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Compiled by : Harpreet Kaur
With Inputs from : Soumya Dutta, Ajay K. Jha, Dunu Roy, Kavitha Kuruganti
Sreedevi Lekshmikutty and Sridhar Radhakrishan
Edited by : Mairaj Fatima

For Beyond Copenhagen Collective, India

Design and Layout : Harsh Vardhan (harsh1456@gmail.com)

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PAIRVI (PUBLIC ADVOCACY INITIATIVE FOR RIGHTS AND VALUES IN INDIA)
G-30, First Floor, Lajpat Nagar-III, New Delhi-110024
Ph. +91-11-29841266, | Fax: +91-11-29841266
Email: pairvidelhi@rediffmail.com, pairvidelhi1@gmail.com
Web: www.pairvi.org | Blog: beyondcph.blogspot.com

FOREWORD

It has been twenty years since the watershed event for sustainable development 'Earth Summit, 1992' was held in Rio De Janeiro, Brazil. Twenty years on, states and civil society gather at the United Nations Commission on Sustainable Development (UNCSD) in June 2012 at Rio yet again. The world has witnessed considerable changes and upheavals in this period. A number of crises - economic, social and environmental, have shaken nation states, and gaps in global governance which perpetuate poverty, disease, displacement, and degradation have further entrenched in this time span. While poverty was concentrated in the developing world in the 1990s, it has become pervasive now, and the world is in the throes of multiple crises.

Seven critical issues: Jobs, Energy, Cities, Food, Water, Oceans, Disasters are under serious consideration in Rio+20. The themes of Rio+20 - "Green Economy in the context of Sustainable Development and Poverty Eradication (GESDPE)" and Institutional framework for Sustainable Development (IFSD)", are nowhere close to addressing the problems at hand, let alone reaffirm all what the Earth Summit stood for. Food security and nutrition are referred to, both in the preamble and within the key thematic areas, but have somehow missed becoming key priority areas. The Millennium Development Goals have lost their sheen and their well-meaning intentions are over-ridden by the compulsions of market capitalism and a neoliberal world order. Climate change, desertification, large-scale deforestation, ocean acidification all are in focus because of the massive threats they pose, but none have been adequately addressed by the states or civil society.

The urgency of looking to find lasting solutions for this generation and the ones to come; has been lost in the din of priorities that are neither pro-poor nor inclusive. The divide between the north and south in the approaches has also not been bridged. One of the important outcomes of the Earth Summit 1992 was the adoption of 'Common but Differentiated Responsibilities' (with the coming of the UNFCCC framework) as an important principle in which states conceded that the current environmental plight is a repercussion of their improvident development strategies in the past & that some would bear a larger burden than the rest. They have however sought ways to work around, or have managed to annul the commitments made previously and as a result, the 20 years since Rio have only witnessed intense debate but little or no results.

"The Future We Want", as the outcome document is titled, sets out universally desirable goals of eradicating all forms of Poverty, providing for Just and Inclusive societies, and Protect our Common Support system the planetary resources; but descends to an imagined version of reality by prescribing that it is New Technologies, the enhanced role of the Private sector, and the pursuit of Growth that will achieve these goals. There has been no analysis of how technology, private sector, and economic growth have functioned in the past to bring about poverty reduction and inclusive societies. In fact, there is a deliberate shying away from an attempt to bring in issues of changes in production and consumption into the draft.
The present bulletin is a collaborative effort by experts working on energy, sustainable cities, sustainable agriculture and food security; who have been participating and analyzing the processes and the debates on the road to Rio.

Sharad Joshi
Secretary
CECOEDECON, Jaipur

LIST OF ABBREVIATIONS

AWG-LCA - Ad Hoc Working Group on Long -term Cooperative Action
BJVJ- Bharat Jan Vigyan Jatha
BRAI- Biotechnology Regulatory Authority of India
CAFÉ- Corporate Average Fuel Economy
CANDU- CANada Deuterium Uranium
CBDR- Common But Differentiated Responsibility
CCS- Carbon Capture and Storage
CDM- Clean Development Mechanism
CECOEDECON- Centre For Community Economics and Development Consultants Society
CMSA- Community Managed Sustainable Agriculture
DBT- Department of Biotechnology
ECOSOC- Economic and Social Council
FAO- Food and Agriculture Organization
GCF- Green Climate Fund
GDP- Gross Domestic Product
GE- Green Economy
GEAC- Genetic Engineering Appraisal Committee
GEF- Global Environment Fund
GESDPE - Green Economy in the context of Sustainable Development and Poverty Eradication
GHG- Greenhouse Gas
GMOs- Genetically Modified Organisms
IAASTD- International Assessment of Agricultural Knowledge, Science and Technology for Development
IFIs- International Finance Institutions
IFSD- Institutional Framework for Sustainable Development
IMF- International Monitory Fund
INGOs- International Non-Governmental Organizations
IPCC- Intergovernmental Panel on Climate Change
IT- Information Technology
ITES- Information Technology Enabled Services
LD- Least Developed
LDCs- Least Developed Countries
MGNREGS- Mahatma Gandhi National Rural Employment Guarantee Scheme
MRTP- Monopolies and Restrictive Trade Practice
Mtoe- Million tons oil equivalent
MW- Megawatt
NCOF- National Centre of Organic Farming
NPM- Non-Pesticidal Management of crops
NPOF- National Project of Organic Farming
NPOP- National Programme for Organic Production
OECD- Organization for Economic Co-operation and Development
PAIRVI- Public Advocacy Initiative for Rights and Values in India
R&D- Research and Development
RKVY- Rashtriya Krishi Vikas Yojna
SBSTA- Subsidiary Body for Scientific and technological Advice
SEFA- Sustainable Energy For All
SHGs- Self Help Groups
SRI- System of Rice Intensification
TNCs- Transnational Corporations
TPPs- Thermal Power Plants
UMPP- Ultra Mega Power Project
UNCED- United Nations Conference on Environment and Development
UNCSD- United Nations Conference on Sustainable Development
UNCTAD- United Nations Conference on Trade and Development
UNEP- United Nations Environment Programme
UNFCCC- United Nations Framework Convention on Climate Change
UNGA- United Nations General Assembly
WB- World Bank
WG- Working Groups
WTO- World Trade Organizations

CONTENT

"All of life is interrelated. We are all caught in an inescapable network of mutuality, tied to a single garment of destiny. Whatever affects one directly affects all indirectly ."

Martin Luther King Jr

Chapter 1
Sustaining an Uncertain Journey towards Sustainable and Equitable Development
(Soumya Dutta, Beyond Copenhagen / Bharat Jan Vigyan Jatha, India)

One of the biggest gatherings of world leaders on issues related to progress of the human race without endangering its future survival in reasonable comfort, in other words, on sustainable development is about to start in the Brazilian city of Rio-de-Janeiro. This UN Conference on Sustainable Development is supposed to be a follow up of the first Earth Summit held in 1992 in the same city, and is thus, also called the Rio+20 conference. A decade before now, the world also gathered at Johannesburg in 2002, to take stock of how far we have travelled on that road, but the assessment was rather disappointing. The Earth Summit was also soon after the global capitalist euphoria of the successful dismantling of the Soviet Union, or as claimed realization of 'the end of history'. The Johannesburg summit came at a time when even the 'practitioners of the alternative' succumbed to the 'shock and awe' of the western capitalist juggernaut. From now on, no more social-cultural experiments or alternatives need be attempted by humanity! From now on, the western model of privatized, corporatized 'liberal democracy' will deliver all the results, for everyone! Another decade was about to pass, but the 1992 Earth Summit's well worked out Agenda 21, even the half-hearted Millennium Development Goals all seemed to be getting lost in the din of unbridled market capitalism and the panacea offered by liberalization-privatization-globalization.

The world has changed somewhat again, and in not so hidden corners of the world distress and anger at the killing-exploitations and mind-boggling disparities have grown to become a perceived threat to the established world order. After the 2007-08 economic meltdowns, millions of people even in the developed world are now questioning many of these magic mantras. The unquestioning acceptance of the private corporations, and their intentions and abilities to deliver 'development', is no longer widespread. No one could possibly have foreseen the spread of the Occupy movement in the heartland of capitalism, though the real picture and driving force of the so-called 'Arab spring' is not yet clear. The shining attraction of the Euro-zone has faded considerably. In addition, the accelerated exploitation and marginalization of large sections of humanity the indigenous, the disadvantaged women and children, the poor of the world, has given birth to innumerable resistance movements across the world to some extent obliterating the North-South divide for the short-charged people. Unlike at any point of time in the past, the survival of deprived people has seen by the global society, as intricately connected to the survival of the earth's eco-systems. This has also brought into focus the age-old understanding in indigenous societies that of Rights and Needs of Mother Earth, into global recognition.

With this emerging new understanding, and the possibility of a new world order even if not in the immediate future world leaders, political, social and commercial are about to meet again in Rio, to talk, debate, fight (with voices , pens and guiles) and come to agreements about the future course of the human experiment on this earth. The road to Rio was neither smooth, nor does it give lots of hope. Very few signs are there of the acceptance of the blunders our dominant societies committed and the plunders all of them tried to their full capacities. Everyone agrees that the Earth is in danger of becoming so badly scarred, that the life support systems might start malfunctioning soon for which signs are already visible. Climate change, desertification, large-scale deforestation, ocean acidification all are in focus because of their massive threats, but none has been adequately addressed by the global community of actors. We know that we are pushing the planetary boundaries to the limit, but we have not stopped doing so. The other boundaries of acceptable stress increasing joblessness, wide-spread-poverty, malnutrition and hunger, collapse of social safety nets -- all are in the red zone for a majority of the world's people, even by conservative assessments. A significant part of the human race is standing at the very edge of an abyss, and looking in anger at those who are driving down towards them, blocking the only escape route. Moreover, the existing governance systems in major parts of the world refuse to accept that you cannot cure the ills by prescribing more of what caused the illness in the first place.

With this rather overcast sky as the backdrop, world's leaders are about to meet again in one of the biggest such gathering about the human survival and the earth's continuing suitability for that. The primary document that was supposed to guide this new journey, the zero Draft, subtitled “the Future We want”, has gone from somewhat objectionable but comprehensible, to complicated beyond reasonable limits, so as to become less and less useful to

guide discussions. It has become difficult to fathom whose future they are talking about, and who all fit into this picture? The two focus areas for the conference Green Economy, and Institutional Framework for Sustainable Development, have seen acrimonious debates and barely any agreement. The debates have of late degenerated to the levels of which institution is to be given more money, where will some headquarters be located and the like. The main players of the dirty and black Economy have remained in the driver's seat to chart out a green economy, and they have understandably opted to paint their dirt green.

What should one do if one's conscience is still alive under this painful scenario? Should one reject the entire exercise as useless, even illegitimate and retrograde? Does participation give undeserved legitimacy to the "conferences of polluters", as the Copenhagen climate change conference (as well as the next two in Cancun and Durban) was termed and turned out to be? Does it compromise the strength and purity of the voices of resistance? Or is there merit in trying to engage many actors, in the hope and design of blocking the more damaging pathways, in getting larger voices organized around alternatives emerging from the ground? How much does it help to build up human connections in the face of de-humanized economy-focused nations? How much of these churning we have been able to generate in our own countries, states and cities or villages that can be an important enough input to the world stage? Can some of the positive aspects be strengthened by lending the support of those who are at the centre of deliberations but not allowed in the glass palaces? As representatives of the voices and understandings of the exploited and the underprivileged, grounded-in-reality civil society faces this difficult choice. These are neither tick-the-right-box questions, nor there seem to be any definitive yes-no answers and the only course of action for us is to stay true to our convictions and on charted pathways irrespective of what the immediate results turn out to be. That's what we are and will be trying -- raising issues, expanding collectives, establishing bridges across physical oceans and economic gulfs and cultural foundations, to become a humanity united by much more than the genetic identity of Homo Sapiens, into a society which addresses these survival questions as earnestly and honestly as they can.

Chapter 2
Brief Introduction to The Major Issues in Rio+20
(Soumya Dutta, Beyond Copenhagen / Bharat Jan Vigyan Jatha, India)

There are 7 Critical Issues under serious consideration at the UN Conference on Sustainable Development, or Rio+20, and these are (paragraphs within quotes from the UNCSD document)

Jobs

"Economic recession has taken a toll on both the quantity and quality of jobs. For the 190 million unemployed, and for over 500 million job seekers over the next 10 years, labour markets are vital not only for the production and generation of wealth, but equally for its distribution. Economic action and social policies to create gainful employment are critical for social cohesion and stability. It's also crucial that work is geared to the needs of the natural environment. "Green jobs" are positions in agriculture, industry, services and administration that contribute to preserving or restoring the quality of the environment. "

This is not the result of an 'economic recession' alone, it started much earlier and the roots are much deeper. In spite of these expressed concerns, over the last 3 decades, the focus of most economies have shifted to increased reliance on 'automated' production, eliminating more jobs. With these 'modernized industries', the investment required for creating a single job has gone up very sharply, whereas the available investment has not kept pace, despite huge rise in both production and the profits from the same investments. This has lead to job-less growths in many economies. In many southern countries, one of the biggest sources of giving people an earning is livelihoods, not jobs. With massively increased and organized corporate plunder and destruction of all kinds of natural resources, the very sustenance of these livelihoods are under grave threats today. Land, forests, rivers, coasts all that gave billions of people their livelihood opportunities, are increasingly being parceled out and given to private corporations by most governments. Jobs have not increased to take in these doubly displaced people, creating explosive social situations. Moreover, in several southern countries, the largest provider of both livelihoods and jobs smallholder agriculture or peasant farming is being pushed out by policy initiatives. Unfortunately, these understanding have not been acknowledged in its fundamentals, and the governance push continues for more of the same change!

Energy

"Energy is central to nearly every major challenge and opportunity the world faces today. Be it for jobs, security, climate change, food production or increasing incomes, access to energy for all is essential. Sustainable energy is needed for strengthening economies, protecting ecosystems and achieving equity. United Nations Secretary-General Ban Ki-moon is leading a Sustainable Energy for All initiative to ensure universal access to modern energy services, improve efficiency and increase use of renewable sources. "

Sustainable energy is really one of the keys, but the thrust of the energy industry do not seem to be taking cognizance. With climate change and air and water pollution in many countries at an alarming level, even today the world gets over 80% of its primary energy supply from dirty fossil fuels. The dirtiest of them all coal, is still considered the mainstay of almost all the developing economies, and the continuing massive increase in coal & coal-based electricity capacity in many of these emerging countries is a mockery of sustainable energy talks. In the name of the poor and energy deprived, these dirty energy capacity has been increased hugely, while the reality is that a large percentage of the poor are still out of the reach of the grid, which has served a sharply increased power demand of the emerging elite and the middle classes in these societies. Except a few notable exceptions, most developing economies have given a go-by to the universal access idea, and focused mostly on increased energy availability. Moreover, the not-so-hidden environmental & social costs of these dirty energy use is being dumped mostly on the same energy deprived. Even the rich and developed countries, with again very few exceptions to a certain degree, have not moved rapidly enough away from the dirty energy and towards cleaner and more sustainable energy sources. And the crucial question whether the earth can sustain the scale of energy extraction and use that these rich economies have established, is not be found anywhere in the energy debates.

Cities

"Cities are hubs for ideas, commerce, culture, science, productivity, social development and much more. At their best, cities have enabled people to advance socially and economically. However, many challenges exist to maintaining cities in a way that continues to create jobs and prosperity while not straining land and resources. Common city challenges include congestion, lack of funds to provide basic services, a shortage of adequate housing and declining infrastructure. The challenges cities face can be overcome in ways that allow them to continue to thrive and grow, while improving resource use and reducing pollution and poverty. "

Cities are also the biggest sinks of most natural resources extracted, including energy, water, food and metals and minerals. In spite of the knowledge that the present urban models pushes up per person consumption drastically, very limited efforts have been made to change either the pattern of consumptive urbanization, or to slow down this trend. Globally, over half the population already lives in cities, with over half that number living in sub-standard conditions of urban slums. Though some efforts are on to reduce the urban footprints in some areas like some attempts at promoting mass transportation, very few countries have looked at the problem from a holistic viewpoint. The successful examples to make an urban area less of a sucker, as demonstrated by Cuba seems to find few other takers. Following the trend in the developed countries, attempts are being made in developing ones, to move massive numbers of people from their rural base to the urban slums, irrespective of their capacities to provide even basic services. The deeper question of whether this is ecologically and socially desirable or sustainable, is not been raised at all. Urbanization has been accepted as a given, mostly because it helps in forming a monolithic class of consumers of industrial products. The sustainability of this increased urban consumption is a big question mark.

Food

"It is time to rethink how we grow, share and consume our food. If done right, agriculture, forestry and fisheries can provide nutritious food for all and generate decent incomes, while supporting people-centered rural development and protecting the environment. However, right now our soils, freshwater, oceans, forests and biodiversity are being rapidly degraded. Climate change is putting even more pressure on the resources we depend on. .

A profound change of the global food and agriculture system is needed if we are to nourish today's 925 million hungry and the additional 2 billion people expected by 2050. The food and agriculture sector offers key solutions for development, and is central for hunger and poverty eradication."

There are vital inter-linkages between all these 'sectors' that the 'solution providers' often refuses to see and acknowledge. Increasing and fast-paced urbanization is causing an accelerated loss of fertile agricultural lands in most developing countries, as is the push for green-field industries on agricultural lands. The massive agro-fuel programs of many developed countries, along with some of the emerging ones, have diverted the vitally needed food-grains and other food into making fuels for luxury cars, dramatically increasing the food insecurity for the world's poor, and yet these are certified as part of the "green economy"! The huge consumption in developed countries and increasing shift in many emerging ones -- towards industrial meat production, has again diverted the poor's food grains for fattening these, at the cost of far lower availability of total food, and at affordable prices. Water is a vital input for food production, and yet, more and more of this limited resource are being diverted to consumer goods production in industrial factories, starving food production. Increased commercialization of the food-supply chain and the global movement of produced food with their attendant gradingpackaging--transportation, has dramatically increased the energy and water consumption. The other result is the skyrocketing costs, making food unaffordable to the poor, sometimes even to the producers themselves, with an increasingly affluent middle class consuming and wasting a larger share of the available food. There might be enough food available on a per capita basis, but that do not automatically translate to food for every hungry stomach, and sustainable food system must address both these challenges on an urgent basis.

There are renewed attacks on the world's small farmers, one of the consistent food growers given the neglect and difficulties they have faced over the last 5-6 decades. The primary contributors of the global green house emission, industry, transport and commercial forestry have not taken significant steps to reduce their emissions, while the pressure is now building on the small food growers in the southern countries to do mitigation through soil carbon mitigation. Many governments are rightly skeptical, but that has not prevented global organizations like the FAO and the UNFCCC to push for this dangerous approach, which will further threaten the survival of peasant farming.

Water

"Clean, accessible water for all is an essential part of the world we want to live in. There is sufficient fresh water on the planet to achieve this dream. However, due to bad economics or poor infrastructure, every year millions of people, most of them children, die from diseases associated with inadequate water supply, sanitation and hygiene. Water scarcity, poor water quality and inadequate sanitation negatively impact food security, livelihood choices and educational opportunities for poor families across the world. Drought afflicts some of the world's poorest countries, worsening hunger and malnutrition. By 2050, at least one in four people are likely to live in a country affected by chronic or recurring shortages of fresh water."

Both water availability and consumption varies tremendously between countries, and even within countries - between classes and regions. The supposed consensus on priorities, that drinking water and other basic human needs gets first priority, followed by food production, and is increasingly threatened in many countries by the large-scale water privatization for industrial use. The recognition of the role of ecological flows of rivers and other ecological water needs is only technical, not followed in policies and actions. Urbanization and industrialization are both demanding and getting larger shares of scarce water resources, along with huge waste generation, that also pollute the rivers and ground water sources. Spreading dumps of industrial pollutants coal-ash ponds of power plants being one big contributor has contaminated vital aquifers in large areas. Many of the big urban centers in the emerging countries have dumped billions of liters of untreated sewage into the very rivers they depend on for life support converting them into foul drains. Increasing numbers of dams on rivers are killing aquatic eco-systems, as well as preventing aquifers along the course of these rivers from getting recharged, whereas the withdrawal from them increases. These have also stopped billions of tons of fertile silt that were earlier carried to fertilize millions of hectares, threatening the food security and increasing the demand for GHG emitting synthetic fertilizers. In spite of the UN general Assembly passing a resolution in July 2010, on water and sanitation being basic rights of each human being, the global, national and regional governance systems seem to be un-willing to change course. The only silver lining appears to be the increasing assertiveness of exploited communities, in reclaiming their own resources and sustainable environments.

Oceans

"The world's oceans - their temperature, chemistry, currents and life - drive global systems that make the Earth habitable for humankind. Our rainwater, drinking water, weather, climate, coastlines, much of our food, and even the oxygen in the air we breathe, are all ultimately provided and regulated by the sea. Throughout history, oceans and seas have been vital conduits for trade and transportation. Careful management of this essential global resource is a key feature of a sustainable future. "

And yet, the great rush for exploitation, further and deeper into the oceans continues. Taking advantage of the Arctic ice loss due to global warming, the Arctic Ocean is being explored for possibly huge oil resources, irrespective of the fact that this will hasten the reduction of Arctic ice cover, decreasing the earth's albedo and accelerating climate change. The oceans are the biggest sink for not only the CO2 emitted by fossil fuel burning, but also of the heat that is forced into the earth, with over 90% of this heat ending up in them. Both this are causing a drop in the ocean's ability to absorb and retain CO2, leading to a dangerous positive feedback for a climate catastrophe. Moreover, the millions of marine life species are finding this warmer, more acidic environment harder to adjust, resulting in great stress on marine eco-systems. Notwithstanding these, there are risky geo-engineering plans to inject possibly billions of tons of CO2 from the yet-untested-in-large-scale CCS (carbon capture and storage) under these threatened oceans! The fish and other marine resources have been depleted by both over exploitation and thermal and chemical pollutions and yet, there is an increased trend of locating huge coal and nuclear energy based power plants on the coasts, increasing both thermal and chemical pollutant loads on the coasts, and devastating coastal ecosystems and the multiple millions of livelihoods that depend on coastal resources. The oceans are also being looked as the possible sources of extension of our mining madness for manganese nodules, for methane hydrates etc. All these greed driven actions are trying to ignore or hide the science of the oceans, indicating they are close to the ecological tolerance boundary for life-support systems.

Disasters

"Disasters caused by earthquakes, floods, droughts, hurricanes, tsunamis and more can have devastating impacts on people, environments and economies. However, resilience -- the ability of people and places to withstand these impacts and recover quickly -- remains possible. Smart choices help us recover from disasters, while poor choices make us more vulnerable. These choices relate to how we grow our food, where and how we build our homes, how our financial system works, what we teach in schools and more. With a quickening pace of natural disasters taking a greater toll on lives and property, and a higher degree of concentration of human settlements, a smart future means planning ahead and staying alert."

Both the global rate of disasters and the number of people affected by these have increased sharply over the last few decades, and most of the contributing factors are anthropogenic, or rather, from certain kind of economic choices. Earthquakes and tsunamis are natural, but human interference in the earth's climate and other eco-systems either have increased the floods, droughts, big storms, or increased their strength and damages. There are studies to show that the most vulnerable countries are also those that have contributed little or nothing to this increase, where those causing this trend though affected are far less vulnerable. This called for a just and CBDR based response but increasingly, the richer countries have withdrawn from even the minimal earlier commitments. Adaptation is a key need for the increasingly vulnerable poorer societies, but there is hardly any support available, with talks and vague assurances replacing actions and concrete commitments. On the other hand, the corporatization of adaptation through big-budget technological solutions is finding increasing favour of even the poorer country governments.

Chapter 3

Rio+20; Principles in decline, rights deleted and future unsustainable

(Ajay K Jha, PAIRVI)

Hundreds of heads of the government, UN, INGOs, and civil society will gather at the UNCSD Meeting in Rio, to commemorate the 20th anniversary of UNCED Meeting at Rio (1992) and 40th anniversary of Stockholm meeting (first political conference to have environment on the agenda) will be held at June at Rio in Brazil. Since Rio the world has seen enormous changes. While poverty was concentrated in third world in the 1990s, it is pervasive and is found everywhere now. Series of crises economic, food, fuel and environmental, have shaken the leaders of the world to the fundamental gaps in the global governance, which perpetuates poverty, disease, displacement, and degradation. Free trade and market driven strategies have created unprecedented inequalities, and unsustainability of eco-systems. Financial and governance architecture of the world have increased poverty and hunger, forced displacement of indigenous and local communities, and accentuated violations of human rights and fundamental freedoms. While most of the countries and poor people world over do acknowledge the opportunity that Rio+20 provides; their opinion on whether it will renew political commitment towards sustainable development varies substantially.

Themes and focus of Rio+20

The theme of the Meeting in Rio is the "Green Economy in the context of Sustainable Development and Poverty Eradication" (GESDPE) and "Institutional Framework for Sustainable Development" (IFSD). While the green economy aims at "greening the economy," and "greening the jobs" through a number of measures including coming up with road map and Sustainable Development Goals (SDGs); IFSD aims at improving global environmental governance by choosing from a slew of proposals including strengthening ECOSOC, or converting Commission on Sustainable Development (UNCSD) to Sustainable Development Council (on the lines of Human Rights Council), or making UNEP more effective through universal membership.15 key/thematic issues have been also listed for attention of the Conference including food security, water, energy, cities, green jobs and social inclusion, oceans and seas, natural disasters, climate change, forests and bio-diversity, land desertification and degradation, mountains, chemicals and waste, sustainable consumption and production, education and gender equality. Out of these key thematic areas seven, which are supposed to be considered for major transformation from brown to green economies, are food security and sustainable agriculture, water and sanitation, cities, green jobs, energy, oceans and disasters.

The Zero Draft

The outcome document to be adopted by the Rio+20 or the UNCSD Conference is called the Zero Draft and is titled as "the future we want." The zero draft was compiled from inputs from the member states, INGOs, and observer organizations (NGOs and Business) in November 2011. Put together by the Bureau of the UNCSD it was made public on 10th January 2012. The final draft will be adopted in the June Meeting at The UNCSD Meeting or Rio+20 is aimed at renewing political commitments to sustainable development, looking at gaps and failure of implementation of the previous commitments made, and new and emerging challenges to sustainable development.

The zero draft is divided in 5 sections including preamble (vision) and stage setting, renewing political commitment (affirmation to Rio Principles, assessing progress and gaps, engaging major groups, framework for action), Green economy in the context of sustainable development and poverty eradication (framing the context for GE and challenges, toolkits and experience sharing, framework for action), institutional framework for sustainable development (strengthening the three pillars, options for improving IFSD), and framework for action and follow up (including key thematic areas, accelerating and measuring progress, and means for implementation).

What's there in the zero draft for the developing and poor countries?

Globally zero draft has been criticized for being a compromised document, with low ambitions, and no concrete framework for action. It is being felt increasingly that themes chosen do not reflect the root cause of crisis and

therefore, is incompetent to deal with them. Series of crises are pointer to the fact that International financial architecture, trade and aid, create hegemony of resources with few developed and industrialized countries and institutions (including BWIs and the WTO), which collude with corporate to loot the natural resources of the global south. International financial architecture and systems have also created a hiatus between capital and labour; while the richest 1% of the population has come to posses about 40% of the assets of the world (together with the next 2% it possesses more than 51%), the poorest half of the population posses less than 1% of the world's wealth. Such concentration of wealth deploys means and methods of production, which are based on over exploitation of natural and human resources and are essentially driven by motives of creating further wealth in complete disregard to principles of sustainability. Zero draft acknowledges the crisis, failure of GDP as an indicator to assess growth, as it does not include environmental externalities and is incapable of assessing progress on sustainable development, and most importantly need for reform in the (financial) structure and institutions; however, it prescribes the same medicine to remove the malady, which created it.

Preamble and the stage setting does not have the unequivocal centrality of environmental concerns, and does not have the urgency which the science demands given the fact that we have exceeded by more than 40% the bio-capacity of the earth. The section on renewing political commitments, only mentions equity and CBDR, and Agenda 21, rather than acknowledging all the principles of Rio, including do no harm, polluter pays, intergenerational equity, principles of justice. It should also have reference to strong and enhanced political commitments. Assessing progress to date and identifying gaps does well to acknowledge the crisis but it does not address the key reasons for unsustainable development. It also says that countries have deeper commitments to sustainable development; however, the empirical data prove the contrary. It also fails to talk about unsustainable consumption patterns, commitments, and the need to review it.

The Green Economy in the context of Sustainable Development and Poverty Eradication too has been defined vaguely. It is viewed as a means to achieve sustainable development, and as a decision-making framework as opposed to a rigid set of principles. The text suggests that GESDPE should not create trade barriers, impose new conditionalities on aid and finance, widen technology gaps, and restrict the policy space. However, it is necessary that it guarantees that trade framework should be reviewed to facilitate adequate protection to local economy, and environment and natural resources, additional aid and finance to developing countries to develop sustainable pathways, making adequate and relevant technology available, and sovereignty in policy space and choice in developing green growth pathway. The framework for action suggests over emphasis on creating a road map for green economy, which developing countries decry. They feel that all countries should be able to develop and define their green economy in their particular economic, social and environmental contexts and green economy should respect political sovereignty and sovereignty over their natural resources. Developing countries also demand fulfillment of previous commitments for financial and technological assistance. Due to over reliance on private business and corporations, many also allege that green economy aims at greening business and profits. Developing countries allege poverty eradication should have priority over greening the economy and greening of jobs.

Institutional Framework for Sustainable Development talks about strengthening the global environmental governance by integrating three pillars of sustainable development viz. environmental, social and economic development. It also calls for providing strong governance at local, national, regional and global levels, for cohesive government driven policy guidelines on SD, monitor progress of agenda 21, and bring about coherence in the agencies, funds and programmes of the UN and of the IFIs. In the context of strengthening institutional framework, it commits GA as the highest policymaking body and lists three proposals, strengthening ECOSOC, creating a sustainable development council and expanding the mandate of the UNEP. The zero draft also acknowledges rightly the need for due attention by IFIs, WB, IMF, UNCTAD and the WTO. However, it does not call for reform in these institutions, which has been demanded by developing and poor countries.

The section on Framework for action and follow up, besides listing key thematic priorities, acknowledges the failure of GDP as an indicator for measuring the sustainable development, and proposes coming up with Sustainable Development Goals (SDGs) by 2015, along with follow up mechanisms and reporting on progress made. Means of

implementation recognizes the need for renewing political commitments for finance, and calls developed countries to achieve the target of 0.7% of their GNP for developing countries, and 0.15 to 0.20% for LDCs. However, it is alleged that it does not commit for additional funding which is urgently required. It also calls for capacity building support and removal of impediments to allow transfer of technology to developing countries; however, it does not assure removal of IPRs, which has been a contentious issue on many fora including the WTO and the UNFCCC negotiations, despite being provided for in the Kyoto Protocol. The need for early conclusion of Doha round of talks under the WTO, and devising a rules based non discriminatory framework in the favor of least developed countries are also recognized, with calls for phasing out trade distorting subsidies on fossil fuels, agriculture and fisheries. Developing a compendium of commitments, which should allow not only the parties but also the private actors to contribute, is also proposed. The commentators say that voluntary commitments are not enough in face of a weak framework and regime for further action and follow up, and in the face of growing challenges posed by environmental and climate crisis.

Zero draft has being attacked not only by the developing and poor countries, but also by civil society/major groups as being weak, vague and creating space for greening of business, and lacking commitments for real and sustainable solutions.

Consultations and negotiations on the zero draft; a zero sum game

Till 2 June 2012, the zero draft has undergone rounds of consultations in three informal informals under the aegis UNEP/UNCSD. It will be further discussed when the negotiations begin on 13th June immediately before the High Level Forum (20-22 June, 2012). First intersessional (December 2011) discussed the zero draft in work and the second intersessional (Jan, 2012) discussed first two sections of the draft namely preamble and stage setting, and renewing political commitments. The third intersessional and first informal informals, focused on other three sections on Green Economy, IFSD and Framework for action and follow up. By the draw of first informal informals (18th to 25th March) first reading of the entire draft has been completed. The draft, which originally contained 128 paragraphs and 19 pages, it ballooned up to 206 pages with suggestions of the parties. In the second informal informals Co chairs introduced a draft with the objective of streamlining the negotiations and accomplish the task in time, and negotiations took place in two working groups (WG) with the WG1 taking care of Section V (framework for action) and Section VI (Means of implementation); while the WG 2 focussed on section I (common vision), section II (renewing political commitments), section III (Green Economy) and section IV (IFSD). Second informal informals was supposed to be last negotiation before the final Summit in June, however, in view of large amount of work remaining to be done, third informal

Informals were conducted (9th May to 2nd June). The discussion took place on 80-page summary by the chair. At the close of third informal informals, more than 230 paragraphs remained to be discussed and negotiated.

The negotiations on the zero draft have brought out sharp differences between the developed and developing countries over the concept of sustainable development and critical issues accompanying it. Green economy and road map for green economy, IFSD, means of implementation, sustainable development goals and compendium of commitments have been proved extremely contentious. It has become increasingly clearer that developed countries are more in favour of laying down a road map on green economy, SDGs, and emphasizing importance of private participation in sustainable development. Developing and poor countries (represented by G 77/China) are emphasizing poverty eradication (in preference to green economy and green jobs, road map on green economy) and want to ensure that green economy is not used against them. Besides, developed countries have an emphasis on environmental aspects, while developing countries ask for integration of three pillars social, economic and environmental. The difference between developed, developing, and poor countries and their positions in different sections areas figure as below:

Section I: **Our common vision**

While the developing countries highlight poverty eradication as the central element of sustainable development and reaffirming that poverty eradication remain the greatest challenge, Korea, Japan, US, and the EU object to its multiple references. Major outstanding differences include poverty eradication, extreme poverty, whether to

reference CBDR etc. Differences also remain on reaffirming human rights, while the developing countries insist on right to food (G77 proposed deleting adequate qualifying right to food, the US wants to replace by "right to adequate living standards including food." On reaffirming the importance of UDHR, while a number of countries including the EU, Norway support reference to respect, protection and promotion of human rights, the US wants to whittle it down to "promote universal respect for and observance and protection of human rights."

Section II: Renewing Political Commitments

The Rio UNCED laid down a number of important principles including equity, CBDR, do no harm, polluter pays, intergenerational equity and principles of justice. Principles, equity, and CBDR were referred to as foundation for the sustainable development and cooperation between developed and developing countries. Later CBDR also found its way in UNFCCC, Kyoto Protocol and Berlin mandate, which were to become an important starting point for climate change conferences. Zero draft only mentions equity and CBDR. Many developed countries opposed to the Rio principle of CBDR being mentioned in many places in the draft. They say that all Rio principles can be reaffirmed in the second chapter of the draft in reaffirming Rio principles and there is no justification for CBDR being singled out for reference in various parts of the document. G 77 emphasized that there is a definite justification for reference to CBDR in specific parts of the zero draft. However, the Co Chair Kim Sook introduced an agreement to "use CBDR where it is most needed and not be overused." Disagreement also exist on whether to use "implement," 'achieve" or "advance" sustainable development in the language on reinvigorating political will

Section III: Green Economy in the context of Sustainable Development and Poverty Eradication

The developing countries want emphasis on poverty eradication and integration of the social pillar, and reform of the economic governance in preference to coming up with a road map on green economy. They also want reaffirmation to the failure of current economic system, which the US, Canada, Japan and New Zealand opposed. The G77 proposals calling for reforms in global economic governance, including in the financial system and architecture and the need to continue to work towards a new international economic order, was also met stiff resistance by the US, Canada, Japan, the European Union and New Zealand who wanted it to be deleted. The common refrain of the developed countries is that UNCSD is not the right forum to talk about economic governance, and the focus has to be on the sustainable development.

The G77 proposal that "Green economy policies in the context of sustainable development and poverty eradication should be developed with respect to the right to development of each country…… while allowing for the eradication of poverty and hunger, the achievement of social equity while reducing inequalities, and reducing environmental degradation with a view to reestablish harmony with the nature……" and "efforts should be supported by an effective international cooperation through technology transfer, capacity building and financial resources on favorable terms, in accordance with the commitments made at the major United Nations Conferences and World Summit on Sustainable Development," was also fiercely opposed by the developed countries including the US and Japan who wanted the "right to development" bracketed while the EU, New Zealand, Switzerland, US and Canada called for deletion of the reference to international cooperation on technology transfer, capacity building and financial resources.

The EU is keen to have "a global green economy roadmap, with deadlines for specific goals, objectives and concrete actions at the international level in a specific number of crosscutting and thematic areas." This proposal was not agreed to by Canada, the US, and New Zealand.

In the last informal informals discussions took place on the title, reference to CBDR, objective of the Green Economy, sustainable consumption and production (SCP), green economy approaches by industries and business, and technology transfer. G77 and china preferred reference to equity and CBDR in the language reaffirming that implementation of green economy should be guided by Rio principles, Switzerland, Korea, New Zealand and Australia preferred a moderated Chair's text. On objectives, G77 suggested reference to "national sovereignty over

natural resources," and added sub paragraph on avoiding increased financial burden on developing countries and financialization of natural resources."

Section IV: Institutional Framework for Sustainable Development (IFSD)

Three proposals to strengthen ECOSOC, establish a Sustainable Development Council (SDC) and enhancing UNEP's mandate, each has its own advantage and disadvantages. While developing countries are focused more on having an institution, which is more capable, effective, and transparent even at the cost of having a new institution, developed countries are more in favour of augmenting existing institution rather than having a new one. It might also be because of the fact that developed countries have to shoulder the financial burden fora new institution!

For the developing countries the strengthening and reform of the institutional framework is viewed as "not an end in itself but a means to achieve sustainable development, and should lead to the balanced integration of the three dimensions and mainstreaming of sustainable development, without putting any additional burden on developing countries or posing an obstacle to their development prospects and respecting their national priorities and policy space." It also believed that the IFSD should have two overall functions: implementation of sustainable development and integration of the three pillars of sustainable development (social, environmental, economic). The proposal for the SDC put forward by Switzerland, supported by Liechtenstein and the Republic of Korea did not find favour with EU, Japan, Mexico and Russia.

The EU supports the proposal to "…establish a UN specialized agency for the environment based on UNEP with a revised and strengthened mandate, supported by stable, adequate and predictable financial contributions and operating on an equal footing with other UN specialized agencies. This agency, based in Nairobi, would cooperate closely with the UN system and other specialized agencies. This proposal is opposed by US, Canada, Japan, and the Russian Federation.

G77 has been brining up the issue of the reform of the "international financial system, including through an ambitious and expeditious reform of the Bretton Woods institutions, particularly their governance structures, based on the full and fair representation of developing countries, in order to address the democratic deficit in those institutions and improve their legitimacy; and …support developing countries in the implementation of activities for sustainable development including through the provision of resources, without conditionalities," which is opposed by EU, the US, Japan, Canada, New Zealand and the Republic of Korea.

G77 proposal to set up an international transfer of technology mechanism under UNGA was also opposed by the EU, Japan, Canada, New Zealand and the US. Many country groups including the G77, the EU and the US have reserved their opinion on the IFSD.

Sustainable Development Goals (SDGs)

The proposal for devising sustainable development goals (on the lines of MDGs) was put forward by Columbia and Guatemala. The idea is to merge the MDGs with SDGs after its expiration in 2015. The SDGs will be voluntary and implemented by all states unlike MDGs, which were implemented mainly in developing and poor countries alone). The discussion on and the process of devising and on SDGs have proceeded faster than the Rio+20 process itself, and it creates apprehension among many about the fact that the entire process has been reduced only to coming up with the SDGs, which substantially undermines the other critical issues related to the Rio+20 and other development objectives associated with the process. Most of the countries favor having SDGs but sharp differences exist on the approach, contents, and implementation of the goals. There is not much clarity on when and how these goals will be determined, and it might not be possible to come up with the goals before the UNCSD Meeting at Rio itself. However, it is presumed that an agreement will be achieved at Rio+20 to go ahead with SDGs and it will launch a process under a working group to finalize the goals.

G 77 came up with a number of principles which should be guide SDGs including, achieve poverty eradication, integrate in a balanced manner the three dimensions of sustainable development, respect the sovereignty of States over their natural resources in accordance with the UN Charter and principles of international law, without causing damage to the environment of other States or of areas beyond the limits of national jurisdiction, be consistent with

the Rio principles particularly the principle of CBDR, ensure the implementation of Agenda 21 and JPOI, and the outcomes of all UN major summits in economic, social and environmental field, shall include means of implementation for developing countries, including under each goal, not place additional restrictions or burdens on developing countries or dilute responsibilities of developed countries, and contribute to fulfill the right to development and achieving equity at all levels. Many countries including Switzerland wanted the reference to poverty eradication deleted.

Means of implementation

Means of implementation is likely to highly contested area. While Rio committed to make available finance and technology available to developing countries and developed countries committed to provide 0.7% of their GDP (decided by Monterrey consensus) to the developing countries, that promise remains unfulfilled. As a matter of fact, migration of resources from south to the north is many times more than the ODA from north to south. Means of implementation requires desirable changes finance, technology and trade.

Finance: The G77 called for "the fulfillment of all ODA commitments, including the commitments by many developed countries to achieve the target of 0.7 per cent of GNP for ODA to developing countries by 2015 …To reach their agreed timetables, donor countries should take all necessary and appropriate measures to raise the rate of aid disbursements to meet their existing commitments…" The EU, US, Switzerland, Japan and Canada called for a deletion of this proposal.

The G77 also called for the urgent and timely fulfillment of financial commitments made by developed countries in the context of the United Nations Framework Convention on Climate Change. It called for the reaffirmation that financing for climate change should be new, additional and independent of ODA. Such financing should not substitute ODA. Funding provided by developed countries for their own mitigation actions should also not be considered as financing for poverty eradication. .
The EU, US, Switzerland, Japan, Canada and New Zealand wanted this deleted.

Technology: Technology along with finance is a major bone of contention and major fault line in North South divide. The proposal of the G77 made to enhance access of developing countries to technologies, know-how and expertise to achieve sustainable development, was opposed by the US, the EU, and Japan.

Patents and IPR regime has been a big obstacle to developing countries access and be able to use technology, it has been raised a number of times in the UNFCCC Conference, without any desired response by the Annex 1 countries. The proposal of the G 77 that "consideration must also be given to the role of patent protection and intellectual property rights along with an examination of their impact on the access to and transfer of environmentally sound technology, in particular to developing countries as well as to further exploring efficiently the concept of assured access for developing countries to environmentally sound technology in its relation to proprietary rights with a view to developing effective responses to the needs of developing countries in this area," was opposed by Canada, while the US, Japan, Switzerland, New Zealand and the EU reserved their position on this.

Trade: While the Doha Round of the WTO has been still inconclusive, many of the environmental agreements and trade agreements are seeking to incorporate WTO+ provisions. The developing countries fear that their products and services will be hit in the western markets on the ground of not being in compliance with the utmost environmental safeguards and guidelines, which they due to constraints of finances and technology are unable to implement immediately. The developing countries have been insisting against bringing up any WTO + provision in the zero draft.

The G77 made a proposal stressing "…the need to refrain from adopting any measures or restrictions related to trade and transit that affects the access of developing countries to medicines, specially generic medicines and medical equipment." The proposal was opposed by Norway, US, the Republic of Korea, Japan, EU and Canada, who wanted this proposal to be deleted.

Apprehensions of the developing countries, regarding WTO + provisions was made a reality with the proposal of the

Switzerland, which proposed "We acknowledge that trade rules and environmental protection are interdependent and mutual supportive components of a green economy. Both MEAs and WTO Agreements constitute legitimate bodies of international law of equal standing. Due respect must be accorded to each and their respective expertise in environment and trade matters shall be valued and utilized. We recognize the importance of ecological transparency in markets to promote resource efficiency and sustainable consumption and production. We urge the WTO to allow a different treatment of like products and like services based on process and production method criteria that are themselves based on internationally recognized standards." However, the proposal was opposed by G 77 and also by Australia, New Zealand, Norway, the US and the EU.

Few other important concerns

Food Security and Nutrition: Though the zero draft contains reference to food security and nutrition both in the preamble as well as in the key thematic areas, and it is listed as first key thematic areas. However, priority has slipped substantially between the period of compilation of the zero draft and the third intersessional. Developed countries now find it too difficult to guarantee and hence to remove it.

The reference to the "Right to food and proper nutrition" are sought to be deleted and the "Right of everyone to have access to safe, sufficient and nutritious food…" are suggested to be bracketed. Many of the developed countries are also opposed to references like "specific attention must be paid to challenges faced by poor smallholders, women and youth including their participation in decision-making…" or "Promoting access to land particularly for women, indigenous peoples and other vulnerable groups," or "Regulating financial and commodity markets to address price volatility." However, developed countries remain largely in favor of proposals on "increasing agricultural productivity" or "Improving access of small farmers to global markets" or "promoting open and transparent markets; … promoting secure rights to land and natural resources, …" the differences remain also on the issues of right to food, nutrition security, trade in agricultural products, eliminating barriers and policies that distort trade.

This is despite the fact that Mr. Olivier De Schutter, UN Special Rapporteur on the right to food, has appealed to reaffirm the right to food and clarify its implication in the zero draft. The recognition (to right to food in the zero draft) "should be completed with better reflection of the definition of the right to food, which emphasizes the importance of access (physical and economic) to food. Furthermore, in addition to a restatement of the definition of the right to food, its implications need to be clearly expressed in the Rio+20 Outcome Document", he emphasized.

Water and Sanitation: A proposal moved by Denmark, the EU chair, and supported strongly by Canada, New Zealand and UK sought to change the language in the Para 67 of the Zero Draft, which seeks to ensure right to water and sanitation, to "non-discriminatory access to water and/or universal access to basic sanitation." The countries moving the amendment say that sanitation has not been defined and it might be impossible to ensure universal access to the right to water and sanitation. The move was opposed by the G77, which in its proposal took the precise language from the original General Assembly Resolution recognizing the human right to water. The water is enshrined in many international human rights treat including the Universal Declaration on Human Rights (1942) and European Convention on Human Rights (1950), besides United Nations General Assembly Resolution (2010).

In the third informal informals delegates also debated several targets proposed by the EU like achieving by 202 an increase in access of small holder farmers, especially women in rural areas, to agricultural land, markets and finance, training, capacity building, knowledge, reducing food wastage throughout the world by 2030, achieving by 2020 an increase of global agriculture productivity, however, consensus did not come through.

Climate Change: The UNCSD Summit will not discuss climate change, as it is felt that that UNFCCC is a more appropriate track, which has more competence to deal with climate change. While many developed countries do not want to discuss climate change, as they are short to fulfillment of their commitments, developing countries too, are in favor of not opening many fronts at the same time. It is also believed that major developing countries like India, China, Brazil, South Africa who are under intense pressure from the developed world and also under Durban

Platform on enhanced ambitions, to make commitments for emission reduction would not themselves like to be targeted again.

Energy: Simultaneous with the Rio+20 process, the United Nations Secretary General has launched special initiative titled "Sustainable Energy for All." The process relies heavily on business and private sector for making modern energy accessible to all. However, it also fails to understand the political economy of energy, the cliché of modern energy, tradeoff between energy production, energy efficiency and equitable access to energy.

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Conclusion

The zero draft though substantially expanded in the number of pages has been actually pruned as far as the rights are concerned. Developed countries have made every effort possible to remove the language of the rights and remove prescriptive language. Not only that, all references to poverty eradication (remains only in the form of extreme poverty) and references to right to development, which were supposed to be the proceeding point for Rio+20 are being thrown out. Thrown out along with them are the principles which deified Rio, equity, justice, CBDR, no harm, polluter pays, all suffers the onslaught of the neo capitalists. Is this really the future we want!

Chapter 4
Towards People and Environment Friendly Energy Policy for India
(Soumya Dutta -- Bharat Jan Vigyan Jatha (BJVJ)/ Beyond Copenhagen)

Energy is not only essential for any life including human but is equally important for our civilization to function. In addition, for any evolving society that values all its citizens ensuring clean and safe energy access for necessary living conditions for all people irrespective of their economic status becomes a critical parameter of governance. India is said to be an emerging economy with its fast growing economy demanding and consuming an ever-increasing amount of energy. It is also a country where even today nearly two-thirds of its people have to use dirty solid fuels for their daily cooking needs. In spite of a rapid increase of the most modern and convenient of energy forms electricity, from an installed capacity of just over 65,000 MW in 1991-92 to about 200,000 MW in 2011, an estimated 36-38% of Indian families, obviously the poorest, still do not have any electric connection. Another 30% plus though connected get so little power (less than 100 KWHr per person per year)that it do not let them use this modern energy service for any productive purpose, which could have allowed them to try and overcome their economic deprivation.

India has an Integrated Energy Policy, or the basics of that, worked out in its Planning Commission.

There are many questions about the data-base and the understanding on which this was formulated and gap areas too. We will not comment in detail on that, but a few things must be pointed out

a) The projection for future energy demand blindly follows old ideas about the relationship between GDP growth and energy input to the macro-economy, which India's own experience do not fully support.
b) The single-minded pursuit of GDP and supporting energy growth do not take into account the social, environmental and even local-economic impacts of these growth.
c) The acceptance that the dirty energy sources of the future mostly coal will continue to be the primary energy source in the next two decades or more, is a highly questionable assumption, particularly in light of the recent year's experience of near-doubling of international coal price, sharp increase of the cost of production of domestic coal, and hitting various bottlenecks in increasing coal production.
d) There is hardly any emphasis on where the application of energy is socially most desirable where it causes more problems and in defining energy objectives for a nation of energy deprived at a time when some of the existing energy exploitation routes have been clearly identified with great dangers not the least of which is the treat of climate change.

Let's then attempt to work towards some desirable understanding and action points for a people and environment friendly energy policy for India which will also lead us to a sustainable and equitable society from the benefit of utilizing this energy :-

1) Any good energy policy must look at where and to what extent and for what social objectives/goals - available energy resources will be invested apart from the more customary concerns of which source and how much and through what technology energy will be produced and who should do this to what extent (including the public private debate). Unfortunately in the Indian energy debate and policy, this vital first part gets very little attention.

2) Energy is much more than just electricity (power).In India, electricity/power provides only around 14-15% of our total energy consumption, the major part of this electricity comes from coal (>60%), big-hydro (~23%), natural gas, renewable (largely wind as of 2011) and nuclear fission (~2.4%). While electricity do provide higher quality energy services in many uses, a good Integrated Energy Policy for India should look into the comprehensive energy needs of our society, including the large percentage of poor outside the commercial energy market, and strategies to serve this need that helps the energy deprived to improve their lots by using the energy for productive purposes also.

3) The poorer and less urbanized a community /society is, less is the share of electricity (and other

'modern' energy sources) in its energy consumption basket. Thus, overemphasis on electricity in energy policy and plans will deprive these poorer and marginalized sections from resources and attention. With an urbanization level of ~31% of the population, India's electricity to total commercial energy ratio is still lower than many other similar societies, largely because of the reliance of a significant section of the urban poor particularly in the smaller towns -- on non-electrical even traditional energy sources. With increasing urbanization and rise of an increasingly affluent and consumptive middle class the share of electricity in India's commercial energy basket is growing along with the growing demand of all kinds of commercial and 'modern' fuels.

4) Poorer communities in India also depend to a large extent on all kinds of biomass, which constitutes over 20% of India's total primary energy basket. The forest and forest-fringe communities also depend on forest biomass to a large extent. Any energy policy in India must ensure the poor's continuing, free and easy access to this traditional biomass while providing better and cleaner methods for accessing and utilizing this energy source. This has an enormous potential of not only improving the quality of life of the poorest but also to increase the total energy delivered by these partly non-commercial energy sources by vastly increased efficiencies of use.

5) In the rural sector animal-derived energy still can play an important role along with biomass and solar and wind energies. Proper attention must be paid to developing/adopting/improving suitable techniques and applications for more efficient and locally appropriate uses of this animal energy. This is particularly significant as the number of large farm animals capable of non-exploitative energy delivery is in excess of 60 crores (600 million), and with the farm mechanization (not always desirable) spreading, a large part of these animals have lost their traditional roles of plowing / carting etc. The bio-mass based gaseous fuel potential from these animals is also very significant, particularly as a very large fraction of Indian families by some estimate nearly 65%, and obviously the poorer ones still use some kind of highly polluting solid fuels for domestic energy needs primarily for cooking and space heating.

6) Different forms of energy generation /conversion has different job creation potential. In the Indian context, creating low-environmental-impact new jobs and livelihood options is even more important than growing the macro-scale GDP-economy and feeding it the energy it needs. Most often, distributed renewable energy conversion methods has far larger job and livelihood creation potential and these must be incentivized strongly. Unfortunately, the primary focus of the Indian governments (both states and the Union) and industry is on very large scale, centralized, dirty fossil energy based power plants, typified by the large number of massive ultra mega and super-mega coal power plants which creates very few jobs per MW installed while at the same time damaging livelihood supporting local natural resources and ecology to a large extent thus taking away existing livelihood options. For example, the 4,000 MW Tata-Mundra UMPP in Kutch is supposed to create 700 jobs, but it is also destroying independent livelihoods / traditional jobs of fisher-people, salt panners and pastoralists, to the tune of over 20,000. Wind farms of similar capacity in windy Kutch could have provided three to four times as many clean jobs, and provided additional incomes to villagers from the use-fees of their land, thus contributing to the local economy in a far better manner.

7) Any energy generation /conversion / transmission / use has un-avoidable adverse impacts on both environment and natural resource dependent communities so the minimum damage options are to be chosen, based on other practical considerations. There is no such energy choice as zero-impact but there are options where the impacts are within boundaries of sustainable / renewal capacities of the earth. With our eco-systems already under tremendous strain, and natural resources exploited to the point of extinction, this assumes added significance. Choice of the forms of energy to be extracted /exploited and the extent this

can be done needs critical analysis.

8) The larger the energy extraction /conversion, larger is the environmental and social impact, thus real needs are to be rationally assessed and production and profit maximizing over-projections avoided. Before projecting energy needs based only on GDP growth projections, we must do careful analysis of real energy-growth need based on some rational assessment of how much energy is needed for reasonable quality of living and how much is possible to be extracted/ converted sustainably. The present Integrated Energy Policy which blindly projects energy demands based purely on old models of GDP growth and energy input connections (starting from Robert Solow's work in 1956, followed by many other improvements including those of Reiner Kummel and Robert Ayres later in the 80s which show that for about every 1% increase in energy input, the economy grows by about 0.7%) -- must be critically analyzed and reviewed, in the light of recent understandings of different character with active participation of civil society groups and communities. The Indian economy over the last two decades has grown largely based on rapid growth of the services sector including, but not exclusively by the hyped IT and ITES sectors.

9) As has been demonstrated, services produce far more economic growth per unit of energy input than the old models predicted - based mainly on energy intensive manufacturing. The need is to vastly expand the ambit of recognized and incentivized services from the narrow boundaries of IT only thinking. The skill and knowledge based small services sector is an example, which has seen a decline in the past decade, but holds vast potential of contributing to economic growth that is inclusive, creating large number of dignified livelihoods. This also has the potential to reduce the energy demand for new production by taking care of existing products and infrastructure.

10) Another low energy intensive and more employment generating 'growth option' exists and have been shown to work -- agriculture and agriculture-based rural enterprises. Even now, close to 60% of the Indian population depends on this sector and its potential to both create resources with the vast numbers of farmers and for positive feed-back in the larger economy, is huge. Agriculture and local agro-enterprise can do these at a far lower energy investment than most industry. This must be given the highest priority.

11) All energy generation/ extraction /conversion have multiple linkages with many other sectors/ environmental concerns. Thus, the entire chain should be considered when weighing least damaging, less cost options.

12) Energy intensive sectors in the economy Iron and steel, Paper and pulp, oil and petrochemicals, Aluminum, chemicals etc. must be subjected to rigorous controls in terms of consumption and tariff. Changing practices and levels of consumption often unsuitable to local needs and conditions has pushed up both production and consumption of these energy-intensive commodities, simultaneously pushing up energy demand. A holistic analysis of those is urgently called for. Recycling often is a much lower energy demanding option in these sectors, apart from much less environmentally destructive, and must be prioritized in energy and environment policies.

13) Urbanization in the US model, with high dependence on personalized transportation and urban sprawl which is spreading fast in India, is a big driver for energy consumption, without commensurate social benefits (actually socially & environmentally damaging). This must be arrested and reversed, with new urban designs of densified and integrated communities living close to work, supplies and entertainment. Efficient public transportation and better integrated communities along with designs to take advantage of natural inputs - must form the core of urban planning.

14) All energy tariff not only electricity - must take into account the differences between survival

consumption, dignified-living consumption and luxury consumption. Looking at the enormous economic divide in our society, a three-pronged approach is needed subsidized or even free life-line energy for the really poor, at-cost energy for the dignified-life consumption and progressively penalizing tariff for growing luxury consumption. We must consider energy as a scarce life-support resource, and not as an unlimitedly producible commodity.

15) The environmental, social and other costs called externalized costs - of any form of energy generation/ extraction / conversion, transmission and use - needs to be taken into account to find the true cost of that particular choice of energy source / form / technology. These costs will include environmental damages, health impacts, social damages and both local and global. Thus, coal power will have to include the forest destruction and water contamination from mining, health impacts from coal dust, social cost of displacements, pollution costs of coal transportation, and those of coal ash contamination on water bodies, surrounding vegetation, health of people and also the global warming impact of the emitted green house gas CO2. Similarly, nuclear power should be costed including its uranium mining impacts, radioactivity induced diseases/ deformed-births, the regular leakages from power plants, the huge costs of any safe disposal of radioactive waste, if found, and the hidden costs of safe de-commissioning at the end of 'useful' lives. Any renewable energy application similarly should take into account the cost of diversion of large land areas, if used to the exclusion of existing or possible other useful economic /social activities.

16) The present higher roll-out costs of cleaner renewable energies should be borne by the economically better-off, while the existing lower cost (by whatever is actually charged now) energy capacity should be diverted to meet the needs of the poor and the energy deprived. We often see the reverse today, with the more affluent urban and rural middle class consuming comparatively lower cost (as the full costs have not been included in the tariff) power from dirty fuels like coal while both the government and even civil society, push for the poor to adopt the presently higher cost solar energy devices. This is patently unjust, even if the initial cost is spread-out through 'financial innovation'.

17) Even after 64 years of Independence, over 36% of India's people the poorest section do not have access to electricity. Another large section gets very little power, though are 'technically connected'. A very large part of our poor gets very little energy overall below dignified survival needs. Meeting this dignified survival energy needs to be given top priority in our energy planning and projects.

18) Nuclear power only serves the electricity needs while having enormous and long-term environmental damages. Nuclear power also has “Catastrophic Failure” possibilities, the 'costs' of which will be unimaginable. Today, nuclear power provides little over 2% of India's electricity and less than 1 % of our commercial energy needs. The problem of safe disposal of highly radioactive nuclear waste has still found no permanent solution. New nuclear power plants are also some of the costliest options, thus depriving needed investment into emerging renewable sources. Even the lower cost indigenized CANDU type reactor based plants require investments of about INR 100 million per installed megawatt, roughly double that of sub-critical coal power plants, and almost equal to the concentrated solar thermal plants. The proposed imported nuclear power plants from France, US etc will cost at least double this. Thus, we are in a good position to (and must immediately) scrap nuclear power and move towards safe renewable energy sources.

19) If we reduce our very large losses of generated electricity (national average about 30% now total for the transmission, distribution and commercial losses) to reasonable international standards that gives over 25,000 MWs of saved electricity into user points. This will eliminate the need of all nuclear power plants planned to come on stream till 2025 or later. This 'efficiency increase' will cost 1/3rd to 1/4th of investment required for new power plants, has little associated danger and can be done fast.

20) Energy efficiency should be pursued in both supply and demand sides. Pursuing higher end-use efficiency in all sectors will also contribute to less damaging/ polluting servicing of reasonable energy needs / demands. The drive for demand side energy efficiency unaccompanied by regulations to control demand, often leads to increased demand and consumption the rebound effect. Thus, any such efficiency increase measure should be accompanied by tariff based disincentives to wasteful consumption.

21) India must immediately stop building any more big-dam based hydro-electricity plants, as these are enormously damaging to fragile mountain environments and local and downstream habitations. These are also bad for base-load power supply because of intermittent nature of precipitation and run-off and even the peak-load operation damages river ecosystems. In tropical India, these are also large sources of methane emission increasing global warming and climate change crisis. Existing big-hydro power plants can be more efficiently run to balance out peaks and drops in supply within limited extents of tweaking.

22) In many parts of India, micro and tiny hydroelectric plants can serve local/regional electricity needs without environmental damages, and should be pursued with rational analysis of damage / sustainability / cost.

23) Coal fired power plants do inflict enormous environmental and social costs mostly on those who get very little of that extracted / converted energy/ electricity. Thus, we must immediately stop building any more coal TPPs. They are also the largest contributors to climate changing green house gases, causing further long-term damage.

24) Improving the efficiency and Plant Load Factors of existing Coal TPPs can add to available electricity significantly. Many older TPPs can do these at far lower costs with efficient retrofits and better management practices.

25) The construction sector has become a big consumer of energy not only due to its expansion but also due to its shift towards energy-intensive materials. This needs to be corrected with present understanding of both low embedded energy and low operating energy consuming buildings and structures.

26) Though electricity is useful in many applications, our energy policy must come out of the electricity fixation. Many forms of renewable or local energy resources are available, which suits the local energy demand better, if applied directly without going through the electricity route. One such example is the availability of solar heat and the need for low-temperature heating in many agro-industries as well as drying needs of many agricultural produce. The biggest rural energy need water pumping for irrigation can be matched with the mechanical energy of the wind even at lower velocities with high torque wind pumps. These direct and often lower technology approach, will also give more control in the hands of actual users rather than making them totally dependent on corporate manufacturers and maintenance companies. Often, this also reduces the cost of the system and increases the use-efficiency as the more the stages of conversion, the more is the loss in conversion.

27) Large scale push for utilizing waste-heat (on co-generation lines) from existing TPPs will eliminate the need for large chunks of new generation proposals, without adding new pollution sources.

28) In the short term, whenever and wherever India builds gas-based power plants, combined cycle cum co-generation plants should be promoted to maximize use and reduce waste heat. These are the most energy efficient and least polluting by far, of all the conventional power plants. This will be a more

expensive than coal TPPs but with cost internalization, this difference will vanish. The slightly higher cost-but-cleaner electricity should be paid for by better-off urban consumers as their price for better environmental quality.

29) We must start focusing most on sustainable renewable energy options like wind, solar heat and power, excess bio-mass based power, geothermal heat applications, rational-scale wave and tidal energy etc. as our medium and long term sustainable energy strategy. These should be based on scientific and social analysis of site suitability, sustainability, matching needs of need-centers and minimum damage considerations.

30) Communities must reclaim /be given co-rights over their local energy resources and conversion/ extraction technologies must be appropriate for the area.

Chapter 5

Sustainable Energy for All-universalization and affordability for the poor in question

(Soumya Dutta, Beyond Copenhagen / Bharat Jan Vigyan Jatha, India)

As a part of the UNCSD and trying to address one of the critical issues under consideration Sustainable Energy, the Secretary General Mr. Ban Ki Moon has initiated a strong action agenda on this, named "Sustainable Energy for all". A 35-member high-level committee (two of its members are from India Mr Farooq Abdullah, Minister for New and Renewable Energies, Government of India and Mr Sanjit 'Bunker' Roy, a well known civil society leader based in Rajasthan) and a supporting 12-member technical committee has been formed and is working in coordination with the Secretary General's office. The focus on a) sustainability of the world's energy systems and b) providing universal accesses to energy for all people on the earth, are welcome, but the devil is in the details. There are worrying indications in the draft and the program of action that the old ways of dirty energy systems are to be continued. The 'leaders' handpicked by Mr. Moon are also mostly of the same genre from coal and oil sectors as well as the banking sector with a few exceptions. It defies explanation, that a new initiative to create a sustainable energy future, has not broken away from the dirty past, but is being visualized as an extension of the same, to be charted by those who have till now gained the most from the ecologically and socially destructive energy systems.

The Beyond Copenhagen collective had a few opportunities to engage with this high-level committee and the technical committee and submitted several concerns and critiques some of which were accepted as the summary notes of discussion. We also participated in the international teleconferences organized with these committees and submitted a critique of the SEFA program of action which is available at the SEFA website also.

Achieving Sustainable Energy For All is essential to reaching the Millennium Development Goals while growing our economies and safe guarding the environment. At a time when 1.3 billion people worldwide lack access to electricity, When 2.7 billion people do not have clean and safe cooking facilities, and when a shift to sustainable energy use is imperative to protect the Earth's climate, the Secretary-General has launched a global initiative to achieve Sustainable Energy For All. The initiative aims to bring together the three pillars of sustainable development: economic, social and developmental. Stakeholders are urged to take concrete action toward achieving three critical objectives by 2030:

- Ensuring universal access to modern energy services.
- Doubling the global rate of improvement in energy efficiency.
- Doubling the share of renewable energy in the global energy mix.

The Secretary-General's High-Level Group on Sustainable Energy For All believes that these objectives are fully attainable by 2030. Several countries have demonstrated rapid electrification programmes in the EU, Japan and elsewhere show that energy efficiency improvements can be both effective and profitable; and in many countries, renewable like hydro, geothermal, wind and solar energy are already competitive alternatives to fossil fuels. Pursuing the three objectives simultaneously will make each easier to accomplish, while realizing multiple benefits and maximizing their joint impact

Our (Beyond Copenhagen) Observations on SE4All Framework for Action document -

1. At the outset, we recognize the Secretary General's leadership effort for ensuring access to sustainable energy for all of humanity. It is unacceptable that nearly a billion people in the world are still deprived of a minimum supply of electricity and well over 2 billion of its poor are still using highly polluting solid-fuels for their cooking needs. Any solution offered has to be just and moving towards equity rather than imposing something from 'alien' societal backgrounds.

2. One point of great concern is that the committee formed for leading the world towards a clean sustainable energy future, is filled with representatives of the dirty and unsustainable energy industries like coal, oil and also from the private banking sector. Very few members have a background in either policy or

action in the new clean and sustainable renewable energy sectors. Just one or two represent the interests and understandings of the deprived billions who are now outside the energy services network.

3. The policies and the plans, therefore, have to be based on the realities of Political economy and ecology of energy and not looking at energy as a technical issue or worse a commodity to profit from.

Thus:-

A) The first objective of "ensuring universal access to Modern Energy Services" is correctly identified as the most critical need, but this needs to be broken down in two clear parts and the 1st part 'ensuring Universal Access' needs to be prioritized. A large percentage of the world's poor in the developing and least developed countries get their survival energy needs from either i) collected or ii) low-cost local-market-based traditional energy sources (which are under increasing threats from mining, expansion of urbanization, industrialization etc). This is not necessarily because there is no modern energy services available in that country or society or locality, but largely because these poor people cannot afford those Modern (and almost invariably - higher cost) Energy services. The Private Sector has a role in several areas, but they operate in the profit-maximization, refined energy production-transmission-distribution commercial energy markets. Forcing the poor to the commercial energy market (both modern energy and the private sector operates in that economy) without foolproof systems to guarantee energy access for the poor will create more deprivations, more inequities and more distress. The first priority thus should be to drastically reduce the threats to the poor's free access to these free or low-cost energy services (while improving their quality of use with modern technological/ technical and social inputs and this has multiple benefits including health of women and small children).

As an indication of how this energy economy works ,the Non-OECD total final energy consumption has increased from 1871 Mtoe (million tons oil equivalent) in 1973 to 4732 Mtoe in 2008 or about 240% (2.4 times) whereas the percentage of "modern-energy" deprived people has gone down by less than 50%. In India, a show-case country of rapid GDP growth, Electricity (modern energy) capacity has grown from 81,000 MW in 1996 (when the Liberalization-privatization-Globalization started taking hold in India) to 185,000 MW in 2011 (an increase by about 120%), and yet, the percentage of households without electricity has come down by a mere 14% from about 52% to 38%. Similar scenes unfold country by developing country. The only success stories in universal access are from countries where the State /Government has played prime role in energy production and delivery, like China.

B) The objective of providing "Modern Energy Services" to those without such services at present can thus be achieved only when the State plays a policy-determined role and the market economy is strongly regulated to take cognizance of the widely differing capacities to buy energy services (the devastation that de-regulated market /corporate operation can cause has been amply demonstrated by the impacts of the recent economic crisis on the non-rich in the richer societies too). Too much emphasis on the private sector and market-economy is bound to concentrate more modern energy access to those who can afford to buy. Thus the role of Enlightened and Inclusive State Policies and Actions will be paramount and should increase rather than decrease as is happening in most major economies.

C) One of the better ways to provide Modern Energy services to those deprived of this is to ensure continued access to the basket of often traditional and free energy sources and modernize the access and use of these traditional local energy resources. Enough examples of technologies and experiences exist from all over the world to achieve it. This should be prioritized for modern energy access.

D) This will be a much better way in light the threat of Climate Change also as the available traditional (which are largely biomass based) energy sources can provide far more energy to many more energy-deprived

people if the uses are modernized to create much higher efficiencies which has been demonstrated to be possible. This also reduces the pressure on forest and forest fringe areas.

E) Decentralization of production and distribution of modern energy services using these will have multiple benefits of large number of jobs and livelihoods creations of revitalizing often moribund local economies and improvement in health and education status. Decentralized renewable will also play a significant role in achieving these objectives, in terms of both universal access and overcoming the shortcomings of traditional energy services (like high levels of indoor pollution).

4. Drastically and continually improving the energy efficiency is a highly desired objective and should be aggressively pursued but here too the realities of the Political economy of energy need to be recognized and worked on differently. The macroeconomic data shows that in the period 1992to 2006/2007 (when big push for energy efficiency happened in most major economies mostly as a result of oil price shocks) major economies including the big developing ones with few exceptions increased their energy efficiency significantly.

A) And yet, the same macroeconomic data shows that the total energy consumption even in the OECD countries with little population growth kept on increasing along with GHG emissions from them (again few exceptions, like UK largely for switch from coal to natural gas). Apart from economy-wide macro data, this can also be seen in sector specific cases, like that of the CAFE number in the USA (Corporate average Fuel Economy kept increasing from the late 60's, more than doubling in the 2000s, but the total consumption and emission also increased significantly a classic case of the Jevon's Paradox, or rebound effect). Similar realities abound.

B) The same country wise macroeconomic data shows that this significant increase in energy efficiency also failed to address the core issues of providing safe and affordable energy to the energy deprived. The 'released' energy - as a result of significant increase in energy efficiency - mostly ended up being consumed by the emerging middle class and the energy rich in these developing countries, thus failing to serve both the critical needs of universal energy access, and reducing energy-related GHG emissions to tackle the threat of climate change.

The criticality of right social policy -- Thus, energy efficiency increases will give the desired results of a) providing energy to the energy-deprived, b) reducing energy-production needs in energy-rich societies and c) reducing GHG emissions and other ecological destruction only with the right kind of political economic controls like progressively increasing energy tariff beyond a reasonable level of energy consumption. This is extremely important from the Sustainability point of view also, but equally difficult to implement in the dominant economic discourse. Even in absolute terms, an average Indian pays a higher price for a liter or gallon of Gasoline than an average US citizen (who earns anything between 6-9 times as much). Almost similar situation prevails for electricity with a more than 2 to 1 factor in terms of purchasing power parity. These warped policies forces up the per capita consumption of primary energy and electricity for an average US citizen to 7 times and 25 times than an average Indian while the poorer sections in both societies are forced to forego the consumption of basic minimum levels. Even within India, the difference between the top 10% and the bottom 50% are similar. Thus it can be seen, that just the technical achievement of higher energy efficiency, in isolation, does not serve any of the desired social objectives.

5. A) Drastically increasing the share of renewable energies is needed in an urgent basis, but the mode(s) of deployment need to be carefully assessed. It must also be understood that for many less urbanized and developing societies, electricity forms a small percentage of the total energy basket (often 10-14%), and , that electricity though essential for some services/ uses is not always the best route for providing all kinds of energy services. While recognizing the importance of electricity, we must come out of the “electricity Fixation” mindset. The renewable energies are available in a variety of forms mostly heat and mechanical motion which often matches the different energy-demand needs of the people, particularly in the large rural populations (pumping of irrigation water, drying of crops …) in developing

nations. When not essential, bringing in capital intensive, centralized technology-dependent electrical route in between often results in lower overall use-efficiency, loss of control of the users and pushes up the cost of that energy. Wherever dictated by both technologically better and more efficient systems & societal readiness like modern wind turbines for urban and rural lighting etc needs, harnessing renewable through the electricity route is desirable, BUT in many other cases like low-heat industrial and cottage scale enterprises using renewable solar heat as collected heat will give multiple benefits including higher overall efficiency, more local economic activity and livelihoods, local specific control and sharing of available resources etc.

B) The share of traditional renewable (mostly combustible biomass) in the total renewable energy mix even today is about 4 times that of the New Renewable like solar, wind etc. One of the better ways to extract more and safer energy is to increase their efficiency of use (a huge potential exists in this area, as demonstrated by very low efficiency and polluting bio-mass burning) as indicated above, and not by any significant increase of the total quantity of the traditional bio-mass sources used to extract energy (this is particularly important in view of the criticality of food security and bio-diversity loss, amongst others which dictates against the choice of 1st and 2nd generation agro-fuels). Thus, increasing share of renewable in the global energy mix to twice the present share by 2030 as envisaged, is an un-ambitious goal (and needs to be scaled up), as new renewable today provide only about 33.5% of the total energy consumed. This also means that the GHG intensive fossil fuels will continue to dominate the world primary energy supply for two or more decades a scary scene for the global climate change threat. We need to be far more ambitious than doubling the new renewable contribution from 33.5% to 6-7% of the global primary energy by 2030.

C) In view of the continuing sharp fall of the cost of some renewable energy harnessing technologies, particularly solar photo-voltaic route (though expensive today near existing grids), the goal of bringing the share of new renewable energies from the present 3-4 % of the primary energy basket to just 7-8% ('doubling of its share'), can and should be sharply pushed up. In many locations, wind energy and small hydro is already cost competitive with grid supplied power from coal-based base-load plants, and cheaper than gas (and definitely far cheaper than costly and risky nuclear) already. In view of the 'ambitious' plans of expansion of energy supply in many fast developing countries, and the fact of years of gestation period of most of these coal/nuclear/big-hydro power projects it is likely that pursuing the present dirty energy route (and keeping renewable energy ambitions so modest just to 7-8% of total), will result in very serious environmental degradation and increase the risk of catastrophic climate change many times.

D) As of now (till before the current international teleconferences at least), most of the inputs in Preparing the SE4All framework and policies were mostly influenced by the big energy industry, that too dominated by the fossil carbon energy groups. There is an urgent need to infuse these with the deeper societal understanding of civil society organizations, and the recent positive experiences of the new renewable industries in both developing and developed countries. These mechanisms need to be institutionalized, rather than casually pursued as an afterthought, if the objectives of the SE4All mission are to be aligned with the majority of world's energy deprived. CSOs can also perform the critical role of monitoring the developments of both policies and their implementation and the resulting social and environmental impacts in their own countries and regions.

Chapter 6

Towards an Alternative Perspective on Sustainable Cities in the Context of Climate Change

(Dunu Roy, Hazards Centre)

A city grows on the basis of its own dynamics as well as the context within which it is located. Thus, a safe harbour at an accessible place on the coast will often give rise to a city that will then thrive on the trade that the harbour promotes. On the other hand, a city plagued with internal strife is likely to find businessmen and entrepreneurs deserting it leaving behind a shell-shocked economy. Hence, planners can envision a city in one of two ways: either they can study a city to understand how it is really changing within its context and construct a plan that accommodates or steers the change in a desirable direction; or they can imagine what a desirable city could look like in the future and make plans that constructs such a city on the ground. It is within this conflict between reality and imagination that we could place the debate on the sustainable city, and ask whether the agenda for the 'Rio+20' meeting in June 2012 and the draft UN paper "The Future We Want" are imagined or real?

Thus, "The Future We Want" sets out universally desirable goals of Eradicating all forms of Poverty, Just and Inclusive societies, and Protect our Common support system; but descends to an imagined version of reality by prescribing that it is New Technologies, the enhanced Role of the Private sector, and the pursuit of Growth that will achieve these goals. There is no analysis of how technology, private sector, and economic growth have functioned in the past to bring about poverty reduction and inclusive societies. In fact, there is a deliberate shying away from an attempt to bring in issues of changes in production and consumption into the draft. Thus GDP growth may have been bouncing along at 8% in India with an array of incentives to the private sector and the penetration of high-end technologies, but there is also enough evidence to show that this has not improved the social and economic conditions of the bottom three to four deciles of the population.

Studies in various cities and towns of India over the last two decades bear out this trend. Here, we present the case of Delhi as illustrative of the state of urban India. The city had a population of about 14 million at the turn of the century. Of this urban agglomeration a little over 40% lived in more than 2000 formally "planned" colonies and, even within this, slightly over 40% were massively cramped into 50 "resettlement" sites where they had been relocated from slums as part of urban renewal drives. Of the remaining under 60%, more than 90% were in densely populated 1500 "unauthorised" colonies and 1200 slum clusters that working people had built themselves since affordable and formal housing was not available; the rest were in urban "villages" whose land had been taken over as part of urban expansion and which provided many of the facilities (such as office space, studios, street food, and informal sector livelihoods) which the city could no longer afford. Which, then, is the 'real' and 'sustainable' city?

To answer this question, one might want to take a look at the amount of space that a family could or should occupy for living. The formal Master Plan allocates 250 m^2 (square metres) for an affluent family on the planned colonies, but this steadily reduces to 75 m^2 for a middle class household, while the poor slum dweller is allotted only 12.5 m^2 when relocated in a resettlement colony. Clearly, the first norm is neither real nor sustainable for all families when seen in the context of the land available in the city, while the last one is hardly desirable. But when a study was conducted in over 3000 working and middle class households across the city, it turned out that the vast majority felt housing space of 30 m^2 was not only adequate for their needs but manageable within their capacities. If necessary, one could always build a second storey that would accommodate the natural growth of the family. Such a norm, interestingly enough, was less than the average of 50 m^2 per family available in the city!

A similar survey across 6000 rich, middle, and poor households living in both planned as well as informal settlements revealed that over 95% of the families considered that their needs were adequately met if they were assured of a supply of 100 lpcd (litres per capita per day) of water. But the city planners had allocated an average of 275 lpcd, although the rich actually received in excess of 500 lpcd, while the poor were allowed only 33 lpcd. The formal imagination of how much water is needed by a family may be offset against the real supply available, which is over

200 lpcd! Since 80% of water used eventually has to be led off into sewerage systems, the norm that is set not only impinges on how many resources have to be spent on bringing water to the city but also on how much has to be invested in treating the effluents and releasing them in renewable form into nature. Hence, issues of injustice and poverty are inextricably linked to how water is imagined, trapped, treated, distributed, and eventually returned. These are the cycles of sustainability that city planners rarely study as they set out to imagine how the urban economy can contribute to technological, entrepreneurial, and private growth.

Energy is yet another area that requires detailed examination in a city like Delhi that is chronically short of this precious resource. For instance, how much electricity does a family need? The planner bases his estimate on the high-end consumption of over 140 units (1 unit=1000 kilowatt-hours) per month. Middle class households use about 20 units, while the working poor receive an average of 8 units that is, if they get any at all. Average energy available in the city, on the other hand, is more than 30 units per family. So what is the sustainable norm? One could ask the same question of transportation. The private car carries an average of 1.2 persons, occupies 75% of road space, and emits 232 gCO^2e/PMT (grams of Carbon dioxide equivalent per passenger mile travelled) of greenhouse gases. The public bus, on the other hand, carries an average of 45 persons, occupies 2% of road space, and emits 59 gCO^2e/PMT; as compared to the cycle which has an average occupancy of 1.3 persons, occupies virtually no road space, and has no emissions. So which real commuter should the car-borne planner be planning the imaginary city for?

A study of solid waste management in Delhi provides some fascinating clues into these vital questions of sustainability and modes of production and consumption. The Municipal Corporation of Delhi (MCD) has to deal with roughly 8000 tonnes of garbage a day. The basic 'plan' is to get waste generators in households and offices, as well as municipal sweepers who clean the streets, to deposit their waste in neighbourhood bins and dumps from which it is carted off in municipal trucks to landfills at the edge of the city. In an era of 'reforms', most municipalities have steadily been cutting down on costs by either laying off personnel or contracting out the work of sanitation. The recent 'best practice' adopted in the name of efficiency is to turn over the business of door-to-door collection and disposal to the private sector. What this has meant in practice is that, as entrepreneurial firms pursue their frantic search for profit, ever larger amounts of garbage are collected and transported with increasing amounts of energy to growing land spaces for landfills.

Contrast this to the proposal by associations of waste-pickers who have conducted a study of 1000 of their brethren and developed norms for how many of them are required per 10,000 population, how much waste they collect, how they segregate it, and how they eventually dispose it off. Armed with their own data, they have asked for identity cards that will enable them to collect waste without harassment, for a space of 8mx8m in the local park of every housing cluster (of about 1000 population) to segregate-store-compost, space for the warehouse of a junk dealer in every neighbourhood (population of 10,000) who will buy the recyclables, and a sanitary recycling area at the district level (population 1 million) where the industrial units can be located. In return they assure a recycling rate of 75%, and a corresponding reduction of 80% in energy costs and land requirements. As collateral, they are themselves ensured dignified livelihoods and a clean way out of poverty. But will formal planners with highly qualified degrees in the imagination of technology, markets, and finance ever pay heed to these real practitioners and their live experience?

In conclusion, the questions of what is the future we want and how much warming can we bear, are inexorably linked to how much land we use, the water we consume, what energy we fritter away, and the wastes we create. The answers do not lie in the future. As the voices of the working poor of Delhi (and many, many other cities in India) speak out loud and clear, the answers are available right here and right now. Are any of the wealthy delegates in Rio listening?

Chapter 7
Sustainability in Indian Agriculture-Way forward
(Kavita Kuruganti, Alliance for Sustainable and Holistic Agriculture)

Indian agriculture and farmers are in a deep crisis. The official numbers say it all: more than 2,50,000 farmers committed suicides in the past 15 years, the largest spate of such human tragedy anywhere in history. In the macro-economic world, the contribution of agriculture to India's GDP is steadily coming down, to reach around 15% in the recent past. A sector that contributes so little to the GDP, even if it has the largest majority of people living and employed in this sector apparently means very little to policy makers obsessed with GDP-led growth and development of the nation. It is in the context of the crisis that it becomes important to re-look at questions related to sustainability in Indian agriculture as well as in farm livelihoods, and make the correlation between 'modern agriculture' paradigm with the crisis clearer.

This becomes an imperative given that key policy-makers in India have not hesitated to articulate their dream of having only 15% of Indian population in villages as their poverty elimination vision, while on the other hand non-agriculture employment generation has been very low in the country. The proportion of formal sector employment in India has decreased from 9% to 8% between 1993 and 2005 while the past 20 years have seen industrial employment grow by only 25 million (which is less than 4% of India's working population). It is apparent that other sectors are witnessing a 'jobless growth', while a variety of factors are orchestrating a large-scale displacement of millions from Indian agriculture.

Given the harsh reality of the fact that agriculture sector is here to stay, with millions of people embedded in it for good or worse, it becomes important to see how sustainability questions are closely interlinked with the current crisis and the future paths to be adopted.

In the root:

If the Indian agriculture crisis is analysed further, it becomes apparent that in the root of the problem are issues related to:

- Agri-technologies (tied closely to politics of knowledge, in the Science & Technology domain of what constitutes modern technology, what is to be achieved with the application of such modern technology, who decides, for whose benefit, whether this leaves space for plurality, justice and sustainability or not and so on), that are unsustainable, resulting in erosion of productive resources as well as adverse farm economics,
- Returns for farm produce (tied closely to politics of markets/trade, including domestic pricing and procurement policies adopted by the government in addition to terms of international trade) being unproductive,
- Unpredictability related to natural conditions/climate for agriculture, increasing the riskiness in farming.

On all the three fronts above, the farmers of India, especially the millions of smallholders who constitute the majority of the farming community, lose out in numerous ways.

This paper would focus on agri-technologies, the state of productive resources, the returns to farmers and the sustainability questions that arise.

Modern Agriculture Technologies and (productive) Natural Resources

Indian agriculture over the centuries had cyclical and integrated systems. Descriptions of the Nature-Culture-Agriculture-Community continuum abound about the way rural life has been designed in India's villages. In Indian agriculture, the output of one system forms the input of another system (biomass from crops as fodder for livestock; livestock waste as input for soil fertility management etc.), in an integrated farming system approach that always existed. Many 'inputs' needed for farming are internalized into such a farming system approach, whether it is seed or practices for soil health management. Mixed cropping and crop rotation were a norm in fact, this took care of nutritional needs of the soil as well as of humans! A typical millet field in the semi-arid tropics of the Deccan region in India, for instance, had millets grown along with oilseeds, greens, pulses as well as other foods.

However, the Green Revolution paradigm, introduced in the name of increasing productivity, with Malthusian arguments around food security, brought in a highly linear model of farming. The output of one system did not necessarily become the input of another system. Monocultures dominated only a few crops dominate (paddy, wheat, maize, soybean, cotton etc. to the exclusion of many other crops that used to exist including coarse millets; the promotion of these crops is also led by domination of private seed markets in these crops in the recent decades); within these crops, only a few varieties dominate (dwarf, shorter varieties in the name of High Yield, for instance, which means that fodder for livestock is affected, breaking the cyclical chain; seeds that get produced separately rather than being selected carefully from the crop itself; fodder grown separately); and in the recent past, mono-culturing even at the gene level has begun (Bt gene for pest control across varieties/seed lines within a crop and across crops). This linear model of farming was based on capital depletion (groundwater, for instance; or soil health deterioration or fossil fuel), on external inputs (chemical fertilizers and pesticides) and treating the farm as a factory. This model paid no attention to the externalizing of results or costs. The results are showing up now, admitted by official sources too. The results are in the form of high cost of cultivation, erosion/deterioration of resources, indebtedness, decreasing net returns, displacement from agriculture, death through suicides etc.

State of Natural Resources

The state of environmental resources in India, especially related to agriculture, is a matter of concern for a variety of reasons. Food security as well as livelihood security are being jeopardized today with constant degradation and depletion of resources, esp. in the era of climate change in a predominantly rain-fed agriculture situation, in a country where a vast majority of people derive their livelihoods off agriculture.

The State of the Environment report (2009) of the Ministry of Environment & Forests, Government of India, has the following facts to share:

- Land: Out of India's total geographical area of 328.73 Mha, 306Mha comprises the reporting area and 146.82Mha is degraded land. The varying degrees and types of degradation stem mainly from unsustainable use and inappropriate land management practices. Important factors responsible for large-scale degradation include non-adoption of soil conservation measures, improper crop rotation, indiscriminate use of agro-chemicals such as fertilizers and pesticides, improper planning and management of irrigation systems and extraction of groundwater in excess of the recharge capacity. The introduction of Green Revolution in the country has been accompanied by over-exploitation of land and water resources and excessive usage of fertilizers and pesticides. The report emphasizes the need to move towards more sustainable practices.
- On Water, the report says that groundwater reserves are becoming more and more depleted even as surface water sources have become too polluted for human use.
- Amongst reasons for the current highrates of biodiversity loss, the report points to various human activities including fragmentation and degradation due to agricultural activities.

- On Food Security, the report reiterates that the prevalence of widespread hunger is not due to non-availability of food but the lack of dequate purchasing power amongst the poor, which in turn is due to insufficient opportunities for gainful employment. The report then recommends that one of the measures to attain food security is through promotion of organic farming, a solution to ensure "economically sustainable agriculture" (our emphasis).

While this is the situation with productive resources like soil and water, with these technologies, farm economics also started getting skewed. Chemical fertilizers and pesticides alone contribute 1/3rd of the total cost of cultivation in some crops. Even as factor productivity of chemical fertilizers is coming down, it is estimated that nearly 6% of total Indian GHG emissions is from chemical fertilizer manufacture and use. In 2008, chemical fertilizer subsidy bill reached 120,000 crore rupees (one crore = 10 millions) adding up to nearly 10% of the planned budget! Apart from the public financing burden, it is apparent that leached nutrients are polluting ground and surface water sources and cleaning this up requires high energy. 70% of India's surface water is reported to be polluted including pollution from agro-chemicals.

Meanwhile, 29% of India's groundwater blocks are in semi-critical, critical or over-exploited categories, apart from being polluted.

It is also interesting to note that the current state of affairs is often blamed on farmers, and their 'injudicious' and excessive use of inputs. That brings to the fore a question on market-driven technologies and human irrationality: why is it for instance, that one has never heard of a farmer making injudicious use of Farm Yard Manure? Why does this happen with technologies which are hyped up as magic bullets and that involve unqualified promotion? There are now academic papers showing that "de-skilling" of farmers is indeed a reality in India, in this current paradigm of agricultural technologies and the rapidity with which they are thrust on farmers this is taking away opportunities of environmental learning for our farmers, such studies show. It has to be remembered that environmental learning is what made Indian farmers understand and appreciate the complexities in farming, at the eco-system level and elsewhere. However, de-skilling and linear, reductionist approaches are indeed contributing to un-sustainability in many ways.

The "Produce More and Perish" Paradigm

The situation with regard to the intensive agriculture paradigm adopted in India is nowhere more alarming than in Punjab, the heartland of Green Revolution in India, considered the nation's bread basket.

The highest cropping intensity in the country is witnessed in Punjab, where the largest proportion of land has been converted into intensive agricultural fields (very little forest area). Over the past few decades, the largest proportion of pesticide and fertilizer consumption has been in Punjab, making the chemical load there the highest in the country, given that it occupies a very small proportion of total land area in India.

Today, the situation is alarming. Many studies and analyses point out to decreasing factor of productivity in this state. Only 18% of the 137 development blocks in the state are in the "Safe" category when it comes to groundwater exploitation groundwater depletion has been dramatic in addition to extensive and serious contamination of various water resources. Out of 12,423 villages/habitations in the state, 11,849 have been classified as ones facing drinking water problem by 2004 by the state government.

There are serious environmental health issues cropping up in the state, indicated by several studies and reports. Cancers and reproductive health problems, being correlated to agri-chemicals are prominent. The situation of the environmental health crisis in Punjab is captured by the notorious 'cancer train' taking scores of poor cancer patients from Punjab to neighboring Rajasthan for free treatment.

While all of this may be so, there are no impressive improvements to show on the economic front either, for individual farmers even in a state like Punjab, despite the "produce more" paradigm being adopted to the hilt.

For instance, Punjab farmers are the most indebted in the country. 52% of the farmers of the state are indebted, with an average outstanding debt of Rs. 63,259/-, while the national average is only Rs. 25,895/-. The monthly income from all sources per household in Punjab (not just from cultivation) is Rs. 4,960/-, when compared to the national average of Rs. 2,115/- per month. However, it has to be noted that even this translates to only an average daily income of only Rs. 165/- per household, despite achieving record productivity levels. This works to less than minimum wages legally prescribed in the country!

The situation in Punjab reflects un-sustainability in the use of environmental/productive resources as well as agricultural livelihoods there.

It is unfortunate that without a national debate or analysis of the positive and negative outcomes of the earlier Green Revolution, a new programme called "Bringing Green Revolution to Eastern India" has been initiated by the Government of India, based on a thrust on two food grains (wheat and rice) and a handful of varieties and techniques.

Meanwhile the situation with regard to incomes of farmers is very alarming at the national level too, as reflected in the table below:-

Land holding (hectare)	***Category***	***Total Income (Rs/month)***	***Expenditure (Rs/month)***	***Percent of farmers***
<0.01	Landless	1380	2297	36 %
0.01-0.4	Sub marginal	1633	2390	36 %
0.4-1.0	Marginal	1809	2672	31 %
1.0-2.0	Small	2493	3148	17 %
2.0-4.0	Semi-medium	3589	3685	10 %
4.0-10.0	Medium	5681	4626	6 %
>10.0	Large	9667	6418	6 %
	Total	***2115***	***2770***	***All farmers***

Source: Report National Committee on Employment in Unorganized Sector, Arjun Sen Gupta Committee, 2007

The above table exemplifies the crisis of the Indian farmer today. Not only are monthly incomes so meager and low for a vast majority of our farm households, but for an overwhelming 88% of landholders of the country, their monthly expenditure is higher than their income, pushing them into a perpetual debt cycle. This, despite production and productivity increases across crops. This obviously indicates to reasons at two ends of the production process: inputs, related to particular agricultural technologies adopted, becoming more and more expensive (not just inflation but the fact that technologies like pesticides and fertilizers are treadmill technologies

requiring greater quantities to be used over a period of time) and markets becoming adverse, reducing the net returns to farmers.

Glimmer of Hope: Sustainable agriculture can save Indian farming!

Even as the gloom in Indian agriculture appears dark and deep, there are many rays of hope emerging from large-scale experiences of sustainable agriculture on the ground, in addition to newer research emerging to support such approaches.

System of Rice Intensification (SRI), now understood as System of Root Intensification is a good example for this. Not only does this agro-ecological approach to crop cultivation reduce the use of inputs like seed, water and other external inputs, it actually increases yields! Taking up SRI in organic growing conditions is being promoted with very good results by many civil society groups and some government agencies all over the country.

Similarly, the now-well-known experience of Community Managed Sustainable Agriculture (CMSA) in Andhra Pradesh, supported by the rural development department of the state government, is a classic example of how farming can indeed be taken up without the use of toxic chemicals like pesticides. Beginning with NPM (non-pesticidal management of crops), this programme has allowed farmer innovations around natural products and processes for ensuring revival of productive resources like soil, in addition to improving the net returns for farmers by drastically reducing the cost of cultivation.

This large scale state-supported ecological farming project in the state of Andhra Pradesh, had the following results to report: The yield of principal crops raised through CMSA has been compared to that of conventional agriculture through surveys which closely monitored 400 farmers' fields in five districts to track changes in the yield of paddy, chilli, groundnut, redgram and cotton crops after they switched over to CMSA and found that yields have remained the same or increased slightly when farmers gave up chemical pesticides. The state agriculture university's evaluation of the project reported similar findings.

This programme is based on principles of Self Help, Community Management & Convergence. The following are the major components of CMSA:

- Community Managed learning and Management systems though Community based organizations like SHGs (women or men), Cooperatives (producer and consumer) etc.
- Locally suitable production systems and local resource based production practices which help in managing natural resources like water, soil and seeds in addition to improving energy and water use efficiency.
- Downward accountability in Agricultural R&D and Extension.
- Mobilizing public support from large government programs like RKVY.
- Engaging with local markets.

This programme is being appreciated by the farmers who are part of the initiative, given that their dependency on external inputs has come down.

Based on the fact that ecological agriculture improves food and nutrition security, leads to sustainable livelihoods, enhances mitigation and adaptation to climate change and regenerates our environmental resources, coupled with experiential and other evidence emerging from all over, the need of the hour appears to be a scaling-up of ecological farming all over the country. There are indeed efforts underway on State-supported programmes/projects on ecological farming like NPOP, NPOF/NCOF, Community Managed Sustainable Agriculture in Andhra Pradesh (implemented by the Agriculture and Rural Development departments from 2011 Kharif onwards), Jeevika in Bihar, National Rural Livelihoods Mission etc. However, these efforts are inadequate in the face of the urgency to

regenerate our productive resources, improve farm livelihoods and bring out our farmers from the current agrarian distress. For instance, the following data on Rashtriya Krishi Vikas Yojana gives a good picture of the low priority given to Organic Farming in this flagship programme of the government. RKVY saw only 18,550 crores spent on a flagship development programme in agriculture, compared to, let us say, 156,301 crores spent on MGNREGS during the eleventh plan and compared to 691,976 crores in all for various flagship programmes. This is just 2.68% of the flagship development programmes, devoted to agricultural development. Within RKVY, when it comes to support to Organic Farming, it is found to be only 2.55% of the amount spent.

While organic farming and approaches like NPM & SRI provide vital environmental services, higher net returns to farmers, better health and more valuable produce, they are presently denied even a level-playing field as the small example of RKVY shows, whereas they merit preferential support and incentive, so that progressively more land is converted each year to a safer and more sustainable path. That is the only way to ensuring sustainable farm livelihoods too.

Chapter 8

Submission to UNFCCC Secretariat on "Views on issues relating to agriculture under the Subsidiary Body for Scientific and Technological Advice"

By CECOEDECON, PAIRVI Associates, and Beyond Copenhagen

The submission is being made in response to the invitation of the UNFCCC Secretariat to the parties and Observer organizations to submit their views on agriculture, in compliance with the final outcome document of the work of the AWG-LCA and the official request for "the Subsidiary Body for Scientific and Technological Advice to consider issues related to agriculture at its thirty-sixth session". It is believed that the SBSTA is yet to set up a work programme on agriculture, and its further work will be guided by the submission of the parties and observer organizations.
Why agriculture, small holders' agriculture, and family farming should get greater attention in climate change negotiations

The farmers groups and organizations, and civil society organizations have been deeply dismayed by the current focus of negotiation on climate change and specifically negotiation in agriculture and climate change. It is believed that the trajectory of current debate does not take into consideration realities of small and marginal farmers in least developed countries and developing countries in Asia, South Africa and Latin America, and instead aimed at benefitting large farmers and big agri business companies.

Globally, 1.7 billion farmers depend on agriculture, the proportion of which is substantially large in developing and least developed countries. The increasingly erratic climate variability and unpredictable extremes of weather are already having adverse impacts on agriculture and food security, which will increase - as it may alter the balance between food, demand and supply. South Asia and Africa are projected to be particularly vulnerable to these changes due to their large populations and great dependence on agriculture for livelihoods. Majority of the developing countries and small island states are most likely to be affected by climate-change impacts. Even with a temperature rise of 12°C, the IPCC predicts serious effects, including reduced crop yields in tropical areas leading to increased risk of hunger, spread of climate-sensitive diseases such as malaria, water stress in Africa, increased risk of floods followed by drought and water scarcity for millions of people, inundation of coasts and threat of stronger tropical cyclones, complete submergence of some small island states and an increased risk of extinction of 2030% of all plant and animal species.

With public spending of less than 4%, agriculture contributes one-third of developing countries GDP and provides employment to more than 60% of developing countries populations. The impact on agriculture is already having a profound impact on livelihoods, food production and access to food. Climate change impacts, increasing input costs and reducing farm incomes, sharply rising food prices and lack of public spending in agriculture is likely to make South Asia and net food importing region. The worst affected will be small and marginal farmers in least developed countries and developing countries. In India, more than 25,000 farmers have committed suicide in the last one and half decade as a result of rising input costs, falling productions and loss of incomes, lack of public investment and indebtedness. Climate change is already pushing majority of farmers out of fields.
On the other hand, there is a growing body of literature (including IAASTD report) which says that small holders' farming is more efficient both in terms of production and resilience to climate change. Therefore, UNFCCC and climate change negotiations need to put small holder agriculture and family farming in the centre, address their concerns and improve their resilience, which could provide the best solution to the crises to food and climate change.

General framework

68. Agrees to continue its consideration of a general framework for cooperative sectoral approaches and sector-specific actions with a view to adopting a decision on this matter at its eighteenth session, as appropriate;

Agriculture

69. Requests the Subsidiary Body for Scientific and Technological Advice [SBSTA}to consider issues related to agriculture at its thirty-sixth session, with the aim of exchanging views and the Conference of the Parties adopting a decision on this matter at its eighteenth session;

70. Invites Parties and accredited observer organizations to submit to the secretariat, by 5 March 2012, their views on the issues referred to in paragraph 69 above;

71. Requests the secretariat to compile submissions referred to in paragraph 70 above by Parties into a miscellaneous document for consideration by the Subsidiary Body for Scientific and Technological Advice at its thirty-sixth session.

Source: UNFCCC website

Current direction of negotiation on climate change and agriculture:

The discourse on agriculture and climate change is completely dominated by the northern compulsion and debate on mitigation in climate change and so called climate smart agriculture. Driven mainly by countries having predominant agriculture export, it is fixated by the mitigation in agriculture. While mitigation of methane and NO2 emission in agriculture and livestock might be a good idea in developed and industrialized country, it's completely irrelevant in developing countries. The current negotiation in agriculture fails to make a distinction between high input, high carbon footprint industrial agriculture in developed countries and low input, climate friendly sustainable agriculture in developing and least developed countries. In these countries the subsistence agriculture, is already climate smart using least energy, water and other resources. What is critically needed more in these countries is adaptation support for which fast track, transparent, reliable and accessible finance must be made available.

The current debate on agriculture and climate change which leans heavily in the favour of agri-export countries and agri-business companies will neither help agriculture and food production, nor will they contribute to climate change in any manner. The solutions those are being promoted to mitigate emission in agriculture will further ruin small and marginal farmers, increase hunger and food insecurity, and exacerbate emission and climate change in the long run. The farmers, farmers groups and civil society organizations of the world fear that a work programme on agriculture by SBSTA will pave way for legitimizing and expedite the false solutions being offered.

The negotiations on agriculture in climate change promote linear agriculture, monoculture of genes, untested and hugely contested solutions to mitigate emission in agriculture like bio-char, agro-fuels, GMOs, no-till/conservation agriculture. Assessing soil carbon and deploying methods to sequester carbon with the objective of luring farmers with carbon credits and market based finance, seems to be the only tangent of the negotiations. A growing body of both practitioners' and experts' research and literature has been able to debunk these myths associated with climate smart agriculture. The current focus on soil carbon sequestration and using it for generating finances through private participation will definitely spell and doom for small and marginal farmers in least developed and developing countries. In countries like India, where majority of the farmers (more than 80%) posses a land holding smaller than 1 ha, the rush for sequestration will lead to them losing their lands and only productive asset. The situation remains similar in many South Asian countries with most of the farmers below poverty line and having least resilience and adaptive capacity. Some of the pilot CDM projects on soil carbon sequestration have run into problems ranging from technological handicaps, below par standards and financial inadequacy and unavailability. Farmers involved have been hugely disappointed and disillusioned

In the light of these realities and circumstances, UNFCCC must pursue a work programme, which has a centrality of concerns of small farmers in least developed and developing countries, is rooted in identifying adaptation needs of the farmers, and locating ways of means of providing financial support mainly through public sources. There are a number ways in which current production and consumption subsidies in developed countries could be reorganized to facilitate this, besides other ways currently under consideration for generating finances for Green Climate Fund.

Agriculture needs scaled up financing:

Substantially enhanced investments are required in agriculture to meet the projected demands and sustain food security in food deficit poor countries. The public investment in agriculture remains awfully low (less than 4%), which is gradually declining further. It is believed that more than US $ 10 billion per annum investment will be required by the middle of the century, with maximum requirement in China and India, followed by Sub Saharan Africa and Latin America. Private investment has increased substantially within the last decade. However, much of it is focused production of major raw crops including oilseeds, corn, wheat and feed grains, and livestock. The trend shows a definite inclination towards forcing agricultural production to oil seeds, agro fuels and meat production. Low levels of public investment in agriculture have resulted in inadequate development in rural infrastructure, knowledge generation, and access to food and markets, which have kept the small farmers trapped in poverty.

Durban package declared availability of Green Climate US$ 30 billion from 2012 to be scaled up to US$ 100 billion from 2020 onwards. There are significant uncertainties about from where the resources will be mobilized, and how it will be channelized. The apparent lack of money in agricultural finance has also provided an opportunity to advocates of market based mechanisms to ask for including agricultural mitigation in the CDM for look for new opportunities within market based mechanisms. However, as a matter of fact, even agricultural mitigation has awfully small money to offer to agriculture under the current financial instruments under UNFCCC and Kyoto protocol, GEF and GCF.

What small farmers want:

Small farmers in least developed and developing countries feel that current focus on carbon sequestration and reliance on market based mechanism in fraught with serious consequences for agriculture and farmers. They feel

1. There should be a distinction in treatment of agriculture in developed industrialized countries and least developed and developing countries, which urgently need support for agricultural adaptation.
2. The current focus on soil carbon sequestration and agricultural emission from developing countries divert the focus from emissions from industrialized countries and undermines the importance of equity and CBDR.
3. Soil carbon and other agriculture offsets will not bring adequate, predictable, additional or reliable finance for adaptation or mitigation anywhere.
4. Carbon markets are an over-hyped, unreliable, volatile and inequitable source of funding. In spite of the vast volumes of money currently associated with carbon markets, only a tiny fraction of this goes to projects on the ground
5. The global price of carbon is already too low and volatile to deliver reliable finance to projects.
6. Given the technical challenges and scientific uncertainties about the actual sequestration of carbon in soil, this makes for a poor “tradable asset”. Given these uncertainties, soil carbon offset credits are ineligible for the European Emissions Trading Scheme representing 97% of the global compliance market until at least 2020.
7. Instead these quasi-markets will require massive public funds for pre-financing, and serve mostly to generate profits for commodity speculators in the North.
8. Approval of a work programme could pave the way for unproven and costly techno-managerial solutions and further concentration of agricultural and livestock gene pool with big agribusiness corporate.

Farmers in least developed and developing countries strongly believe that adaptation should have the first charge as far as agriculture and climate change in this region is concerned. They also strongly believe that much of the desired investment in agricultural adaptation will have to be come from public finance. Private investment in agriculture will be motivated by controlling and monopolizing agriculture in developing countries at the hands of big agribusiness TNCS and it shall have to be tailored by national governments to suit the needs of agriculture and farmers. The international climate change negotiations are influencing national and sub-national policies and especially agricultural policies to follow the international prescription, which is highly dangerous. The UNFCCC negotiations

Chapter 9
India's tryst with GM crops- Hard lessons learnt
Sreedevi Lekshmikutty & Sridhar Radhakrishnan

India opened its gates for research on Genetically Modified (GM) crops in the late 1990s and approved its first and only GM crop, Bt cotton, in 2002. From then to now in 2012 India's tryst with GM crops has been a story of false promises and failed dreams, loss of agrarian livelihoods, alienation and loss of seed diversity, egregious regulatory lapses, ignored science and opaque processes, corporate excesses exacerbated by public sector incompetence. As the corporations tallied their profits, farmers counted lives lost on the altar of royalty payments and unmet promises.

The biotech and seed majors planned their moves in the already ravaged post green-revolution agrarian landscape of India. To date India has allowed the commercial cultivation of one GM crop Bt cotton and the regulator recommended the approval of one GM food crop Bt Brinjal (which was later stopped in its tracks by the Minister for Environment who clamped a moratorium on it). Both were cleared and approved by the apex regulator Genetic Engineering Appraisal Committee (GEAC) based on a very narrow risk evaluation of the engineered gene, undertaken by the developer company with no socio-economic evaluation, no real ecological evaluations or independent evaluations.

Bt cotton and Bt Brinjal in India illustrate clearly and starkly the gamut of problems that are being faced with the commercial cultivation of a GM crop on one hand and the egregious gaps and lacunae in the Indian regulatory apparatus on the other hand.

India Bt cotton scenario: To hell in a hand basket

The approval of Bt cotton and its cultivation which began in a small way in 2002 and grew to cover 90% of the cotton area in India is a story of unintended negative effects in the fields, development of resistance in the target pest, loss of cotton biodiversity, contamination of organic and conventional cotton, socio-economic devastation and seed monopoly by one company.

- Pest resistance causes increased pesticide use while yields stagnate: The bollworm complex against which the Bt toxin is being used has developed resistance to it; evidence has come from the fields and research studies. In addition many secondary pests have become major threats to Bt cotton thereby leading to the increased use of pesticides. At the end of nearly a decade of Bt cotton cultivation, the value of insecticides used in cotton in India has actually increased to Rs. 880.40 crores in 2010 compared to Rs 597 crores in 2002, when Bt cotton was first approved. The companies sold Bt cotton on the false promise of increased yields whereas the reality now, as expected for this technology, is that yields have been stagnating since the last seven years. This finding comes from a leading government cotton scientist, Dr.Kranti, who has also raised the red flag on loss of soil fertility, the indiscriminate proliferation of Bt cotton hybrids (809 with Bt toxin engineered into them at the last count) and the unforeseen pest menace and new diseases afflicting Bt cotton.
- Conventional cotton seeds have disappeared from the market and Monsanto's Bt cotton monopolizes the market: All seed companies in India sell only Bt cotton seeds and over 90% of the Bt cotton seeds sold in the Indian market contain Monsanto's Bt gene. Exorbitant seed prices has been a burning issue between various state governments and Monsanto, leading to court cases and rulings under the MRTP act with companies questioning the right of the states to control seed prices. A fall out of the unrelenting promotion of Bt cotton is the almost complete disappearance of non-Bt cotton seeds from the market. This has been caused due to the dual impact of private seed companies producing only Bt cotton hybrid seeds for higher profit margins and the public sector seed companies almost ceasing seed production and distribution and abdicating their responsibility provide good seeds at an affordable price to farmers. It's also a fact that the rate of

proliferation of hybrids in the cotton market has been highest in the country after the GM crop was introduced, thereby eliminating the chances and choices for farmers. The genetic base of cotton used in the country now is so low, that the vulnerability of the crop is probably much more than it ever was.

- **Farmer suicides continue farmers protest and government provides relief:** There is one statistic which is going up in many cotton growing areas, that is the number of farmer suicides. Suicides among farmers in regions like Vidarbha have not come down after the introduction of Bt cotton but have actually increased (Maharashtra's total number of farm suicides during 1997-2002 stood at 17002, with an annual average of 2833, while it was 24402 during 2003-2008 (after Bt cotton was introduced), with the annual average being 4067, as per NCRB data). During many growing seasons farmers were so incensed due to the problems with Bt cotton seeds that it resulted in incidences of farmers destroying seed dealers' shops and roughing up seed company officials. Losses incurred by farmers have also forced various state governments to declare relief packages for cotton farmers to alleviate farmer distress.
- Response of the regulator and government: The regulator has been silent on this ongoing cotton catastrophe and has done no real post-market evaluation of Bt cotton since its introduction. The Indian Parliament has time and again witnessed glib responses regarding the success of Bt cotton. The Indian public sector has neither aided the farmers nor provided alternatives while the private corporations captured the seed market through Bt cotton. The attempt by the public sector to produce its own 'farmers' Bt cotton' by engineering the Bt gene into a traditional cotton variety (Bikaneri narma) ended in ignominy. The Bikaneri Bt cotton had to be hastily withdrawn one year after its introduction when it was found that it contained not an original Bt gene but Monsanto's Bt gene.

Bt Brinjal -The regulator fails the nation

With Bt cotton the travails began post commercialization as it was approved before the farming community, the larger public, and civil society knew much about this technology which made a quiet entry into the country. There were objections to the approval of Bt cotton from civil society groups which knew about the issue. But the problems that emerged one after the other with Bt cotton farming alerted farmers' movements and the civil society which began tracking Bt brinjal from its early stages of field trials. The narrative for Bt Brinjal from the seed industry, ably supported by the public sector, was of the threat of hunger and to address food security needs of the nation.

The tale of Bt Brinjal in India up to its eventual moratorium by the then Minister for Environment & Forests turned out to be one long hard lesson of regulatory lapses, refusal to share data , inadequate safety testing, conflict of interest within the regulator and complete disregard for independent scientific advice and opinion.

- Violation during field trials, inadequacies in testing and refusal to share data: The problems began at the outset when civil society found instances of violations during field trials and raised concerns about the findings of the stage-1 trials. They sought the basic data which the Department of Biotechnology (DBT) initially refused and finally conceded after a long battle and the interim order from the Supreme Court of India and released in August 2008. Based on this data independent experts from around the world opined about BT Brinjal.
- Bt Brinjal- Issues of food safety, threat to biodiversity, inadequately tested: All tests submitted for Bt Brinjal were only from the promoter company, in many of those tests the sample size was too small, the results were inconclusive and many problematic findings were glossed over. Independent scientists also pointed out that the long term effects of consuming GM Brinjal was not tested and its impact on people would be problematic. Independent scientists pointed out that the effect of Bt Brinjal on Brinjal biodiversity would be catastrophic and it was not appropriate for small-holder cultivation. They said that the technology was an obsolete one and the use of antibiotic resistance markers was detrimental. They also opined that the risk assessment done for Bt Brinjal was on too narrow parameters and grossly inadequate.

- **Approval despite negative reports:** The civil society and independent scientists submitted various reports pointing to the lacunae in Bt Brinjal which resulted in GEAC constituting two expert committees (at different stages) to examine the issues raised. However, conflict of interest marred the composition of both the committees. The committees submitted reports stating that none of the objections raised by independent experts, or civil society had any merit in it and Bt Brinjal was safe for consumption and commercial cultivation. Based on the second expert committee's decision on Oct 14th 2009, GEAC recommended that Bt Brinjal may be approved for commercial cultivation, a decision which was met with vociferous objections from many quarters.
- Public consultation and moratorium: In response to the people's objections and various independent reports received the then Minister for Environment and Forests decided to hold public consultations to seek broad based public opinion and also sought feedback on the expert committee's report . More than 8000 people attended the seven public consultations held during January and February 2010 and numerous people including eminent scientists from all the world wrote to the Minister providing their feedback on Bt Brinjal and the expert committee report. Thirteen state governments objected to the commercialization of Bt Brinjal. The people who attended the public consultations farmers to consumers to scientists to nutritionists to alternate medicine experts- raised issues ranging from negation of consumer choice, to the very lack of need for Bt Brinjal, the impact of Bt Brinjal on alternate systems of medicine to the control of Indian agriculture by Monsanto. Substantiated with his detailed reasoning the Minister on 9th february, 2010 declared a moratorium on Bt Brinjal till independent tests confirm the safety of the product to the satisfaction of all .

GM crops is not the solution- either to deal with climate change or to attain food security

While the focus of the policy makers and the seed industry is on the false and risky solution of GM crops to address food insecurity and climate change, real solutions continue to be ignored. The world over, many reports of repute have been published which abundantly demonstrate that sustainable small holder agriculture with farmer control over resources is the best solution to address these twin issues and not the cultivation of GM crops and other reductionist technological approaches.

The highly credible and respected report from The International Assessment of Agricultural Science and Technology for Development (IAASTD) unambiguously states that food security and sustainable development can be achieved through good stewardship of land, water and other natural resources by small scale farmers and dealing with pests and other agricultural problems with culturally appropriate methods. The report sees no significant role for GM crops. The findings of the United Nations Special Rapporteur on the Right to Food, released in March 2011 states in its findings that scaling up agro-ecological farming practices can increase yields and productivity while preventing and reversing genetic erosion and loss of biodiversity.

In addition many successful alternatives are being practiced in different parts of the country including organic farming, non pesticidal management, extensive conservation of indigenous varieties of seeds resilient to climate change and preservation of agro-biodiversity. One such very successful alternative is Non Pesticidal Management (NPM) which is being successfully practiced in Andhra Pradesh through the community managed sustainable agriculture (CMSA) program. NPM in Andhra Pradesh has expanded at a rapid pace registering a 125 fold increase in 6 years (from 25000 acres in 2005 to 32 lakh acres in 2011). Currently 1.3 million ha (3.2 million acres) of farmed land in Andhra Pradesh, accounting for more than 10% of total cultivated area, is under Non Pesticidal Management spread across 7000 villages across 22 districts benefiting about 1.3 million farmers.(Ramanjaneyalu, 2011).

Current situation and future outlook:

Field Trials:

GM experiments are being conducted on 72 crops in India, many of them on crops for which India is the Centre of Origin. This is clearly in violation of the globally agreed Cartegena Protocol. The list also includes many crops of which India is the Centre of Diversity and also of which India has trade interest. During the last two seasons GEAC approved

open air field trials for 14 crops, engineered with 38 GM events to be conducted across 16 states, totalling over a 100 trials across the country. On the other hand, last year a directive was passed by the Environment Ministry that GM field trials should be given a go ahead only after explicit written consent (No Objection Certificates - NOC) is received from the states . After this directive nine states have refused to give approvals for GM trials and only three states have granted NOCs for GM crop field trials. Consequently the seed and biotech industry is actively lobbying to get the rule requiring NOCs for GM crop field trials rescinded.

GM crop field trials, under the best circumstances, is fraught with risks, as it involves the release of untested, unapproved living modified organisms into the environment. This risk, in India, has been compounded by the numerous instances of violations during field trials. The cases of violation that have come to light have been due to the vigilance of farmers' groups and civil society groups and could be just the tip of the iceberg. Even for these cases that have come to light, no punitive action has been taken against violators (despite many appeals and petitions from civil society) and all of the violators, bar none, have been allowed to undertake more field trial**s.**

Public Awareness Increases:

Awareness about GM crops has increased manifold due to the Bt brinjal campaign and the widely reported public consultations. Along with increasing awareness, opposition to GM food crops is increasing among the population, which became evident during the public consultation about Bt Brinjal. Many independent scientists and professional like doctors have taken a strong position against introduction of GM crops particularly food crops and demand for organic and natural foods is exponentially increasing.

Biotechnology Regulatory Authority of India: A super-regulator

The government of India does not seem to have taken into account either the problems with Bt cotton, the opposition of the public while formulating a new bill to regulate biotechnology in the country. Instead of addressing the problems in the current system and regulatory processes and learning from the progressive interventions of various stakeholders at different stages including the public consultation process conducted by the Former Minister for Environment & Forest, the Bill is a regressive piece of legislation which proposes to further centralize the regulation of this risky living technology. The bill is fundamentally flawed. BRAI is proposed to be under the Ministry of Science and Technology, under which the Department of Biotechnology is located with a mandate to promote biotechnology- the promoter and regulator will be the same entity thereby creating an untenable conflict of interest. BRAI violates the constitutional right of the states to take decisions on GM crops by vesting absolute decision making authority in a three member body of biotechnology experts alone. BRAI violates international treaties mandating public consultation before introduction of any new GM crops - that India is a signatory of by completely obviating public consultation from the decision making process. In addition it gives precedence to business confidentiality over transparency in the interests of larger public and narrowly focuses on regulating biotechnology without any attention towards biosafety.

Conclusion: A decade after the introduction of the approval of the first GM crop, the situation with regard to GM crops and its opposition in India is both hopeful and distressing. On one hand is the mindless promotion of GM crops by the industry which has also lobbied with the regulator and some policy makers to push its agenda. On the other hand farmers and consumers are waking up to the threat of corporate control and the introduction of an irreversible and unnecessary technology and therefore developing alternatives and fighting the advent of GM crops. Nevertheless, India provides to the world a debate of unprecedented nature, against this corporate takeover of Indian agriculture and the destruction of the natural resources and ecological balance of its life supporting systems.

Chapter 10

A call to governments of the world and leaders at Rio+20 by People of India

National Consultation on Sustainable Development; National and Global Priorities for Rio+20,28th April, IIC, New Delhi

We the members of civil society organizations, academia, judiciary, peoples groups and movements, farming and peasant communities and policy makers, having assembled at Delhi India on 28th April, considered and discussed the Rio+20 Summit (June 2012), its historical perspective, aims and objectives, focus areas, preparatory processes, negotiations on the Zero draft and the amendments proposed by parties, and IGOs and civil society organization.

We express with deep concern that the process does not inspire confidence that Rio+20 is really looking into the fundamental issues that promote unsustainable development.

We regret to observe that environment and nature does not form the central concern, and while the acknowledging the failure of current economic model and development paradigm, the Rio +20 tends to extend it at the cost of nature, environment, earth and rights of people in the developing and poor countries.

We are perturbed to observe that failure of development paradigm promoted by industrial countries and world institutions have resulted in a series of crisis including economic, food, fuel, and climate. The humanity in poor countries, and women and children having least resilience faces the worst affects.

We are also extremely concerned that the two themes of Green Economy in the Context of Sustainable Development and Poverty Eradication (GESDPE), and Institutional Framework for Sustainable Development (IFSD), does not highlight the urgency that humanity and the world faces today.

It is a matter of grave concern for us that in the negotiations leading towards the Summit in June, has shown complete disregard to the principles of Rio (primarily equity and CBDR among them), and the right to development.

We call upon the governments of the worlds and leaders at Rio Sustainable Development Summit to make efforts towards a collective, meaningful, equitous, and ambitious outcome, which is based on principles of Rio, integration of three pillars and harmonization of needs of growth with the rights of nature and Mother Earth.

We call upon the developed and industrial countries to affirm to principles laid down in Rio, and fulfill their previous commitments including commitments to provide financial and technological assistance to developing countries, and make genuine efforts towards a meaningful solution to the crisis.

We call upon the leaders of the developing and least developed countries to come together to ensure that the Summits outcomes is not fractured by the differences among them and they take upon a collective responsibility and leadership in this landmark Summit.

We call upon the national governments to ensure ambitious implementation of the principles laid down by the Rio, agenda 21, JPOI, Nagoya Protocol, and other important policies and legislations, flowing out of the Rio UNCED. We also call upon them to ensure development of mechanisms and structures at national, sub national and local levels, and invest in building capacity at local level to understand and monitor sustainable policies.

We call upon civil societies of the world to broaden the sustainable development debate, and deepen the understanding of sustainable development, alternative paradigms, success stories, in the society, government, and other stakeholders.

We demand and reiterate that:

1. The Summit and its outcome must bring unequivocal commitments to ensure that the environment andnature forms the central concern in a revisit to the development paradigm. Presently, it seems that the focus is economic development and nature is being talked about as erosion of natural regenerative capacity and crisis of climate has forced a slowdown of economic growth. The summit must approach the issues of sustainable development and poverty eradication in a human rights based approach and the outcomesmust incorporate highest accountability and transparency standards.
2. The affirmation to the Rio principles must ensure affirmation to all principles that Rio stood for and specifically equity and CBDR. The outcomes must be based on the principles of Rio, and specifically, equity and CBDR, do no harm, polluter pays, inter-generational and intra generational equity.

3. The green economy should respect political sovereignty and sovereignty over their natural resources. It must focus on poverty eradication and green jobs and livelihoods. The green economy must not create additional externalities in aid and trade for poor and developing countries. It must allow increased access to the additional finances and appropriate technology to help south develop green development pathways.
4. The relevance for green economy must acknowledge the failure of current economic system and paradigm. It must also acknowledge the gaps in implementation including failure of world institutions, and global environmental governance as the need for reform in institutions and systems including economic and financial architecture, rules of aid and trade and BWIs.
5. The green economy must consider women and youth as agents of sustainability, and must address impact of unsustainable development on them. It must invest in devising strategies which are women centric and allow them greater access to information, resources, finances and technology.
6. The private sector has the potential of contributing significantly in development of green economy; however, the experience suggests that they have failed to respect that duty. The greed for profit has harmed the environment and the natural capital resulting in huge social and economic costs borne mostly by people in developing and poor countries. The green economy must be cautious of not having over reliance on private companies and business, which undermines and dilutes developed countries responsibility.
7. The institutional framework for sustainable development must ensure that it integrates three pillars of sustainable development, substantially improves the global environmental governance with increased representation of the concerns from developing and poor but resource rich countries. The mechanism agreed upon must be transparent, representative, effective, and accountable and should have plurality in its composition. It must also ensure increased civil society participation.
8. The IFSD must also ensure appropriate linkages in surveillance at regional, national and sub-national levels, so that the gap between the principles and the practice is reduced and polluters do not go scot free.
9. The IFSD also must ensure that national governments take accountability of creating capacities at local level for monitoring of sustainable development policies and ensure representation of their voices, concerns and solutions in the policy making.
10. The Summit must ensure that the key thematic areas listed are given due consideration and the decisions take are based on the experience and learning.
11. The right to food and nutrition must be pursued as first goal towards sustainable development. The Summit must commit unequivocal support to small holder farmers (who produce more than 70% of the world's food) and sustainable agriculture as solution to the crisis of food and climate. Industrial agriculture with heavy reliance on external inputs pesticides and chemical fertilizers, has created hegemony of agribusiness companies, and has caused immense harm to the soil, earth, water and environment, and has taken away sovereignty and choice from small holders' farmers, which is being reflected in food crisis. Any effort to bring increased corporatization of agriculture, alienation of land from agriculture, neglect to concerns of small holder farmers and climate change will have disastrous impact on availability of food for the rising populations. The Summit must reject industrialization and corporatization of agriculture.
12. Water is central to life, food, energy and environment. The Summit must ensure that concerns related to water are prioritized and water is treated as right rather than a tradable commodity. The experience of privatization of water and its management has been extremely disappointing world over and the Summit must discourage a commercial approach to water, and encourage public attention and investment in water. Water is more a local issues and decentralized control and management is extremely critical in improving quality, preservation and recharge, equitable access and distribution, which Summit must encourage.
13. The means of implementation must ensure that developing and poor countries are allowed access to new and additional finance and technology based on the principle of equity and CBDR, and international trade framework under the WTO allows sufficient flexibility to these countries in their national economic and development interest. It also must ensure that IPR regimes are changed which helps poor countries access and produce technology necessary generic drugs, which is extremely essential to fight disease and

epidemics in many courtiers.

14. Climate change is one of the biggest developmental challenges today, and any effort towards sustainable development must ensure additional global attention, efforts and cooperation. The Summit must be a step towards resolving the crisis in climate change negotiations and bring improved appreciation of the crisis among the states, and encourage collective responsibility based on the principles of equity and CBDR. It must expedite the efforts and commitments made by countries at COP.
15. Sustainable cities will be the fulcrum of sustainable development in coming decades. The Summit must ensure that resources in the cities are shared equitably and consumed responsibly with special attention to the vulnerable poor populations in the cities. In addition it must ensure improved access to resources, amenities and employment in the rural areas so that rural urban migration can be managed better.
16. Energy is extremely critical for sustainable development. In the last five decades, global energy production has improved significantly, however, access to energy especially in poor and developing countries remain highly critical. The energy debates also tend to see energy efficiency as solution to energy crisis, which is highly flawed presumption as efficiency has led to increase in consumption. Besides, efforts to promote renewable energy also remain profit oriented and driven by commercial considerations rather than ecological and environmental concerns. Bio-mass, which is the main source of energy for resource poor people and can be sustainable solution to energy and heat for people in poor communities, remains completely absent in modern energy debates mainly due to low profit perception. The modern energy production forces the poor people to buy costly and at times dirty energy for the profit making power companies. The Summit must ensure than equity is central consideration in making modern energy available and to the energy security efforts.
17. Ecosystem services approach tends to not only evaluate natural resources from commercial point of view but also tends to encourage commodification of regenerative capacity of earth. We reject this approach and encourage and humanity and the governments to serve the nature and earth rather than try control them and their services

List of the participants (National Consultation on Sustainable Development: National and Global priorities for RIO+20)

S.NO	*NAME*	*ORGANISATION/DESIGNATION*
1.	Afsar Jafri	Forum on the Global South
2.	Ajay K Jha	Director, PAIRVI
3.	Ali Anwar Ansari	MP
4.	Alok Vyas	CECOEDECON
5.	Amitabh Behar	Director, NFI
6.	Aneeq Jamei	All India Youth Federation
7.	Anil Singh	SANSAD
8.	Anita Paul	Grassroots
9.	Arihant Panagariya	MP, Lok Sabha
10.	Arnab Dutta	Down to Earth
11.	Arun Bidwai	Delhi Platform
12.	Ashok Mathur	
13.	Ashoknanda	
14.	Asit Das	SADED
15.	Atul Anjaan	AIKS
16.	Babu Lal Sharma	Global Gandhi Forum
17.	Bharat Bhushan	PANI
18.	Chelsea Soderholm	PWESCR, Delhi
19.	Datta Patil	Yuva India
20.	Devdutt	
21.	Dhananjai Sahai	CECOEDECON
22.	Divi Ramola	Intern to Mr. P D Rai MP
23.	Dunu Roy	Hazards Centre
24.	G Mani Candan	IMF
25.	Goapl Bhai	Akhil Bhartiya
26.	Himanshu Thakkar	SANDRP
27.	Javed	IYCN
28.	Jayashree Sridharan	CECOEDECON
29.	Jayavardhan	CECOEDECON
30.	Jyoti Deka	Ckinetics
31.	K N Tiwari	DISHAIN
32.	Kabir Arora	Indian Youth Climate Network
33.	Karoline Opasen	Norwegian Embassy
34.	Kripa Basnyat	PWESCR, Delhi
35.	M B Rao	SAARC, Disaster Management Centre
36.	Madhuresh	NAPM
37.	Malan Chakrabarty	TERI
38.	Manish Jain	ACF, Head of Mission-India
39.	Manoj Prasad	SADED
40.	Nagraj Adve	Delhi Platform
41.	Nishank Kisanswaraj	ASHA
42.	Om Thnavi	Editor Jansatta
43.	P D Hindwan	
44.	Prabal Pratap Shahi	Political Activist
45.	Rakesh Singh	ROPIO Foundation

BEYOND COPENHEGEN

Beyond Copenhagen Collective (BCPH) is a coalition of more than 40 organizations and networks working on the issues of sustainable development, environment, sustainable agriculture etc. We have been extensively engaged with India's response to Climate Crisis, Domestic Action and its position in International negotiation process under the United Nations Framework Convention on Climate Change. We have tried to attract global attention on due consideration of agriculture and food security in climate change negotiations, state responsibility and accountability for climate justice.

Organizations and networks part of the BCPH collective bring with them varying experiences and expertise, ranging from grassroots works with farmers and peasant communities to engaging with policy makers and the polity through policy analysis, advocacy and lobbying, engaging with the media through their sensitization and orientation; and undertaking documentation and scientific exploration in climate change, sustainable agriculture and food security. The focus of our work emanates from the understanding that there is an urgency to work in collaborative action on climate change and climate justice issues. The collective proposes to address these issues through a variety of actions at local, state/provincial, national and global level.

Secretariat: CECOEDECON
SWARAJ, F 159-160, Industrial & Institutional Area,
Sitapura, Jaipur-302022 (Raj.)
Ph: 0141-2771488/2770812/3094828 | Fax: 0140-2770330
E-mail: cecoededon@gmail.com | Website: www.cecoedecon.org