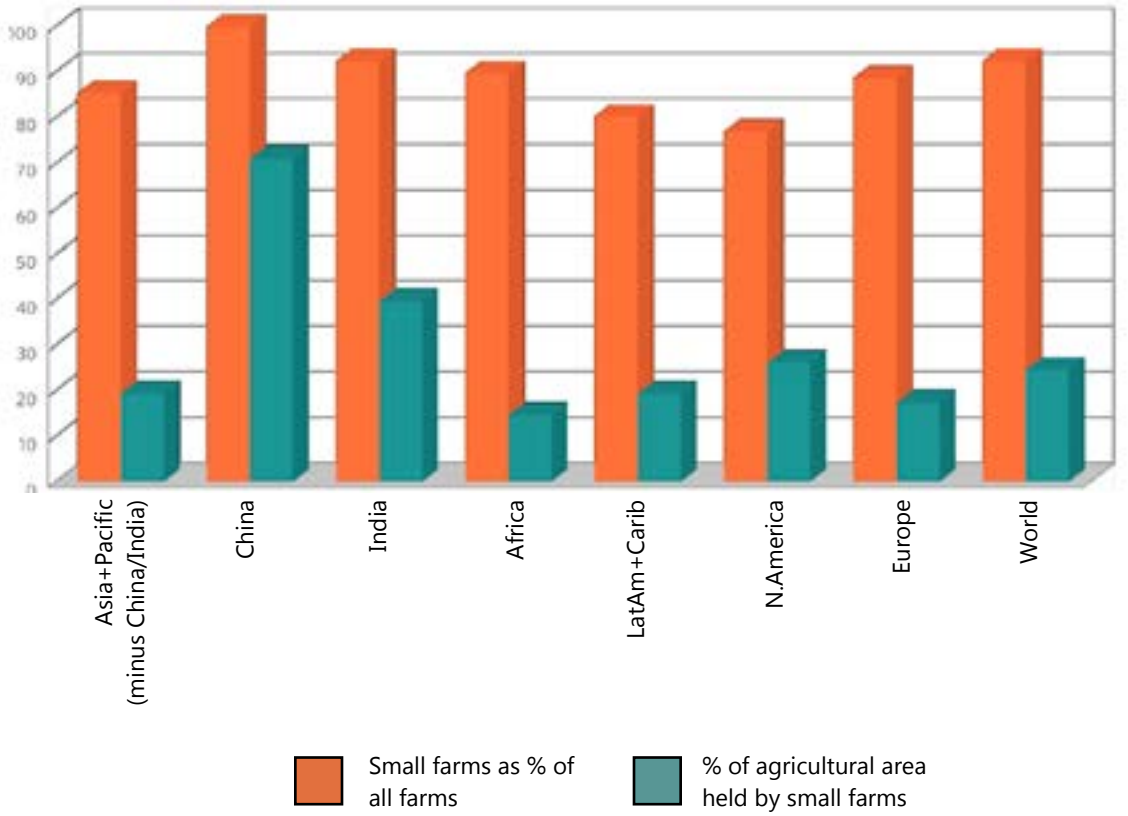
One implication of that is that, as countries like China and India grow and consume more milk and meat, the pressure on global farmland will grow. But, alternatively, if the world shifted even a small portion of its diet away from resource-intensive meats or grew fewer biofuels, we could wring more food calories out of existing farmland.

There are other strategies too, which Foley details in his piece. Many countries still don't farm as efficiently as they could due to insufficient fertilizer use. And a lot of food still gets wasted, either by consumers or due to poor storage infrastructure. One of Foley's colleagues, Paul West, recently published a paper in Science showing that farming tweaks in just a handful of countries could fix a lot of these inefficiencies.

by Brad Plumer

Read the full article

The vast majority of the world's farms are small. But they only hold 24.7% of the world's farmland



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The Millet Campaign in Karnataka

Over the years the rural communities in India, influenced by the green revolution and market forces, have changed their food and farming culture from one that was diverse and nutritional to one that is harmful to their health and environment. Financial gain has become an overriding concern, eclipsing concerns related to health and sustainability.

As climate change unfolds, rice and wheat, which are now central to the food culture in most parts of India, will be badly hit. For each 1oC rise in mean temperature, wheat yield losses in India are likely to be around 7 million tonnes per year. There will be huge shortfalls in rice production as well, due to acute water shortages. In India, rice production is slated to decrease by almost a tonne/hectare if the temperature goes up to 2oC. According to some estimates, almost 40 percent of the production potential in certain developing countries could be lost. The cost of food grains all over the world has dramatically increased in the past few years, and is going to rise even more. Food security and food sovereignty will be seriously threatened for hundreds of millions of Indians. This calls for an urgent action in the food security and food sovereignty front. This is where millets become important as part of an adaptation strategy for food security.

Significance of millets in the context of climate change:

Rain fed crops account for nearly 60% of cropland area in India. This is where millets are grown. Millets are climate resilient crops and can take higher temperatures and grow on poor soils without much irrigation. Thus they are best suited to rain fed/dryland conditions. In addition, millets are rich in proteins and other micronutrients and provide three to five times more nutrition than rice and wheat.

Millets are traditionally cultivated as mixed crops. About seven other crops can be grown with millets. This reduces the risks of pest attack. Hence millets cultivation does not require chemical pesticides. Apart from this, the mixed farming culture ensures availability of food throughout the year. This also helps in improving the soil productivity.

Finger millet (ragi), sorghum (jowar) and pearl millet (bajra) have been central to India's food and farming cultures. Despite problems in processing other millets like foxtail millet, little millet, and barnyard millet have also contributed to the food basket. However, India's Public Distribution System and other food distribution programmes completely ignore millets.

The easy availability of ready to cook low cost polished rice through the Public Distribution System has influenced the food and cropping pattern in the rural areas. Between 1966 and 2006 India lost 44% of millet cultivation areas to other crops due to lack of policy support and political will. The food basket of the community has shrunken tremendously with the change in the cropping pattern. The consequent changes in the food culture have affected the health of the community significantly leaving a huge financial burden on rural communities.

According to a 2011 World Bank study report, money spent on health care is one of the leading causes of poverty in India. The Public Distribution System, the midday meal scheme and the ICDS ration for children and pregnant and lactating women are the main source of food for a majority of the poor households in the country. The quality and quantity of food they get through these programmes hence has a direct link to the health of the community. For instance, the polished white rice, which is the major constituent of the subsidized food, is just carbohydrate. All its nutritional benefits have been polished away in order to increase its shelf life. The chemical preservatives also pose serious health problems.

Large scale millets cultivation, considering that they are the most sustainable food grains in the context of climate change, needs to be urgently revived. However, this is not an argument to emphasise millet cultivation at the cost of mixed cropping, as was the case when the government set up the rice and wheat missions that led to the elimination of other food grains and pulses from the local food system.

Millets-based decentralised Public Distribution System:

The Public Distribution System in India has been one of the most significant affirmative actions by the government to extend the food safety net to the poor and the disadvantaged of the country. Every year the country procures and distributes over 50 million tonnes of grains through the PDS to feed its vulnerable population. But there have been a number of arguments against the PDS in spite of its huge benefits to the poor.

Of all the arguments against the current PDS is that it is based only on two grains viz. rice and wheat, whereas India is home to a large number of food grains. Of them millets [a family of grains consisting of sorghum, finger millet, pearl millet, little millet, proso millet, kodo millet and foxtail millet] have been completely ignored in India's PDS system, though until a couple of decades ago, millets formed more than 40% of the national food grain production. As a matter of fact millets were the food grains of the poorest multitudes of India which included the SCs, STs and other marginalised communities.

Thus exclusion of millets from the PDS, it was argued, was a double exclusion of India's marginalised communities. As a result a large number of small holder farmers in the rainfed areas of India started moving away from their food farming and started embracing more lucrative crops such as cotton, sugarcane, tobacco, etc. But unfortunately since these crops needed irrigation and a lot of external inputs such as hybrid seeds, chemical fertilisers and pesticides, the small holder farmers could not cope with these demands. This was one of the major factors in the rampant farmer suicides seen in the country over the last ten years. Karnataka was a witness to all these changes and their consequences since 1990.

After about 30 years of rice based PDS, the chickens are coming home to roost. Rice which is pure starch and water without any redeeming qualities of nutrition had pushed Indian population into great depths of malnutrition. The HDI of 2012 brought this truth home by listing India as 123rd county on the global malnutrition index. Besides, India also slipped to 65th place in the Global Hunger Index.

Thanks to the efforts of various movements across the country, Indian policy makers woke up to these alarming realities and in the National Food Security Act, passed by the Indian Parliament in 2013, millets were included among the PDS grains and the Act promised to make millets available at the lowest price of Re.1/kilo. Thus for the first time PDS started addressing nutritional security along with food security.

Our advocacy and lobbying work with the government of Karnataka for a millet-based PDS yielded results and the government announced that millets will be made available in the PDS; Ragi in South Karnataka and Jowar in North Karnataka. Thus Karnataka became the first ever state in the country to include millets in the PDS. This is highly empowering for the farmers and the PDS consumers of the state.

In step with this progressive policy, Pipal Tree (along with the active support of the Deccan Development Society) has requested the Karnataka Government to pilot a decentralised PDS in HD Kote taluk to explore the feasibility and the benefits of a local production, local procurement and local distribution system for PDS.

A similar programme is being mooted by the Deccan Development Society in North Karnataka , as far as jowar is concerned.

The argument forwarded is that this system will rejuvenate millet farmers in the local areas, make storage remarkably less expensive and enable the availability of fresh and non-food-mile-consuming grains to the consumers. All these three steps together will not only make PDS far less expensive but also will contribute significantly to the local economies. This is totally in contrast to the present PDS where the crops such as rice and wheat are cultivated for PDS in a few centralised locations such as Punjab and Western UP and distribution happens centrally with no involvement of local communities.

Shabin Paul, Fireflies Ashram, Bangalore

The Millet Campaign in Karnataka

Celebrating a Revival

Something very interesting is happening in North East India. The local communities have been holding a series of Food Festivals where locally available (wild edibles) and locally grown food (cultivated) are displayed and cooked.

Known as Mei Ram-ew, and modeled on the Terra Madre and the good, clean, fair concept of Slow Food, these festivals facillitated by North-east Slow Food & Agrobiodiversity Society (NESFAS) are bringing communities together. They exchange their know-how, they exchange seeds of disappearing varieties, and recipes among other things.

Seen in a larger sense, the move of the festivals are to celebrate and protect biodiversity, take pride in one's own culture and more simply, enjoy the pleasure of eating fresh and good food. Interestingly, these gatherings and the behind-the-scenes work are bringing out into the forefront farmers who have been growing a variety of local crops for generations. The knowledge handed-down is preserved by the simple act of practice.

Redian Syiem of Khweng village is one such farmer. When we asked her how many varieties she grows, she said maybe 11-12 varieties. But a little digging revealed that she actually grew and protected 70-80 varieties of food-plants and trees in her little *jhum* patch! She grew 20 varieties of yam alone!

Redian's 11-member family entirely subsists on what they grow and are known in their village and surrounding ones as the healthiest family in the region!

Khweng itself is a small village in the Ri-Bhoi district of Meghalaya and once upon a time grew 17 varieties of rice. Today unfortunately 7 varieties have gone from their village. During a Biodiversity-mapping exercise, led by Bhuwon Sthapit of Bioversity International, Delhi, the women put up an impromptu display of all the food that they eat – gathered from the forests and grown by them. We counted an incredible 77 varieties of vegetables, cereals, lentils, roots, fish, fruits, etc.

What these food festivals and mapping exercises are doing is helping communities understand the food-resources they actually have, while revealing to them what is disappearing and is in urgent need of protection. The farmers who are growing some of these disappearing varieties simply give away or exchange a part of their stash of seeds to those who would like to grow them. In the next season the farmers who have taken this seeds plant them and keep aside and build their own stash of seeds... and within a couple of seasons, what was on the verge of disappearing, makes a come back.

Radha Kunke, Ground Zero+

Celebrating a Revival

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Indigenous Seed Savers Gather in the Andes, Agree to Fight Climate Change with Biodiversity

As climate change makes it more difficult to practice agriculture in their ancestral homelands, indigenous communities are exchanging seeds in hopes of finding the hardiest varieties.

On top of a rugged Andean mountain situated high in Peru's Cusco region, on 30,000 acres of conserved land known as Parque de la Papa (Spanish for "Potato Park"), indigenous farmers met in late April to discuss conditions they feared were threatening their ancestral lands.

They came from as far as Bhutan and China, and from as near as the mountain itself. They discovered that their cultures were more similar than they had expected, and that one concern had been troubling all of them: Climate change was making it harder to grow food on the mountains that had sustained them for centuries. They were meeting to do something about it.

One farmer noted how signs of climate change had been subtle for the past 15 years, but have become conspicuous in the last three.

During a series of talks held between April 26 and May 2, the farmers forged a unique partnership entailing the exchange of indigenous crop varieties and farming methods, which they hope will protect agricultural biodiversity in the face of climate change. The exchange will begin with potatoes—a sturdy crop that thrives in the mountains of China, Bhutan, and Peru—and will enable the farmers to experiment together from a distance, so they can find the hardiest, most resilient varieties.

Doing so will ensure better food security for the farmers' families and communities because having more crops that can survive the unknown, potentially destructive effects of climate change will increase their yields and mitigate strains on various resources.

Farmers and scientists

It's pushing them to adapt their traditional methods of farming and to include other methods that might enhance their production. These include learning how to grow plants that pollinate themselves, farming newer potato varieties, and working with a fuller collection of seeds thanks to a collaboration with scientists at the International Potato Center, a research institution based in Lima that runs a gene bank facility.

"Scientists would just take seeds from us, not recognizing our knowledge."

The center will facilitate the exchange between farmers, and will fund much of the research conducted by its own scientists—who not only analyze the genetic potential of indigenous seeds in the center's labs but also study the farmers' traditional process on the Andean hillsides. Although seed exchange among farmers is an age-old custom, seeds shared in the context of this project will be subject to a stringent protocol that ensures their safety and purity, especially in transit. The actual exchange of raw material will not begin until such a system has been approved and implemented by the International Potato Center, according to Swiderska.

As farmer Mamani stated, "It's time traditional knowledge and science work together."

Working with scientists has been an emotional, challenging process, Mamani said. "Scientists would just take seeds from us, not recognizing our knowledge."

But the tides are turning as climate change edges on, pushing science and tradition closer together to resolve common goals and slow the process of agricultural degradation. As Mamani said, "Scientists have been taught now how to collaborate with us. They have to respect our knowledge."

by Erin Sagen

Read the full article

A Quencha farmer harvest potatoes

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A Note on CoP 19 at Warsaw

In a nutshell what Warsaw delivered and where it failed:

1. Overall, while COP19/CMP9 made some progress toward Lima and Paris, it was limited by continued concerns about the transparency of negotiations and moving toward an "applicable to all" standard without some accounting for historical responsibility. As the Earth Negotiations Bulletin observed, a "sense of resolve was notably absent" in Warsaw, due as much to an absence of political will!
2. They contemplated over the post-2020 scenario but did not outline any near term actions (2013-19) to combat climate change.
3. No mechanism on how $100 billion will come by 2020
4. No special funding to poor countries for 2013-19 period.
5. Mere lip service to issues related to black carbon, agricultural methane, energy efficient buildings-equipment etc.

Look What India said: The rhetoric!

India reiterated that it is not to be seen as irresponsible / evasive as rich nations portray of them. It outlined some of the steps it has taken to combat climate change:

- NAPCC - 8 missions & states have also formed their plans and missions.
- Solar - set a target of generating 20,000 MW of solar power by2020; already achieved about 1200 MW.
- Energy Efficiency - introduced an innovative trading mechanism (Namely PAT – Perform, Achieve and Trade)for energy efficiency.
- Coal Cess - National Clean Energy Fund (NCEF). Cash comes from cess on coal of (Rs. 50 per tonne) which is used for financing renewable energy and environment friendly projects.
- Made “voluntary” commitment to reduce emissions intensity of our GDP by 20-25% by 2020 (compared with 2005 level.)
- Have also committed that India’s per capita emissions will not exceed those of the developed countries in the future.
- Emphasised the fact that it is a large country with a very small carbon footprint. Per capita emission is only 1.8 tonnes per annum; despite heavy dependence on oil imports, we’re committed to follow the path of sustainable development!

Climate campaigners deliver inflatable lungs to the World Coal Association conference in Warsaw, Poland.

Not to miss out on the size of the Indian Delegation which stood at a paltry 13, compared to 60 from Pakistan and 120 from China!

Ajita Tiwari Padhi, INECC

A Note on CoP 19 at Warsaw, INECC, Delhi

Climate assessment of the Union Budget, 2014-15 - a Summary

In the second India Climate Watch of our new series, we unpack key statements in Union Budget 2014-15 for what they mean to the country’s need to balance economic imperatives against the growing national footprint. We find a few positives and several points of concern, which are:

■ The Finance Minister said it is his duty to steer towards desired macro-economic outcomes of higher growth, lower inflation, sustained level of external sector balance and a prudent policy stance. He added that "it would not be wise to expect everything that can be done or must be done to be in the first Budget presented within forty five days of the formation of this government".

Positive, with qualifications

■ Higher growth is presented as the "sine qua non" that continues in this budget - as has been the trend for the last decade - to search for a link with bringing a large section of India's population out of poverty.

Negative

■ Budget 2014-15 has directly linked "the fruits of development" with the pace of migration from the rural areas to the cities which is increasing. This movement is creating a "neo middle class" which has the aspiration of better living standards and which need to be accommodated in new cities, a prospect that is shown to fit the NDA senior executive vision of developing "one hundred Smart Cities" as satellite towns of larger cities.

Negative, with the recommendation that these urban centres can through conscientious choices practice sustainability in ways that have eluded our cities thus far.

■ A number of individual provisions collectively mean greater support to renewable energy and to making efficiency in conventional energy generation the basis for power generation. The use of electricity in agriculture (by erratically metered or unmetered pumpsets) is to be addressed by solar power-driven pumpsets. A 'clean energy cess' on the extraction of coal has been doubled.

Positive

■ The envisioning of industrial corridors along high-traffic routes that connect metropolitan cities has been endorsed in this budget. The new 'smart cities' and satellite towns, proposed industrial clusters and planned urbanisation are emphasised as drivers of a high growth-oriented budget.

Negative

■ The Ministry of Environment, Forests and Climate Change has had its budget actually reduced to Rs 2,510 crore from Rs 2,884 crore in 2013-14. The Ministry of Earth Sciences has received a mere Rs 1,702 crore. The Ministry of New and Renewable Energy has received a mere Rs 2,534 crore.

Negative, pending study

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India 'Last Man Standing in Paris'?

India may be "the last man standing in Paris", said former union environment minister Jairam Ramesh, referring to the UN Framework Convention on Climate Change (UNFCCC) meet in Paris in December next year, which will mark the culmination of protracted negotiations which began in Copenhagen in 2009.

Ramesh was speaking at the opening of a recent conference on Climate Change and Sustainable Development: Equity and the post 2015 Challenge at the Tata Institute of Social Sciences in Mumbai.

"All the gains between 2009 and 2011 on the international front have been negated by our ostrich-like stance," he said, adding that India was "inflexible and moralistic". It was a "disastrous route, dangerous internationally".

He questioned why India was making common cause with the US and China, as well as OPEC countries like Saudi Arabia and the Latin American bloc of Bolivia, Cuba, Nicaragua and others.

He believed that a top-down approach on climate, as exemplified in carbon budgets where countries have surpluses or deficits, would not work. He favoured a bottom-up process with a pledge and review for each country.

At a BASIC consultation four months before the climate meet in Durban in 2012, China was pushing for the application of carbon budgets, which would quantify which countries were exceeding their capacity and which could continue to emit. South

by Andrei Popov

Africa backed out, while India hedged. The US position was: "Don't talk to us about it or we won't talk to you at all."

"While India had been championing equity among nations when it came to climate change, it would be taken more seriously if it had addressed this domestically and linked it to development," said D. Raghunandan, President of the All India People's Science Network. Lavanya Rajamani of the New Delhi-based Centre for Policy Research said, "India uses equity as a shield, not as a sword."

The US had not fixed carbon emission mitigation targets for itself aspirationally and did not distinguish between developed and developing nations. "India and the US will lead the race to the bottom," Raghunandan believed.

Raghunandan agreed with Ramesh that India was isolating itself internationally. Other countries like the Africa group, island states and the Least Developed Countries were "astonished at the country's ostrich-like stance" for not allying with them.

The onus of being the climate deal-breaker was put on the US by Indrajit Bose, who represents the Third World Network, based in New Delhi. "The US too has stuck to its traditional stand of 'inaction' since the beginning of the negotiations," he said. "It will not take action unless India and China would do so; American lifestyles are 'non-negotiable' and it treats all countries equally rather than equitably. It is also firmly against any determination of an aggregate target for developed countries for emissions reductions, insisting that no one can tell them what it must do."

"The US was the biggest historical cumulative emitter in the world and the largest emitter until a few years ago. And yet it has committed to the least emissions reductions: 17% of emissions reduction over 2005 levels translates to about 3% over 1990 levels. Is that enough? Of the cumulative global emissions, until 2009, developed countries accounted for 72% compared to their share of population of about 25%.

"While the carbon budget approach which is premised on historical responsibility and per capita principles will benefit India and China and is actually the principled approach with a top-down approach, developed countries are hell-bent on ignoring historical responsibility and resistant to any top-down approach of this kind. Worst of all, we must not fall victims to the propaganda of the West – with those who place blame on developing countries and resort to tactics of isolation, demonizing and divide and rule."

The conference ended with a call for wide-ranging consultations before India finalises its position before the Paris conclave. Participants stressed that India should play a leadership role in articulating the position of the global South, which it had done, for instance, in the Earth Summit in Rio de Janeiro in 1992.

There was little carbon space left and developing countries were not in a position to be strategically offensive, so their unity was the only defence. The principle of "common but differentiated responsibilities" had to be recognised and the climate policies of countries had to be assessed according to their national circumstances. India's policy had to be predicated on the actions of developed countries, from which deep cuts were expected.

Darryl D'Monte

India 'Last Man Standing in Paris'?

Should India tone down its moralistic stance in Paris climate talks?

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Earth spirituality - a new eco-social paradigm

The underlying thrust of this piece is that the vocation of each human being is to be pro-human and pro-earth at the same time. The poet Rabindranath Tagore attempted to capture this spirt when he wrote:

Those who are close to the spirit of
the earth, those who are made and
shaped by her, and who will find
their rest in her, of them I am
the friend, I am the poet.

Poverty, industrial pollution, climate change, acute water scarcity, population explosion, religious conflict, and the commercialisation of values - these are the major challenges of the 21st century. Where do we find the vision and the political will to deal with these awesome tasks! As our secular ideologies appear to flounder there are many who believe that the earth, from whom we have evolved, is likely to give us the strength to deal with our many afflictions.

A new vision

An influential body of opinion all over the world is now stressing that the cause of our civilisational crisis lies in our disconnectedness with nature. We have forgotten where we come from. We see the Earth, from which we have evolved, as little more than a mere 'resource', a storehouse of minerals and other raw materials, inert matter which we need to use in the furtherance of our physical and material needs. The earth is a mere producer of food and

Fire Dreaming, by Malcolm Maloney Jagamarra; Australian aboriginal fires preserve biodiversity

a garbage dump, not our larger body. Obviously, nothing could be further than the truth; nothing can exist in isolation. Quantum theory has revealed that even subatomic particles are not things, but connections between things.

Earth spirituality may be the only way out. The sense of fulfilment that accompanies a reverential relationship to the earth may give us the strength to frequently step back from our man made world of gadgets and consumer seduction and see their serious limitations.

Earth spirituality does not imply that we turn our backs on the scientific and modern world. That would be futile and uncreative, apart from being regressive. But modern science and technology can find their true purpose only when they enhance the journey of the universe. Enhancing the journey of the universe means being pro-human and pro-earth simultaneously. The failings in our present cosmovision do not allow us the conviction to align with this journey. One may argue that the origin of the present global crisis does not stem from inherent human weaknesses or human evil. The roots lie in a serious defect of vision that allows us to be callous to the earth and our fellow human beings.

Religions and ecology

The major religions are not unequivocal in their appreciation of our interconnectedness with the universe, but all of them offer valuable insights and experiences. The Thai Buddhist monk Buddhadasa Bhikkhu said: "The entire cosmos is a cooperative. The sun, the moon, and the stars live together as a cooperative. The same is true for humans and animals, trees, and the earth. When we realize that the world is a mutual, interdependent, cooperative enterprise . . . then we can build a noble environment. If our lives are not based on this truth, then we shall perish." A Western Buddhist has referred to Buddhism as a "religious ecology."

The Hinduism of the Vedic period is replete with texts and rituals that celebrate the earth (bhu), the atmosphere (bhuvah) and sky (sva). Gods and goddesses are also associated with the earth (Prithvi), with the water (Ap), with fire (Agni) and the wind(Vayu). These Vedic insights were later formalised into the mahabhuta (the five great elements). They were the earth (prithvi), water(jal), fire(tejas), air(vayu) and space(akasa). The tree was considered sacred from very early on. From the Indus valley seals to the edicts of Asokha to the Chipko movement the tree was nurtured and protected. Many families and communities have their own sacred trees and show particular attention and reverence to them. My friend Dr.Shivshankar, an agronomist, tells me that his family venerates the pongamia tree. He has two of them now growing in his garden.

More than any other tradition the thinking of indigenous peoples all over the worldwide is permeated with the notion, so eloquently expressed by Chief Seattle, that "all things are connected." In 1933 Luther Standing Bear, the Lakota thinker, wrote: "All this was in accordance with the Lakota belief that man did not occupy a special place in the eyes of Wakan Tanka, the Grandfather of us all. I was only a part of everything that was called world." Commenting on Standing Bear's reflections John Grim (Bucknell University, USA.) states that, " To distinguish the human 'camp' is not an ontological

separation of beings, or an ethical judgement about superior and inferior relations between species. To think of human, animal, plant, and mineral bodies as separated by consciousness or personality is a category error." Not only did the human not occupy a special place but the human is also not separate from the earth and the universe.

St.Francis of Assisi and Teilhard de Chardin are two of the most ecologically minded Christian thinkers. Paul Santmire writes, " Francis climbs the mountain of Gods creation in order to stand in universal solidarity with all God's creatures, both in this world and the world to come." (The Travail of Nature: the ambiguous ecological promise of Christian Theology. Fortress Press, 1985, Philadelphia). Recent Christian ecumenical thinking states that "all beings on earth make up one household (oikos) which benefits from an economy (oikonomia) which takes ecological and social stewardship (oikonomos) seriously. (Dieter T.Hessel.)

From individualism to inter-existence

Extreme forms of selfish individualism now combine with aggressive commercial pursuits to create a worldview that may lead to human self-destruction. Gregory Bateson has referred to this alarming individualism as the epistemological error of western civilisation. How does one move from this corrosive individualism to the healing influence of interexistence? It seems likely that we will have to fall back on the immanent intelligence of the earth if we are to radically change course and return to the state of interconnectedness with non-humans and humans. The human does not make sense outside this connectedness. Ideologies alone, however open and non-dogmatic, cannot lead us from self-destruction. Even altruism may be unnecessary, for interconnectedness implies that when we do good to another human being or the earth we are only doing good to our selves, to our larger body.

Only the common spiritual field of our interbeing with the natural world can give us the fulfilment necessary to distance ourselves from the over-determination of material and technological props. Lamenting our tendency to neglect the natural world and to " participate almost exclusively with other humans and with our human made technologies' the philosopher David Abram writes, rather provocatively, " we are human only in contact, and conviviality, with what is not human." He means that our humanity can be completed only through a sensuous and fulfilling relationship with nature.

Afterword: towards a secular earth spirituality

Each year life on the planet awaits another period of environmental battering, it is meaningful to reflect on the relationship between the earth and the values we are constructing.

Among other things, the Earth is a metaphor to suggest the divine memory of our origins, religious or otherwise... of where we came from.

But whether we agree or disagree on God, most religious and spiritual perspectives will acknowledge, with varying conceptual differences, that the universe is pervaded by an energy that is at once perceptive and intelligent. It's a pity that not many people read poetry these days. At the risk of sounding clichéd I will quote Robert Blake, who epitomises the spiritually imbued nature of reality, the metaphysical wholeness of things:

"To see a world in a grain of sand
And a heaven in a wildflower,
Hold infinity in the palm of your hand
And eternity in an hour."

It is both a humbling and fulfilling experience 'to see a world in a grain of sand' rather than in all the glories that wealth, property and accumulation have to offer. Finding 'heaven in a wildflower' tells us that if we have the potential to see a flower as it really is we would have an experience of nirvana. We hold infinity in the palm of our hand when we learn to live in the here and now, when we feel the joy and pain of each moment. This does not take away from our capacity to build a more sustainable future. They are both part of the same whole. Experiencing 'eternity in an hour' reminds me of a friend's remark when I bemoaned the early death of my brother: "It does not really matter that you live to ripe old age; it is the quality of your lived experience that matters. Even a few years of responsible and meaningful living is worth more than a whole lifetime".

What Blake is saying is that the nature of the universe is spiritual energy, beauty and intelligence. This is what secular earth spirituality is about. But words are often interchangeable and we can also call it secular evolutionary spirituality.

The non-dual nature of the universe is struggling to evolve in these difficult times. But market fundamentalism is doing its best to hamper this evolution. Only time will tell if we can change the tide. If we succeed at all in creating a more sustainable future for ourselves it will represent a triumph of what is non-dual and secular. It will represent the triumph of nurture and compassion. A wholeness, born out of the fusion of the secular and non-dual spirituality, has the potential to further the dignity of all human beings, and the integrity of our planet.

I would like to conclude with a well known quote from William Wordsworth in 'Lines written a few miles above Tintern Abbey' which expresses the ineffable experience of immanence that earth-spiritually offers us:

"And I have felt
A presence that disturbs me with the joy
Of elevated thoughts; a sense sublime
Of something far more deeply interfused,
Whose dwelling is the light of setting suns,
And the round ocean and the living air,
And the blue sky, and in the mind of man:
A motion and a spirit, that impels
All thinking things, all objects of all thought,
And rolls through all things."

Siddhartha, Fireflies Ashram, Bangalore

Reflections

The liberal reform agenda of the environmental establishment continues to dominate the climate movement.

Real change won't come from professional activists rooted in the existing political and economic system; it'll come from a mobilization of people willing to engage in risk and sacrifice.

The liberal reform agenda of the environmental establishment continues to dominate the climate movement. Organizations sitting on millions of dollars in resources and thousands of staff are now engaged in a massive "Get Out The Vote" style operation to turn out tens of thousands to marches before the September 23rd United Nations' Climate Summit in New York. Their hope is to impact the summit framed as U.N. Secretary General Bai-Ki Moon's dialogue with global politicians on climate change in the lead up to the 2015 climate talks. Civil society's demands include passing meaningful climate legislation and signing binding agreements on carbon regulation.

History continues to repeat itself as the environmental establishment had similar demands in Copenhagen at the 2009 climate talks. After spending millions of their donors' dollars and thousands of hours of staff time, successes included an email campaign that got President Obama to travel to Denmark and personally witness the failure of those climate talks. Almost simultaneously, legislation to regulate carbon emissions failed in the U.S. Congress as well. After outspending the climate liberals 10 to 1, the political will of Big Oil and Big Coal remained unbreakable. Meanwhile, these same companies continue to drill, mine, frack, pollute, poison, build pipelines and burn coal in neighborhoods and communities from coast to coast.

While the liberal climate agenda is rooted in compromise with policy-makers and playing nice with corporations, a radical climate agenda must take the small disparate pieces of the existing climate movement and grow them exponentially to become a fierce counterbalance to the fossil fuel industry.

It must include strategies that create an environment so toxic for the climate pollution industry, its executives, its politicians and the financial institutions that back them that business as usual becomes impossible. Furthermore, this agenda must be rooted in principles of justice and ecological sanity as well. Lastly, it must be willing to take risks, do jail time and say what doesn't want to be heard by friends and enemies alike.

People are hungry to do more than send emails to President Obama asking him, once again, to do the right thing or march in a permitted march. Real change won't come from professional activists rooted in the existing political and economic system; it'll come from a mobilization of people willing to engage in risk and sacrifice.

Uprooting the Liberal Climate Agenda

Next issue:

Theme: Climate Education
India's negotiating position at the UNFCCC

- statement of the Hon'ble Minister for Environment & Forests
- perspective of grassroots development organisations

Sustainability in action

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