**BEST PRACTICES ON INTEGRATING THE ENVIRONMENTAL PERSPECTIVE INTO THE IMPLEMENTATION OF THE SUSTAINABLE DEVELOPMENT GOALS**

**SDG 2. End Hunger, achieve food security and improved nutrition and promote sustainable agriculture**

*Prepared by*

Maia Kincaid, PhD., Founder of the Sedona School for Nature and Animal Communication Lisinka Ulatowska, MA, PhD., Coordinator of the Commons Cluster of the UN NGO Major Group Rob Wheeler, Main UN Representative of the Global Eco-Village Network

*Endorsers*

John F. Kennedy University; The California Institute for Integral Studies; Members of the Commons Cluster of the UN NGO Major Group; Association of World Citizens; Earth Rights Institute; Global Eco-Village Network; Business Innovation Research Dev; Animal Communication and Healing; All Win Network;

*(This report is about to be sent to Heads of State and Government, All UN Ambassadors based at UN Headquarters in NYC and delegates we have worked with over the years. And also to Heads of UN Agencies. Please let us know if your organization would like to be mentioned as an endorsing organization of this Report.* ***Contact: Lisinka.Ulatowska@gmail.com****)*

**Contact: Lisinka.Ulatowska@gmail.com**

**Executive Summary**

The Earth System is one gigantic food-producing organism, which uses the ongoing interaction between all of its subsystems--the geosphere, the hydrosphere, the atmosphere, the biosphere and the noosphere--to feed all of life on the planet, including humankind.

Human beings are complex and depend on this process of give and take between a large number of life forms for nutritious foods and their food security. Recognizing this is essential if we are to have sustainable agriculture.

Healthy ecosystems of sufficient size which are connected with other strong and viable ecosystems provide or produce Nature's plant and livestock gene banks. They are both incubators for the diversification of species, and enable these species to grow strong through the diversity of other species they interact with. Investments must thus be made in protecting and restoring the natural environment upon which the very well-being of our farming systems depend.

Unfortunately, many humans have come to believe that it is a matter of the “survival of the fittest” when it comes to their relationships with Nature and are eradicating whole species and destroying ecosystems in an attempt to “safeguard” food for human and too often their own individual consumption.

Small-scale food producers, Indigenous Peoples, family farmers, pastoralists and fishers have, had to live in tune with Nature since time immemorial in a balance between give and take. They have retained this capacity even after other people(s) lost this sense and began to assume the attitude that their survival depended on having ***power over*** Nature and indeed also over other people(s). And it is this attitude that is both causing destruction of lives and livelihoods of ***all***people and preventing those who have retained the wisdom and skills from helping humankind to reverse the dangerous imbalance we are creating and teach us how to live in harmony with Nature.

In addition, those, whose rapport with Nature and inclusive social practices would have the capacity to help us find our way back to living in harmony with Nature, have all but become eclipsed by economic migrants, and with this has come increasing urbanization

In this Report, we shall explore ways in which we can plan and implement our policies with regard to SDG2 bearing first and foremost in mind the imperative to ***live in harmony both with our fellow human beings and the rest of Nature.*** A large variety of actions and best practices are recommended in the areas of Education to bring about a mental shift; Agriculture for the production of sufficient, safe, nutritious foods all year round; Empowering more people in the production of such food all year round; Ensuring that those often neglected have access to food; Providing widespread awareness of what constitutes safe and nutritious food; Ensuring that those often neglected have access to food; and Two-way exchanges of know-how between developed and developing communities.

**Goal 2. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture**

The Earth System is one gigantic food-producing organism, which uses the ongoing interaction between all of its subsystems--the geosphere, the hydrosphere, the atmosphere, the biosphere and the noosphere--to feed all of life on the planet, including humankind.

 Here plants and animals form food chains and food webs whereby less complex organisms sacrifice some of their own to provide food for more complex life forms.  All, when they die, return to the Earth and so their remains become once more a part of the giant food-producing Earth System that maintains all forms of life, including human beings.

Human beings are complex and depend on this process of give and take between a large number of life forms for nutritious foods and their food security. Recognizing this is essential if we are to have sustainable agriculture. For where humans have harmed the environment by, for instance, causing desertification or loss of top soil due to clear cutting of forested areas, the land has dried out, lost its fertility and has become difficult to farm. However, when surrounding eco-systems are left intact, they provide a large reservoir for holding water and slowly releasing it throughout the year, thus creating the type of environment and access to natural resources that agriculture for human consumption needs to thrive.

Unfortunately, many humans have come to believe that it is a matter of the “survival of the fittest” when it comes to their relationships with Nature and are eradicating whole species and destroying ecosystems in an attempt to “safeguard” food for human consumption. In the process, they are also depleting and poisoning the air, water and soils. Conventional farming causes 25% of the greenhouse gases that are released into the atmosphere; run-off from fields causes eutrophication of our water courses, siltation, and the development of large dead zones in the sea; and although the rate of forest loss is decreasing, large tracts are still being cut down to make way for agriculture.

Human activity is largely responsible for the loss of 150-200 species of plants and animals each day and is endangering the Planet’s capacity to maintain human life, as crises develop in the areas of almost all areas covered by the Sustainable Development Goals.

The Food and Agricultural Organization's (FAO's) ***2015 State of Food Security in the World Report*** that assesses the world's progress toward addressing food security as the world moved from the Millennium to the Sustainable Development Goals cites “protracted crises, due to conflict or natural disasters” as the reason that not more headway has been made. In the article, ***Planetary Boundaries: Guiding human development on a changing planet***, the authors indicate that we have overstepped the planetary boundaries necessary if the Earth System is to support human life through the rapid loss of biodiversity loss, climate change and the imbalances in the Phosphorus and Nitrogen cycles. See www-ramanathan.ucsd.edu/files/pr210.pdf)

We must therefore adopt sustainable life-giving agricultural practices in all nations by building on the example of Nature, if we are to assure food security, optimal nutrition, and an end to hunger. Life-giving in this context means agricultural practices which bring life and vitality to the ecosystem within which our agriculture takes place, all those involved from the grower, to those who package and ship, to the consumer, thereby reinforcing a mind-set based on cooperation between people and people with Nature.

We may have to compromise in the spirit of cooperation and give up some of our freedoms to end hunger as well as for the ongoing survival of our species, itself. But we cannot compromise on the agricultural practices we employ going forward. They must all be in alignment with life-giving protocols. An ecosystem approach to agriculture can be a great asset in producing sufficient nutritious food all year round.

There is no space for the use of toxins or practices which have brought us to overstepping the planetary boundary to do with species loss. Nor may we ignore the long-term viability of the land, the waterways, the air, the earth, plant and animal species and indeed humankind. We can no longer continue using agricultural practices for the short-term gain of a few and the long-term detriment of all life. This imperative applies to governments, businesses and individual people.

Life-giving sustainable agricultural practices are based on a natural respect for the care of soil, plants and animals which give their lives to feed us. The Earth itself is the biggest giver of life and treated with care, respect and careful thought as to which practices support the good of all of life will help us to end hunger and produce sustainable nourishing life-giving foods for all into the future.

**Actions**

**Education to bring about a mental shift**:

1. Implement a form of formal and informal education, including through documentaries and media entertainment programmes which move people to act because they speak to their hearts and feelings and illustrate clearly the **impact of the following facts on the individual lives of each person:**
* how human beings depend on Nature for their food;
* the specific consequences of any actions we take that ignore that fact; and ways in which we can reconnect with Nature. Here are some examples of important themes that should be mainstreamed through all forms of education:
	+ Human beings, are inextricably linked to the rest of Nature through the air we breathe, the water we drink, and how these together with the minerals, plants and animals form an all-encompassing web of life that provides the complexity of nutrients we each need to survive.
	+ It is therefore impossible to stand apart and “manage Nature from the outside”, and our attempts to do so are leading to an impoverishment of our food sources, including through crises and disasters due to climate change, the pollution of air, water, and soils—all of which are impoverishing the quality and quantity of food needed for our survival. No one can escape the consequences of our attempts to place ourselves outside of Nature.
	+ It is therefore imperative that we become sensitized to how Nature works and use the power that is unleashed when we live in harmony with Nature to boost both the nutritional value and amount of food we produce. Here are some things we can do:
		- Overcome the limitation of living far-away from the site of food production where the illusion is created that food production is at most peripherally connected to Nature. This can be done through stays in the wild, where principles of how Nature thrives can provide important insights in how we humans can resolve many of the challenges we face today.
		- Provide opportunities for students to learn from and care for Nature through school or community gardens where they can learn about permaculture, including by also developing city gardens. Examples of such projects are provided by ReScope in Southern Africa and by the Zimbabwe Institute of Permaculture, etc.
1. Provide opportunities for students to experience deep reflection in a natural environment, much like the Indigenous Peoples “vision quests”, for Nature communicates with us through insights, hunches, etc. Such education is, for instance, available through John F. Kennedy University, CA, in the USA (https://www.jfku.edu/.)
* Cultivate a sense of connectedness of all that is: how all systems of Nature and society are interconnected and that people, their waste, etc. are a part of the one Earth System; and how being integrated consciously has brought about a large variety of valuable ways of creating balance between people and between people and Nature.
* As an extension of experiencing cooperation with Nature, include from an early age, education in living harmony with one another by teaching conflict resolution; and illustrating how acting from a sense of peace/happiness/calm can produce more sustainable solutions. For example, in Berkeley, CA, USA, students were taught at the age of 8 how to resolve their own conflicts peacefully. When a conflict would break out, say, between two students, the teacher would request them each to choose an “ally” and then with the four of them to apply the techniques they had learned outside of the classroom on a peace carpet especially placed there for that purpose and to return when they had succeeded.

**2.1. By 2030 end hunger and ensure access by all people, in particular the poor and people in vulnerable situations including infants, to safe, nutritious and sufficient food all year round.**

This target consists of three seemingly distinct challenges:

1. The production of safe, nutritious and sufficient food all year round;
2. Ensuring access by all people, in particular the poor and those in vulnerable situations including infants, to such food.
3. Feed more people while using the same available space that we have today.

These can only be met if we change our mind-set from one based mainly on the survival of the fittest to one that recognizes that in a larger context all subsystems are interconnected parts of one gigantic food producing system based on cooperation between the whole of the Earth System. See above, page 4.

Each challenge is also distinct and will require a different set of Actions.

        **1.  The production of safe, nutritious and sufficient food all year round**

When we observe Nature, we realize that the production of safe, nutritious and sufficient food all year round is a much more comprehensive process than merely planting, harvesting, and distributing food. Animals are, for instance, integral parts of food-producing ecosystems and also increase the diversity within an ecosystem in other ways, for instance by migrating from one to another and transporting other species with them.

All these elements contribute to the nutritional value of foods and the amount available to feed the members of both the plant and animal kingdoms, and thereby provide the amounts and types of food that are nutritious to large numbers of human beings.

The quality of food is made up of the combinations of many facets. Each facet of a plant, animal and mineral--taste, sounds, movements, fragrance--contribute to the abundance found in each ecosystem and contribute to the capacity of food to nurture the whole being. For instance, just being in Nature is healing, rejuvenating, refreshing and inspiring. It resonates with all aspects of who we are and reminds us of what life in all its diversity is all about. Being in Nature nurtures much more than the physical body. It nourishes and enlivens the whole of who we are. It is also a way for us to get to know Nature, marvel at her and re-establish a more constructive working relationship with all of life.

Responding to the wealth of sensual input coming from Nature, enables members of one species either to provide nurturance, and protection, or to kill and eat members of other species in a circular dynamic of give and take.

The process by which members of species are tuned into members of other species empowers them and helps with the provision of food for both the “strong” and “weak”. Ecosystems might become less active in the winter, but they do not stop their activity, for each season is necessary for the full development of plants and animals. So, ecosystems produce food all year round and contribute to the available nutritious food for human consumption.

If we, human beings, nurture and care for the trees, plants, animals and planet by universally adopting life-giving agricultural practices they will continue to grow and flourish - when they are thriving so too can we.

For these reasons, an ecosystem approach to agriculture can be a great asset in producing sufficient nutritious food all year round. It is therefore no coincidence that the ancient approach of permaculture which is based on an ecosystem approach is being rediscovered today and being increasingly used for small scale food production.



***State of the World’s Forests 2016*** states:

 **“Forests and agriculture: land-use challenges and opportunities:**

Forests and trees support sustainable agriculture. They stabilize soils and climate, regulate water flows, give shade and shelter, and provide a habitat for pollinators and the natural predators of agricultural pests. They also contribute to the food security of hundreds of millions of people, for whom they are important sources of food, energy and income. Yet, agriculture remains the major driver of deforestation globally, and agricultural, forestry and land policies are often at odds.”

It is essential that we halt destructive agricultural practices and harness the powers inherent in Nature.

**Actions**

**Examples of best practices: Agriculture for the production of sufficient, safe, nutritious foods all year round.**

1. Refrain from all Nature-degrading practices. Important examples include:
* Change our farming practices to be more in tune with Nature.  Where possible use an ecosystem approach to feed ourselves and one another.
* Nourish the earth first, so that it will be able to feed human beings.
* Promote the eating of more vegetables, fruits seeds and grains, as opposed to meats. Our livestock and animal husbandry practices will have to be changed in order to restore the health of ecosystems, particularly grasslands. The rearing of cattle is ravaging the environment; the slaughter of cattle is often done in inhumane ways; rainforests are being cut down and large amounts of water are used to cultivate crops to produce cattle feed; in addition, the costs of transporting meat to the areas where most is eaten both increases the use of fossil fuels and pollutes both the waters and the air. Agroforestry and other such integrated systems combining agricultural diversity, animal husbandry and natural habitats would be a way of building more on a natural ecosystem approach.
* Make all aware how monocultures are destroying Nature and that they should therefore be avoided, including that mono-cropping to grow cattle feed—one of the most destructive types of farming practices, that is negatively affecting soil health. The United Nations’ Food and Agricultural Organization (FAO) says that if we continue with conventional agricultural practices as we have been the world's topsoil will be gone within 60 years. By switching to more of a plant based diet and changing how we raise livestock we can greatly reduce this problem
1. Implement relevant agricultural and other policies:
* Determine with care how to deal with the underlying factors of agriculture. For instance: making a choice between weighing the benefits of food price stability against the need to ensure that the land needed for agriculture is sustained. Or weighing the cost of water as an investment for food against the cost of water for other purposes. Countries can choose to import food as opposed to importing water to make areas with insufficient land surface of fertile soil more suitable for agricultural purposes; or they can decide to invest instead in creating healthy soils, water retention landscaping and regenerative landscapes in order to restore the health of hydrological systems and boost productivity.
* Create a framework that provides entry points to government to ensure foods are fit for human consumption in all their forms, for all food businesses ranging from small to transnational.
* Governments can strengthen nature-inspired approaches mentioned above by providing high-quality seeds.

3.Empower more people in the production of sufficient safe and nutritious food all year round.

* With goodwill and universal access to the Internet,
	+ there will be a more level playing field for all people, including the poor and marginalized, to contribute in an informed manner to the provision of food, aided by the information, education and other help they need, including access to market information.
	+ the digital divide between urban and rural areas will be reduced, thus equipping new industries (small and light food industries), dwellings, schools, post and telecommunication services with information and resources to help protect the environment (earth, water, land, air), including against global warming.
* Encourage homeless people to move or return to the countryside to reduce the desertification of rural areas; so too unemployed people can also be given this opportunity. As more and more people are flocking to cities to stay in the slums, rejuvenating the countryside with a reverse trend of migrants from cities to the countryside can provide incentives to businesses, civil societies and governments to promote a rural governance with the help of new telecommunications and Information Systems to help with education and services. Such a move would provide an array of different and necessary types of work for people who are unable to find work in the cities, ranging from restoring the land and ecosystems to providing the necessary infrastructure for the well- being of those living there and to promote the effectiveness of their endeavours. It will provide a greater distribution of people; as well as increased land for food production. In this way, people who are homeless and/or unemployed people would be empowered to both help themselves and many other people.
* Provide help to people at the grass roots,including by providing agricultural equipment, constructing roads that connect farms with one another and these with markets, and making sure every community benefits from pipe-borne water and clean energy for each household, and basic education opportunities for their children. NGOs that are helping with these processes should be empowered by providing salaries for their staff.

As we take the above steps to provide all people with safe, nutritious, and sufficient food all year round, we have an enormous opportunity to sequester giga-tons of carbon into soils and plants, while at the same time dramatically increasing soil depth and quality, and providing conditions that are much more favourable to dryland, rain-fed areas, subsistence and family farmers - particularly those living in regions of degraded farmlands and ecosystems. And so, by ***working with***, ***instead of against Nature***, we will find that we have befriended a powerful ally.

**2. Ensuring access by *all people,*** **in particular the poor and people in vulnerable situations including infants, to sufficient nutritious food all year round.**

 Social animals tend to have strong nurturing instincts. They often feed and care for young who are orphaned and have even been known to nurture the young of other species.

Humans are ALSO social beings. We tend to appreciate other human beings for their physical, mental, emotional, social and spiritual qualities and the qualities of caring and nurturing, they elicit in others. Expressions of this appreciation by humans for the well-being of all human beings are stressed by such global standards as the Universal Declaration of Human Rights and all the agreements that have developed from this; social solidarity economies whereby the society as a whole cares for those who are disadvantaged and in need; and the fast-growing sharing economy found mainly on the Internet, whereby people spontaneously give what they have to offer for free or for a small fee and can choose from similar offers of sharing from others worldwide.  That these constitute social norms that must be implemented is stressed by the ***2030 Agenda for Sustainable Development: Transforming our World.***

Unfortunately, as mentioned under 2.0., both our connection with Nature and the relationships between human beings among themselves have been fractured through conflict.

This has come about through the illusion that instead of being integral to the systems of Nature that we must compete with Nature and other human beings to individually survive and prosper; and this often leads to people(s) killing one another and eradicating whole species, so as to enable themselves to survive and prosper at the expense of others. And in so doing and/or allowing this to take place, instead of benefitting from the food-producing capacity of Mother Earth, we are depriving ourselves of this and destroying the resources we all need.

As a result, our conventional and/or industrialized agricultural practices have led to both severe degradation of the natural environment and the marginalizing of our fellow human beings.

Moreover, those still living in harmony with ***natural*** ecosystems whose rapport with Nature and inclusive social practices would have the capacity to help us find our way back to living in harmony with Nature have all but become eclipsed by economic migrants, and with this has come increasing urbanization

When a phenomenon ceases to play a balanced role in Nature's process of give and take, it is let go of by the system and will die, be “recycled” or be forced to move away to an area where it can play a more harmonious role in this process of give and take. In this way, the nurturing qualities of all else are maintained. Since humans are integral to Nature, and depend on her for the air we breathe, the water we drink, the plants, animals and minerals we eat, this means that unless we reverse the effects of our actions, human survival is at stake.

It is by no means an easy task to reverse how we think, feel and act with regard to the world around us and so we must be prepared for a gradual process of increasingly building a sense of community with Nature together with attitudes of love, caring and sharing with other people, as we face the difficult learning process of using organic methods of working the soil, producing our foods and sharing with other people.

As we make these changes the sense of lack and despair that so often accompanies the competitive approach are likely to gradually be replaced by hope and an openness to see further possibilities and opportunities, etc. For it often takes several years to be able to grow food fairly easily using organic methods and to rekindle our understanding of how Nature produces bounty.

**Actions**

**Ensuring that those often neglected have access to food.**

1. **Governments at all levels and the UN System can take the following actions:**
* Analyze global, national and local policies for the sustainable production, and equitable distribution and management of sufficient safe and nutritious food as these relate to technology, the ecology, economies, societies, markets; and do this with the help of relevant organizations and people at the grass roots, possibly using Geographic Information Systems (GIS), for this brings many hands on deck and can lead to a more detailed and accurate outcome; and then propagate best practices both within countries and across borders to ensure that all, including those who are often neglected have access to such safe and nutritious food all year round.
* Encourage Ministries of Health, Housing, Agriculture, Commerce and Social Protection, in consultation with civil society to
* develop, revise, cost and implement national plans for food security, water and health with regard to ensuring that sufficient nutritious and safe food is available to each person;
* create an enabling environment to oversee the implementation of the policies;
* ensure that there are robust safeguards at various levels of the City Smart commitment for vulnerable persons (A **smart city** is an urban development vision to integrate information and communication;)
* create a healthy balance between rural and urban lives at the periphery of city centres.
* maintain organizational continuity by adapting decision making processes to embrace land planning, food and waste recycling, and building a Smart Sustainable City environment.

Customer Relationship Management (CRM) is likely to show an increase in numbers of farming and agricultural jobs and other decent work as such changes in the global architecture take place.

All these measures, in turn, will improve the micro economy as societies become connected with global markets (cities) through the logistics of the food supply chains. These processes can lead to a source of employment, poverty reduction and prosperity for all in this changing world.

1. Implement social protection floors with the help of Inter-Governmental Organizations, such as the International Labour Organization (ILO).
2. In addition, here are some other measures that can be taken by other sectors of society:
* Enact measures and policies to
	+ provide homeless people and others in need access to food waste that is still safe and wholesome from stores and producers. This can be done with the support of NGOs and the sharing economy;
	+ Encourage organizations of homeless people and charities to collect food before it is wasted. Good cooks with a quality kitchen can still find valuable resources to feed starving people. Such initiatives are already providing food for increasing numbers of people and reducing the number of hungry people in Paris, France. They can be replicated worldwide. More such best practices can be encouraged by paying people to do this work.
	+ Work with the resources that pre-exist within the environment of the people requiring nutritious food.
	+ Promote farmer’s markets and foodbanks.

**Provide widespread awareness of what constitutes safe and nutritious food.**

1. There is much waste, while poor nutrition, overeating of unhealthy snack foods, lack of exercise is resulting in obesity and deaths from cancer, diabetes and other health-related diseases. Through formal and informal education and the media (documentaries, stories, etc.),
* Discount food on the shelves where the date on the label is close to expiration. Businesses could claim tax refunds in exchange for the donation of such foods.
* Cultivate a more mindful approach to the creation, distribution and eating of our food; where a child can be raised away from the advertising of commerce, allow each child to determine what its body is asking for so that it learns to consciously use its inborn connection with Nature to meet its unconscious nutritional needs.
* promote an interest in eating both safe and nutritious food,
* stress why specific foods are important for their nutritional value; and some can be detrimental to our health. This will help mothers provide better nutrition for their children and to consciously use the medicinal qualities of diverse plants to improve their health and greatly reduce this problem;
* promote awareness of our connections with our food sources and how foods are grown and distributed. Institute the practice of asking questions of vendors, and stores about how food is produced.

**3. Feed more people while using available space to do so.**

Although our agricultural productivity for a time seemed to contribute to our capacity to feed a rapidly expanding human population, it is now widely recognized that to feed all people we will have to dramatically increase agricultural productivity and make more productive use of the space we still have available for farming by among other things becoming more integrated with natural healthy ecosystems.

Unfortunately, it is precisely those regions of the world where those relying on subsistence agriculture for their very livelihood are facing the largest increases in population, which in its turn negatively affects the environment, and is one of the reasons why the people living there are one of the most vulnerable groups worldwide. They are also among the most vulnerable to climate change and environmental disasters—two thirds of the lands in Sub-Saharan Africa are degraded. Moreover, the places where hunger is most endemic are often areas where it can be the most difficult to increase agricultural productivity; while these are facing some of the highest levels of ecosystem degradation; and face the most challenges in bringing in food resources from elsewhere. So, even when there might be enough food for everyone it can be challenging to get it to those that need it most.

**Actions**

It is essential that the international community

* Ensure that the health of the soil and well-being of nature are restored, particularly in those regions where poverty is the greatest;
* Develop a broad and ambitious program of support to provide the people living in impoverished areas with the educational opportunities and resources they need to be able to transition to sustainable agricultural practices, while at the same time substantially increasing productivity and integrating Nature into their agricultural practices.

This must be done in a concerted and cohesive manner addressing the desires and needs of all stakeholders and agricultural practitioners.

1. Implement integrated land-use planning to balance land uses, and underpin this with the right policy instruments to promote both sustainable forests and agriculture. State of the World’s Forests (SOFO) 2016 shows that it is possible to increase agricultural productivity and food security while halting or even reversing deforestation, highlighting the successful efforts of Costa Rica, Chile, the Gambia, Georgia, Ghana, Tunisia and Viet Nam.
2. Heed the findings of small scale and organic farmers as well as from agro-ecology that productivity increases substantially as soil health improves, as the natural environment is restored and our agricultural practices are integrated with the rest of Nature; and as we eliminate our use of pesticides, herbicides, and artificial fertilizers all of which destroy soil health in the mid to long term.
3. Eliminate food waste through reusing, recycling etc.
4. Promote good business practices and Corporate Social Responsibility in hospitality management, and water, food and beverage industries. This should include: the training of food operators in hospitality management to plan a business due diligence and the sharing of risks in the workplace, through careful and thorough organization and planning, training of shelf keepers to manage the food shelves, including labelling, establishing the quantity of foods, and what is left over; ensuring that food managers have a good grasp of forecasts and creative prospective in times of uncertainty and when there is an abnormal situation.
5. Stress that because cities are so crowded, vertical as well as rooftop and community gardening are critical and that it is important and rewarding to use space creatively for food production, especially using permaculture based which is a form of agriculture based on an ecosystem approach.

**2.2 by 2030 end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons.**

A community is strong to the degree it cares for its young and vulnerable. A poverty of nutrition is the result of a poverty of love for our fellow human beings and life itself. When we recognize the interdependence between all people as well as people and Nature, we realize that caring for others is in essence also caring for ourselves.

Nature provides important nutrients of all kinds. These are often hiding in plain view, as for instance the ***mag meal*** that is now being developed for animal feed and which makes use of waste to breed protein rich maggots. This builds on the recycling processes that are found throughout all of Nature. Similar processes can be applied to the production of protein rich food to overcome malnutrition, and to counter stunting and wasting.

Governments have an important role to play in preventing and dealing with malnutrition. For instance, during World War Two, the British Government among others supplied all children with milk, cod liver oil and orange juice concentrate. It can be argued that that important measure helped prevent malnutrition in upcoming generations. Such measures are often discarded because of their cost. Yet such governmental actions to protect young children, adolescent girls, pregnant and lactating women and older persons, in the long run save huge medical and social costs to the country as a whole, while helping to empower the young to become healthy and well-functioning adults that contribute to society. Governmental supply of necessary food supplements can be seen as cost-saving actions.

**Actions**

**Governments can take the following actions:**

1. Raise awareness among the population as a whole that it is in the interest of everyone that we care for all members of our societies, especially the vulnerable and weak. This point can be brought home using graphic examples that illustrate that when we care for individual people and Nature this has direct advantages to ourselves. Prosperity to the whole of the population is increased, crime and conflict decreases, and constructive relationships between all sections of the population have a chance to blossom. It is important to realize that malnutrition occurs in developed and developing countries, frequently also through ignorance as to what constitutes nutritious food.
2. Use all forms of education, including the story-telling of elders to recognize the unique nutritional needs of diverse age groups.
3. Educate women, as the progenitors, on the proper way to feed their own bodies and on the proper nutrition of their progeny, including where possible through breast feeding.
4. Implement life enhancing practices mentioned above for the growing of all foods, including caring for, protecting and nourishing the soils and the water through sustainable, chemical-free, bio-diverse, practices so as to produce nutrient-dense foodstuff that will fulfil caloric and nutritional needs.
5. Distribute the nutrient dense-food through programs; explore the use of new forms of food. Capsules with concentrated nutrients might be used as a dietary supplement for those most vulnerable to malnutrition.
6. Recognize the importance of good quality, safe and fresh drinking water

**2.3 by 2030 double the agricultural productivity and the incomes of small-scale food producers, particularly women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets, and opportunities for value addition and non-farm employment.**

Secure and equal access to land and waters is an important step that, if guaranteed, is likely to contribute toward the above-mentioned groups becoming much more productive and also increasing their own incomes. Women, indigenous peoples, pastoralists and small-scale farmers and fishermen are constantly having to try to overcome the lust for resources, land and waters in part under their jurisdiction—of much larger and more powerful interests, often backed by wealthy corporations and whole governments. These are taking possession of the areas under their jurisdiction and mining these or otherwise destroying the soils and water quality for the benefit of a few and to the detriment of the planet as a whole. Before “doubling agricultural productivity and the incomes of the above-mentioned groups, a mental shift must take place globally whereby all recognize that the scramble for more power over other people and Nature is what is causing the challenges to human survival faced by both this target group and the rest of humanity.

Within Nature, reciprocity is key—living in partnership with the Earth in healthy, organic ways.

Small-scale food producers, Indigenous Peoples, family farmers, pastoralists and fishers have had to live in tune with Nature since time immemorial in a balance between give and take. They have retained this capacity even after other people(s) lost this sense and began to assume the attitude that their survival depended on having ***power over*** Nature and indeed also over other people(s). And it is this attitude that is both causing destruction of lives and livelihoods of ***all***people and preventing those who have retained the wisdom and skills from helping humankind to reverse the dangerous imbalance we are creating and teach us how to live in harmony with Nature.

For several centuries there has been a fight often to the death between those who conserve Nature as a way of life and those who seek to take natural resources for their own use and/or degrade them. Those whom this target is attempting to help and especially Indigenous Peoples too often contend with violence, corruption, fraud, appropriation of territories, and militia actions by those wishing to appropriate their lands. and waters. This prevents small-scale food producers, family farmers, pastoralists, fishers and Indigenous Peoples

        1. from safely accessing healthy ecosystems, especially within Indigenous territories, and show that they have food production skills when they are able to live their lives in keeping with their understanding of Nature; and

        2. from assuming the position of leadership and guidance with regard to the rest of humanity who so badly need to benefit from their expertise to live in harmony with Nature. It is essential to realize that this targeting of especially Indigenous Peoples lands for the enrichment of the few (be they individuals, corporations or governments) and to the detriment of Nature and people in general can only continue to be met by resistance, since for Indigenous Peoples and others who live close to Nature, it is a no-win choice: to die while defending their rights to steward their lands and live in harmony with Nature, or to die through the depredation of Mother Earth.

The challenge we must confront in implementing this target, beside bringing about the mental shift discussed under 2.0 and 2.1 is to

* recognize the value of this target group to the rest of humanity
* build on this recognition
* seeing that its members have access to the necessary resources
* allowing them to live in keeping with their own values; and
* if they are willing, allowing them to contribute their unique wisdom which is so badly needed to the rest of humanity.

It is possible to double the agricultural productivity and the incomes of this target group by providing guaranteed secure and equal access to land their families have often farmed and/or had jurisdiction over for centuries.

This will free much of their capacity to produce their own food, using the expertise that has stood the proof of time; and to access the resources they themselves see they need as they share their knowledge to help other people live more sustainably.

It is essential that we adopt this approach***in the interest of us all*** that this important target group be able to build on their own wisdom and culture as they are given access to other productive resources and inputs, knowledge, financial services, markets, and opportunities for value addition and non-farm employment, should they require this. They should not be made to join the culture of those who are destroying the very resources we all need. Providing them access to any additional resources they need should empower them to show others how these resources can be used sustainably according to their age-old wisdom.

In order to successfully implement this target, we must meet a double challenge: to recognize the need for reciprocity both with regard to Nature and among people(s).

**Actions**

 When taking actions, it is important to bear in mind that people are often most strongly motivated to take action when their own individual well-being is at stake. Hence the rationale of the actions that follow.

**Educational**

        1. Bring about a shift in mind-set from seeing ourselves as “masters over” other people and Nature to seeing that we are integrally related with one another and the Earth System and that our survival demands reciprocity. Please see the actions under Target 2.0, page 4.

**Technological**

2. Increase the capacity of the target groups to communicate more widely with the rest of the world through, for instance, access to the Internet, so that they can determine themselves how to integrate resources that are accessible among others through the Sharing Economy with their own cultural norms and insights to greatest effect.

**Social**

3. Create ways in which those with the knowhow and understanding of living in harmony with Nature can pass on their knowhow by, for example, providing schooling for students from around their nation and possibly from around the world. They can teach "hands on" or also via the Internet, and will require just remuneration for this highly specialized knowledge. This, in turn, would give them the necessary means to increase their food production, etc. as needed in ways that are in harmony with Nature, as well as with their own Nature-inspired cultures.

**Legal**

4. Bring those attacking and appropriating what belongs to others, especially the target group to justice using a multi-facetted approach:

* Showing the harm they are doing to all people by attacking the target group. This can be done by, for instance, publicizing both stories about the wisdom and invaluable contributions made by the target group.
* Publicizing which actions are being taken by those pursuing corporate interests illegally; their monetary gain; the hardship and suffering visited upon the target group; the loss to humanity as a whole due to their actions; and to which degree the punishment for these acts is commensurate with their crimes. Powerful interests depend for a large part on the power and respect given them by potential customers, clients and people in general. Even the most powerful corporations and governments will be brought to become more socially responsible if they notice that their business or governance practices are no longer supported by the people as customers and/or citizens.
* Bringing those harming lives and livelihoods to justice through every possible channel. Ecuador, for instance, has laws that permit prosecution of crimes against Nature under universal jurisdiction; many other parts of the world have laws that can prosecute those who harm a specific aspect of the environment; also there have repeatedly been attempts to introduce a World Environmental Court. For laws that provide Nature with rights see: [www.harmonywithnatureun.org](http://www.harmonywithnatureun.org). Where people(s) are harmed, the Human Rights Council can be brought into play; or in cases of genocide, the International Criminal Court.

**2.4 by 2030 ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters, and that progressively improve land and soil quality**

Above (under 2.0 and 2.1), we noted the importance of using an ecosystem approach to bring about sustainable agriculture. Here benefiting from the interactions of large numbers of plants and animals tends to boost productivity and production and create resilience while producing sustainable and nutritious food for the long-term.

Permaculture is based on Nature's ecosystem approach where each element strengthens all others as it goes through its life cycle. It has been used for thousands of years and is now being rediscovered. Since in permaculture each element is nurtured from multiple sources, it is maximally resilient. Moreover, well populated ecosystems tend to help retain, fertilize and rehydrate top soil, anchor plants and trees using Nature's own approaches, thus helping to protect plants and animals from the disasters caused by climate change extreme weather, drought, flooding and other disasters, while progressively improving land and soil quality.

While permaculture requires us to integrate agricultural practices with all other development practices and considerations found in the local area, and this makes it more challenging to implement on a large agricultural scale, it is well suited to involving people individually or with the help of small town gardens to grow their own food, as well as to be used by larger growers. At the same time permaculture on a small scale has the advantage that people can have access to the types of food they need and want.

Under 2.1, we also recognized the need to provide food for many more people than are living today using the same available space.

 In fact, possibilities for food production abound everywhere where there are communities and individuals living and working: grounds around buildings, living spaces, along streets, and even rooftops can be utilized for efficient production. We can plant food-producing trees and food-producing shrubs amid decorative trees; and utilize diverse forms of ground cover to feed populations. We can use the concept of plant communities which complement each other's nutrient and water utilization, sun and shade needs, root distribution and harvest times. In this way, the fact that permaculture is well suited to small scale agricultural production is an advantage. It increases productivity in areas where it is most needed.

There are numerous places where a variety of new sustainable forms of living can be explored. Green Tech, an exhibition that will take place in Amsterdam, the Netherlands from June 12-14, 2018, is just one example. Ways are being explored of how to marry the wisdom of the Indigenous Peoples and the info of science to contribute to the well-being of all life and allow movement from congested populations to smaller communities, and still have international business, social and economic connectivity and communication; eco-friendly ways of food storage, so that food can be stored longer, and is available during the lean months. (See for instance: www.ecofriendlylink.com/blog/foodstorageproductstheeco-friendlyway/)

 We can use technology as an enabler to distributing food, so that it reaches the beneficiaries sooner. There are driverless cars and drones these days. Perhaps we can eventually use these modes for food distribution to the areas where there is scarcity. Homeless and unemployed people can be better incorporated into the community by being given responsibilities to maintain and nurture the food production.

With regard to things we must still discover, Nature can act as an example for sustainable living.

This is important because when things get too far removed from Nature, a separation develops between the goal of food production and caring for the needy or those in the most danger of devastation. The resulting insecurity is then likely to revert back to the presumed security that goes with making money instead of harvesting the fruits of our labours and caring for both people and Nature.

We will benefit greatly from moving with an easy flow, in which we also work and create with ease.  When we start with an attitude of peace and love, we can let go of our frantic efforts to produce, consume and distribute and realize the deep connections we have both to Nature and our fellow human beings.

**2.5 by 2020** **maintain genetic diversity of seeds, cultivated plants, farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at national, regional and international levels, and ensure access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge as internationally agreed**

As noted above under 2.1, genetic diversity is absolutely essential for the survival of all. Nature takes care of plant and animal evolution in its own time and pacing. The evolutionary wisdom of Nature in this capacity assures longevity and balance amongst all species. Mono-culturing of species is therefore short-sighted and limits survivability and so, too, the cultivation of individual genetic strains from the perspective of human use can be destructive for the rest of the ecosystem. As discussed under 2.0, to limit the diversity of the ecosystem is ultimately destructive to the human population.

The management and saving of seeds is not just prudent, a measure of honouring and celebration of the very foundation of life. Life belongs not just to the humans or for humans, but for every animate and inanimate being on the planet. The technologies and systems geniused and utilized by humans is effective to the degree these serve the betterment of the entire planet.

Healthy ecosystems of sufficient size which are connected with other strong and viable ecosystems provide or produce Nature's plant and livestock gene banks. They are both incubators for the diversification of species, and enable these species to grow strong through the diversity of other species they interact with. Investments must thus be made in protecting and restoring the natural environment upon which the very well-being of our farming systems depend. Interconnected and mutually nurturing ecosystems also have the following advantages

* because the genes have been created within a Natural context, they are sustainable and are less likely to have unexpected repercussions;
* there are no strings attached to their use;
* they can propagate naturally and do not require permits for use.

At the same time, it is important to bear in mind that international cooperation and investments in agricultural research, technological development and even in agricultural productivity, whether in developed or developing countries are not per se always constructive. If we think of how the "Green revolution" that seemed so promising in the early 1970s has also had negative consequences in the long run, we realize that even when investments are made with the best intentions, these can backfire when Nature is not fully taken into account. In addition, there are many investments made whereby the investor gains at the expense of those who are meant to benefit.

Now that international cooperation is increasingly available in our interdependent world, we have a choice who to work with, bearing in mind that it is important that we learn from the balance inherent in Nature while taking our own (nation's) needs into account. Some questions we can ask:

* 1. Is the help being offered by experts who are working in harmony with Nature? If not, it is quite possible that the help will have unexpected and unwanted repercussions. Indigenous Peoples, small-scale farmers, many intentional communities and Civil Society Organizations and others that live close to Nature are increasingly helping to regenerate Nature and even offering their services internationally. (Examples www.earthembassy.org, Global EcoVillage Network, peer to peer help.)

        2.  Which values do the donors espouse?

* Is the help being offered exclusively for financial gain? For instance, are there strings attached, such as having to buy new seeds year after year, because the seeds are infertile?
* Do the seeds take over from natural species thereby depleting the diversity of species in the area?
* Is the aid made available in such a way that more money/resources are taken out of the surroundings of the recipient than are provided by the donor?
* Does the use of the offered technology and genes allow the agriculture to develop freely or does the beneficiary become captive of the provider of the help?

Conversely:

* Do the seeds enrich the environment?
* Are the donors open to barter?
* Is alternative help available through the sharing/ participative/partnership economy?
* To which degree do those offering the help and collaboration also bring benefit to a larger context? Some businesses, such as cooperatives, are obliged to give both to the community where they are based and also to the international community, as a part of their Cooperative Identity. For this reason, these tend to provide aid that is balanced in terms of giving and receiving. (See International Cooperative Association, [www.ica.coop](http://www.ica.coop).)

***2.a increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development, and plant and livestock gene banks to enhance agricultural productive capacity in developing countries, in particular in least developed countries***

When it comes to human connection with Nature, international cooperation can benefit from the input of technologically less advanced and at the same time more community-oriented cultures. For many innovations do not necessarily require a great financial investment and more technology is not necessary better when it comes to the development of a more sensitive relationship with Nature.

**Actions**

**Two-way exchanges of know-how between developed and developing communities**

Gather best practices from both technologically advanced and those living closer to Nature for exchanges between those more technologically advanced and those living closer to Nature. Give credit to those who can benefit from financial assistance and ensure that if their ideas are developed for use on a larger scale that they their full dues.

* Organize a well-publicized worldwide prize for builders and keepers of gene-banks, innovative ideas of improving infrastructure, for instance, by using a cooperative and/or community approach to the creation of infrastructure, the development of simple technologies that can be built upon in more technologically advanced nations; make solutions available via the sharing economy for a price, so that the best practices can be shared widely and also bring financial remuneration where this is required.

***2.b. correct and prevent trade restrictions and distortions in world agricultural markets including by the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round***

(We have no comments here)

***2.c. adopt measures to ensure the proper functioning of food commodity markets and their derivatives, and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility***

Here universal access to the Internet would be useful. The technology is available and even countries such as land-locked developing nations, such as Rwanda which is still suffering from the consequences of a crippling civil war, have achieved this. The UN could train a few people from each country to help those in their respective countries who are (Internet) illiterate to use the Internet as a tool to search for ways of meeting their diverse needs. These national facilitators can then develop courses in their own national languages so that people from each area in their country can have their own facilitators to help all who so wish in local areas to access the Internet. This will provide a huge boost to local economies and to the tools necessary for food production, including knowhow regarding commodity markets, their derivatives, and facilitate timely information to market information.