



# Greening in production management



# Environment and Business

- Environmental degradation has always been part of human history, specifically from business operations.
- Global warming, floods, famines, tsunami and Earthquake are results.
- Each of monumental environmental events is largely due to human activity, and specifically to our present arrangements of modern industrial society.
- The Industrial Revolution (18th and 19th centuries), brought the ability to degrade the natural environment to a greater extent and at a faster rate than ever before.
- Simply put, the way we have done business over the last two centuries has brought us up against the biophysical limits of the earth's capacity to support human life, and it has already crossed those limits in the case of countless other forms of life.

# Green management and Environmental management

- Green Management - relatively new term: one of the primary reasons why it is difficult to interpret its consistent and comprehensive definition .
- When searching green management, the majority of works focus on environmental management and environmental management systems (EMS) as ways to improve environmental and business performance.
- Environmental management is defined as **a system that incorporates processes for summarizing, monitoring, reporting, developing and executing the environmental policies.**
- The aim of encouraging an environmental management system is to ensure the healthy state of our planet for future generations.
- Green management are ***practices that produce environmentally-friendly products and minimize the impact on the environment through green production, green research and development, and green marketing*** (Peng & Lin, 2008).
- Since this does not include factors such as strategic integration or sustainability, this definition falls short of what it means to embrace true green management but recognize that developing a definition of the term.

Green  
management

There are 3  
major terms  
used in  
connection  
with green  
management

---

Corporate  
environmentalism

---

Environmental  
management

---

Corporate  
sustainability

---



# Corporate environmentalism

- Corporate environmentalism revolves around the objective of reducing waste, which in turn contributes to the organization's ultimate goal of making money .
- However, it can be also defined as something much more broad and profound than financial returns derived from waste reduction.
- ...The organization-wide recognition of the legitimacy and importance of the biophysical environment in the formulation of organization strategy, and the integration of environmental issues into the strategic planning process.
- While this definition stresses the importance of environmental issues and the need to integrate these issues into the strategy of the organization, some factors critical to the practice of green management seem to be missing or need to be specified; factors such as continuous improvement, sustainability, and innovation.

# Environmental management and Corporate Sustainability

- Both concepts seem to extend beyond simply reducing waste, and therefore more accurately embrace the ideal of green management than the description of corporate environmentalism.
- **Environmental management** focuses on continuous improvement and environmental management systems have been looked upon with much favour by large organizations, policy makers, consultants, and researchers as an effective approach for proactively dealing with environmental issues. However, some have defined environmental management simply in terms of economic profit.
- **Corporate sustainability** also stretches beyond waste reduction and requires continuous improvements to achieve its challenging objectives.
- In order for sustainability our economy must radically shift from a focus on growth to a steady-state economy, which requires that rates of consumption do not exceed rates of regeneration, rates of non-renewable resources do not exceed the rate at which sustainable renewable substitutes are developed, and the rates of pollution emissions do not exceed the assimilative capacity of the environment.
- Hawke (1993) applies an economic golden rule to define what it means to be sustainable when he advises everyone to —“*leave the world better than you found it, take no more than you need, try not to harm life or the environment, [and] make amends if you do*”



# Green Supply Chain

---

The term sustainable or green supply chain refers to the idea of integrating sustainable environmental processes into the traditional supply chain.

---

This can include processes such as supplier selection and purchasing material, product design, product manufacturing and assembling, distribution and end-of-life management.

---

Instead of mitigating harmful impact of business and supply chain operations, green supply chain involves value addition and/or value creation through the operations of whole chain.

---

Main goal of green supply chain: reducing air, water and waste pollution,

---

....while green operations also enhance firms' performance in terms of less waste manufacturing, reuse and recycling of products, reduction in manufacturing costs, greater efficiency of assets, positive image building, and greater customer satisfaction.

## GREENING THE SUPPLY CHAIN

In building a child's crib, a manufacturer must focus on every step of the process—from the trees used, to transport, to ease of recycling.



**ETHICAL SOURCING**  
Trees are tagged for tracing. Logging practices protect communities, air, water and wildlife habitat.



**MANUFACTURING**  
Parts are milled to specifications that are safe for workers, consumers and the environment.



**POINT OF SALE**  
Information for consumer includes place of origin and chemicals used in manufacture.



**TRANSPORT**  
Trucks use cleanest technology, reduce idling and travel the most direct route.



**PACKAGING**  
Crib assembled and packaged in boxes made from post-consumer recycled materials.



**CUSTOMER USE**  
Crib is easily assembled. Packaging is curbside recyclable.



**REUSE**  
Crib is not a disposable product, rather is passed on to family and friends.



**END OF LIFE**  
No longer useful as a crib, recyclable parts are recycled.

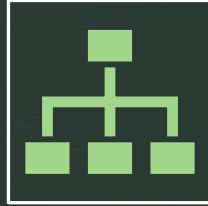


# Environmental management

## The Concept of environment in Management

- Originally, the French concept of environment: environment; human environment or external living conditions.
- The combination of this concept and the concept of management creates environmental management/management, i.e. **management with emphasis on environmental protection**.
- Environmental management is one of the most effective tools for achieving the priority objective - minimising the negative impacts of production activity on individual environmental components - in the field of industrial (but also agricultural) production and services.
- A company seeking success on the foreign market is facing an increasing demand for certification of environmental quality of products, production and services.
- Quality of production, safety and hygiene of work and reduction of environmental burden are currently the three most important factors of interest of management, especially of industrial enterprises.

# ➤ The Environmental Management Programme



shall be effectively integrated and linked to the general management of the organisation.



Effective integration and coordination of the general principles of the Programme should be designed in such a way that the organisation is able to optimise useful environmental impacts and limit preventive negative consequences to a minimum.



The environmental management programme makes it possible to increase the economic efficiency of the business operator, to gain new profit potential and the environmental profile of the enterprise.

- The establishment of an environmental management programme represents the development of an eco-oriented strategy at company level with such economic efficiency as is represented by current profit and the acquisition of new profit potential and profiling of the enterprise.

# Tools of Environmental management

- A number of environmental management tools are developed, e.g. environmental audits, environmental management systems, environmental assessment and labelling of products, eco-performance, ecological profile of the product, etc.
- The application of environmental management at the level of business entities is a voluntary matter.
- They are now influencing product policy and regulation in EU countries and other countries around the world.
- They also have a significant impact on the practice of national and supranational banks, insurance companies, etc.
- Businesses around the world carefully assess not only the financial benefits of this orientation (identification of savings, efficiency gains in processes and activities, new market opportunities, etc.), but also assess the risks arising from the defensive attitude of entities to the environment (accidents, inability to obtain bank credit, etc.)



# Environmental Profile of Enterprise

- The environmental profile of an enterprise is **defined by external criteria**, given by legislative and legal requirements (laws, regulations, etc.) that apply to the activities, products and services of the enterprise.
- **The internal** criteria determining the environmental profile shall include management systems, their staffing and accompanying documentation oriented towards environmental activities.
- The **undertaking's external and internal criteria** help an organisation with defined objectives of reducing or eliminating the environmental impact of a given environmental aspect to define short, medium and long-term environmental objectives and targets.
- **Environmental objectives and targets** need to be regularly reviewed and evaluated at the appropriate management level.

# EMS – Environmental management System and Programme EMAS

EMAS monitors the continuous improvement of the environmental profile of the company *through (EMAS objectives)*:

- EMS destinations and applications in organization
- systematic, objective and regular evaluation of the effectiveness of the ESM,
- publication of information on its environmental profile,
- responsibilities of employees.







# EMAS application requirements

- Once these requirements are met, the company will be granted EMAS registration, which means that the enterprise will be registered in the national EMAS register and the EU register in Brussels.
- Thereafter, an environmental statement shall be made public within three months.

# ISO 14001

- specifies the requirements for an environmental management system that an organization can use to enhance its environmental performance.
- it is intended for use by an organization seeking to manage its environmental responsibilities in a systematic manner that contributes to the environmental pillar of sustainability.
- it helps an organization achieve the intended outcomes of its environmental management system, which provide value for the environment, the organization itself and interested parties.
- Consistent with the organization's environmental policy, the intended outcomes of an environmental management system include:
  - · enhancement of environmental performance;
  - · fulfilment of compliance obligations;
  - · achievement of environmental objectives.



# ISO 14001 can be divided into 5 sections:

- Environmental policy – establishes and communicates the position of the organisation in relation to the environment and energy consumption,
- Planning – identifies energy and environmental objectives and requirements, defines the activities and resources necessary for their implementation and simultaneous fulfilment of economic objectives,
- Implementation – describes procedures, programmes and responsibilities for key activities leading to the achievement of objectives,
- Control and remedial measures – regularly monitors and evaluates the effectiveness of the company's energy and environmental activities,
- Management evaluation – evaluation of the efficiency of the management system as a whole in terms of continuous improvement and achievement of business goals.





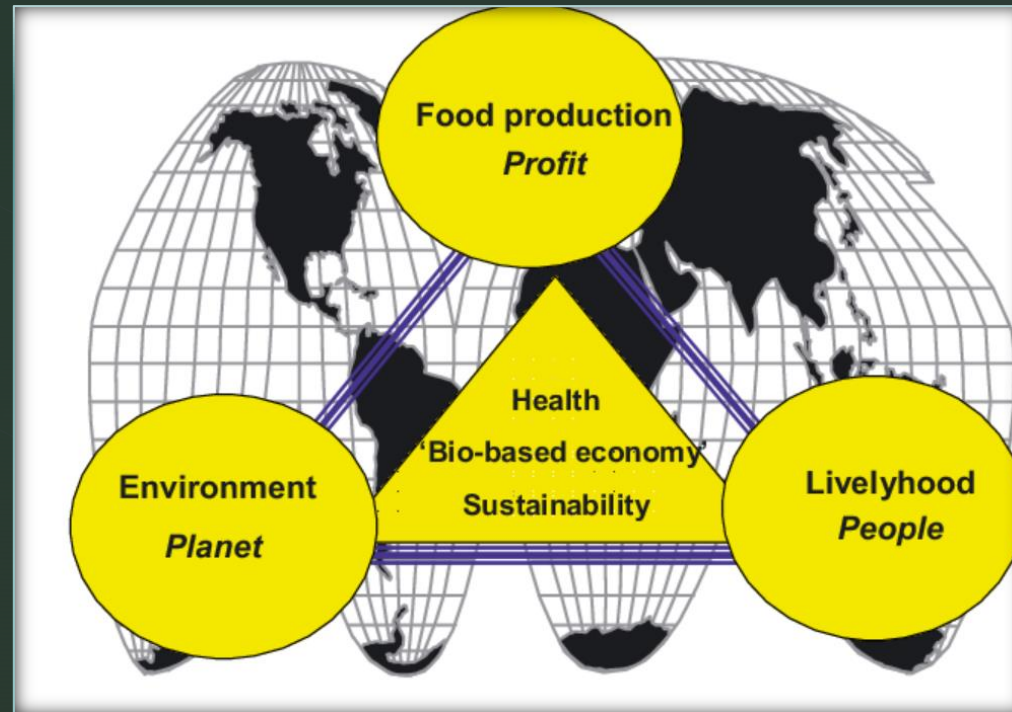


# Sustainable agriculture



# Sustainable agriculture

- Agriculture is currently facing fundamental changes.
- Farmers are not only expected to produce adequate agricultural products at affordable prices in order to meet the demand for food, feed or biofuels, but are also expected to do so in the face of ever-increasing production costs, increasing populations, lingering reserves of natural resources and a changing climate.
- Moreover, agricultural production has occasionally had unintended effects, which have caused expectations of environmental protection or animal welfare to rise in society.
- The term alternative agriculture has increasingly been used, which has been transformed over time into the concept of sustainable agriculture.

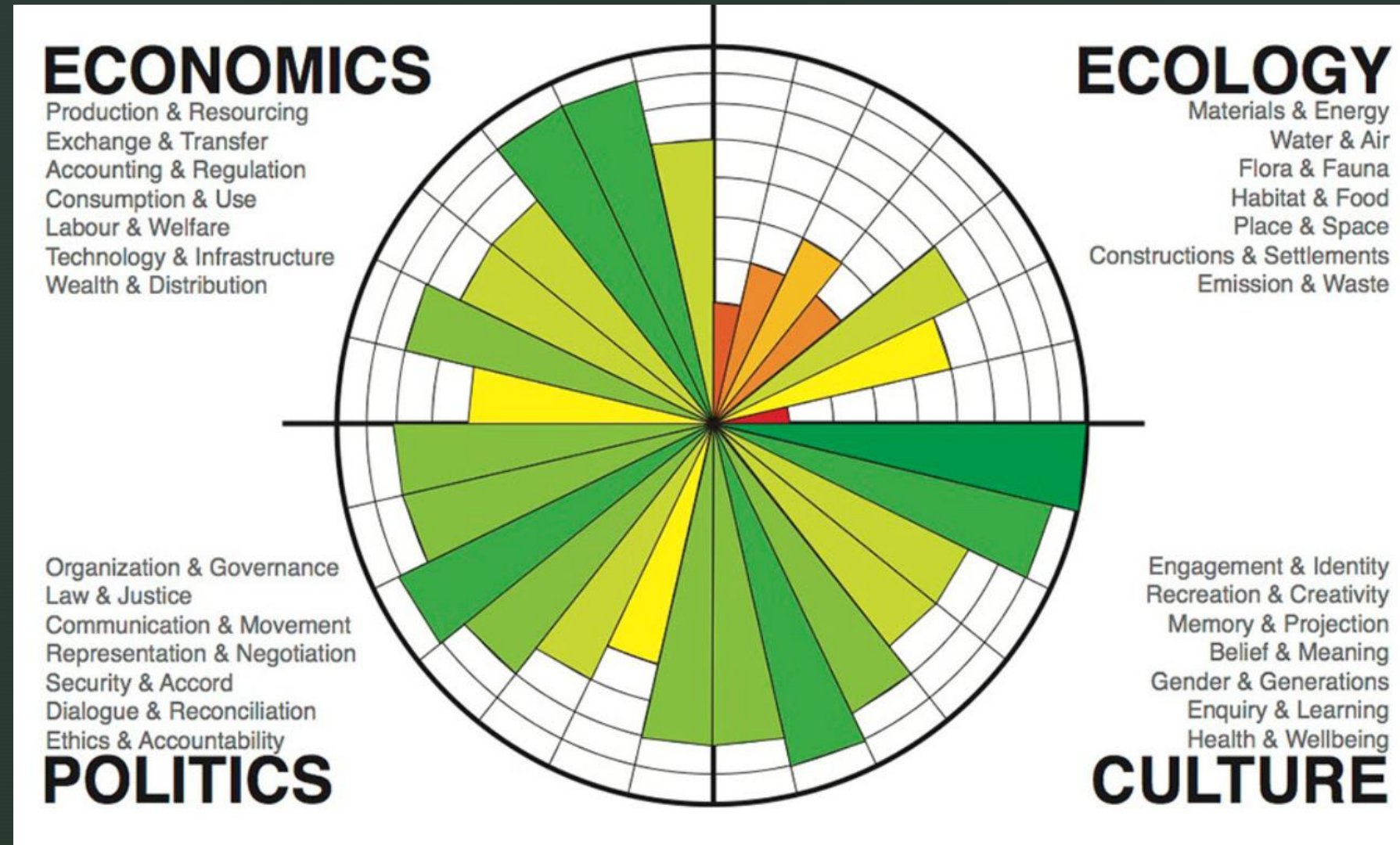




# Sustainable Agriculture in Slovakia and its objectives

- The Slovak Republic is considered to be an agricultural country in terms of both history and tradition.
- Traditional agriculture has had to give way to a new, industrial production in some regions of Slovakia, and it will be necessary to return to agricultural production in those regions, but in a new more attractive form in order to maintain productivity, 'independence' and aesthetic value.
- One of these forms is sustainable **agriculture**.
- **Objectives of sustainable agriculture:**
  - meet food, feed and feed requirements, biofuels,
  - improve the quality of the environment and the source base,
  - to meet the economic objectives of agriculture,
  - improve the quality of life of farmers, employees in the agriculture of society as a whole.
- Sustainability should not be seen as a specific state, but rather as a process shifting the land management system along a trajectory leading to overall improved sustainability in terms of all four objectives.

# Indicators of Sustainability







# Organic Farming

# Basic concepts and objectives of organic farming

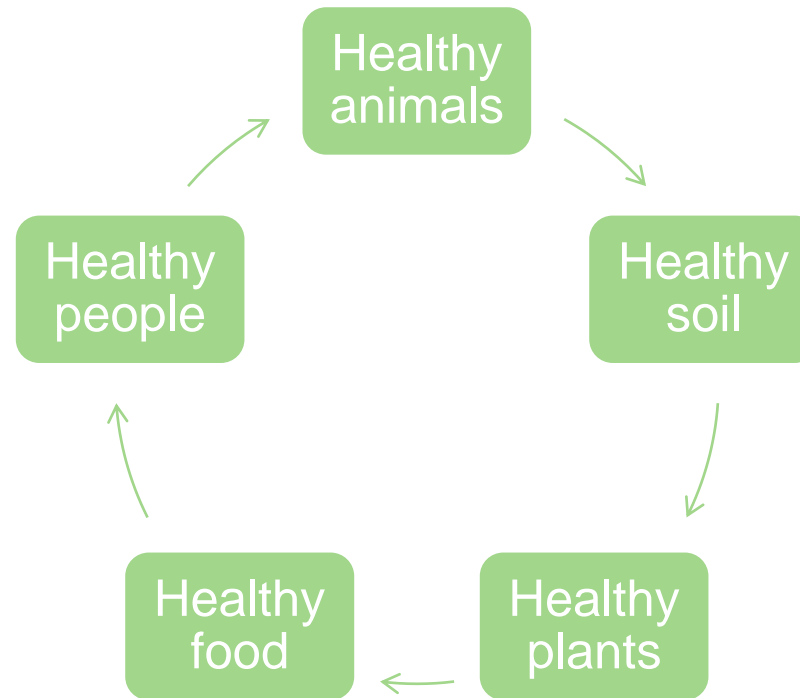


Organic farming can be defined in a simplified way as a belief or philosophy of returning to nature.



It is a balanced agri-system of a lasting nature, based primarily on local and renewable sources, using plant and livestock farming technologies that minimise environmental damage, thereby ensuring the production of quality and full-fledged food and ultimately taking into account future generations.

# Organic farming cycle





# Basic principles of organic farming

- Created by combining centuries of experience of our ancestors and the latest modern scientific knowledge.
- In general, it uses the country in a way that does not threaten it: it can cooperate with it, take the fruits of the earth, and in doing so, ensures favourable conditions for its other abilities and functions.
- ***In particular, organic farming does not bring foreign substances into the environment in the form of various chemicals.***
- ***It does not exert any pressure on nature, nor does it reshape it by force.***
- ***It also contributes to maintaining a balanced cultural landscape and creates the conditions for rural prosperity.***



# Organic production

CONVENTIONAL SYSTEM	ORGANIC SYSTEM
Priority of quantity.	Quality priority.
The profitability of production is put before biological and ecological balance.	Biological and ecological balance is put before the economic requirement.
Production is highly specialized.	Production is multifaceted.
Unilateral crop rotation.	Varied crop rotation.
The use of inorganic, easily soluble fertilizers.	Use of organic, slowly soluble fertilizers.
Use of agrochemicals and growth regulators.	Trying to make the production system itself regulate the occurrence of harmful agents.

## Positives and Negatives of Organic Farming

POSITIVES	NEGATIVES
Production of healthier and better quality food.	Higher production labour and a high share of labour costs in total costs.
Prioritising the quality of organic food over quantity.	Complex ecological and economic ties increasing the demands on the organisation of work.
Ensuring control of production at all stages of production and processing.	High demands on professional skills of managers.
Managed use of natural resources and elimination of negative environmental impacts.	Variability of production results and higher riskiness of production.
Maintaining the natural fertility of the soil.	Legislative difficulty and increased control with the parties of state institutions.
Promoting the sustainable development of rural areas.	Sales ending failure.

# Organic label



- As in the other EU member states, no food producer in Slovakia can arbitrarily use BIO or ECO labels.
- Only plant and animal products for which a certificate of organic origin has been issued may be designated as organic products.
- This indication is the placing of the logo on the product, which can only be used by producers who have complied with the requirements and have subsequently been granted a certificate.
- They must compulsorily place a unified logo on the products, which is a trade mark guaranteeing that the products have been inspected at every step from the manufacturer to the final consumer.





▼ Thank you for  
your attention