TERRA VIVA

Our Soil, Our Commons, Our Future

A new vision for Planetary Citizenship

Navdanya international

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"Upon this handful of soil our survival depends. Husband it and it will grow our food, our fuel, and our shelter and surround us with beauty.
Abuse it and the soil will collapse and die, taking humanity with it"

From Vedas Sanskrit Scripture
1500 BC

This document is based on discussions and contributions of the drafting group of the Manifesto, composed of leading experts from different disciplines and countries, which met in Florence in January 2015. It includes the contributions and subsequent inputs and elaborations which were merged into the present document by Navdanya editorial team *Vandana Shiva*, *Caroline Lockhart* and *Ruchi Shroff*.

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Special thanks to Banca Etica and Cascina Triulza for their support.

Navdanya international www.navdanyainternational.it

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We offer this Manifesto TERRA VIVA at this fragile and vital moment in human history to see the contours of transition based on hope, on human creativity, on our capacity to see and make connections. To identify the false assumptions that are allowing the destruction of the foundation of our very existence and to create an Earth Democracy based on living soils, living communities and living economies.

In the UN Year of Soil, the Manifesto is a celebration of the Soil, our Land, our Territories. It is an invitation to remember that we are the Soil, that humus shapes humanity, and the destruction of the living soil closes our future.

The Manifesto shows how critical issues and crises are interconnected and cannot be addressed in silos: soils, land and land grab, farming, climate change, unemployment, growing economic inequality and growing violence and wars. Based on a transition from the current linear, extractive way of thinking to a circular approach based on reciprocal giving and taking, the Manifesto offers a new paradigm for a New Agriculture, a new Circular Economy which can sow the seeds of justice, dignity, sustainability, peace and a true New Democracy.

Content

Section One

The Choice to Make

For the first time in human history, our common future as a species is no longer certain.

The continuing cycles of ecological, economic and political crises have put humanity on red alert. Climate catastrophes, hunger, poverty, unemployment, crime, conflicts and wars seem to be hurtling us towards social collapse. The soil, the very basis of our life on Earth and our humanity is under threat. This threat to soil is linked to the multiple crises we face.

Our common survival demands that we make a transition from vicious cycles of violence to virtuous cycles of nonviolence; from negative economies of death and destruction to living economies that sustain life on earth and our lives; from negative politics and cultures that are leading to mutual annihilation to living democracies which include concern for and participation of all life.

We can choose another path. A path that leads to a new vision of planetary citizenship and a new pact with the Earth based on reciprocity, caring and respect, on taking and giving back, on sharing the resources of the world equitably among all living species. It begins with changing attitudes about the way we treat the soil. Rather than seeing it as an inanimate mineral to be used until exhausted, it should be cherished as a living entity, a Terra Viva, whose survival is essential to our own. In soil lies the answer to all.

The Paradigm of Separation and Fragmentation

What is propelling this destructiveness and preventing us from arresting it?

A major reason is the solutions offered perpetuate the paradigm that caused the problem. As Einstein said, *"We cannot solve our problems with the same thinking we used when we created them".*

The predominance of separation as a way of seeing and being, the belief that things are insular and separate is the characteristic of this dominant paradigm. Three illusory perceptions of separation prevent the correction and transformation of how we think of soil and land, food and work, the economy and democracy:

- humans are separate from the Earth;
- the wealth creation in the market is separate from the contribution of others – nature, workers, women, ancestors;
- actions are separate from consequences, and rights are separate from responsibilities.

These false perceptions separate humans from nature, soil from society, ecology from economy. The paradigm of separation and fragmentation leads to the law of one way extraction from nature and society, of taking without giving. Its practitioners ignore the responsibility of giving back to nature and society and in so doing foment ecological crises and

perpetuate social and economic injustice. Even though the evidence of ecological and social collapse has become such common knowledge, the consequences of this exploitative logic are routinely ignored, externalized, and separated from the actions.

Climate change is denied, as are the ecological impacts of non-sustainable agriculture on soil, on biodiversity, on water, on livelihoods. The conflicts emerging from non-sustainable and unjust resource use are not seen in their ecological context but reduced to ethnic and religious conflicts. For every problem and crisis created, ever greater applications of the extractive, linear, and blind logic are brought to bear.

This linear mentality propels the powerful to blindly and arrogantly press on toward successive conquests. It is a blinkered paradigm, leaving no room for correction of course.

From the Linear towards a Circular Approach

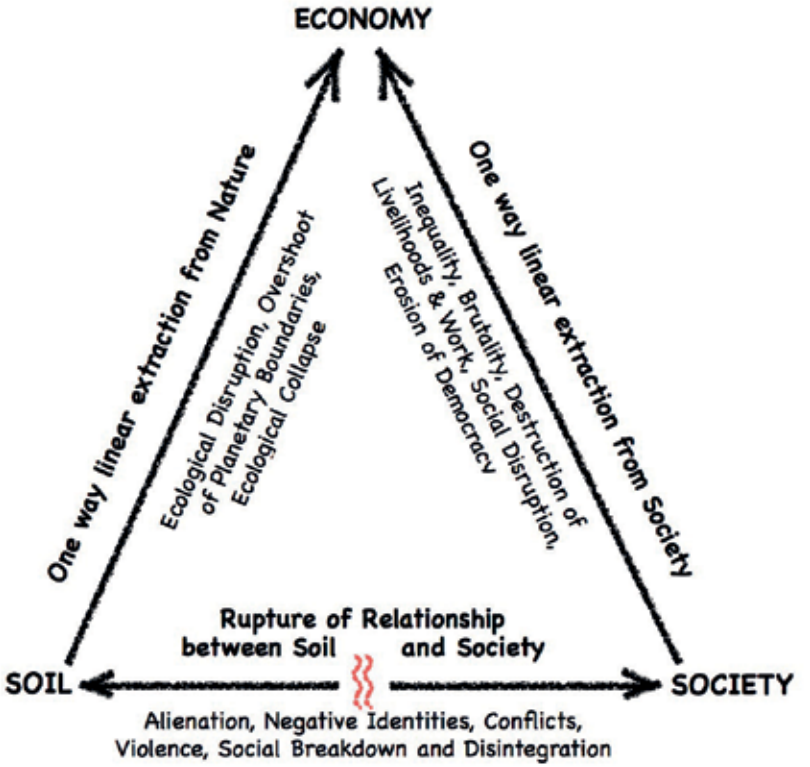
Life and its vitality in nature and society is based on cycles of renewal and regeneration of mutuality, respect and human solidarity. The relationship between soil and society is a relationship based on reciprocity, on the Law of Return, of giving back.
The ecological Law of Return maintains the cycles of nutrients and water, and hence the basis of sustainability. For Society, the Law of Return is the basis of ensuring justice, equality, democracy and peace.

However the economic paradigm based on a linear one-way extraction of resources and wealth from nature and society has promoted systems of production and consumption that have ruptured and torn apart these cycles, threatening the stability of the natural and social world.

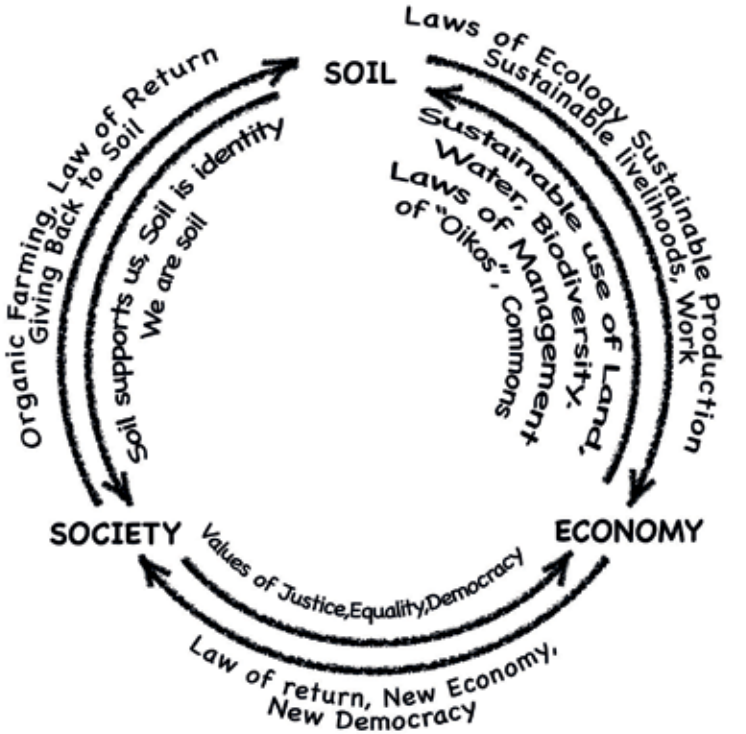
The dominant model of the economy no longer has its roots in ecology, but exists outside and above ecology, disrupting the ecological systems and processes that support life. The unchecked conquest of resources is pushing species to extinction and led ecosystems to collapse, while causing irreversible climate disasters.

Similarly, economy, which is part of society, has been placed outside and above society, beyond democratic control. Ethical values, cultural values, spiritual values, values of care and co-operation have all been sidelined by the extractive logic of the global market that seeks only profit. Competition leaves no room for cooperation. All values that arise from

our interdependent, diverse and complex reality have been displaced or destroyed. When reality is replaced by abstract constructions created by the dominant powers in society, manipulation of nature and society for profits and power becomes easy. The welfare of real people and real societies is replaced with the welfare of corporations. The real production of the economies of nature and society is replaced by the abstract construction of capital. The real, the concrete, the life-giving gives way to the artificially constructed currencies.



Soil, Society, Economy
The linear, extractive logic of exploitation, threatening ecological e social collapse



Soil, Society, Economy
The circular logic of Law of Return, mutuality, reciprocity and regeneration

The Disruption of the Natural World: Transgressing Planetary boundaries through Rampant Ecological Footprint

The dominant model of the economy, which has separated itself from the laws of ecological return and from the Earth's cycles of renewal, is devastating the planet. In the last two centuries the dramatic changes of land use has transformed the biosphere, with the clearing or the conversion of 70% of the grassland, 50% of the savannah, 45% of the temperate deciduous forest, and 27% of the tropical forest biome for agriculture[1].
In less than a century the legacy of our unsustainable farming systems has yielded a quantity of abandoned land equal to the area of the USA and Canada combined (some 2 billion hectares)[2]; more than the total area occupied by croplands worldwide today. In Africa, poorly managed pasture and rangeland has left 80% seriously eroded and degraded[3].

The dominant economic system does not take into account the finitude of resources. It is based on a linear vision of economic processes, whereby resources are inputs and goods are outputs of a transformative process. The destiny of what is not consumed, in this case the land, remains external to economic transactions and therefore not considered relevant. In every part of the planet soil, water and land are being commodified for pure profit in the name of development.
Investors across Asia, Africa, Latin America are grabbing millions of acres of fertile land that supports the livelihoods of communities. The commons are being hijacked from the citizen in the interests of market forces. Land grabbing and the subsequent industrialized agricultural practices have a direct connection to climate change. According to the Intergovernmental Panel on Climate Change (IPCC), since 2000 the world has pumped almost 100 billion tons of carbon into the atmosphere[4]. At current rates, CO2 levels will double by mid-century, causing a 2-4 degree rise in global temperatures. Respected climatologists such as James Hansen warn that the current rates of global warming will induce large-scale desertification, crop failure, inundation of coastal cities, melting of glaciers and polar ice caps, mass migration, widespread extinctions of flora and fauna, proliferating disease, and probable social collapse. The increase of flooding, storm surges, droughts and heat waves can already be observed. Violent conflicts related to food shortages are a predictable outcome.

By 2025, 1.8 billion people will inhabit countries or regions with absolute water scarcity, while two thirds of the world's population (5.3 billion) will be contending with water stressed conditions[5]. At least 25% of the world's land area is either highly degraded or undergoing high rates of degradation[6], which is linked to 20% of carbon emissions globally[7].

Researchers at the Stockholm Resilience Centre have identified nine potential biophysical thresholds which, if crossed, could generate unacceptable environmental change for humanity. They are: climate change; stratospheric ozone; land use change; freshwater use; biological diversity; ocean acidification; nitrogen and phosphorus inputs to the biosphere and oceans; aerosol loading and chemical pollution.
Their report emphasizes that the boundaries are strongly connected — crossing one boundary may seriously threaten the ability to stay within safe levels of the others[8].

[1] FAO, The State of the World's Land and Water Resources for Food and Agriculture (SOLAW), 2011
[2] Pimentel D. & Burgess M., Soil Erosion Threatens Food Production, Agriculture 2013 3, 443-463.
[3] FAO, Land and Environmental degradation and desertification in Africa, 1995.
[4] IPCC, Climate Change 2014: Impacts, Adaptation, and Vulnerability, 2014.
[5] UNESCO, UN World Water Development Report, Paris, 2009.
[6] FAO, Land degradation in SOLAW Background Thematic Report 3, 2011.
[7] UNEP-WCMC, Carbon in Drylands: Desertification, Climate Change and Carbon Finance, 2008.
[8] Stockholm Resilience Centre, Planetary boundaries research, 2009.

The Disruption of the Social World

Disappearing Democracy

One of the major challenges facing humanity is how to shift the dominant political system away from its exploitative economic model.
The neo-liberal objectives of privatisation, growth, free trade are being used to dismantle the welfare state, and with it the rights to health, education, work and safety that democratic movements of the last century institutionalised. The state is mutating into a corporate entity.
With globalization and the incumbent financial crises, austerity has been imposed on societies, undermining fundamental human rights.

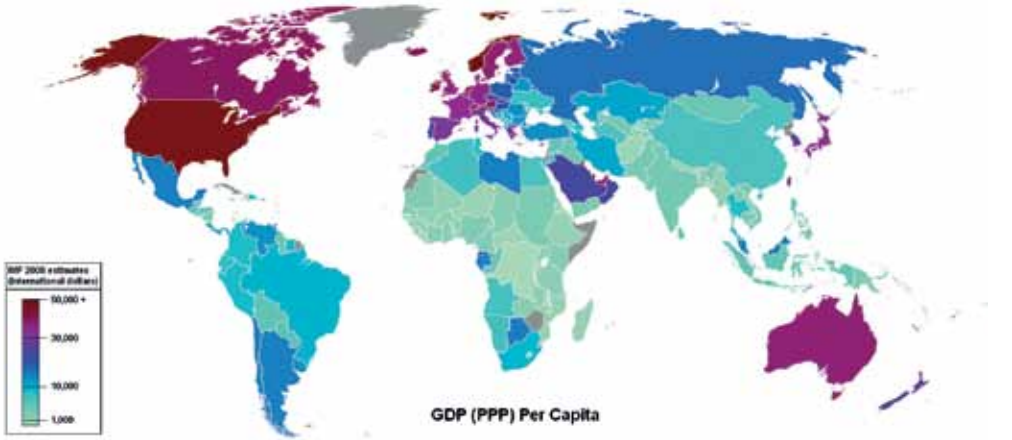
Across the countries of the South it has occurred under the aegis of "Structural Adjustment" and "Trade Liberalisation", while in Europe it goes by the name of "Austerity". The ongoing conversion from the welfare state into a corporate state is extinguishing a democracy "of the people, by the people, for the people". Under corporate influence, governments increasingly act on behalf of corporations. Political power is reflecting the top 1% of the economic pyramid, crushing the 99%, and with them the Earth and her species.

Representative democracy, embedded in a globalized corporate economy, has in effect reduced citizens to join a passive exercise of periodic elections, producing a one way/linear extraction of power from the people, increasingly leaving them powerless to protect their land, lives, and livelihoods. The system represses their ability to defend against land grabbing, destruction of work, and destruction of life support systems.

Widening Inequality

Despite widespread protests, global economic inequality has continued to increase. The share of the world's wealth owned by the richest 1% went from 44% in 2009 to 48% in 2014 [9]. If this trend continues, the wealthiest 1% will soon own more than the rest of the world's population.

The 300 richest individuals in the world increased their wealth by 524 billion dollars last year, more than the combined incomes of the world's 29 poorest countries [10]. Economic inequality affects violence by emphasizing the way we think, act and relate to others. The more unequal a society is, the higher the rates of violence [11].



[9] OXFAM, Wealth: having it all and wanting more, 2015.
[10] Savio R., Inequality and Democracy, IPS, 2011.
[11] Wilkinson R. & Pickett K., The Spirit Level, The Equality Trust, 2015.

Emerging Conflicts and Violence

Across the world we witness new violent conflicts emerging as ecological consequences of the predatory economic model. According to the United Nations Convention to Combat Desertification (UNCCD), 40% of the intrastate conflicts over a 60 year period were associated with land and natural resources. Moreover, 80% of the major armed conflicts in 2007 occurred in vulnerable dry ecosystems[12].

Whether it is the rise in violence in Punjab in 1984, or in Syria and Nigeria today, the conflicts originate in the destruction of soil and water, and the inability of land to sustain livelihoods. Unfortunately, however, the conflicts are not seen in their ecological contexts and are relegated instead to religious motives, with violence and militarisation offered as solutions.

Aggressive economies and anti-democratic politics feed on and fuel vulnerable cultures and identities. Historically cultures have been shaped by the land, and cultural diversity has co-evolved with biological diversity. The land provides people with a sense of identity.

As people are displaced and insecurities grow, identity is transformed and destroyed. Among these vulnerable cultures and identities, terrorism, extremism, and xenophobia take virulent form. Vicious cycles of violence and exclusion – cultural, political, economic – predominate.

The lack of ethical and ecological regulation of economic activities, unleashes the worst of greed, irresponsibility and violence. The economy based on free trade becomes more and more like war and less and less like the road to the well-being of all.

[12] UNCCD, Desertification. The Invisible Frontline, 2014.

Towards a New Vision of a Planetary Citizenship

A new vision for Planetary Citizenship has become an imperative for the possibility of a livable future for humanity. Such a future must be rooted in caring and compassion for the earth and society. The new vision will empower people and curtail irresponsible behaviour and illegitimate power. The future will come from recognizing that the ecological, cultural, social, and political crises are not separate but one. It will grow from the shift of linearity and extraction to circularity, co-operation and sharing. It will grow from diversity at every level and not from uniformity and the mono-cultures of the mind.

The future will emerge from a new vision that prevents the transformation of life – soil, food and land - into waste and inert material, and treating people as expendable and disposable. The waste of resources and of people has no place in nature and just societies. Local democracy prepares the basis for a true global democracy. Global citizenship comes from being rooted in the local – in the soil, in the land. The future will be cultivated from the soil and grow out of the land, and not from the global market of a fictitious finance, corporate personhood and consumerism. We have stopped seeing ourselves as part of the soil – eco-centrism has given way to anthropocentrism which is now giving way to corporate-centrism. We need to move from a corporate centred world view to one centred on the Earth Family. The future will grow from living soil. We are the soil. Soil must once again be at the heart of, and central to the shaping of our future, from which can emerge a new circular economy and a new living democracy.

ejolt Source EJOLT

Global Atlas mapping environmental conflicts throughout the world.

We are the Soil, We are the Land

The United Nations has dedicated 2015 as the International Year of Soils "to make people aware of the crucial role soil plays in food security, climate change adaptation and mitigation, essential ecosystem services, poverty alleviation and sustainable development"[13].

Industrial civilization has distracted us from considering our relation to the soil, based on the arrogant belief that the more we conquer and destroy nature the more 'developed' we are. This has led to the severing of our relationship with the land.

We need a new pact with the earth and the soil. A pact that recognizes that we are the soil, we grow from the soil, we are sustained by the soil. This is the new renaissance - a new awakening that soil is alive and that taking care of the soil is of fundamental global importance and the most important work that humanity can do.

Good, nutritious, and healthy food comes as a by-product of healthy and vibrant soils. When the important role of farmers as providers of health and builders of soil is recognized, traditional agriculture will no longer be seen as a backward and primitive activity to be conquered by industrialization and urbanization but will be given the priority it merits. A new balance between the city and the countryside will grow out of the new pact with the soil.

[13] FAO, 2015 International Year of Soil (www.fao.org/soils-2015).
[14] FAO, Global Food Losses and Food Waste, 2011.

Towards a New Agriculture

A new agriculture is the ground where new economies and new democracies are being shaped concretely. The last century has been dominated by an industrial agricultural model that came out of the war industry and focused on chemicals and fossil fuels.

It has destroyed the soil, uprooted farmers, produced ill-health, created waste at every level, including 30% of food waste [14]. It is a major culprit in the destruction and erosion of water, land and biodiversity, as well as greenhouse gases and large scale unemployment. It extracts the fertility of the soil and the value created by farmers and gives nothing back. Farmers are being forced to spend up to 10 times more than they can earn, using 10 times the energy than they can produce as food.

This has led to the crisis faced by family farmers and small peasants, the crisis of debt and suicides. Industrialized agriculture is no longer a food system but a commodity production system, where grain production goes for biofuel and animal feed, and not for feeding people.

It creates profit for corporations but leads to the degradation of people, land, food and health. The costs of this degradation are not tabulated and left as social and economic externalities.

The new agriculture begins with giving back fertility to the soil through organic methods, and ensuring a fair and just price to the farmers to enable them to stay on the land and continue their work of providing bountiful and nutritious food to citizens and communities.

The new agriculture replaces the linear law of extraction and exploitation of the soil and resources, with a circular law of return that guarantees resiliency and permanence, sustainability, justice and peace. It decommodifies food and land, and brings to the production of food the dignity it deserves.

The New Circular Economy

Both ecology and economy come from the same root "oikos" which means home, the Earth, and the particular places where we are grounded. Aristotle called the art of living on this planet in harmony with nature "oikonomia" to meet our needs and have fulfillment.

"Chrematistics" was the word Aristotle used for the art of money making. Today what is called economy in fact is confined to chrematistics or money making. This leads to assumptions, models, laws, policies based on a linear extraction of wealth from nature and society and concentrated in the hands of a few corporations leading to what the Occupy movement has described as the "1% versus the 99% economy".

The art of money making leaves nature and the majority of people impoverished and excluded. The pervasive poverty in the world today is a consequence of the artificial scarcity created by an extractive model of the economy. As Gandhi said, *"the earth provides enough to satisfy everyone's needs, but not a few people's greed".*

The linear extractive system is based on the assumption and creation of scarcity. The assumption of scarcity is based on assuming that the soil, the earth and ordinary people do not have creative potential of their own. They are inert, passive, mere 'commodities' and their value is created by the capital they produce.

Scarcity is created by exploitation, extraction, pollution and waste - both ecologically and socially. It is also created when what belongs to all and is a commons, is privatized and appropriated, leaving most commoners out of deriving benefits from the commons. The poisoning and cementing of the soil and land also create scarcity, thus preventing them from sustaining life.

The new economy re-embeds economy in OIKOS. The new economy is a circular economy. Its first objective is to take care of our planetary home, the soil, the biodiversity, water, rivers, oceans. Its second objective is to ensure that all human beings are able to participate in a living economy as creators, producers and beneficiaries.

Sharing the planet implies sharing a common responsibility for the care of its soil and land. A common responsibility shapes the "commons" out of which flow common rights, and a common prosperity. The new paradigm of the economy is rooted in Society, which is rooted in Soil.

The New Democracy

The new democracy takes into account those concerns we must have in mind when shaping our economies - deciding what we do with our food, our water, our biodiversity, and our land.

The democracy of all life is a participatory, living democracy in a vibrant and bountiful Earth – Terra Viva - it recognizes the intrinsic worth of all species and all people. Because all people and all species are, by their very nature, diverse, it recognizes diversity as not something to be tolerated, but something to be celebrated as the essential condition of our existence. And all life, including all human beings, have a natural right to share in nature's wealth, to ensure sustenance – soil, food, water, ecological space and evolutionary freedom.

"Freedom" has been hijacked through "free trade" which has substituted the freedom of people and freedom of life of the planet and its diverse species, with freedom of corporations to destroy the planet and the living economies which sustain the people.

It has transformed freedom into "anti freedom" by siphoning off power from people, into the hands of *corporations*. It is a linear extractive upward flow of power accountable to nobody, where, in the most extreme cases, free trade treaties like the Transatlantic Trade and Investment Partnership (TTIP), and the Trans Pacific Partnership (TPP), which are being negotiated in secret, allow corporations to sue governments aiming to protect the rights of their citizens. The new democracy is circular as it enables both the circulation of power and decision making throughout as well as creating circles of solidarity among people to create community.

The new democracy goes hand in hand with replacing a linear view of history with a cyclical view of history and helps us overcome the oft-heard 'TINA', 'There Is no Alternative' syndrome. Knowledge is vital to democracy. The corporate control of knowledge, through both Intellectual Property Rights (IPRs), and control of media and communication, is a threat to democracy, to life and freedom.

The cultivation of freedom is the cultivation of an informed, vigilant, active, engaged, creative, caring citizenry. The cultivation of freedom is the cultivation of an earth community and of local communities in all their diversity and pluralism. The new democracy is an Earth Democracy.

Soil is life and the basis of life. Thus Soil must be the foundation of a New Vision, from which emerges a New Agriculture, a New Circular Economy and a New Democracy.

Section Two

We are the Soil, We are the Land

"The history of every nation is eventually written in the way in which it cares for its soil" **Franklin D. Roosevelt**

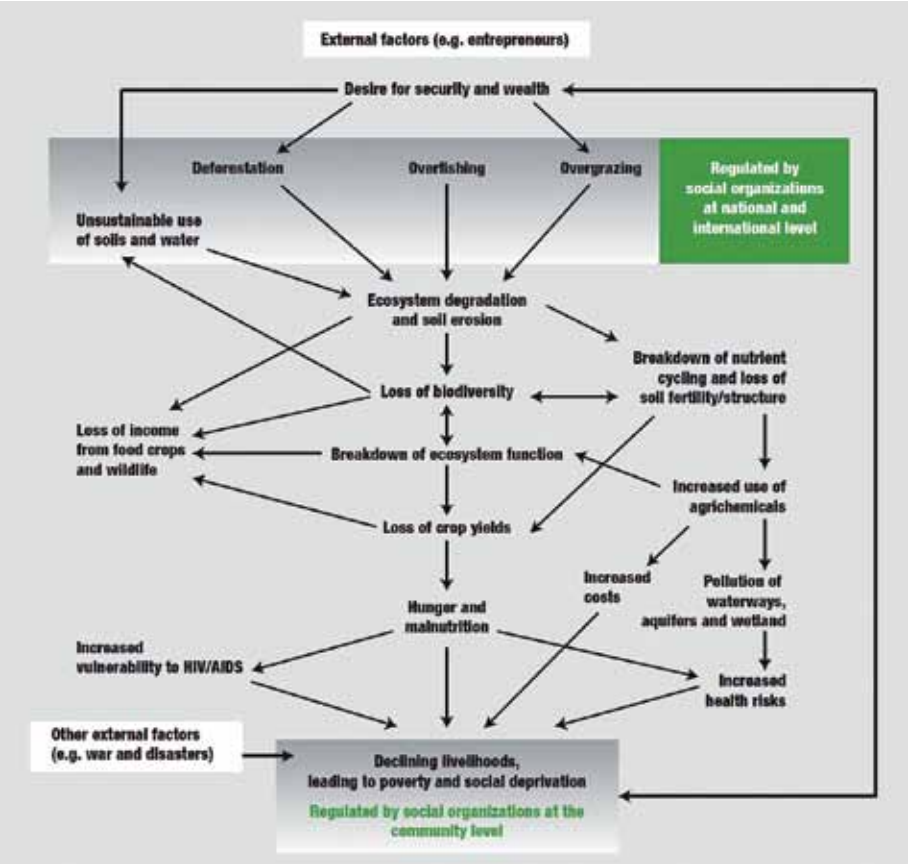
The land is people's identity; it is the ground of culture and economy. A bond with the land is a bond with the Earth - a bond that is shared by all cultures of the world, from North to South and from East to West. Land, soil and food are inextricably bound together.

Splitting land from soil, and soil from food, making them separate entities was the effect of a colonial idea that has led to linear economies and the industrialization of agriculture. In contrast indigenous cultures of Latin America have referred to land as earth and soil - Pachamama, or "Mother Earth". Among Dalit communities in southern India, they find their heritage in Mata dharti (Mother soil). Earth defenders worldwide see land as sacred because it is are living system that harbor human and animal life. Land is as much life as is mother's milk to her infants.
Only by seeing land as life, do we revolutionize the human consciousness away from the narrow linearity that commodifies land as private property, and take on the transformational approach that is spelled out in this Manifesto.

Small household farming is the mainstay of food production in the world today. Land is often the sole asset of rural communities and family farmers around the world, the health of which their livelihood and well-being depend upon. Land is the source of life, nourishment and learning. It provides us with food, fibre, feed and energy. The capacity of land to provide these goods depends on a complex interaction between living organisms, water, air, minerals and solar energy. A healthy land provides a regular flow of goods, based on natural cycles.

Agricultural, aquaculture and forest systems are the outcome of a long-lasting interaction between natural and human cycles. Human communities manage natural cycles and adapt them to their needs. For this reason a land '*stewardship*', the caring of the land, goes beyond purely technical and economic aspects. A good land management keeps land from generation to generation through social practices. The relation to land is an essential component of people's identity and spirituality.
However, today we are witnessing the transformation of land from commons into a commodity, which has disrupted the complexity of the interaction between human societies and nature, and has permitted the dispossession of sources of livelihood for millions of people.
Moreover, current land use practices have led to deforestation, overgrazing and over - exploitation of soils and water resources, causing a cascade of negative impacts: land degradation, loss of soil fertility, loss of biodiversity, the breakdown of agro-ecosystem functions, declining yields, hunger and malnutrition, and declining livelihoods[15].

[15] UNCTAD, Trade and Environmental Review - Wake up before its too late, 2013



Cycle of Land Degradation and Social Depravation (Source: UNCTAD 2013)
Source: Adapted from Leaket et al., 2005.

Enclosures of the Commons and the Commodification of Land

The major contests of our times – intellectually, materially, ecologically, economically, politically - are the commodification and privatization of shared resources, the enclosures of the commons.
A resource is a commons when social systems exist to use it on the principles of justice and sustainability. This involves a combination of rights and responsibilities among users, a combination of utilisation and conservation, a sense of co-production with nature and sharing them among members of diverse communities. For indigenous peoples, heritage is a bundle of relationships rather than a bundle of economic rights. Between 1770 and 1830, 3280 bills were passed by the English Parliament to enact laws for the enclosures of the commons. As a result of this, 6 million acres of commonly held lands, open fields, meadows, wetlands, forests and unoccupied "waste lands", were put into private hands and subsequently hedged, fenced, farmed, herded and hunted for private gain[16].

However, enclosures are not just a historical episode that occurred in England. Enclosures have been central to the historical process of colonization. Colonialism created private property by enclosing the commons and displacing and uprooting the original peoples in the Americas, Asia, Africa and Australia.

[16] Shiva V., Earth Democracy - Living Economies, 2005.

Sacred Land and "Terra Nullius"

Land is fundamental to Indigenous people, both individually and collectively. Concepts of Indigenous land ownership were and are different from European legal systems.

Each individual belonged to certain territories within the family group and had spiritual connections and obligations to particular country. Hence land was not owned - one belonged to the land. Aboriginal people experience the land as a richly symbolic and spiritual landscape rather than merely a physical environment. Religion was based on a philosophy of oneness with the natural environment.

The spiritual relationship to land was used by the British Colonists such as James Cook and Arthur Phillip to take over the entire continent of Australia through unilateral possession on the premise that the land belonged to no one, and was empty (*Terra Nullius*), and that European culture was superior to the indigenous cultures.

The colonial construct of the passivity of earth and the consequent creation of the colonial category of *terra nullius* (empty land), served two purposes: it denied the existence and prior rights of original inhabitants and it obscured the regenerative capacity of the earth. It therefore allowed the emergence of private property from enclosures and allowed non- sustainable use of resources to be considered "development" and "progress". In Australia, the colonizers justified the total appropriation of land and its natural resources by declaring the entire continent of Australia as *Terra Nullius* (uninhabited). This declaration established a simple path to privatizing the commons, because as far as the colonizers were concerned, there were no commons.

Most regions of the global South, as well as the global North, have a long history of land grabbing on a large scale. The history of colonization by the Dutch, French, Spanish, Portuguese and English can be seen as a history of land control through land grab and creation of private property, the creation of the idea of "wastelands" across the Americas, Africa, Asia, and Australia[17] [18].

In the early stages of industrialization, the enclosures movement in England made the peasantry dispensable and pushed them off the land. Industrialization was brought as "development" to the countries of the South.

Enclosures today are dispossessing tens of millions of farmers and pastoralists whose lives depend upon customary land commons in Africa, Asia and Latin America.

[17] Peluso N.L. & Lund C., New frontiers of land control: Introduction, The Journal of Peasant Studies, 38:4, 667-681, 2011.
[18] See Appendix I, Point 1

New Enclosures and Land Grab

There is a cycle of history of appropriation and redistribution of land. Colonisation was based on the violent takeover of land. And now, globalisation as re-colonization is leading to a massive land grab once again in India, in Africa, in Latin America and other parts of the world. We are witnessing a wave of "new enclosures", which is having worse impact on rural communities than the past ones because of the increased destructive power of technologies and resource demands.

Land is being grabbed for speculative investment, for speculative urban sprawl, for mines and factories, for highways and expressways[19].
These investments have been justified upon the same narrative of 'empty land', according to which small farmers are not productive. This false productivity is measured on a linear extractive logic of commodity production. Land deals have implied displacement of smallholders, lack of rights of secondary users, eviction of people without formal rights but who have customary and common rights and have lived on the land for years.
Corporations supported by public subsidies are grabbing land of small scale farmers leading to massive dispossession of poor people. Displacement, debt and farmer suicides characterize rural India today with more 291,000 committing suicide since 1995 due to debt, land mortgaging and land grab. In 2009, large-scale farmland investment covered 56 million hectares in less than a year[20]. China, for instance, after joining the WTO in 2001, and under its "Going Out" policy of 2004, began investing in food and energy production in more than thirty African and Asian countries. Domestically China is exporting high value crops while leasing vast amounts of land in Asia and Africa for growing basic food grains. This new form of land colonialism is motivated by side stepping risky dependence on global markets and investing in a profitable agricultural production that depends on large-scale farms.

India's Government is in a frontal battle with farmers and rural communities to extract large tracts of land for energy, infrastructure, housing and private entities[21]. These policies are aimed at appropriating the land resources from poor communities at low cost without their consent.
Uprooting human communities and cultures, euphemistically characterized as 'development-induced displacement' is being practiced. There have been many years of work carried out to look at social and environmental impact analysis and rehabilitation schemes in India but this is not slowing the violent land hungry economy of our times. Dispossession continues to cause untold misery of the vulnerable segments, most notably women.

The millions of hectares of land that are being turned into profit are not producing food and are in fact creating food insecurity. Moreover, it is said that the new land deals will increase the concentration of land ownership and access even more in future, thus reversing the gains made through the agrarian reform programs of China, Vietnam, Philippines, Indonesia, India and Pakistan, just to name those in Asia. Greater land competition also increases land values, thereby leaving the rural poor outside of land markets[22].

In Western Africa, the land ownership has been under community control and this is gradually shifting because of various schemes of the

[19] See Appendix I, Point 2.
[20] The World Bank report, 2010.
[21] See Appendix I, Point 3 on Ordinance 2014 - Land Acquisition Act.
[22] See Appendix I, Point 4.

World Bank, the Millennium Challenge and the G8 New Alliance for Food and Nutrition. Although there is some support to small farmers in Africa in the form of the Land Development Initiative and the Voluntary Guidelines, and national efforts, like the National Commission on Land Reform in Senegal, there is large-scale pressure for land leasing.
Whether in Africa, Asia or Latin America, there is a growing divide between those in the small-scale farm sector and those that see land in terms of profits.

For indigenous communities, for instance, land is the only and ultimate source of socio-economic security. For marginalized people, it is a real asset that is productive in and of itself, quite independent of its exchange value. In the case of non-monetized barter economies, which are still widespread, it is the very basis of survival. It is also the core of a sense of place, cultural identity, and social security.

To the wealthy buyer, land is just a form of investment, or at best a 'site' for projects whose economic value is not derived from tilling the land itself. Moreover, for those people that lose their land in the name of infrastructure or industrialization, oftentimes they do not have the skill and experience required to handle (relatively) substantial sums of cash, offered as compensation by the corporation or the government.

The "new enclosures" and land grab occur also as a result of urbanisation and outsourcing of industrialization for which Special Economic Zones[23] have mushroomed in many fast growing economies, e.g. India and China. This has led to expropriation of lands, particularly in periurban areas, for industrial and commercial complexes and the corresponding urban sprawl, triggering massive land conflicts in these countries[24].

[23] Designated areas in countries that possess special economic regulations that are different from other areas in the same country. Moreover, these regulations tend to contain measures that are conducive to foreign direct investment. Conducting business in a SEZ usually means that a company will receive tax incentives and the opportunity to pay lower tariffs.
[24] See Appendix I, Point 5.

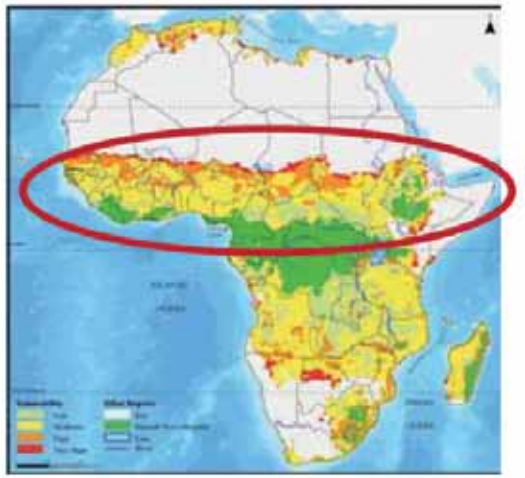
Land Degradation, Climate Change, Forced Migration, Emerging Conflicts

While the dominant paradigm reduces the growing conflicts in the world to ethnic and religious violence, in addition to land grab, land degradation is very often at the root of these conflicts.

It has been said that if you want to destroy a people all you need to do is to destroy their soil. When people are dislocated from their territories the intricate web that links peoples and communities to the soil is broken and can be irretrievably lost. According to the UNCCD, 40% of the intrastate conflicts over a 60 year period were associated with land and natural resources. There are strong linkages between many of the intrastate conflicts we see today and the control and allocation of natural resources by states. The exposure of more and more people to water scarcity and hunger opens the door to the failure of fragile states and regional conflicts.
In sub Saharan Africa, the combined challenge of an increased population, demands on natural resources and the effects of climate change (particularly drought) on food and water supplies are likely to lead to tension, which could result in conflict[25].

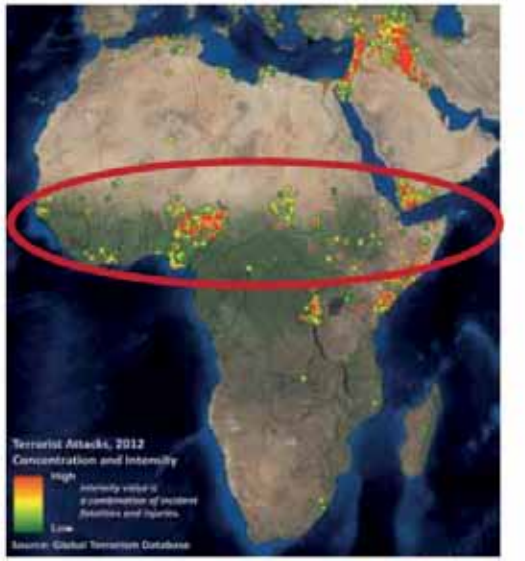
The convergence of financial, food, climate and energy crises impact soils and peoples in many ways. Coupled with wars these translate into waves of internally and externally displaced persons. Uprooted persons are vulnerable to other exploitations and the soils they once knew and defended are open for appropriation, despoliation and general harm. In

Desertification vulnerability in Africa
2008



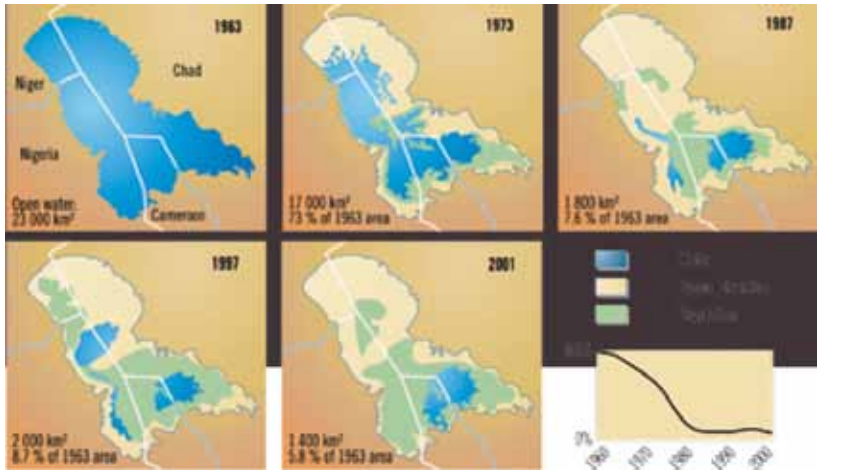
Conflicts and food riots in Africa
2007-2008

Terrorist Attacks
2012



These three maps of vividly show the concentrations of past terrorist attacks, food riots and other conflicts in areas thatare vulnerable to desertificatio.

Desertification - Inaction, recipe for international political and economic chaos
(Source - UNCCD)[26]



Lake Chad - decrease in area 1963, 1973, 1987, 1997 and 2001. (Source - UNEP22)

rural areas where people depend on scarce productive land resources, land degradation is a driver of forced migration. An estimated 42% of households intensify their seasonal mobility in the event of poor harvests, while 17% migrate when there is crop destruction and 13% leave in the case of strong climatic events such as extreme droughts. By 2050, 200 million people may be permanently displaced environmental migrants[27].

Before the Syrian uprising of 2011, 60% of Syria's land experienced the most severe and prolonged drought, causing crop failures in the land where agriculture began in the Fertile Crescent some 12,000 years ago. Extreme events like intense droughts are one aspect of global climate change. The impact of the drought was aggravated by non-sustainable use of land and water through promotion of non-sustainable agriculture. More than 80% crops failed, more than 75% livestock died, wiping out livelihoods and forcing a mass migration of more than a million farmers and herders to cities contributing to social instability and the country's civil war[28].
This has created 6.5 million refugees internally, and 3 million refugees who have moved to neighbouring countries[29].

In Nigeria Boko Haram is presented as an extremist religious movement. However, as Luc Gnacadja, the head of the UNCCD has attested, "the depletion of Lake Chad helped create the conditions for conflict. In much of northern Nigeria, Muslim herders are in competition with Christian farmers for dwindling water supplies. The so-called religious fight is actually about access to vital resources.
It is not just about Boko Haram, in the Sahel belt, you will see almost the same challenge in Mali and in Sudan. Furthermore, men who were or would have been gainfully employed as farmers, fishermen, fish sellers and pastoralists have now been conscripted into Boko Haram with many of them participating in the deadly night raids of the terrorist group. Without a minimum of security of access to the land, restoration of land through investment is not possible. Peace is a prerequisite[30]".

The energy crisis coupled with peak oil has led to extreme extraction including hydraulic fracturing otherwise known as fracking. The literal scrapping of the barrel for crude oil means that any territory where the product is found is fair game for the exploiting oil companies and speculators. In other words, no territory is sacred.

The call for leaving fossil fuels untapped remains mere calls as oil companies dig in to shore their profits, extend the used of their infrastructure and keep piling unaccounted for costs on the soil. Soil pollution from mining and crude oil extraction has made farming impossible in previously arable land[31].
Restoration may take a lifetime in some cases. Whatever the causes of war, whether for the securing of access to energy resources or territorial expansion, the implications on soil and land are multiple.

[25] UNCCD - Desertification - The Invisible Frontline, 2014.
[26] It is estimated that two-thirds of African land is already degraded to some degree and that land degradation affects at least 485 million people - 65% of the entire African population. By 2020, an In rural areas where people depend on scarce productive land resources, land degradation is a driver of forced migration. An estimated 42% of households intensify their seasonal mobility in the event of poor harvests, while 17% migrate when there is crop destruction and 13% leave in the case of strong climatic events such as extreme droughts. By 2050 200 million people may be permanently displaced environmental migrants.
[27] UNCCD, Desertification - The Invisible Frontline, 2014.
[28] Zastrow M., Climate change & Syrian conflict, Nature - Intern. weekly journal of Science, 2015.
[29] Syrian Refugees - A snapshot of the crisis in the Middle East and Europe, by the Migration Policy Centre European University Institute, Florence, 2013.
[30] RTCC, Global warming raises tensions in Boko Haram region, 2015.
[31] UNEP, Report on the Assessment of the environment of Ogoniland Report, 2011.

Land in the Linear Economy: Land Degradation Versus Restoration. The "Tyranny of the Short-Term"

In the linear vision of economic processes, resources are inputs and goods are outputs of a transformation process. The destiny of what is not consumed, and its impact, is external to the economic transaction, and therefore is not of relevant information.

In the perspective of the linear economy, what counts is costs and revenues in the business cycle. Artificial inputs, land and water are the costs, and marketable products are the revenues. Ecosystem services, biodiversity, nutritional value of food and feed have no value as they cannot be measured as costs or revenues within the business cycle. Land degradation at the end of a business cycle is not counted as a cost, but turns into higher costs and lower productivity in successive business cycles. When costs become higher than revenues, land is abandoned, it becomes an obsolete tool. Fossil fuels have given the illusion that complex ecological processes giving life to land can be replaced by artificial resources. Market exchange, through which artificial resources are bought, replaces natural cycles. Land becomes degraded, and knowledge and practices that keep land healthy are forgotten.
Scarcity is man-made, as it depends on availability and needs. As in the linear economy business cycles prevail on natural cycles, agricultural production generates scarcity.

A growing population puts pressure on the system as it raises the demand of food, energy and water. A linear economy responds to increased pressure with increased resource extraction and increased waste. If present trends continue, it is estimated that by 2050, we will need 60 percent more food, 50 per cent more energy and 40 percent more water[32]. It is irresponsible to think that this will happen without major disruptions. As previously mentioned, scarcity brings with it growing inequalities, conflicts, violence. Climate change will increase the occurrence of natural catastrophes. Another approach is needed if we are to avoid a deepening of these trends: business cycles must be adapted to fit in to natural cycles. This is the principle of a circular economy.

[32] ONU, Radical shift in agriculture critical to making future food systems smarter, more efficient, 2015.

Land Restoration, Land Reform, Land Governance

Tenure systems determine who can use which natural resources, for how long, and under what conditions. They may be based on written policies and laws, as well as on unwritten customs and practices.
Land grabbing occurs when governance of tenure is weak. Responsible governance requires that formal recognition is given to all tenure rights that are considered legitimate by society. To improve the governance of tenure, FAO has developed Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests, which were endorsed by the Committee on World Food Security (CFS) in 2012.
Voluntary guidelines stress that legal recognition should be given to legitimate tenure rights that are not currently protected by law, that legitimate tenure rights should be protected, and that all forms of discrimination related to tenure rights should be removed.
The voluntary guidelines set advanced principles for governance that states can use when developing their own strategies, policies, legislation, programmes and activities. But they are, after all, only voluntary.
How realistic is it to expect corrupt governments or dysfunctional states to actually implement such a code? Much will depend on the capacity of civil society to put pressure on their governments to adopt and monitor the principles.

Living example:

A proposed law against land consumption has been drafted by an Italian group of urban planners of "Eddyburg", also applicable to European and other countries.

Some of the main points are:
1) non urban territory is protected by law, as an ecosystem, a cultural and environmental entity;
2) urban land consists of historical centre and recent peripheries; uncultivated or abandoned areas are not to be considered urbanized;
3) in non-urbanized territory no new land consumption is permitted, neither for settling or infrastructural purposes: any changes must focus on the existing, recent and available urban fabric;
4) Urbanized territory must be traced by the Municipality concerned.

Right to land is, in many contexts, right to food. Access to land is one of the main determinants of hunger. In many countries inequality of land distribution is in many cases the norm. Land reform is a key demand of small farmer movements worldwide. Farmland needs farmers, and farmers are fast disappearing; it is urgent to give back to farmers their central role and facilitate younger people to reconnect land, giving them a new life prospective and work opportunities all over the planet.
Family farming is the most coherent model of agricultural production based on principles of sustainability and helps boost local economies and local communities. In addition, the practice of Holistic Land Management is based on people's cultural ties to the land and is an ecologically regenerative, economically viable management of the world's grasslands.

The opinion spinners maintain that small-scale farms have a lower economic efficiency and have to be replaced by large-scale farms.
They do not take into account that household farms are:
(1) more sustainable making the soil productive for the next generation;
(2) the primary source of employment for tens of millions of people;
and (3) the base of today's economy (oikos) in most southern countries which (4) also preserves people's way of life and culture.
It is the basis of sustainable food production and the management of the environment as well as its biodiversity. Land is the most important resource for family farming, and access to land is the most common

concern. During the 2014 UN Year of Family Farming, it was evident that 70% of food was being produced by small farmers.

Call to Action: At the regional level, landscape managers should ensure that land provides the necessary ecosystem services, set limits to soil consumption, avoid negative trade-offs between land use at landscape level, maintain and restore ecological infrastructures, promote guidelines for land stewardship through participatory processes and projects for land restoration. At the national and international level, administrations should monitor the impact of food systems and of policies on land use.

The role of land for a sustainable future to overcome hunger and food insecurity will be critical. An estimated 60% increase in agricultural productivity, including a 100% in developing countries, will be necessary by 2050[33]. A quite conservative assessment of Global potential for forest and landscape restoration conclude that 2 billion hectares[34] of degraded lands worldwide still hold potential for landscape restoration, with a large share for mosaic restoration, in which forests and trees are combined with other land uses, including agro-forestry and smallholder agriculture.
Rural communities and farmers are best placed to protect and preserve soil quality with adequate use and management of the farmland in the sense of long term social goals. To guarantee their access to land is fundamental. Even in countries where the farming and rural population has become a minority, land use and management cannot be left to the few, but is necessary to recreate a connection with the communities.
Landscape ecological restoration has very far-reaching socio-economic and societal impacts. If just 12% of the world's degraded lands were restored to production, we could feed another 200 million people and farmers' incomes would be raised by US$40 billion a year[35].
The critical state of desertification and land degradation is reflected in the UN Sustainable Development Goals[36]. Much more is needed if we really want to build an effective framework for attending to our soils as global commons such as capitalizing our local and traditional knowledge, the bridging at all levels of the science and policy gap, phasing out distorting subsidies that enhance unsustainable land use patterns.
Global warming is a major accelerator of land degradation; adaptation and resilience building is an important pro-poor pillar for the sustainable use of land and soil in the solutions to climate change and must be fully considered if the new climate deal is to be comprehensive and effective.

Today we face an emergency that is more severe and more widespread than the one faced by Franklin Roosevelt in the 1930's during the Dust Bowl when he introduced as part of the 'New Deal" the Citizens Conservation Corp., which put unemployed youth to work at land restoration, and thus addressed both the economic crisis of the Great Depression and ecological crisis of the Dust Bowl.

Call to Action: One of the steps towards healing the planet, while also addressing the crisis of unemployment, is by creating opportunities in constructive work for land restoration, taking inspiration from the Citizens Conservation Corps of the New Deal. Today's New Deal is based on New Agriculture, a New Economy, and a New Democracy. A Planetary Citizens Corps for Ecological Restoration would rejuvenate Soils, address climate change, rebuild community, and spread the seeds of peace. It would grow from the ground up, from the local to the planetary. Its financing would be based on the Polluter Pays Principle, applied from the local to the global level, by collecting a cess for land restoration and soil rejuvenation from every actor engaged in destruction of land and soil.

[33] FAO, World Agriculture Toward 2030/2050, 2014.
[34] World Peace Institute, Global Map of Forest & Landscape Restoration Opportunities.
[35] The Global Commission on the Economy and Climate, Better Growth, Better Climate: The New Climate Economy, Report, 2014.
[36] Target 15.3 of Goal 15.

Soil – The basis of life

"Let what I dig from thee, O Earth, rapidly spring and grow again. O Purifier, let me not pierce through thy vitals or thy heart" – **Atharva Veda**

History is witness to the fact that the fate of societies and civilizations is intimately connected to how we treat the soil - do we relate to the soil through the Law of Return or through the Law of Exploitation and Extraction? Civilizations which ignored the health and well being of the soil, and exploited it without renewing its fertility, disappeared along with the soil.

Bringing the soil and land to the centre of our consciousness and our planning is vital for the future of our society. It is no accident that the word humans and humus have the same root[37]. Most sustainable cultures, in all their diversity, view the earth as Terra Mater (Mother Earth). They are grateful to receive nature's gifts and return the debt through ecologically sustainable lifestyles.

Contemporary societies across the world stand on the verge of collapse as soils are eroded, degraded, poisoned, buried under concrete and deprived of life. The very people whose lives depend on the soil are being uprooted, swelling the ranks of refugees, ecological refugees because of mal development and climate disasters, and war refugees because of wars fought for their resources.
Not only is the alienation from soil leading to an ecological crisis, of biodiversity erosion, soil degradation, desertification, cementification and climate chaos, it is also at the root of the human crisis - of violence and conflict created by loss of meaning, identity and purpose that are nourished by the soil. The violence to the soil expresses itself as violence in society.

Soil is living and the basis of our life. Yet there is a rupture both in our relationship to the soil and our perception of the soil. The rupture in our relationship with the soil began with the enclosures of the commons and the takeover of lands through colonialism. It continued with the rise of industrial agriculture which is based on a mechanistic paradigm. The dependence on fossil fuels has created an ignorance and blindness to the living processes that create a living soil. Instead of focusing on the Soil Food Web, it has been obsessed with external inputs of chemical fertilizers — what Sir Albert Howard called the NPK mentality[38]. The biology of the living soil has been replaced with industrial chemistry.

Soil has been reduced to dirt and made inert, an empty container, only to hold chemicals. The horizontal web of life and diversity is being transformed into a vertical hierarchy of imposed monocultures. Soil, land and earth have been reduced to a commodity to be simply speculated on and grabbed.

Soils are one of the most diverse habitats on earth and home to over one fourth of all living species on earth. The millions of organisms found in soil are the source of its fertility. One hectare of soil contains 15 tonnes of organisms, which translates to 1.5 kgs of life per square meter[39] .

Soils provide critical ecosystem services for life such as storage, filtration and transformation of nutrients and water, carbon storage and cycling, provision of habitat, species and genetic biodiversity.
The greatest biomass in soil consists of microorganisms, fungi and protozoans. Soil microorganisms maintain soil structure, contribute to bio-

degradation of dead plants and animals into nutrients, and fix nitrogen. Earthworms, ants, termites and some small mammals help create habitats for smaller soil organisms by building resistant soil aggregates and pores and also regulate the availability of resources for other soil organisms since soil structures become hot spots of microbial activities[40].

Good practices: *A success story of farmers-managed soil restoration in the Sahel. Severe droughts and rapid population growth in the 1970s and 80s significantly degraded the Sahel's farmland, leading to the loss of many indigenous tree species and leaving the soil barren and eroded. With the loss of the trees went the knowledge, traditions, and practices that had kept the region fertile for hundreds of years. To save the land and local livelihoods, many traditional management practices are being revived. One is the technique of Farmer-Managed Natural Regeneration (FMNR): by pruning shoots that periodically and naturally sprout from below-ground root webs, farmers can promote forest growth and take advantage of a naturally occurring source of fuel, food, or animal fodder. The trees produce fruit rich in nutrients and help to restore the soil by releasing nitrogen and protecting the ground from erosion by wind and rain. The cultivated but naturally occurring forest creates a local source of firewood and mulch, reducing the time spent in gathering fuel for cooking meals and cleaning households. The practice also cuts down on deforestation as the trees that are used for fuel are replaced with seedlings and tended by farmers. In Niger many villages have 10–20 times more trees than 20 years ago. With the government distracted by political conflict, forest management now belongs almost completely to the local farmers who benefit from FMNR the most.*

Soils are the largest sinks of carbon and help mitigate climate change. Soil is at the same time both a source and a sink of greenhouse gases. It contains worldwide twice as much carbon as the atmosphere and stores more than 4000 billion tons of carbon[41].

By way of comparison, the forests store 360 billion tons of carbon[42] as woody biomass, and the atmosphere more than 800 billion tons in the form of carbon dioxide. That means that soil contains over ten times more carbon than do the trees. With responsible management, soil can act as a carbon sink to counteract climate change[43].

[37] The root "hum-" is referred to earth or dirt but also turns up in "humanus". This suggests that our earliest forefathers perceived humans as originating in the soil. The Hebrew word "adam", which means person or man, is closely related to "adamah" which means soil, earth.
[38] Howard A., An Agricultural Testament, 1943.
[39] Global Soil Week, Soil Atlas, 2015.
[40] European Commision Technical Report, Soil Biodiversity: Functions, Threats and Tools, 2010.
[41] Institute for Advanced Sustainability Studies, Fertile Soils: Crucial to the Fight to Hunger and Climate Change, 2012.
[42] *ibid.*
[43] Global Soil Forum, Fertile Soils, 2013.

Threats to Our Living Soil

Soil is the basis of our life and our food. 99% of our food comes from the soil. Yet this living renewable resource is under threat. It being made non renewable with pressures of erosion, degradation, desertification, poor land management and non sustainable farming practices and energy production. Fertile soils are disappearing under pressure of uncontrollable urbanization and cementification, infrastructure and mining. An extractive agriculture was largely responsible for the famous Dust Bowl of the 1930s in USA leading to massive losses of top soil.

The world is losing approximately 24 billion tons of fertile top soil every year because of wind and water erosion. Agriculturally usable soil accounts for only 12% of the Earth's surface, and cannot be restored within a human generation. The formation of an inch-thick (2.5 cm) layer of fertile humus soil takes approx. 500 years on agriculturally used land[44].

Decades of aggressive implementation of fossil fuel based, industrial monoculture agriculture based on chemicals have disrupted the harmony between microorganisms and minerals in the soil. Chemical monocultures also make soils more vulnerable to drought and further contribute to food insecurity. Moreover, market driven preferences to allocate fertile soils for producing energy through biofuels as well as unsustainable consumption habits are diverting land from food and creating a land scarcity and land conflict. Soil is being lost at 10 to 40 times the rate at which it can be replenished naturally[45]. This implies 30 per cent less food over the next 20-50 years[46]. Soil erosion washes away soil nutrients[47]. The cost of these nutrient losses are $20 billion annually. The oil-based, fossil fuel intensive, chemical intensive, industrial agriculture has unleashed three processes which are killing the soil, and hence impacting our future.

Firstly, industrial agriculture destroys living soils through monocultures and chemicals. Second, an oil-based paradigm intensifies fossil fuel inputs and creates a false measure of productivity which presents an unproductive system as productive. The trick lies in reducing creative productive work to "labour" as a commodity, counting people as labour as an "input", and not counting fossil fuels as an input. People as an input means the less people on the land, the more "productive" agriculture becomes.

Farmers are destroyed, rural economies are destroyed, the land is emptied of people and filled with toxins. The creative work of farmers as custodians and renewers of soil and biodiversity is replaced by deadly chemicals.
Creative work in being stewards of the land and co-creators of living soil is not an "input" into a food system, but the most important output of good farming. It cannot be reduced to "labour" as a commodity. Creating, conserving, rejuvenating, fertile and living soil is the most important objective of civilization. It is a regenerative output.

Third, displaced farmers flood cities. This is not a natural or inevitable phenomenon. It is part of the design of industrial agriculture. The explosion of cities buries fertile soil under concrete. The equivalent of 30 football fields are consumed by cement and concrete every minute. If the current trend of urban population growth continues, and if urban sprawl proceeds at the maximum rate, the world's total urban area, which is associated with impervious soil coverage, will increase by 1.2 million sq. km by 2030[48], an expanse equal to the area of South Africa.

That would be a tripling of the global urban land surface since 2000. The most valuable soils for agricultural use are often lost in this way, for cities are usually built on highly productive agricultural land.

Good practices: *The National Movement to Stop Soil Consumption, created in 2008 in Italy, is a network of active movements in defense of territory at risk of large useless, imposed and damaging building projects, often approved with no participatory consensus. This movement is part of the "National Forum to Save the landscape-Defend the territory" that from 2012 is collecting data from all over the country on unused buildings to show available potential as an alternative to new constructions on fertile land.*

Both ecological science and ancient wisdom teaches us that all life depends on soil. But we are unthinkingly adopting the illusion that human progress is based on how fast we can destroy, bury and consume the soil. Uncontrolled urbanization, mega mines, superhighways and gigantic infrastructure projects are burial grounds of fertile soil. We are forgetting that life grows from the soil, not from concrete and tarmac.

[44] Global Soil Forum, Fertile Soil, 2013.
[45] Pimentel D., Comprehensive study published in the Journal of the Environment, Development and Sustainability, 2006.
[46] World Economic Forum, Times, What If the World's Soil Runs Out?, 2012
[47] A tonne of top soil averages 1-6 kg of nitrogen, 1-3 kg of phosphorous, 2-30 kg of potassium, whereas soil in eroded land has only 0.1-0.5 per cent nitrogen.
[48] The World Bank, Urban Development: Sector Results Profile, 2014

Care for the Soil – Soil Restoration and Soil Rejuvenation

The Law of the Soil is the Law of Life. It is based on the Law of Return, of giving back to the soil the gift of fertility and nutrition that the earth gives us. An extractive relationship to the soil is based on mining of soil fertility and is a linear process. The Law of Return - of giving back — has ensured that societies create and maintain fertile soil and can be supported by living soil over thousands of years. The Law of Exploitation - of taking without giving back — has led to the collapse of civilizations. From the soil we can learn diversity, mutuality, circularity and the law of return, gratitude and humility.
This ecological principle is forgotten in the dominant paradigm based on the false idea that we are separate and independent of the earth and defines soil as dead matter.

Good practices: *An African example of sustainable agriculture and knowledge. Yacouba Sawadogo is a Muslim farmer from the west African nation of Burkina Faso who from the 1980's has been successfully using local traditional farming techniques (zaï) to restore soils damaged by desertification and drought. Sawadogo is an activist in spreading the word on these techniques and he organizes meetings of farmers from all the region villages, where knowledge, suggestions and seeds are exchanged. In 20 years his work permitted the creation of a new forest of 50 acres.*

No technology can claim to feed the world while it destroys the life in the soil. This is why the claim that the Green Revolution or genetic engineering feeds the world is false. Intrinsic to these technologies are monocultures based on chemical inputs, a recipe for killing the life of the soil and accelerating soil erosion and degradation. Degraded and dead soils, soils without organic matter, soils without soil organisms, soils with no water holding capacity, create famines and a food crisis, they do not create food security.

This is especially true in times of climate change. Not only is industrial agriculture responsible for 25 per cent of the greenhouse gases contributing to climate change, it is also more vulnerable to it [49]. Soils with organic matter are more resilient to drought and climate extremes. And increasing organic matter production through biodiversity intensive systems, which are in effect photosynthesis intensive systems, is the most effective way to get the carbon dioxide out of the atmosphere, into the plants, and then into the soil through the Law of Return.

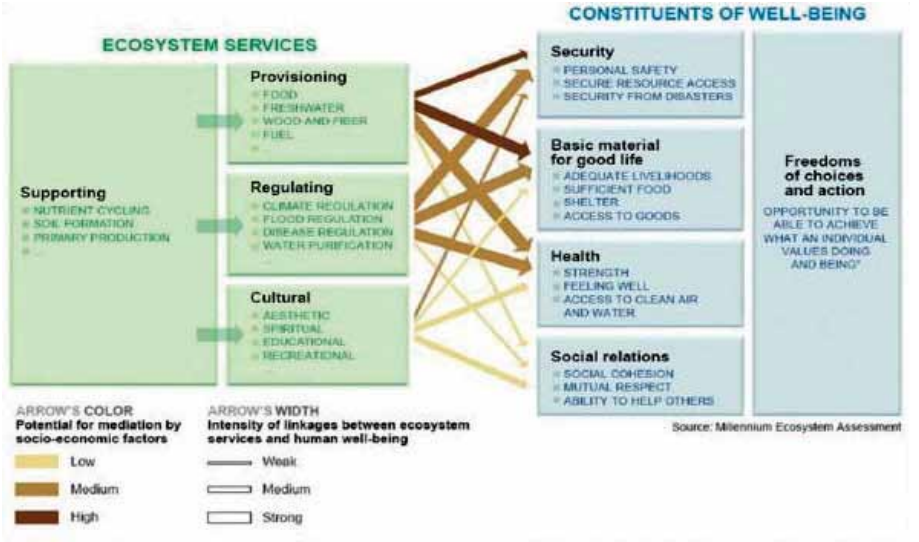
It is our farmers who are practicing ecological agriculture, returning organic matter to the soil[50] and growing soil fertility, and, through it, the foundation of our food and our future. In practicing organic farming, they also conserve water and absorb carbon dioxide from the atmosphere, thus addressing climate change.

Care for the soil, involves care for the living organisms in the soil. Maximizing the return of organic matter in all its diversity increases food for the soil and the nutrients in the plants are amplified by soil organisms to become nutrients for our body through the plants and food. Living seed becomes living soil and living soil reproduces living seed.

According to UNCCD, 2 billion hectares of degraded land worldwide (an area larger than South America) have the potential for land rehabilitation and forest restoration. Restoring the soils of degraded ecosystems has the potential to store up to 3 billion tons of carbon annually. This is equivalent to storing up to 30% of annual CO2 fossil fuel emissions[51].

The world's cultivated soils have lost between 50-70% of their original carbon stocks. Some of these make up the world's estimated 500 million hectares of abandoned agricultural land that serve no productive or ecological purpose. By restoring soil health on these degraded lands, we would not only increase food production but could potentially sequester between 1-3 billion tons of carbon[52] - equal to 1/3 of annual CO2 emissions from fossil fuel - and at the same time avoid further emissions from deforestation and wetland destruction.

Soils with organic matter are more resilient to drought and climate extremes. Increasing organic matter production through biodiversity intensive systems, which are in effect photosynthesis intensive systems is the most effective way to get the carbon dioxide out of the atmosphere, into the plants, and then into the soil through the Law of Return.
We need a new pact with the earth and the soil. A pact that recognizes that we are the soil, we grow from the soil, we are sustained by the soil. This is the new renaissance. The new renaissance is a new awakening that soil is living and taking care of the soil is the most important work that farmers do.



The defense of the soil, the defense of people's rights to stay in places they call home, the defense of cultural diversity are the answers to the ecological, economic and cultural crises of our times. We need to measure human progress not on the basis of how much cement buried the soil, but how much soil was reclaimed and liberated and work towards re-establishing the harmony in the soil. Living seeds and living soils are the foundation of living and lasting societies.

Good and nutritious food from healthy soils is a by product of the primary task of earth care and soil care. When the important role of farmers as providers of health and builders of soil is recognized, agriculture will no longer be seen as backward and primitive to be conquered by industrialization and urbanization. Farmers rewarded for their ecological and social role will stay on the land and not move as soil refugees to urban areas. A new balance between the city and the countryside will grow out of the new pact with the soil.

[49] Capra F., Industrial Agriculture, Agroecology and Climate change, 2014.
[50] Roulac J.,The Solution Under Our Feet - Regenerative Organic Agriculture, Ecowatch, 2015.
[51] UNCCD, Land Degradation Neutrality, 2014.
[52] *Ibid.*

Section Three

The New Agriculture

The new agriculture that the world needs integrates several elements of peasant agriculture and ages-old farming practices with the latest knowledge from ecological sciences. Agroecology and regenerative agriculture is today emerging across the world as an alternative to industrial agriculture. It radically differs from the dominant type of industrial agriculture based on fossil fuels and chemicals which is extractive in two ways: it is based on oil and its result is the robbing of fertility from the soil.

The new agriculture is strongly grounded on healthy and living soils. The fertility of the soil is well-cared-for and helps considerably in reducing the dependency on fossil fuels. It is also an ecologically intensive and productive agriculture. The intensity of production is not built on an elevated use of external inputs but is rooted instead on diversity, multiple cropping, rotation, mulching and well coordinated agronomic cycles that combine soils, crops and animals into a balanced whole.
The making of good manure is an essential ingredient, just as breeding and selection help to adjust plants and animals to local conditions, thus securing an optimal fit of all resources.

Labour is another indispensable pillar of the needed new agriculture. While industrial agriculture does everything to reduce labour input – and augment fossil fuel use – the new agriculture does the opposite. Work becomes central again in the process of agricultural production. Drudgery is reduced through the design of clever skill-oriented techniques and the energy needed is produced in the farm itself. Work implies within this new agriculture, the carrier of knowledge. It is knowledge of the soil, animals, crops, and the way they interact. This is always place-based knowledge. It reflects the specificity of place. It is also knowledge on how soil fertility might be developed further, thus augmenting the overall productivity. In the same way, it is knowledge on how to avoid erosion, degradation and loss of water.

The centrality of land, soil and work turn the new agriculture into an important source of productive employment and income generation. It especially offers young people new and attractive opportunities to make a living. The role of women is fundamental. On the one hand they are the custodians of genetic diversity, on the other, they are in charge of the processing, transforming and cooking of food. Thus women connect land and consumption, just as they are the main axis that connects the social and the economic. The legacy of farming is in the hands of women and they are the transmitters of knowledge to the next generations.

The new agriculture is rooted in important land-labour institutions such as the family farm, the rural community and commons. There are traditional commons as shared pasture land and fishing grounds. There are new commons as well. Examples are self-governed peasant markets that deliver diversified, fresh and high quality food to the cities . Healthy soil, the knowledge on how to manage it, and seed banks, are other examples of new or revitalized commons. Together these institutions make for democracy at the level of economy. They also constitute a solid foundation for food sovereignty.

The new agriculture is basically self-provisioning. The main resources needed for production are produced and reproduced within the farm itself or at the level of the rural community. This applies especially for energy. Instead of being a net importer of energy, the new agriculture

produces energy. It also helps to cool the planet. Instead of contributing to the emission of greenhouse gases (as previously said, some 25% of all greenhouse gases on the globe comes from industrial agriculture), it helps to sequestrate carbon. Enriching soils and strengthening soil biology help to fix carbon dioxide and simultaneously reduce the need for chemical fertilizers. A healthy soil will also help to reduce, together with hedgerows and other micro-ecological zoning, the pressures of disease. Finally, well-developed soils help to sustain and increase biodiversity.

Research across the world has shown that organic farming increases carbon content of soil, making the soil the biggest carbon sink and the biggest water reservoir . With average potential of removing 2 tonnes of carbon dioxide per hectare every year, organic farming has the potential of sequestering 10 Gigatons of carbon dioxide, which is equivalent to the amount needed to be removed from the atmosphere to keep atmospheric carbon below 350 parts per million, and average temperature increase at 2 degrees centrigade. 1% increase in soil organic matter can increase soil water retention by 80.00 litres per hectare. If the Soil Matter increases by 5%, the water in the soil increases by 800,000 litres per acre[53].

Climate resilience through organic farming is the answer to food insecurity, water insecurity, climate vulnerability, and the creation of millions of soil and climate refugees. It is the path to peace in times of growing conflicts. The new agriculture is part of a circular economy. It produces what it needs, it is self-sustaining, and can absorb shocks just as it helps society at large to absorb shocks. If there is circularity in the town-countryside relations, economic crises can be faced far better. The new agriculture also produces far less waste and helps to absorb waste of the cities productively and efficiently. The new agriculture has a lot to offer to the cities. It not only provides healthy, good and attractive food, but also provides an attractive and accessible environment in the surrounding areas of the cities. This environment is rich in nature and biodiversity, with beautiful landscapes, and offers ample opportunities to the young from the cities to go the countryside and learn about life and its origins. The new agriculture also supports the development of urban agriculture. In all these ways the new agriculture helps to augment the quality of urban life, just as it vitalizes the countryside and increases the quality of rural life. In this way town and countryside become complementary again to each other (as compared with the linear view that places the city as the definitive farewell to the countryside).
At the global level, the new agriculture, based on intensification of local recycling of nutrients through crop-livestock integration locally represents an end to some of the major imbalances that currently characterize world agriculture. In this respect an example is the large extraction of nutrients from the soils of Argentina, or from the Cerrado in Brazil for growing soybeans, that are then exported to Europe as animal feed for factory farms where there is an overproduction of manure that pollutes the land, water and air.

Another major imbalance is in the use of fertile arable lands for the production of grains to feed cattle (located in enormous feed lots), while at the same time large grassland areas in hills and mountains lay idle. Also, 70% of the poor of this world are rural people who are linked, in one way or another, to agricultural activities. In stark contrast with this massive rural poverty there is the huge wealth accumulated in large food empires. Finally, another imbalance is the unequal distribution of food production over different countries and different regions.
New studies have opened the political horizon, showing that organic agriculture and the protection and enhancement of soil fertility go hand in hand with the preservation of the Earth from climatic cat stro phes. The ability to sequester carbon in the soil, thanks to organic fertilization and to a new model of sustainable agriculture, is a powerful message to all citizens of the world. Everyone can have a hand in the building of a new economic and social model by contributing to the cycle of fertility renewal.

[53] Leu A., Practice and Policy for Building Resilience, Adaption and Mitigation of the Agriculture Sector to Climate Change, Forum Mitigating Negative Effects of Climate Change on Agriculture, Indonesia, 2014.

Positive Trends

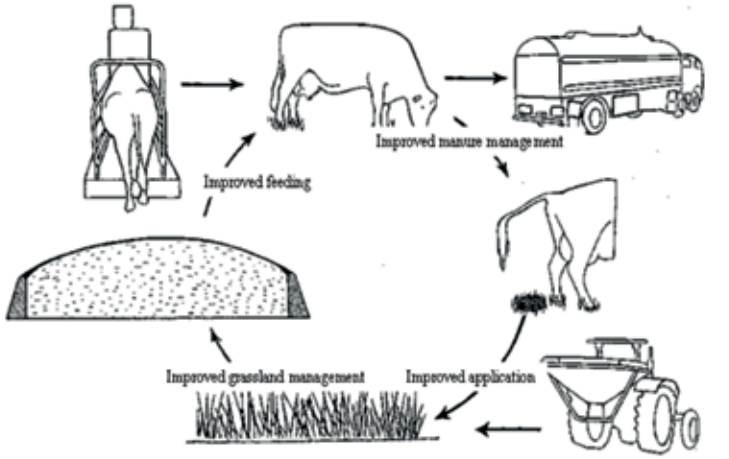
We are well aware that going beyond dissimilarities, disparities and imbalances we have mentioned, and creating new agricultures, implies long, complex and harsh processes of transition.

They will certainly generate contradictions that will be difficult to resolve. At the same time, however, there are promising starting points. These can be found, among others, in the large peasant communities of this world, in the low external input agriculture they have developed, in their agro-ecological knowledge and practices, in newly built peasant markets and in peasant-managed irrigation systems.

In the global North there are as well promising points of departure. For example, the well developed organic agriculture, the many regional specialties, the newly discovered multi-functionality of agriculture that helps to build new bridges between farming and wider society.
Another interesting point of departure are new territorial cooperatives of peasant farmers that manage biodiversity at landscape level and simultaneously construct ecological balances in wide areas that go far beyond the acreage of the single farms.

Above all, however, it is the growing willingness of both producers and consumers to drastically alter the way we produce and consume food, that will help to construct the new agriculture the world badly needs.

Good practices: *In the Netherlands the Northern Friesian Woodlands is an association of farmers of 1,000 members on an area of 50,000 hectares. Beyond landscape maintenance and the strengthening of biodiversity a range of other activities is organized: from energy production (partly grounded on wood from the many hedgerows) to the development of new forms of self-regulation. There is also a lot of attention for what farmers here call 'cyclical agriculture' – it means that biological and agronomic cycles are made into the foundation and strength of local agriculture.*
The soil is strategic in these circular processes. In a peasant-like way farmers started to improve the manure that is produced by their dairy herds (see also figure below). An adapted cattle-feeding was strategic to this.
On its turn the improved manure turned out to enrich and strengthen soil biology very much. Thus farmers could reduce spending on fertilizers and in many cases eliminated chemical fertilizers completely. Notably, the improved soils rendered higher grass yields than before. In combination with a somewhat retarded mowing this rendered roughage of a far better quality (less protein, more structure). This reduced stress in the herd, improved longevity, and rendered a better quality of manure. All this strongly contributes to the wellbeing of farmers, of land, nature and to the quality of the products.



The Imposition of Industrial agriculture

From the early 20th century the United States penetrated the agriculture of Old Europe, and afterwards of the rest of the world, with the spread of hybrid corn. After the Second World War, The Marshall Plan not only ushered in a new model of agriculture but also represented the end of agriculture as an autonomous sphere, both economically and culturally.

Since the 1950s, agriculture in Europe has become an appendix of industry and of the agrochemical sector. The spread of hybrid seeds was the Trojan Horse for the penetration of a general system of land use, use of water, natural resources, reduction of agricultural biodiversity, and such[54].
The current GMO (Genetically Modified Organisms) strategy looks to this historical precedent. The high yields of production of hybrid corn in the countryside of Europe was the standard bearer used to uproot the old organic agriculture.
But, as is well known, hybrid seeds cannot be effective without chemical fertilizers. Paul Bairoch, the French historian of economy, has shown that wheat yields of the more important European countries, since the early 1900s to 1985, increased 3 to 4 times[55]. However, in the same period the consumption of chemical fertilizers, increased 9 times in Germany, 17 times in Italy, and 20 times in Spain.
The abundance of food, praised by proponents of industrial agriculture, is based not on technological or genetic miracles, but on the plunder of fossil energy resources. Similarly the Green Revolution, from 1950 to 1985 increased the world grain production by 250%. A great success it would seem. But in the same period the use of fossil fuels in agriculture increased by 5000%![56]. We know that chemical fertilizers kill micro-organisms of the soil, making it sterile, exposing it to erosion, making it unable to retain water and such like. Of major importance is the phenomenon that organic agriculture, the recovery and the formation of humus, the stabilization and the preservation of that ecosystem, the soil, can effectively help to reduce global warming. Thus everyone can join in reducing the warming of the planet for example by helping to transform the residue of food and organic matter produced in the city into compost which then goes towards building the fertility of carbon sequestering soil.
The exchange of organic matter between town and country has been the rule for centuries around the world. Manure obtained from compost, declared Ehrenfried Pfeiffer, the renowned biodynamic agronomist, if well made has a power twice higher than that of cattle manure. This universal message is spreading and being increasingly adopted by people around the world and taken on in their daily lives.

Call to Action: Become an advocate of organic agriculture: • transforming residue food and all organic matter produced in their community or city, into compost; • growing vegetable gardens in unused city spaces, especially in abandoned industrial areas, to avoid they become building sights. This would also help the quality of the air and lower high summer temperatures; • separating and recycling waste to help reduce greenhouse gases. The organic part becomes compost to fertilize soil instead of polluting the land; • Biomass should be collected in rural areas to avoid the burning of branches from the pruning which frees CO2 in the air contributing to greenhouse effect; • Biomass from the countryside should also be reused as compost, pellet, wood, cellulose for paper, etc.; • adopt agriculture practices that avoid the continuous plowing of the soil (ig: permaculture and synergic agriculture).

[54] Bernardi E., Il Mais 'Miracoloso', 2014.
[55] Bairoch P., Les trois révolutions agricoles du monde développé: rendements et productivité de 1800 à 1985, 1989.
[56] Allen Pfeiffer D., Eating fossil fuels, 2006.

Section Four

New Circular Economy

Soil, when treated as a renewable resource, engenders a circular economy. A circular economy treats the unconsumed portion of output as an input for other processes, valuable to endless cycles.

A circular economy fosters the equilibrium between production and consumption, recycling all material aspects in time and space. This remains in stark contrast to the prevalent attitude to soil as a disposable commodity. Industrial agricultural conforms to a linear economy that depends on the extraction of petrol and the use of inorganic chemicals, leading to unused outputs that are treated as negligible waste rather than part of a natural cycle. It provides no feedback about the carrying capacity of a system, preferring to separate production from consumption, which inevitably leads to the wasteful accumulation of unused matter.

A new economy should guarantee that consumption does not exceed the rates of production and that unused output does not exceed the capacity of the system to process it.

Soil should be considered as the basis for the return to a circular economy. It provides the physical environment for the development of living organisms and creates bio-value, rather than surplus value, turning non-used matter into self-regenerating nutrients. While ecological agriculture organizes the processes of production to restore soil fertility and return unused organic outputs back to the land, industrial agriculture promotes the exploitative treatment of matter and humans that creates the premises for its own demise. A linear economy is thus violent while a circular economy remains peaceful, promoting cooperation and integration.

The current dominant model fosters inequality and an increasing disconnection between finance, economy and nature in a one-size-fits-all approach. To the contrary, the new necessary model will promote an "economic biodiversity" together with natural biodiversity: different markets, different financial systems that will have to respond and adapt to the requests of natural timing and cycles and to human activities, not the other way around.

Finance and economy must be brought back to be a means at the service of the society as a whole, not an end in itself. In this view, we have to overcome the use of GDP (Gross Domestic Product) as a measure of wealth, and substitute it with happiness and well-being indexes.

A New Economy based on soil is necessarily local. It will establish new attitudes and legalities about entitlement based on use rather than exchange. The driving forces of urbanization and consumerism will be significantly slowed down as societies begin to recognize the transcendent value of the biological health of the soil. Finance will no longer be concerned with servicing the accumulation of non-productive capital but instead will return to a more direct connection with production. Soil, rather than being considered a component of real estate or a raw material, now will be acknowledged as the new means of production.

Finance

Finance should be a tool at the service of the real economy. It should provide capital for human activities and help to manage risks. In effect the vast majority of financial activities have almost completely lost such a social role and turned into an end in itself that makes money out of money.

To pursue the profit rates that speculators require, finance has to grow at rates that are constantly higher than the natural ones. In recent years, such growth has been achieved in two ways. First, through the ever increasing extraction of value from any human activity or natural resource, which results in cut-throat competition that lowers any commitment to human rights, environmental rules, working conditions. Second, through the creation of gigantic financial bubbles where the profits are privatised and the losses at their explosion are borne by the public and the citizen. Moreover, while it has been quite some time that money no longer relates directly to gold or other valuable assets, today money seems more and more detached from any value or human activity.

Land used to be a measure of well-being, now money takes the place of land, and money measures everything. It is another aspect of financing, we lost any contact between money and land and then between money and real activities. A sharp rift has opened between finance and economy, but on the other hand, financial activities are not a game in itself, separated from the real world, but quite the contrary, they have a huge impact on nature and human beings. Such detachment becomes evident when looking at the rate of return. The soil can provide all of us with extraordinary returns in terms of food and biodiversity. These returns are anyway far from the greedy expectations of speculative finance. The ever increasing expectations for higher profits are one of the main drivers in soil exploitation. It is not only a matter of looking for a more "sustainable" approach, but we need to completely turn such approach upside down: natural returns must be the drivers, while finance must adapt to soil cycles and productions.

A similar argument regards timing. Agricultural activities conform to seasons, years or decades. The majority of financial transactions, on the other hand, take place in the primary stock exchanges of the world according to "high frequency trading", resolved in thousandths of a second. Once again, it is simply absurd to pretend to bend natural timings to the expectations of speculative finance. A new circular economy looks to "slow finance" that can adapt and match to nature's cycles.

Through various financial instruments, such as derivatives or index funds, financiers speculate on food and commodity price. Gigantic sums are traded every day, 24 hours a day, across the stock exchanges, causing instability and volatility.

On the other hand, hundreds of millions of farmers and peasants are completely excluded from financial services and access to credit. Paradoxically, these are the same people badly hurt by the actual financial system. To put it simply, there's too much money in the financial system, desperately looking for profits, while enormous needs and activities are strangled by the lack of resources. In fact, money supply and demand do not match at all. The actual financial system is the most outrageous and macroscopic market failure of modern times.

The modern race for ever increasing profits and for the financing of each and every human activity tries to reduce soil to a financial asset. Land

grabbing is the most evident example of such financing. Soil is and must be considered a common good, and thus excluded from financial processes which have the only goal of extracting any possible return.

A new economy must thus shut down such an inequitable gambling hall, and turn finance into an instrument that serves people and society, respecting natural timings and cycles. Heading toward such change is not a matter of technical difficulties, but of political will. On the one hand, several proposals have been put forward in the last years: a financial transaction tax, the separation between commercial and investment banks, ban any speculative use of derivatives, notably on commodities and raw materials, and so on.

On the other hand, ethical and alternative finance concretely show that a completely different financial model is not utopian, but rather offers a concrete answer, and a path that tens of million have already chosen. From being one, if not the main problem, finance could and should be converted into becoming part of the solution.

Trade

Trade has been a fundamental human activity for millennia. The travels and routes of merchants significantly influenced the development of economies, as well as cultural exchanges and the history of peoples.

Currently the dominant system promotes so-called "free trade", which condones the removal of all barriers or constraints to the global circulation of goods, services and capital. This includes all regulations that protect workers or consumers and environmental legislation, since these pose a threat to the freedom to trade.

From the World Trade Organization (WTO) to the bilateral agreements, such as the Transatlantic Trade and Investment Partnership (TTIP) now under discussion between the US and EU, the same goal has always prevailed: the creation of a single world market; a one-size-fits-all approach where the rules are tailor-made for the larger firms. "Freedom" means freedom of extracting profits from any human or natural activity for the transnational corporations.

The current vision directly leads to a race to the bottom in which the goal of governments is not to protect their citizens and their soil, but to try and attract capital and win the international competition for their companies. Breaking down workers' rights, exploitation of the soil and the environment, extensive use of tax havens, anything goes in order to reduce the costs of production and win the global race.

Moreover, the "cost" only refers to labor and raw materials. The impacts on nature, starting from those related to the international transport of goods are "externalities" that need not be considered. Even from an economic point of view, such unbridled competition leads to the formation of oligopolies in which very few companies control the entire market.

What's the meaning of international competition in such conditions? Is a boxing match between the world heavyweight champion and a kid from elementary school fair? Should the same rules apply to anyone in any condition? All too often, in international trade such rules are in fact written by the same companies that benefit from them.

This oligopoly commands the food chain, where in front of millions of producers and millions of consumers, a very few mega-corporations control the international supply lines and impose prices, rhythms, and productions. There's a complete lack of transparency on the current mechanisms regarding price, as well as an ever increasing distance between who lives and works on the soil and who takes decisions on food prices and production.

Such an untenable approach regards any activity, and in particular those related to the soil. In agriculture we witness the process of standardization of the production and consumption; the attempt to put patents on seeds and life forms; the land grabbing in which even the soil is reduced to an asset to buy and sell according to the logic of the market and profit.

A new circular economy relies on a completely different model for trading activities. One that has rules dictated by the needs of nature and society, not profit. It promotes local production and reduces transport. Even more importantly, we do not need a single market, but a number of different markets, each with its own rules and specificities. A system of concentric circles, starting from a "zero km" level based on a local market, then a regional one scale, and so on.

Such an approach does not deny the existence of trade on an international scale, but puts the global trade in a different perspective. It considers trade analogous to biodiversity, rather than the all-encompassing claim agreements geared to maximum profits for the strongest.

As ethical finance has already demonstrated, a radically different financial model works. For example for decades the Fair Trade movement has been an alternative to the current dominant mechanisms.
Collaboration replaces competition, the financial and economic aspects become part of a broader discussion on the development of the local communities in accordance with environmental questions, solidarity, and the creation of lasting relationships. The reductionist approach in which economic and financial aspects are the only factors considered has been substituted with a holistic system, where natural, environmental, cultural, and social factors return to center stage when considering the essence and role of trade.

Legality

With regard to finance and trade, the laws and regulations on soil and agriculture are designed to fulfil the expectations of a very narrow number of mega-players. These includes laws which foster GMOs that hamper local farmers, promote patents on seeds while penalizing biodiversity and so on. From this point of view, one should keep in mind the legitimacy and even the necessity of the struggles and protests taking place against unjust norms and international agreements.

Furthermore, the economic globalization produces many negative impacts. In addiction to all the increasing inequalities between countries and within countries, a darker side of a single economic and financial system is the criminal economy, fuelled and supported by illegal trades such as trafficking in human beings, drugs, weapons, that have no boundaries. Simultaneously to the criminal activities, organized crime has developed a growing infiltration capacity in the business system, using it as a privileged place of laundering money derived from illegal activities.
This "entrepreneurial" vocation is even more strong in the current severe and pervasive economic crisis. Thanks to the huge financial resources at its disposal, the mafia follows the principles and rules of finance: primarily diversifying the risk of the investment portfolio.

In all countries and territories where financial resources are scarce, the crime economy is ready to give credit to businesses and legal productions, in order to launder money, but also to gain the control of strategic sectors. The activities based on the soil are much sought after by crime, that is why today we speak of agromafia: agricultural production, processing, distribution and counterfeiting of food products, the construction and the movement of the earth, the management of waste, the exploitation of immigrant workers.

So the soil is subject to the predatory activities of criminal organizations. The civil society organizations are responding with courage, promoting actions of civil struggle as with the economic recovery and employment of assets confiscated from the mafia, the complaints and the fight against corruption, the activities against usury, the education for democratic legality. To further these goals, social organizations collaborate with public administration, national institutions, the judiciary and police.

Good practices: *In Italy Libera Terra is a project launched by the association Libera to promote the creation of free social cooperatives that manage the land confiscated from the mafia, producing organic products and creating job opportunities and economic development. Addio Pizzo, is made up of traders and consumers who rebel against the impositions of criminal organizations on production and trade. Similarly, Avviso Pubblico Municipalities and Regions against the Mafia, is a protocol that contains guidance on how a good administrator can call on the principles of transparency, fairness, discipline and honor under Articles 54 and 97 of the Italian Constitution, in order to counteract negative phenomena such as conflict of interest, favoritism, undue pressure, transparency of financial interests and the financing of political interests, full cooperation with the judicial authorities in the event of investigations and duty to waive the requirement or obligation to resign in case of indictment for serious crimes (eg. the mafia and corruption).*

Redefining Work and Creative Opportunities for the Youth

The rejuvenation of land and rejuvenation and creation of meaningful work, the defense of the right to land and resources and right to security of livelihoods and work have their common roots in the new circular economy.

Humanity, especially the peasants in the south and youth and future generation worldwide, are facing a severe challenge in the context of work. A new class of the precarious is being created. Creative work is vital to a sense of meaning, fulfilment and well-being. It is the birthright of every human being born. However, most young people either work in conditions of insecurity or exploitation, or have no work at all.

The unemployment crisis is an important aspect of the crisis generated by an exploitative, extractive economy.
The current dominant work model is based on exploitation: exploitation of soil and natural goods as well as of people, which becomes all too evident when looking at agrarian societies. Peasants are being uprooted from the land at rates and scales unprecedented in human history.

This great uprooting is driven by two, false, assumptions of the extractive paradigm. The first false assumption is that peasants and small farmers are unproductive and should be replaced by industrial mega farms. Numerous reports of the United Nations, including IAASTD, UNCTAD, UNEP and FAO, have shown that small farms produce more, and are the basis of human food security. The second false assumption is that resources can be grabbed by whoever has financial and economic power. The Right to Land and resources is a human right. Just as land has been reduced to a tradeable commodity, work has been reduced to labour. And Labour has been reduced to a Commodity. This approach directly leads to erosion of livelihoods, increasing precariousness, and decreasing workers rights, especially those of women and youth. The current model impedes skill training and learning, and the passing on of skills and knowledge to future generations. It is against people's self-determination, and furthermore doesn't build a society, but a set of people competing one against the other for survival.

Ivan Illich, the renowned Austrian philosopher, in the Declaration of the Soil, reflects "the economy into which we have been absorbed, some willy nilly and some at great cost, transforms people into interchangeable morsels of populations ruled by the laws of scarcity".
The new economy is based on reclaiming the right to creative work. Central is creative work with the land, to restore it, to grow food, to create new economies.

Good practices: *Several examples of best practices already exist all over the world such as the recovery of ancient skills which provide work and creative opportunities: urban agriculture and new organic agricultural productions; forestry construction, arts and crafts, local food; working with herbs (food, cosmetics, medicine); energy self-production; care of the land; and many others.*

The false model of productivity was based on the replacement of people with fossil fuels. It measured the displacement of people from work as "labour productivity" In the new circular economy, labour is not an input, creative work is an output of a production process. Similarly, in the old extractive economy, land was an input – it was exploited, degraded, polluted and laid waste. In the new circular economy, land restora-

tion and rejuvenation of soil fertility are outcomes of productive work. Work is based on closed productive cycles: a circular economy, heading towards self-subsistence and rejuvenation of soil, biodiversity, water. It recognizes women's work and is based on integrated, not fragmented work, encompassing the whole chain from sowing to harvesting to selling. From the producer to the consumer, with no (or few) intermediaries. This leads to an increasing independence from the global corporate controlled market, towards local production of seeds, wool, wood, natural fertilizers, energy, etc. and all human needs. It includes the economy of care – care for the soil, and care for community.

This will lead to a direct and independent self organization and self management, whether single, collective, communal, cooperative, or family run. The new model will be based on low financial investments and small returns on financial investment, but on high investments in competences and knowledge to create alternatives to both market dependencies and imposed scarcity. It will bring high returns in terms of well-being and security, both ecological and social.

The return to the soil is an opportunity of work also through the provision of support and training. The recovery of land and territories provides a new form of work and entrepreneurship among young people. Youth can be major protagonists in shaping the new agriculture and the new economy.
We are seeing a growing movement of young people around the world forming gardening and farming communities and choosing to build their futures working with the soil and land.

Good practices: *the Greenhorns, a grassroots organization of young farmers, collaborators and volunteers in Eastern New York, the aim of which is to recruit, promote and support the new generation of young farmers and are committed to the rebuilding of rural economies through sustainable agriculture, to small business entrepreneurship and to team work.*

The Cities

Today, it is estimated that at least half the world's population live in cities. The urbanisation process and the consequent urban expansion seem uncontainable. The agro-industrial model goes hand in hand with uncontrolled urbanisation, overbuilding, urban corruption and financial speculation: it is expelling rural populations, relegating people to slums, driving citizens away from the old towns (which become gentrified neighbourhoods) and pushing them into suburbs. Like agro-industry, the centralising metropolis is a big sink of energy, more and more increasing land consumption per-capita. Established as the dominant way of life, living and working, the metropolitan model does not offer an adequate or suitable living environment especially in the face of climate change.

A socially sustainable balance between city and countryside must be re-established, both in cultural and - above all - physical terms. In this direction, some nations - Germany, Britain, and now also Italy, with the example of Tuscany - have placed a limit on new consumption of fertile land.

The desired inclusion of the city in circular economy will depend on its ability to self-produce resources, in terms of culture, from practical to linguistic skills, from morphological resources to conservation and production of knowledge, and so forth, as well as in terms of energy, meant both in its strict sense and, in a broader, agricultural, demographic sense.

Farming and food autonomy is to be found in the intramural fabric as well as in the urban bioregion, also in the form of agricultural parks

following the example of Milan, Pamplona, Barcelona, among others. Establishing a food budget for the city, binding its food base to the bioregion farming production, represents the first step.

It is urgent to foster an agreement between city and countryside to ultimately overcome the capitalist exploitation of the latter by the former. An alliance between citizens and farmers implies direct sales and a spread of farming skills throughout the city, and has its primary result in a sort of "education to soil", to defeat the idea that building is an act of civilisation presenting it instead as an act of barbarity when exerted on fertile lands. Such a change of the urban polarity is paired to a repopulation of the countryside and a reconfiguration of rural settlements.

Call to Action: Focused actions to compensate for open areas (rivers, parks, forests etc.) erased by a blind and voracious urbanisation are becoming more and more urgent, together with a regeneration of brown field land (industrial plants, unused railway areas etc.) with gardens, parks, and intramural wilderness. This requires institutional will and intelligent conceptual planning and restoration, in the city sprawl, of the founding elements and traces of the historical transformation of natural and anthropogenic features, such as diverted watercourses, ancient pathways, agrarian geometries.

A return of dignity to rural habitats and a de-urbanisation of the countryside require ensuring and promoting the access of rural population to services and equipments, to the urban benefits (water, health, education etc.) and, at the same time, increasing the formation of independent cultures. The Gandhian model of an autonomous and interdependent village community is combined with the polycentric model of the "city of cities", which many indicate as the answer to sprawl redesigning the metropolis.

A federation of small to medium size centres, indeed, actually reduces the consumption generated by large metropolitan displacements; the proximity of political ganglia increases citizens participation; a limited urban front fosters osmosis between city and countryside. The allocation of multiple centralities on territories redeems degraded urban fabrics, generated in opposition to "command citadels", and redistributes economic and political power in a widespread and potentially democratic form.
The concept of soil is strictly related to the concept of "local" as the base for self-determination, as memory rooted in the place and reservoir of experiences, skills and knowledge for the future project.

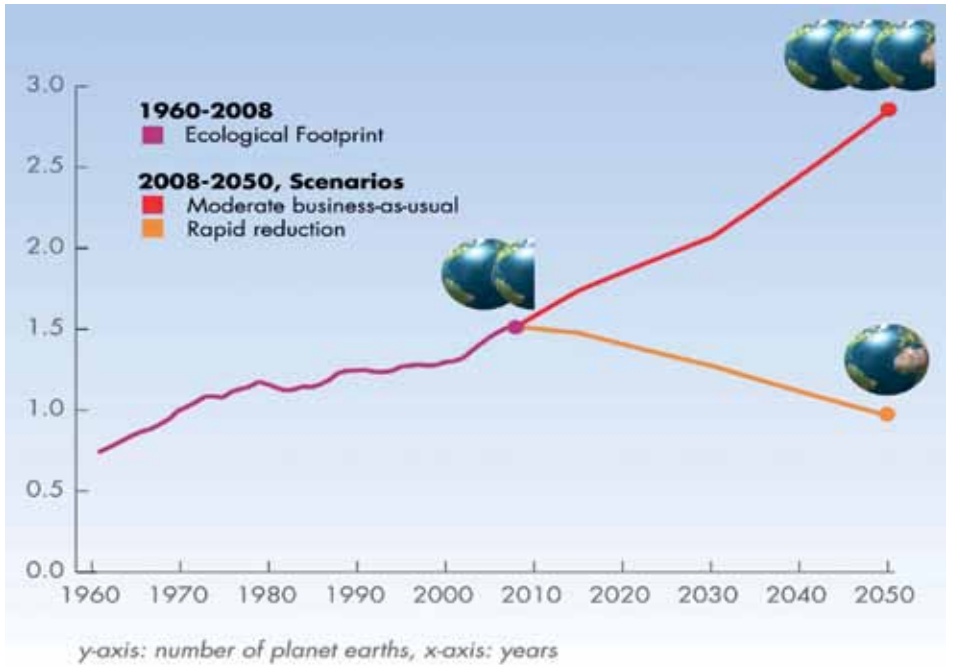
From Consumers to Citizens

The evolution from consumers to aware Earth inhabitants, from customers to "soil citizens", is internal to the paradigm shift, in economy, from linear to circular. Such transition requires to discharge the monoculture of consumption and waste, in the fields of production, work and lifestyle. Today, indeed, an extremely aggressive manner of marketing, packaging and distributing has led to advanced consumerism, which through supermarkets, shopping malls, media propaganda, Internet, appears to offer the individual an infinite array of choices and promises while implying that this will ensure a satisfying well-being. In order to participate in consumer society, most people resort to risky loans and mortgages which usually lead to greater impoverishment.
The standardisation of consumer products and, in general, the conditions imposed by the domination of corporations, have a dulling effect on human consciousness, depriving people of direct relationships that in other times in history endowed them with a sense of responsibility.
They rob purchasers of sovereignty over health, language, food culture, behaviour etc.. It also deprives people of knowing the virtue and beauty of genuine food and natural materials.
The actual denial of traditional models, the increasing complexity of the machinery, the planned obsolescence of objects, the pathological spread of materials from petrochemical synthesis, all prevent the development of skills, the use of memory and know-how. The technology prosthesis is a dogma and, as such, is functional to consumerism. A civilisation providing for the local closure of cycles includes "waste" in the cyclical fertility of soils. It must also be ensured a closure of energy, water, cultivation cycles. A local, renewable, small-scale, widespread energy production, close to the place of consumption, can reduce damage caused, e.g., by large dams, which flood thousands of square miles of fertile soil reducing the farmers who have lived there for generations to the status of refugee; by solar power plants, which steal farming land; by minerals extraction, which destroys ecosystems and social balances. Agriculture, an industry involving so many aspects of life, becomes central to the civil progress from consumers to citizens of the planet.
A new vision that shows how reclaiming the soil for a circular economy will radically change the individuals' relationship to both living in cities and supplying their needs. The leap from the model of global consumption to non-violent self-production is necessary and urgent: the precautionary principle, protection of workers, fair remuneration, natural products and processing, short supply chain, information and transparency are essential in this regard. Transparency in labels about production methods, sourcing of raw materials, ingredients, cost distribution, assure a positive impact on food quality, health of the purchaser, prevents child labour.

Good practices: Associations such as 'GAS' in Italy (Gruppi di Acquisto Solidale - solidarity based purchase groups), AMAP in France (Associations pour le Maintien d'une Agriculture Paysanne, associations for the maintenance of peasant agriculture), link together producers and purchasers, increasing mutual awareness and support. Participatory Guarantee Systems (PGS), locally put into practice, ensure a comprehensive quality system: producers act according to the customers' active participation, based on trust and knowledge exchange. A new sense of responsibility stems from the work of citizens in urban gardens. Direct selling of locally produced food and handicrafts in neighbourhood markets should be guaranteed and encouraged: the more the cities include agriculture in their agenda, the more they will be able to reduce the wasteful transportation of food. Urban bioregions, as territorial units endowed with great social and political potential, are the starting point in this regard.

Virtual Land Grab and Land Foot Print

Everything we consume comes from land and thus every product we use has a "land foot print". When goods are traded between countries, there is a consumption of "virtual land". For example according to a study by Professor Harald von Witzke, the EU indirectly lays claim to nearly 35 million hectares of arable land outside its borders in order to secure its food supplies. Its land footprint is estimated at 640 million hectares per year, an area 1.5 times the size of its 28 members countries. Each citizen of the EU is consuming 1.3 hectares of land per year, which is 6 times more than the average Bangladeshi[57]. Unconscious consumption is thus contributing to a "Virtual Land Grab". This is the reason that we must move from being consumers to being conscious citizens.



Source: Global Footprint Network

[57] Global Soil Week, Soil Atlas, 2015.

Section Five

New Democracy

One of the challenges we face as humanity is the need for citizens to feel empowered to change the dominant political system and the exploitative economic model that is threatening our future and planetary survival. Political power is increasingly reflecting the economic pyramid of the 1% which is crushing the 99%, the Earth and her species. Representative democracy has become an instrument of the representation of corporate interest, its main objective being to expand the control of corporations over all the earth's resources and all markets.

We need a new, real democracy, just as we need a new just economy and a new sustainable agriculture. The new democracy goes beyond anthropocentrism. It is a democracy of all life - plants, animals, people, and all life forms. We depend on the web of life for our existence and our rights and freedoms flow from the rights and freedoms of the Earth and non-human species.

Participation is Central to the New Democracy

The new democracy is an inclusive democracy for all humans - irrespective of class, gender, religion, race. It is based on daily participation and goes beyond representation and not simply on a vote once in four or five years. It is based in caring for the land and nature; on participation in, and cultivation of communities that act with strength and solidarity to protect the earth and society in times of erosion of democracy.

It is based on the distribution and circulation of power beyond centralized authority. It takes responsibility for actions, being conscious of, and being accountable for actions.

Good practices: *Ekta Parishad, a people's movement is organising Jai Jagat 2020, a new initiative with the following aims: youth training in non-violent action, an opportunity to train and sensitize as many young people as possible in the coming years by reaching out to more than hundred thousand young men and women in all 660 districts of the country involving camps with a minimum of 200 youth in each district. These camps are points where young people can discuss, understand issues and make action plans that challenge deprivation and alienation of land and resources from the poor non-violently; - collaborative partnership with civil society groups in various other continents and countries and provide training to many who come to India to learn from this way of working among the marginalized groups;- The entire campaign of Jai Jagat 2020 is built around the notion that "our world can be different if we are not indifferent".*

The old democracy based on electoral representation is a linear extraction of power from the people. It is increasingly leaving people powerless to protect their land, their lives, their livelihoods, their freedoms in the face of land grab, destruction of work, and destruction of our life support systems and democratic rights.

In the context of globalisation and free trade, representative democracy is increasingly representing corporate interests, and the state is increasingly mutating into a corporate entity. The lexicon of privatisation, growth and free trade is used to dismantle the welfare state and with it people's rights to health and education, the right to work and to safety, that democratic movements of the last century institutionalised. Transformation of a sovereign state to a corporate state is an extinguishing of democracy as a system that is supposed to be 'of the people, by the people, for the people'.

"Freedom" has today become a much contested term. Citizens refer to people's freedom to live and have livelihoods, to have access to vital resources - seed, food, water, land. Corporations define freedom as "free trade", known as corporate globalization. "Free trade" rules expand the freedom of corporations to commodify and privatize our commons - land, water, and seed. In the process they destroy the freedom of the Earth and the Earth community, people's cultures and democracies.

In 1992, at the Earth Summit in Rio de Janeiro, the international community signed international treaties to protect the environment - the Convention on Biological Diversity (CBD), and the UN Framework Convention on Climate Change, the Climate Treaty. The UN Convention to Combat Desertification, and the Stockholm convention on persistent organophosphates gave governments the ability to regulate activities causing environmental harm, and harm to citizens.
Just three years later, with the establishment of the World Trade Organization in 1995, both national sovereignty and national democracy, began to be dismantled, through deregulation, in favour of corporate rights, with high costs to the environment and people's rights.

Good practices: *Jan Satyagraha 2012 (Keenness to Truth), a non-violent foot march on a 350 km stretch between Gwalior and Delhi during October 2012 , based on Mahatma Gandhi's non-violent resistance. The objective is to obtain a comprehensive National Land Reforms Act and effective implementation and monitoring institutions to provide access to land and livelihood resources to the poor landless, homeless and marginalized communities.*

While nature is being assaulted on a scale and rate like never before, and humanity is being crushed in ways not witnessed in recent history, nature and personhood are being substituted by fictions.

The WTO opened the way for corporate rights to overrule democracy and people's rights. This started the political process for corporations (that were designed as legal constructs) to claim "personhood" - so real people - who stand in line at polling booths, eke out livelihoods, and raise families - lose their rights. This too is at the heart of "free trade" treaties such as TTIP and TPP based on "investor rights". When governments act in favour of public interest, according to democratic decisions of their citizens, Corporations as investors become "persons" with rights, and can sue sovereign nations in secret private tribunals, claiming monetary compensation for laws and policies they say reduce the value of their investment or potential profit.

With globalization and the financial crisis, austerity is imposed on societies with the consequent undermining of fundamental human rights. This has happened across the countries of the south in the name of Structural Adjustment and Trade Liberalisation, and is currently happening to Europe in the name of Austerity. What we are witnessing in the name of austerity and growth is the dismantling of the freedoms of

nature and culture, the undoing and unravelling of all ecological evolution and pluralistic histories that have woven the web of life and the conditions of our humanity.

The mechanistic, atomistic concept of freedom is based on the assumption that my freedom ends where your freedom begins. This leads to the logic of exclusion, domination, and violence. In the new democracy my freedom starts when your freedom starts, and includes the land's freedom and everyone's freedom.

New democracy goes beyond humans. It goes beyond representation to include everyday life and everyday persons. This new democracy has become a survival imperative, for democracy and freedom of people as well as life on earth.

Diversity is Central to the New Democracy

Like biodiversity, our cultural diversity grows from the soil. Our sense of self is rooted in the soil and the earth, pluralistic, inclusive, all embracing. Our food, our languages, our clothes change across this beautiful and bountiful land. The land unites all faiths and cultures. Artificial identities divide. Fundamentalism and extremism create exclusions.

As the economics of insecurity grows, and the politics of narrow identities feed on it, identity itself mutates - from the positively experienced and shared identity of place, to a negative artificially constructed identity of hate and exclusion.

The New Democracy is not freedom to dominate on the bases of one dominant culture but freedom as articulated in the plurality of cultures. New democracy is based on principal of diversity, diversity of all life, diversity of all cultures and diversity of participation in all levels from local to national to global.

Decentralisation is Central to the New Democracy

Corporate rule is based on centralisation of power. For corporations it is easier to influence decision making when power is concentrated in a centralised authority. People's participation in decision making needs decentralisation of power and of decision making, and the strengthening of community processes and community rights. Participation circulates power in community, and creates living democracies.

Swaraj (self-governance) was used by Gandhi to describe self rule and self organization by people and communities to govern themselves. It is the highest expression of people's sovereignty. The call for *swaraj* -and "home rule" is growing everywhere.

For example, India has enacted a tribal self rule law (PESA) to recognize the rights of self rule of local tribal communities as well as the Forest Rights Act. The Indian law titled "Plant Variety protection and farmers rights act" 2001 has a clause on farmers rights - "a farmer shall be deemed to be entitled to save, use, sow, resow, exchange, share or sell his farm produce including seed of a variety protected under this act in the same manner as he was entitled before the coming into force of this act".

In Europe, communities and regions declaring themselves GMO-free have acted as a countervailing power to the power of corporations.
In 2014, when the European Commission attempted to pass a law to centralise seed registration in Brussels, and thus make diversity and local varieties illegal, movements and the European Parliament upheld the duty to protect diversity, and the rights of farmers to save, use and exchange open pollinated, farmer bred seeds.
In the US, communities are declaring themselves fracking-free zones to protect their land and water. Communities in Hawaii are organising themselves on the principle of Home Rule in respose to the spraying of pesticides and planting of GMOs by global corporations.
The principle of " subsidiarity" which is based on the recognition that decisions should be made at the lowest level possible is an expression of decentralised democracy.

Communities and Commons are Central to the New Democracy

Communities shape the commons. Commons are spheres of life self-governed by local communities. They are not governed by the market or the state. The state at best can recognize the rights of local communities, but it cannot prohibit the freedoms of communities to self govern the commons.

There is a difference in laws of recognition, and laws of prohibition. While laws of recognition of people's sovereignty at higher levels strengthen people's sovereignty, laws of prohibition extinguish it.

Good practices: *on 5 June,1999, World Environment Day, Navdanya launched Jaiv Panchayat - the Living Democracy Movement to fight against the biopiracy and IPR monopolies on life forms. Jaiv Panchayat consists of the entire gram sabha (gram ke sab log) women, children and minority communities. This form of the Panchayat renders the community the decision-maker on all matters pertaining to biodiversity and its conservation. In doing so, the Jaiv Panchayat lays down the parameters within which the elected Panchayat body can take action vis-à-vis biodiversity. To make real the idea of a living democracy: organise everyone in the your village into a Jaiv Panchayat and help the people understand that their Jaiv Panchayat will be a decision making body on all matters pertaining to the conservation, management, and protection of all biological resources of that area; - Organise meetings/ awareness campaigns with the Jaiv Panchayat, and discuss the diverse kinds of biological wealth available and used in your area; - Make a formal declaration that all the biological resources belong only to the community; -Prepare a community biodiversity register (CBR) to prevent erosion of biological resources and knowledge; A few active members take the responsibility of maintaining and updating the register periodically.*

The new democracy means sovereignty and freedom are intrinsic to communities and commons – our land, soil and seed sovereignty are our freedom to work, create and give sustenance. Seed and biodiversity are the ultimate commons, to share sustainably and equitably through the freedom of local self rule and self governance - not by markets through privatization nor through centralized authority and its bureaucratic apparatus. New democracy also involves freedom from potential harm through national and international regulation on biosafety and prevention of biopiracy. The regulation by the state of those who can cause harm to others is the overarching principle of freedom with justice.

The movement for land rights in India, and the global march for land planned in 2020 as Jai Jagat, are examples of the practise of new democracy based on the concept of Swaraj.

The rights of the earth and land are central to the New Democracy

The future of humanity is based on how we care for the soil and the land. The well-being of the soil shapes the wealth and well-being of society. A non-sustainable and violent relationship with the land is creating violence in society. Reducing nature to resources for exploitation for economic growth, and not assessing the costs of the extractive economy, has brought humanity to the brink.

New Democracy recognizes the Earth and our dependence on her. It is about awareness and gratitude. Human rights flow from our duties to protect the land and the Earth.

The land and the Earth are inviting us to participate in a grand renewal and restoration of humus, and through it the potential of our humanity.

APPENDIX I

Point 1:

The English in India enclosed forests to transform them into state monopolies for commercial exploitation. Once India's land was usurped, the collection of revenue from the land through taxation on produce as well as the land was enabled by the introduction of zamindars/landlords. The English policy of deforestation and the enclosure of commons, which started in England, was later replicated in the colonies in India. The Indian Forest Act 1865 declaring forests as reserved forests resulted in the erosion of the fertility of forests and the rights of local people to forest produce. The British concept of wastelands, lands without revenue generating capacity, forests and grazing lands were taken by the government and turned to cultivators for revenue generation.

The first Indian Forest Act was passed in 1865 by the Supreme Legislative Council, which authorised the government to declare forests and wastelands ('benap' or unmeasured lands) as reserved forests. The introduction of this legislation marks the beginning of what is called the 'scientific management' of forests; it amounted basically to the formalisation of the erosion both of forests and of the rights of local people to forest produce. Though the forests were converted into state property, forest reservation was in fact an enclosure because it converted a common resource into a commercial one. The state merely mediated in the privatisation.

Point 2:

Today's globalised economy is based on land grab. For instance: The International Food Policy Research Institute (IFPRI) estimated in 2009 between 15 and 20 million hectares of farmland in developing countries had changed hands since 2006. As of January 2013 the Land Portal's Land Matrix data totalled 49 million hectares of deals globally, although only 26 million hectares of these are transnational.
A 2011 World Bank report reported 57 million hectares worldwide.
Friis & Reenberg (2012) reported in 2012 between 51 and 63 million hectares in Africa alone. The GRAIN database published in January 2012, quantified 35 million hectares, although when stripping out more developed economies such as Australia, New Zealand, Poland, Russia, Ukraine and Romania, the amount in the GRAIN database reduces to 25 million hectares.

Point 3:

In India a war against the land and the people has been declared through the land grab ordinance which, by reversing the, Right to Fair Compensation, Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013, takes us back to the colonial law of 1894 giving government uncontrolled rights to appropriate land from tribals and peasants to hand over to corporations . The Right to Land movement undertook a march from Palwal to Delhi. Thousands of farmers gathered at Jantar Mantar on 24th February 2015 to demand a repeal of the land ordinance and reintroduce in the law, clause of consent, social impact and impact on food security.

Point 4:

To a great extent this explains the policy of turning some of India's best and diverse rice growing areas into gridlock of 204 large industries,

which has between 2000-2010 diverted about 13,000 hectares within one state in India, Chattisgarh. To add insult to injury, the Chattisgarh government has signed additional MOUs with 115 companies for 543 industrial projects. Added to this, according to official estimates, about 13,000 hectares of Adivasi inhabited forestland has been diverted. Ninety seven percent of this forestland has been diverted to mining but estimates suggest that the public within the state has earned only 12% of the value of minerals mined.

Point 5:

It is clear today as we look at the land being appropriated to form these SEZs that it is the prime agricultural land, not wasteland, which is being acquired to make these SEZ. As pointed out by political analyst Praful Bidwai (2006),"India's state governments are procuring farmland in coercive ways, at prices well below the prevailing market rates, and handing it over to promoters - including big business groups such as the Ambani brothers, the South Korean steel giant POSCO, the Tatas, Mahindras, Unitech and Sahara. They stand to make huge super-profits." (The Great Indian Land Grab)

In March 2007, 14 people were killed and many more raped and injured by police and party-thugs in Nandigram, West Bengal, for refusing to give their land for a petrochemical Special Economic Zone promoted by an Indonesian company. (Levien, 2012)

Point 6:

Two examples are Vermont and Maui. Vermont, which passed a GMO labelling law through a legal, democratic process, has been sued by a conglomerate of corporations on the false premise of corporate personhood, and the influence of money as corporate "free speech" . Denying citizens the right to know violates the fundamental principles of food democracy. When the county of Maui in Hawaii voted to be GMO-free, Dow and Monsanto sued the county, subverting the democratic process (which rests on the will of people and not on the power of corporations). After the Fukushima disaster, German citizens voted to go nuclear free and a Swedish corporation Vattenfall sued Germany for $3 billion. This corporate jurisprudence needs to be reversed if human rights and the rights of mother earth are to be protected

APPENDIX II

Soil and the Sustainable Development Goals

2015 is the Year of Soil. It is also the year for the expiry of the Millennium Development Goals launched in 2000, and their replacement by sustainable development goals (SDG's).
Care for the Soil is the foundation of sustainability and has the potential to contribute to every SDG goal.
As the ancient Indian Vedas recognised more than 4000 years ago
"Upon this handful of soil our survival depends. Care for it and it will grow our food, our fuel ,our shelter, and surround us with beauty. Abuse it and the soil will collapse and die,taking humanity with it."

1) End poverty in all its forms everywhere.
There are two aspects of poverty, the first is ecological and material, the second is financial. Soil and land degradation linked to non sustainable agriculture and land use undermine livelihoods and provisioning of basic needs of food, fodder, fuel, water and shelter - contributing to ecological and material poverty. External input agriculture based on purchase of costly seeds and chemicals trap farmers in debt and poverty. Displaced farmers join the armies of the urban poor, without security of livelihoods. Ecological agriculture based on rejuvenating soil and restoring the land reverses the vicious cycle of poverty. It has the potential of increasing farmers incomes 10 fold. based on the Indian experience ("Wealth per Acre" V.Shiva).

2) End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.
The dominant model of industrial agriculture creates hunger and malnutrition at two levels. First, by making farmers dependent on costly inputs, it creates a negative economy with farmers spending more than they earn. Inspite of being producers of food, they go hungry themselves. That negative economy is why half the hungry of the world are farmers.Secondly, industrial agriculture focusses on growing nutritionally empty commodities , not nourishing food. 90% of corn and soya goes for biofuel and animal feed. And chemical monocultures produce less nutrition per acre than biodiverse intense ecological farms. As the Navdanya report "Health per Acre" shows , we can produce two times the nutrition that the world needs through biodiversity intensification. Biodiversity intensification is also thousands of percent more effective in addressing nutritional deficiencies, like those of iron and Vita A, than the false promises of genetically engineered Golden Rice or GMO bananas.

3) Ensure healthy lives and promote wellbeing for all at all ages.
Health is a continuum, from the health of Soils, to health of plants, and animals including humans. Health is also a continuum throughout life. Children denied healthy and nutritious food stay vulnerable throughout life. Soil health depends on the law of return, of returning organic matter to the soil. Healthy soils are rich in nutrients. Plants grown on healthy soils have more nutrition than plants grown with chemical inputs. Poisons in our food such as pesticides and herbicides such as glyphosate (RoundUp) are contributing to an epidemic of neurological diseases and cancers. Here too, ecological agriculture that is free of chemical inputs contributes to health and well being for all.

4) Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
Education today is leading to exclusion, first because instead of being recognised as a right, it is being treated as a commodity. Secondly, with

learning linked to the market instead of life, only a limited few skills are being cultivated. This exclusion in education becomes even more significant because of the increase in unemployment after the 2008 economic crisis, and the trends of jobless growth. Education needs to be linked to meaningful work and well being. Ecological literacy, health literacy, nutritional literacy, soil literacy, literacy in growing food are vital life skills that everyone needs. Centres for learning such as The Earth University for Education for Su- stainable living and Earth Citizenship in Deradhun, India andothers like it, are taking the lead in providing knowledge and lifelong skills in sustainable farming techniques and creative livelihoods particularly to youth and women.

5) Achieve gender equality and empower all women and girls.
It is often forgotten that most farmers are women. And women farmers produce more food using fewer resources. However, women and children are also the worst victims of violence, hunger and malnutrition. Putting women back at the centre of agriculture and nutrition can be the single biggest contribution to gender equality and empowerment of women. From 27th -29th March women from across India gathered at Navdanya for "Mahila Anna Swaraj" to celebrate their role as seed keepers and food producers. They made a commitment to protect the Soil, their seeds, their food sovereignty and knowledge sovereignty.

6) Ensure availability and sustainable management of water and sanitation for all.
Soil, Agriculture and Water are intimately interconnected. 90% of the water today is used for intensive irrigation for non sustainable chemical agriculture, creating a water scarcity everywhere. Chemicals from farms, and waste from factory farms pollute the water. Nitrate runoff is creating 'dead zones' in water bodies all over the world.
Ecological agriculture reduces water demands in agriculture, and increases the water holding capacity of soil by increasing its organic matter content. 0.5% increase in Soil Organic Matter (SOM) can increase water in the soil by 80,000 litters per hectare. 5% increase can add 800000 litres per hectare.

7) Ensure access to affordable, reliable, sustainable and modern energy for all.
We need a transition from fossil fuel to decentralised renewable energy. This entails a transition from fossil fuel intensive industrial agriculture that uses 10 times more energy as inputs than it produces as food. While industrial biofuels are diverting land and food grain from the hungry to automobiles, decentralised ecological farming can increase biogas production at local levels, transforming farm waste into fertilisers and energy. This would also decrease the burden on poor women.

8) Promote sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all.
The SDG's need to shift from narrow measures of growth which externalise environmental, health and social costs and internalise externalities of "growth". They need to focus on well-being, not just growth measured as GDP and GNP.
At this evolutionary watershed for humanity we also need to redefine "labour", which is seen as a commodity and an input, to productive employment and decent and meaningful work .
As indicated in Terra Viva, the Manifesto on land and livelihoods, creative and meaningful work in care for the land, for the soil, for the Earth needs to be defined as an output in the design of sustainable economies. The dominant fossil fuel based productivity calculus defines labour as an input, and defines increase of productivity and growth on the basis of reducing labour inputs replacing people with fossil fuels and energy slaves. The crisis of unemployment and the crisis of non sustainable use of natural resources have common roots in non sustainable development goals. The conservation of resources and creation of meaningful work needs to converge in the SDG's. At the peak of the Great Depression and the Dust Bowl in the 1930's, President Roosevelt had launched the

the Citizens Conservation Corp to create work through conservation of Soil and Land Restoration. In a similar way ,the international community needs to address the ecological crisis and the economic crisis in the form of youth unemployment through SDG's.

9) Build resilient infrastructure, promote inclusive and sustainable industrialisation, and foster innovation.
In times of social and ecological collapse, resilient infrastructure needs to include the resilience of soils and ecosystems, and the resilience of communities. Innovation needs to focus on ecological innovation for sustainability.

10) Reduce inequality within and among countries.
Financial and trade deregulation over the last 2 decades has created a huge inequality gulf within and between countries. 1% of the rich own as much wealth as half of humanity. 85 individuals control as much wealth as 3.5 billion people. Reducing inequality implies that instead of punishing the hard working poor and rewarding the non working rich, the SDG's contribute to a new economic paradigm based on production of real things by real people that real people need. Food is a primary candidate for this shift.
Currently the non sustainable industrial system of food and agriculture is propped up by $400 billion dollars of subsidies which are destroying the more productive family farm and increasing disease and unemployment. Reduction of inequality within and between countries must begin with recognising and rewarding the work of real farmers producing real food which provides health and contributes to conservation of soil, biodiversity & water.

11) Make cities and human settlements inclusive, safe, resilient and sustainable.
The city and countryside are part of one continuum. The extractive, exploitative economy has allowed cities to grow in size and prosperity by extracting resources and wealth from the country, leaving rural areas impoverished. Large scale displacement creates exclusion, promotes insecurity and vulnerability. The SDG's need to evolve a new partnership between the city and country through mutuality and reciprocity. Food as the metabolism can be the basis of new design of cities that are safe, resilient and sustainable. Cities should grow food, and have "Foodsheds" around the city, like we have watersheds.

12) Ensure sustainable consumption and production patterns.
Industrial food and agriculture have the largest ecological footprint. 75% resources have been destroyed by a model providing only 30% of the food. Sustainable consumption and production patterns need to be based on ecological agriculture. People will have more and better food; soil, biodiversity, water will be rejuvenated and climate will be restored.

13) Take urgent action to combat climate change and its impacts (taking note of agreements made by the UNFCCC forum).
The Industrial globalised model of agriculture and food production is responsible for some 40% of all Green House gases contributing to climate change. ("Soil not Oil" V.Shiva). These include the CO2 from fossil fuels, the nitrogen oxide (which is 300% more destabilising than CO2) from synthetic nitrogen fertilisers, and methane from factory farms and food waste. 50% food is wasted in industrial agriculture.

Ecological agriculture, organic farming increases organic matter in Soil, pulling out excess carbon from the atmosphere where it does not belong, to the soil where it belongs. With 2 tonnes of increased carbon in the Soil per hectare, we can meet the emissions gap by reducing 10 giga-tonnes of CO2 from the atmosphere. Besides contributing to climate change, chemical monocultures are also more vulnerable to extreme events.Organic farming and biodiversity increase resilience of soils, plants, ecosystems and local communities.

14) Conserve and sustainably use the oceans, seas and marine resources for sustainable development.
The land is connected to the sea. Greenhouse gas emissions from industrial agriculture on land are leading to climate change, warming of oceans, ocean acidification, and sea level rise. Nitrate runoff from industrial agriculture are creating 'dead zones' in oceans.
Care for the soil through organic farming translates into care for the oceans.

15) Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation, and halt biodiversity loss.

16) Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
Land degradation, and with it the destruction of livelihoods, fuels conflicts. Terra Viva, the Navdanya Manifesto on land shows that conflicts in Syria and Nigeria began as a result of land degradation, water depletion and climate impacts. Insights on the roots of the Punjab violence in1984 are well documented in the book, "The Violence of the Green Revolution" (V.Shiva). Peaceful and inclusive societies are based on "Making Peace with the Earth", and making a new pact with the Soil.

17) Strengthen the means of implementation and revitalise the global partnership for sustainable development.

The global partnership for sustainable development needs to be embedded in our Earth Citizenship, and the rights and responsibilities associated with it.

NOTES

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Stampa Tipografia Fabri
aprile 2015