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An eco-farming revolution

"Industrial agriculture, the outdated unsustainable system that dominates food production." - *Union of Concerned Scientists*

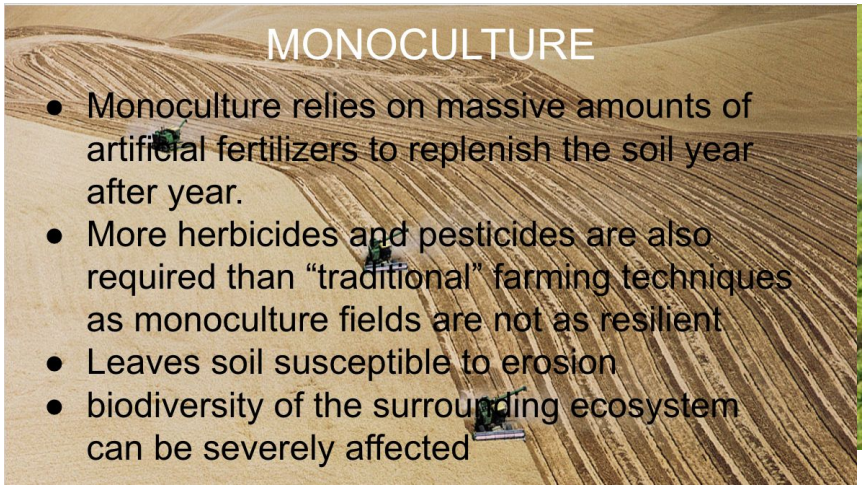
Introduction

Today, the majority of the world's farmland is dominated by industrial agriculture, that is to say a form of modern farming that refers to the industrialized production of livestock, poultry, fish, and crops. These methods are widespread in developed nations and increasingly prevalent worldwide. Most of the meat, dairy, eggs, fruits, and vegetables available in supermarkets are produced using these methods of industrial agriculture. This system of chemically intensive food production was developed in the decades after World War II, featuring enormous single-crop farms and animal production facilities.

At the time, industrial agriculture was seen as a technological triumph that would enable a quickly increasing world population to feed itself. Today, many agricultural experts, including farmers as well as scientists, see industrial agriculture as a dead end, because of the many negative impacts on the environment. It is a truly unsustainable way to grow food in the long term. But many big companies such as Monsanto control the pesticide industry and put pressure on the farmers to use their products even though this will cause long-term damage on all crops.

Why does industrial agriculture need to be replaced?

One of the most important forms of industrial agriculture is monoculture. Monoculture is the practice of growing single crops intensively and on a very large scale. This technique therefore uses huge amounts of space to produce a single product only.



Furthermore, monoculture relies heavily on pesticides and chemical inputs. These are needed because growing the same plant on the same fields over and over exhausts the supply of nutrients in the earth that the plant relies on, and therefore they need to be replenished very often. Monoculture fields are also highly attractive to weeds and insects. Pesticide companies such as Monsanto use this as advertising to sell their products of course without mentioning that they in fact make the situation worse by creating what scientists call “resistance” - which is when the weeds develop immunity to the chemicals and therefore are no longer affected and grow stronger.

Which alternative agricultural systems could be set up?

1. Permaculture

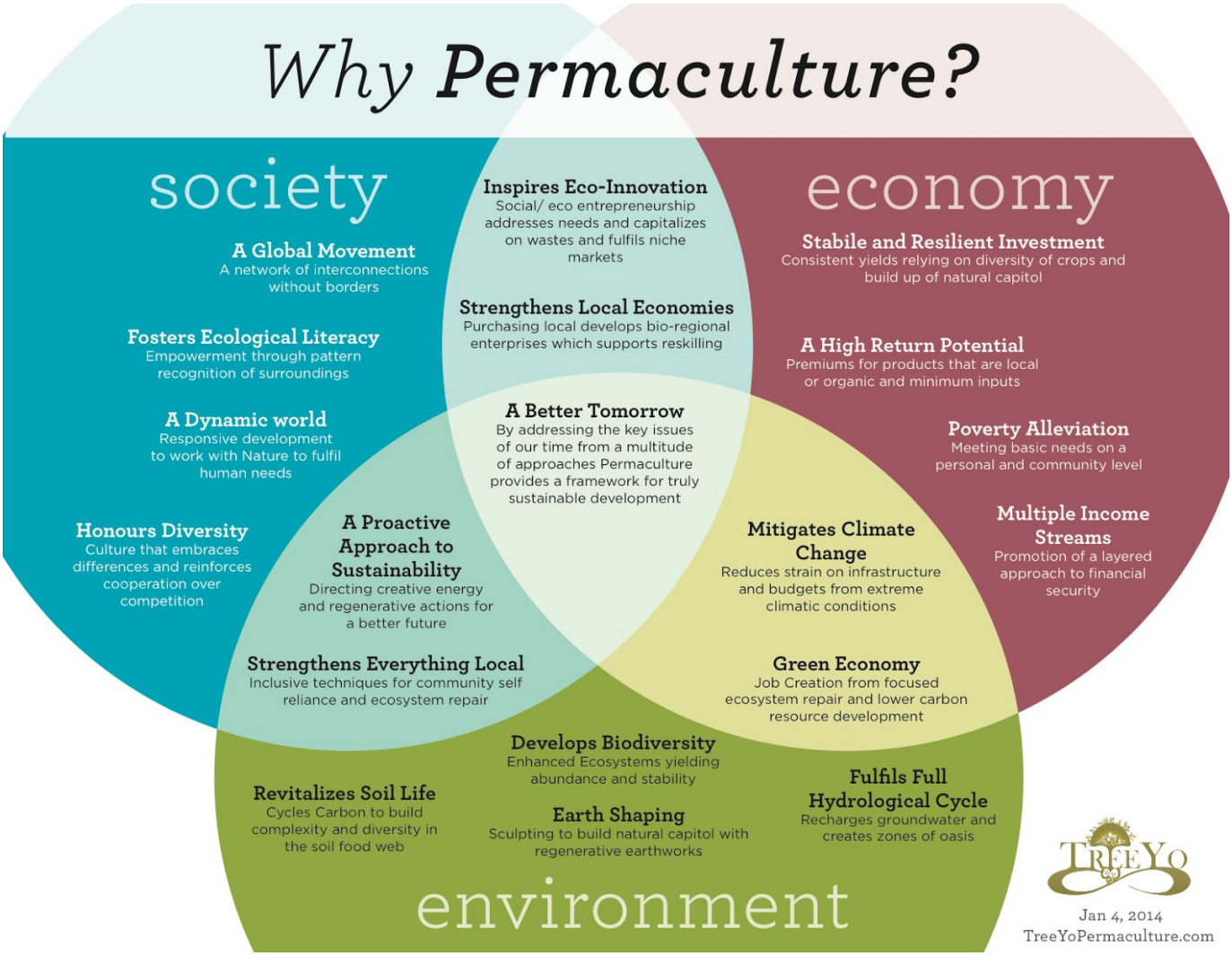
Permaculture is a food production system whose goals are to reach sustainability restore soil, conserve water, and redirect waste streams. It empowers individuals to be their own producers and move away from being dependent consumers.

These techniques can be practised in very different ways globally based on the climate and resources which are particular to any geographical area. The use of smaller spaces and adaptation of soil increase the production remarkably.

The use of permaculture has been extremely important in third-world countries due to its corresponding economic and social values. For example “Never Ending Food” is an African-based organization dedicated to Permaculture and nutrition. By making low-cost improvements to family farms, third-world families can increase their overall household food security.

Furthermore there are many environmentally-friendly benefits that come with this agricultural system. In Permaculture, the waste is recycled and manured back to the earth in the form of compost. The zone in which Permaculture is practised will be pollution free. Those who follow this culture, produce agricultural goods compatible to the environment in which they are, climate, living beings such as animals or plants, animals, soil, and water.

Finally permaculture can be applied to different agricultural systems that are already in place. However, the land needs to be cut out for it. Permaculture can be practised in areas where agriculture is traditionally practised and is not located in a commercially-developed area, where most of the constituents of our ecological systems have perished. These systems, being extremely productive, can also be adapted into mass-production locations that wish gradually convert to a more eco-friendly system.



2. Agroecology

What is “Agroecology”?

Agroecology is the application of ecology to the design and management of sustainable agroecosystems. It represents a whole new approach to agriculture and food system development based on traditional knowledge, alternative agriculture and local food system experiences. Its goal is to link ecology, culture, economics, and society to sustain agricultural production, healthy environments, and viable food and farming communities.

It is based on:

● Using Renewable Resources. The idea is to try and use naturally-occurring materials instead of synthetic, manufactured inputs and to use the on-farm resources as much as possible, but especially to recycle on-farm nutrients

● Minimising toxics. The aim is to try and reduce or eliminate the use of materials that have the potential to harm the environment or the health of farmers, farm workers, or consumers and to try and use farming practices that reduce or eliminate environmental pollution with nitrates, toxic gases, or other materials generated by burning or overloading agroecosystems with nutrients.

● Conserving resources. This should be managed by sustaining soil nutrients and organic matter stocks, conserving water by having a dry farm and using efficient irrigation systems. It also means conserving energy by using efficient technologies.

● Managing Ecological Relationships by reestablishing ecological relationships that can occur naturally on a farm instead of reducing and simplifying them, by managing pests, diseases, and weeds instead of “controlling” them, and by integrating livestock.

● Adjusting to Local Environments. Therefore it would encourage farmers to match cropping patterns to the productive potential and physical limitations of the farm landscape and to adapt plants and animals to the ecological conditions of the farm rather than modifying the farm to meet the needs of the crops and animals.

● Managing economics successfully

1. Avoid dependence on single crops/products.
2. Use alternative markets.
3. Create / Develop organic markets.
4. Resort to Community Supported Agriculture.
5. "Pick your own" marketing.
6. Add value to agricultural products.
7. Process foods before selling them.
8. Find alternative incomes.
9. Encourage Agrotourism.
10. Avoid dependence on external subsidies.
11. Use multiple crops to diversify seasonal timing of production over the year.

● Empower people to do so would mean trying to ensure that local people control their development process by teaching experts and farmers to share knowledge, not "impose" it. The idea is indeed to increase farmers' participation and link them to the consumers, which would strengthen communities and encourage local partnerships between people and development groups and ensure intergenerational fairness. Further actions could be to ensure equitable labour relations for farm workers or to teach principles of agroecology and sustainability.

● Maximize Long-Term Benefits

Therefore to maximize intergenerational benefits, not just annual profits, and livelihoods and quality of life in rural areas. But also to use long-term strategies such as developing plans that can be adjusted and reevaluated through time.

● Value health to value not only human health but also cultural and environmental health. This

could be possible by valuing most importantly the overall health of agroecosystems rather than the outcome of a particular crop system or season, and by eliminating the environmental pollution by toxics and surplus nutrients.

QUESTIONS that could guide you in your research:

- Developed countries can finance their own agriculture, but is it the right one: does it feed its population? is it used to export? is the population fed by import whilst there are a lot of agriculture grounds such as in South America ?

-What about developing countries or third-world countries? Is eco-farming compatible with hunger issues, a fast growing world population and, therefore, an increase of demand for food? How can the UN help such countries? Is there a need to educate? And for low-income countries what agricultural system will feed their needs whilst being environmentally-friendly?

-Do countries need to finance small farmers or big ones? Some countries' economies depend on agriculture, perhaps you can find a way to transform their way of cultivating without harming their economy?

- You can raise the question of the role of the government: how can governments influence their agricultural methods? What should be their priorities regarding the use of taxes, regulations, subventions? Which companies should be taxed? which companies should be subsidized?

- What is the role of lobbying, interest groups? How to design a new relationships with multi-national groups which may not benefit from a reorientation of agricultural practices?

Here are a few links you can take a look at to complete your research:

- http://www.agriculturesnetwork.org/magazines/global/monocultures-towards-sustainability/monocultures-towards-sustainability-editorial - http://www.ucsusa.org/sites/default/files/legacy/food_and_agriculture/solutions/advance - sustainable-agriculture/healthy-farm-vision/index.htm - https://www.youtube.com/watch?v=NUN0QxRB7e0

It would also help you immensely to watch the documentary film “Tomorrow” by Cyril Dion and Melanie Laurent, it’s a French film but it’s mostly in English. There is a whole section on agriculture with many examples that could help you. Furthermore the whole NUMAD 2017 theme will be based on this film.

Whilst you write your essays you must always remember to follow the U.N. guidelines:

To keep world peace

To help countries get along

To improve living conditions for people all over the world

To make the world a better place

GOOD LUCK TO ALL AMBASSADORS AND DELEGATES.