

Environmental Management and Sustainable Development

Professional paper

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KEY WORDS: sustainable development, environment, ecology, management, ISO standard, EMAS, biodiversity

ABSTRACT - The concept of sustainable development as primary goal aims at fulfilling the needs of the present, without compromising the needs of future generations. Neglecting environmental issues was the main reason for introducing the concept of sustainable development, which aims at establishing balance between economic, social and environmental dimensions, as well as the balance between our current consumption of resources and the ability of natural systems to maintain the level at which the future generations will be allowed to use them. For the implementation of the defined goals, sustainable development connects the systems of quality management, technology and environmental management systems. Such a process requires new types of managers, who are able to find a compromise between the economic, social and environmental requirements. The success of sustainable development concept is possible through the realisation of political objectives and implementation of social changes. By comparing and analysing different views and opinions, the aim of this study was to once again emphasise the importance of sustainable development for mankind, its survival and further development on this planet.

Strokovni članek

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KLJUČNE BESEDE: trajnostni razvoj, okolje, ekologija, menedžment, ISO standard, EMAS, biodiverziteteta

POVZETEK: Koncept trajnostnega razvoja kot primarnega cilja je usmerjen v izpolnjevanje potreb sedanjih generacij z namenom, da ne bi ogrozili potreb prihodnjih generacij. Zanimarjanje okoljskih problemov je eden izmed glavnih razlogov za uveljavitev koncepta trajnostnega razvoja, ki skuša uravnotežiti ekonomske, socialne in okoljske dimenzije, hkrati pa tudi najti ravnotežje med trenutno porabo virov in zmožnostjo naravnih sistemov, da se ohranijo v takem obsegu, ki bo omogočil nadaljnjo uporabo teh virov prihodnjim generacijam. Za doseganje zastavljenih ciljev trajnostnega razvoja je nujno povezovanje kvalitetnega upravljanja in razvoja tehnologije z upravljanjem okolja. Tovrsten proces zahteva novo vrsto menedžerjev, ki bodo znali iskati kompromise med ekonomskimi, socialnimi in okoljskimi zahtevami. Uspeh koncepta trajnostnega razvoja je mogoče doseči z realizacijo političnih ciljev in izvajanjem socialnih sprememb. Cilj te raziskave je s primerjavo in analizo različnih pogledov in mnenj še enkrat poudariti pomembnost trajnostnega razvoja za človeštvo in njegovo preživetje ter nadaljnji razvoj na tem planetu.

1 Introduction

Sustainable development as a model focuses on meeting the needs of people while minimising the conflict between the economy and ecology. The aim of sustainable development is sustainable use of resources, which is possible only by constant improvement of work technology, thus increasing the wealth and quality of life for people. In the realisation of this goal, care is taken for the environmental protection needs and the needs of future generations. It is essential, in order to motivate the present generation to act proactively, is to keep in mind the needs of the future generations.

The issue of sustainable development promotes economic activity in the sense of rational use of limited resources. Any appreciation of the economy based on ecology and environmental management will have full satisfaction: better competitive position, acquisition and preservation of public reputation and responsible attitude towards the needs of future generations. For this reason, environmental management becomes an inseparable part of every company. The fate of the company is affected by its relation towards the environment, natural resources, and any failure to respect the legislation leads to the loss of trade. It is important to once again emphasise: sustainable development is not a state, but a process that never ends at a certain level of performance improvement, which could not be further continued.

2 Sustainable development

2.1 *Concept of sustainable development*

The concept of sustainable development has emerged in the 19th century in forestry. The term was meant to be the time unit that allowed cutting the forest just as much as a total rise again, qualitatively and quantitatively (Muller, 2004, p. 42). In Rio de Janeiro in 1992, under the patronage of UN, the World Conference held on environment and development adopted the concept of sustainable development as the only solution to the development and environment problems. The basis of this concept is reflected in the fact that the biosphere has its natural limits of receiving unwanted effects of anthropogenic activities, undertaken primarily with the aim of exploitation and conversion of natural resources (natural capital) to private (private capital).

As the concept of sustainable development starts from an economic and environmental point of view, some authors approach the issue of sustainable development from anthropocentric point of view and others from egocentric (Črnjar and Črnjar, 2009, p. 81). E. Goodstein, views the sustainable development through the fight against poverty, which he believes is in direct and immediate connection with the collapse and environmental degradation (Goodstein, 2003). Sustainable development can be seen from an economic point of view, whose aim is to balance the economic growth, ecological aspect and to preserve the environment and social aspect, which as its primary objective has to enrich the social and human rights. Reasons for the concept of sustainable development are: (1) From the standpoint of sustainable development, the economic activity must be sustainable, because the current generations should leave their posterity no less opportunities for progress and development. (2) Conservation of biodiversity – a human is the part of nature and therefore must take care of the degree of its utilisation, which (as in the aforementioned reason) is the moral aspect of the given concept. (3) The third, no less important reason for introducing the concept of sustainable development, is reflected in the fact that this concept allows greater efficiency in business. Its absence could cause higher costs and a less favourable ratio of inputs and outputs from production.

The thing on which sustainable development is based can be observed through three key concepts:

- The concept of diminishing wealth - economic reserves must be maintained constantly.
- The concept of diminishing natural resources - natural wealth must be constant.
- The concept of elasticity (created as a result of irreversible loss of some natural resources) (Đukić and Pavlovski, 1999).

The concept of sustainable development is based on the following principles (Mitić, 1995):

- The principle of unification of economy and ecology (emphasis on their interdependence in decision-making).
- The principle of intergenerational equity (based on the responsibilities of present generations in preserving the ability of future generations to use the environment at the level of environment use by present generation).
- The principle of intergenerational equality - the emphasis on not endangering the environment within its borders and not reducing capacity of the environment in other areas. The principle of respect for the internal, core environmental values, regardless of its benefits to mankind.

In its beginning, sustainable development focused on the balance between economic needs and environmental sustainability, and later aimed at creating a balance between the profit needs, social needs and ecology, preserving natural renewable and non-renewable capital.

When we talk about the forms of sustainable development concept, there are two basic approaches: the concepts of weak and strong sustainability (OECD, 2007, p. 31).

The concept of weak sustainability is based on the fact that it is enough to maintain current levels of capital for future generations. Certain degradation or loss of natural capital is acceptable, only if the loss is compensated by the accumulation of produced capital. It is a very serious question how this concept can preserve natural capital. Once used natural resources, transformed into productive capital, it can never be returned to the initial state, which is especially important for non-renewable natural resources.

The concept of strong sustainability is based on the requirement that natural systems should remain intact wherever possible. Unlimited substitution of natural productive capital is not a non-limited. The emphasis is on the need that environmental parts that provide valuable and irreplaceable services cannot be replaced. The aim of this concept is self-sustainability of economic activity.

Each of the mentioned concepts implies that there are economic development limits. Economic activities that are more focused on natural resources cannot grow infinitely. Realisation of the above mentioned is possible by respecting the principles of sustainable development.

2.2 Principles of sustainable development

The principles of sustainable development can be divided into three main groups. First group consists of the principle that represents a moral base for others. The second group consists of principles defining conditions that must be fulfilled, while the third group consists of principles defining directions that should be followed towards sustainable development from local to global level. Those are the following principles (OECD, 2007):

- *Respect and care for the community* - refers to the universal respect and care for other people, but also for other forms of life in the present, but also in the future. It is based on the requirement that the development cannot take place to the detriment of future generations, but also on the useful and fair distribution of costs between rich and poor and between different communities.
- *Improving the qualities of life* - some goals are universal, such as: a long and happy life, quality education, guaranteed human rights, political freedom, access to resources that enable satisfactory standard. Economic growth is not an exclusive goal. The ethical principles of equality for all, the right to a dignified life and work should be taken into consideration.
- *Protection of the vitality and diversity of Earth* - humanity is a part of the natural system from which it also depends, therefore, it is important to ensure: protection system for the maintenance of life, protection of biodiversity and the survival of the use of renewable resources.
- *Minimise the depletion of non-renewable resources* - life cycle can be extended by switching to renewable sources (where applicable), recycling.
- *Respect boundaries of acceptable capacity of the country (the threshold capacity)* - refers to the limits of ecosystems to withstand the adverse impacts, and avoid serious degradation. The goal of every economic system is to bring the human population and living conditions into the balance with the threshold capacity of the Earth, which must be constantly updated with the technologies that will constantly increase threshold capacity.
- *Changes in personal attitudes and actions* - aim of the society is to promote those values that support sustainable way of living. This aim can be largely and most efficiently supported by the education system.
- *To enable communities to take care of their own environment.* To be able to do so, they should be given the authority, knowledge and power.
- *Creation of a national framework for the development and protection interaction.* To develop the society in a rational manner, it is necessary to have legal and institutional framework in place, knowledge bases and information. If these conditions are met, proactive action is the essence of a successful ecological policy.
- *Creation of a global alliance* - is the basis of global sustainability. Richer countries should help the poorer. Such an attitude of solidarity of the rich countries is in the interest of all. Ethics of preserving and maintaining the environment is an activity that is implemented at local, national and global levels.

The effects of compliance with the above principles can be seen through the indicators, indicators of sustainable development.

2.3 Indicators of sustainable development

The main objective of the indicators is to quantify, clarify and make the collected information usable in creating a policy that leads to better decisions and more effective actions. They help in unifying the knowledge of social and natural sciences, necessary in decision making and can also assist in determining and adjusting development in line with the objectives of sustainable development. Indicators are the image of social interest, but also a means of decision-making. Their greatest strength is reflected in the fact that they can, if properly deployed, alert the community on a potential problem or negative trend, before it comes to negative consequences. In this way, the community is directed on proactive action. Pointing out the connection of major economic, social and ecosystem helps in revealing the causes of complex problems. It is the criterion for the efficiency and effectiveness of implemented policies and strategies.

The following principles and criteria are used for selection of indicators (European Commission – Directorate General for Energy and Transport, SUMMA – Setting the Context for Defining Sustainable Transport and Mobility, 2003, pp. 31 – 32): the scientific foundation; the relevance to the needs of potential users (practicality); measurability; the opportunity to present a wide range of system status; sensitivity to changes (elasticity); building on the exact and available (reality); understandable interpretation and comparison of data; the viability of collecting data (data availability is not expensive); the media receptivity and unambiguous data.

It should be noted that there may be two basic problems, which are reflected in the potential complexity due to large number of indicators, which can easily lose the insight into wider situation and get lost in the details. Another problem is that sometimes compromise analysis cannot be implemented between some indicators. All the indicators can be classified into four groups-dimensions: (1) The economic dimension - includes indicators that reflect sustainable development and improving the standard of people. Among the most important indicators of economic dimensions are included: gross domestic product per capita, the share of investment in GDP, inflation rate, gross energy consumption per capita in the country, the generation and disposal of municipal waste, the generation of industrial waste, mode of passenger transportation and others. (2) The social dimension - allows sustainable economic growth along with necessary condition for the preservation and protection of the environment. This dimension includes the well-being of people, which is reflected in access to education, health care and others. (3) Ecological dimension - includes subsystems: emissions of gases causing the effect of greenhouse, consumption of substances that pollute the ozone layer, air quality, agriculture, forests, water quality and quantity, biodiversity of ecosystem. (4) Institutional dimension - includes indicators: access to the internet, communication infrastructure, investment in research and development.

Applying the concept of sustainable development and its principles is essential at the level of business entity, which has its own specific system of indicators and management system.

3 Application of the concept of sustainable development at the micro level and environmental management systems

The implementation of the defined goals and institutional preconditions starts at the micro level, in the organisation; from an environmental standpoint it is referring to the manufacturing organisations. The concept of sustainable development at the micro level is primarily related to spending fewer resources during the production process, while polluting the environment to a lesser extent. The micro level is very important, because it is the most optimal framework for the materialisation of the sustainable development principle, process management, communication with the public, and for developing a new system of values.

Any socially responsible organisation defines its environment management, which can be defined as the management of all the activities in the companies that have or may have an impact on the environment (Čulahović, 2002, p. 61). The main objective of environmental management is to find ways for implementing economic activities, which will reduce the degradation of environment through implementation of the basic objective for sustainable development – ensuring better environment for future generations. In this way, improving the environmental performance can also result in improving business performance, thus providing a new dimension of competitive advantage. These modern trends have conditioned the emergence of environmental management systems, which can be defined as a set of interdependent elements that work together in order to achieve the predefined environmental goals. They allow the company to conduct its environmental activities in a planned and systematic manner. Therefore, the company chooses an integrated management system. In the context of engagement in environmental protection, the company is directed towards the production planning and application of new technological procedures in production, creation of a special service and appointment of a responsible person who will deal with environmental matters.

Of all the management systems, the most used are ISO 14001 and EMAS (Eco Management and Audit Scheme EU).

As a basis for the development of ISO standards, the first national standard for environmental management system adopted by the United Kingdom was used. It defines the conditions for obtaining a certificate for environment modelled by the ISO 9000 certification for quality. All the elements of ISO 14001 schemes are organised in 5 major steps: (1) Environmental policy - contains preference of company to continuously improve the environment; (2) Planning - includes: environmental aspects, legal and other requirements, intentions and objectives, and program of environmental management; (3) Implementation - includes structures and responsibilities, training,

communication, documentation, exchange of documents and readiness to respond in emergency situations; (4) Inspection and corrective actions - include monitoring and measurement, nonconformity and corrective and preventive actions, recording and judging environmental management systems; (4) Management Overview - instrument that allows performance review of the applied environmental management system.

EMAS - Eco management and audit scheme of EU - the goal of this system is the continuous improvement of environmental protection in the company, and it includes: determination and implementation of environmental policy, systematic, objective and regular analysing of efficiency of those instruments; the readiness to intermediate information to the public on environmental situation in the company. By accepting this system, the company is obliged to publish a statement about the environment and to forward the certified statement on environment to central registry, led by the Member States governmental agencies in which the company is located and to finally launch its statement to the public.

Besides these two systems, the present tools in practice that are not less important are:

- Judging of environment - it is defined as a management tool, which checks whether the company is doing what it ought to do.
- Eco-balancing - provides a clear image on the flows of materials and energy, and enables operations' improvement that have an impact on the environment. Eco-balancing presents a comprehensive and systematic analysis of all internal and external negative impacts on the environment, which enable a comparison of two or more different products, systems or the processes, with the aim that they are environmentally optimised (Čulahović, 2002, p. 118). This tool includes ecological guidebooks and matrices, and environmental accounting.
- Life cycle assessment - a systematic framework used for the assessment of all environmental impacts associated with a product over its total life cycle.
- Schemes of ecological character - a tool that serves the manufacturer in labelling those products that compared to others in the same group, having less negative impacts on the environment.
- Environmental notification - as a tool shows to the wider public that the company uses a proactive approach towards the environment and thus demonstrating adherence of the company for the responsible environmental management.
- Environmental Charters - include a set of principles related to the environment management. By signing the Charter, the company publicly declares its intention to complete its environmental management activities in accordance with those principles.

In addition to this, there are environmental indicators that represent information related to environmental performance of the company and its efforts to influence the improvement of existing performance. Their aim is to indicate the areas where special attention is needed, as well as the success of management in improving environmental performance management. Indicators that measure management activities are called management performance indicators, and they are: (1) Indicators of the environment

state - measure the state of the environment and are divided into four groups: the absolute, relative, aggregated and indexed. (2) The indicators of operational performance - serve to measure the performance of a specific process or service, location or entire company. (3) Management performance indicators - indicate information about management's efforts to improve the environmental performance of companies. (4) Financial indicators - measure the effects of environmental management activities on financial performance of the company.

Responsibility for the implementation of management systems and environmental policy of the organisation is in the scope of ecological or environmental management work.

4 Environmental (ecological) management

Environmental management is a systematic approach that sees the nature and the society as a multi-dimensional system, which is open and integrated. It focuses on the coordination and integration of many disciplines within each organisation. Its task is to create cost-effective systems to manage activities in accordance with economic, environmental, legal, social, cultural - sustainable requirements. It is a system of environmental management with the unique aim – to establish a systematic approach in economy ensuring that the reasons related to environment are incorporated into business strategy, but also in the practice.

The task of environmental manager is to analyse, determine and foresee all the potential environmental, economic and social impacts that a company or a country can create and thus jeopardise the business or the environment. The scope of work of managers - to protect the environment - arises from the manager's scope of work as a function (in its five areas of operation), except that in this case, these activities are focused on the environment:

- Management planning for environmental protection - it refers to the environment state analysis, based on which the goals and strategies for their implementation are defined by introducing procedures that affect the protection of the environment.
- Management organisation for environment protection - the goal of this phase is to create jobs for those workers, who will have the task to take care of environmental protection in their job descriptions, and others, who will not have such an immediate task. It is very important that all staff members are aware of the importance of environment and their contribution to its protection.
- Implementation of environmental management - it refers to the realisation of pre-defined phases, by establishing the organisational structure and responsibility, aiming at defining and allocating the resources needed for implementation of the defined activities on environmental protection.
- Leading the environmental protection management - the objective of this phase is to influence people to achieve the defined objectives. The main objective of the management is to motivate employees through a good ability of communication

and the ability to develop good interpersonal relationships.

- Control and audit - this is the final phase in a defined process. The objective of this phase is to determine whether it is conducted as planned. The corrective actions are implemented, depending on the inspection results (conducted at the strategic and operational level).

There are several objectives of environmental management, out of which two are particularly important: the first are the general objectives related to environmental protection, such as sustainable development, the human right to a healthy environment, quality of life, the ecosystem survival, etc. The second objective consists of specific objectives of individual economic entities related to the very essence of the market economy – profit making (Pavlović, 1996).

5 Conclusion

The present day is marked by great changes, requiring changing of attitudes. We are in a new age that requires a different view on reality from all of us. In many industrialised countries, there are patterns of consumption that are unsustainable because they require huge amount of resources, thus causing emissions of harmful gases and enormous negative social problems in developing countries. It is clear that the issue of environment and development cannot be considered separately. Actions to improve and protect the environment widely differ between developed and underdeveloped countries. Developed countries have large capital funds. Greater economic capacity and advanced technology makes the establishment of environmental protection easier and more financially accessible. On the other hand, developed countries with a lot of capital use more resources and create more waste and pollution, and due to the large consumer demand, they have a greater dependence on fossil fuels. However, developing countries also have problems in achieving sustainability. Increasing population and economic growth create pressure on the use of resources and increase the generation of waste and pollution. The global tendency is that in addition to inequalities in consumption levels between developed and developing countries, there is also present and growing inequality in consumption levels within developing countries. The fact is also that the total increase of the resource consumption in developed countries has superseded the technical and environmental improvements. The key question arising is whether the developed and developing countries can cooperate in defining development paths that are sustainable for the environment.

Understanding sustainable development, the result is a dramatic request for making changes in all areas of life and work. The changes are very complex, since they relate to changes in consumption habits, but also in awareness in the fields of economy, politics, and society. In the economic field, new requirements for calculating rates emerge, because the factor of nature is taken into account as a factor of further production. In the social field, it is important to think in a way that our present is inevitably a past for future generations. Anthropogenic factors are now emerging as a

cause that must adopt great responsibility for the implementation of sustainable development policy. This fact is confirmed by the number of over 190 signatory countries of the agreement on the reduction of emissions of gases causing the effect of greenhouse at the International Climate Conference in Paris in 2015, required to submit more ambitious plans to reduce gas emissions every five years.

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Upravljanje z okoljem in trajnostni razvoj

Trajnostni razvoj kot model se osredotoča na zadovoljevanje potreb ljudi in minimizacijo konfliktov med gospodarstvom in ekologijo. Cilj trajnostnega razvoja je trajnostna raba virov, ki je mogoča le s stalnim izboljševanjem tehnologije dela, kar tudi povečuje blaginjo in kakovost življenja ljudi. Pri uresničevanju tega cilja je poskrbljeno za varstvo okolja in potrebe prihodnjih generacij. Zato je pri motiviranju sedanje generacije zelo pomembno delovati proaktivno z upoštevanjem potreb prihodnjih generacij. Vprašanje trajnostnega razvoja spodbuja tudi gospodarsko dejavnost v smislu racionalne uporabe omejenih virov. Vsako gospodarstvo, ki temelji na skrbnem ravnanju z okoljem, bo obrodilo sadove: boljši konkurenčni položaj, pridobivanje in ohranjanje javnega ugleda in odgovoren odnos do potreb prihodnjih generacij. Posledično postaja upravljanje okolja neločljivi del vsakega podjetja. Usoda podjetja je odvisna od njegovega odnosa do okolja in naravnih virov. Kakršno koli nespoštovanje zakonodaje lahko povzroči izgubo poslovanja. Pomembno je ponovno poudariti: trajnostni razvoj ni stanje, ampak proces, ki se nikoli ne konča na določeni stopnji uspešnosti, ki se je ne da še preseči.

Kot se koncept trajnostnega razvoja lahko obravnava z gospodarskega in okoljskega vidika, se nekateri avtorji lotevajo problema trajnostnega razvoja z antropocentričnega vidika, drugi pa z egocentričnega (Črnjar in Črnjar, 2009, str. 81). Goodstein gleda na trajnostni razvoj skozi boj proti revščini, za katerega verjame, da je neposreden in v povezavi z zlomom in degradacijo okolja (Goodstein, 2003). Trajnosten razvoj je mogoče gledati z gospodarskega vidika, cilj pa je vzpostaviti ravnovesje med gospodarsko rastjo in ekološkim vidikom ter ohraniti okoljski in socialni vidik, ki ima za svoj primarni cilj obogatitev socialnih in človekovih pravic.

Razlogi za koncept trajnostnega razvoja so: (1) z zornega kota trajnostnega razvoja mora biti gospodarska dejavnost trajnostno naravnana, ker naj ne bi sedanje generacije zapustile nič manj priložnosti za napredek in razvoj. (2) Ohranjanje biotske raznovrstnosti - Človek je del narave in zato mora paziti na njeno uporabnost, kar je (kot v prejšnjem razlogu) prav tako pogled koncepta z moralnega vidika. (3) Tretji, a nič manj pomemben razlog za uvedbo koncepta trajnostnega razvoja, se odraža v dejstvu, da ta koncept omogoča večjo učinkovitost v poslovanju. Njegova odsotnost pa bi lahko povzročila višje stroške in manj ugodno razmerje med številom inputov in outputov pri proizvodnji.

Temelj trajnostnega razvoja lahko obravnavamo skozi tri ključne koncepte (Đukić in Pavlovski, 1999):

- *Koncept zmanjševanja bogastva - gospodarske rezerve je treba konstantno ohranjati.*
- *Koncept zmanjševanja naravnih virov - naravno bogastvo mora biti stalno.*
- *Pojem elastičnosti (ki je nastala kot posledica nepopravljive izgube nekaterih naravnih virov).*

Načela trajnostnega razvoja je mogoče deliti v tri glavne skupine. Prva je sestavljena iz načela, da predstavlja moralno podlago za ostale. Druga skupina je sestavljena iz načel, ki določajo pogoje, ki morajo biti izpolnjeni, medtem ko je tretja skupina sestavljena iz načel, ki jih je treba spoštovati v smeri trajnostnega razvoja na lokalni in globalni ravni.

Kazalniki trajnostnega razvoja pomagajo pri poenotenju znanja o socialnih in naravnih zakonitostih, potrebnega pri odločanju, lahko pa pomagajo tudi pri določanju in prilagajanju razvoja v skladu s cilji trajnostnega razvoja. Kazalniki predstavljajo socialni interes, prav tako pa tudi sredstvo za odločanje. Njihova največja moč se odraža v dejstvu, da lahko, če so pravilno uporabljeni, opozorijo neko skupnost na morebitno težavo ali negativni trend, še preden pride do negativnih posledic. Na ta način je skupnost usmerjena v proaktivno ukrepanje. Če izpostavimo povezavo glavnih ekonomskih, socialnih in ekosistemov, nam ta pomaga pri odkrivanju vzrokov za kompleksne probleme. Povezava je pogoj za učinkovitost in uspešnost izvajanja politik in strategij.

Kazalniki trajnostnega razvoja so lahko razvrščeni v štiri skupine-dimenzije: (1) ekonomska razsežnost - vključuje kazalnike, ki odražajo trajnostni razvoj in izboljšanje življenjskega standarda ljudi. Med pomembnejšimi kazalniki ekonomske razsežnosti so: BDP na prebivalca, delež investicij v BDP, stopnja inflacije, bruto poraba energije na prebivalca v državi, predelava in odlaganje komunalnih odpadkov, predelava industrijskih odpadkov, način prevoza potnikov in drugi. (2) Socialna razsežnost - omogoča trajnostno ekonomsko rast skupaj z nujnimi pogoji za ohranjanje in varstvo okolja. Ta razsežnost vključuje dobro počutje ljudi, kar se odraža v dostopu do izobraževanja, zdravstvene oskrbe itd.. (3) Ekološka razsežnost - vključuje podsisteme: emisije plinov, ki povzročajo učinek tople grede, porabo snovi, ki tanjšajo ozonski plašč, zmanjšujejo kakovost zraka, ogrožajo kmetijstvo, gozdove, kakovost in količino voda, biotsko raznovrstnost ekosistema. (4) Institucionalna razsežnost - vključuje kazalnike: dostop do interneta, komunikacijsko infrastrukturo, vlaganja v raziskave in razvoj.

Uporaba koncepta trajnostnega razvoja in njegovih načel je bistvenega pomena na ravni poslovnega subjekta, ki ima svoj sistem kazalnikov pri upravljanju.

Koncept trajnostnega razvoja na mikro ravni je primarno povezan z manjšo porabo sredstev v proizvodnem procesu, medtem ko se istočasno manj onesnažuje okolje. Mikro raven je zelo pomembna, saj predstavlja najbolj optimalen okvir za materializacijo načel trajnostnega razvoja, upravljanje procesov, komuniciranje z javnostjo, razvijanje novega sistema vrednot. Od vseh sistemov upravljanja z okoljem sta najpogostejše v uporabi ISO 14001 in EMAS (Eco Management and Audit Scheme EU).

Upravljanje z okoljem je sistematičen pristop, ki vidi naravo in družbo kot večdimenzionalni odprt in povezan sistem. Osredotoča se na usklajevanje in vključevanje številnih znanstvenih disciplin znotraj vsake organizacije. Njegova naloga je oblikovati stroškovno učinkovite sisteme za upravljanje dejavnosti v skladu z ekonomskimi, okoljskimi, pravnimi, socialnimi in kulturnimi - tj. trajnostnimi zahtevami. Je sistem okoljskega ravnanja z edinstvenim ciljem - vzpostaviti sistematičen pristop v gospodarstvu, ki bo zagotavljal, da so okoljske zadeve vključene tako v poslovno strategijo kot tudi v prakso.

Naloga okoljskega menedžerja je analizirati, določiti in predvideti vse možne okoljske, ekonomske in socialne vplive, ki jih lahko ustvari podjetje ali država in lahko ogrozijo poslovanje ali okolje.

Obstaja več ciljev upravljanja z okoljem, od katerih sta pomembna zlasti dva: prvi je splošni cilj v povezavi z varovanjem okolja, kot je trajnostni razvoj, človekove pravice do zdravega okolja, kakovosti življenja, preživetje ekosistema itd. Drugi cilj pa je sestavljen iz posebnih ciljev posameznih gospodarskih subjektov, povezanih s samim bistvom tržnega gospodarstva - profitom (Pavlović, 1996).

Jasno je, da vprašanj okolja in razvoja ni mogoče obravnavati ločeno. Dejavnosti za izboljšanje in varovanje okolja se zelo razlikujejo med razvitimi in nerazvitimi državami. Razvite države imajo veliko kapitala. Večja gospodarska zmogljivost in napredna tehnologija omogočata boljšo in finančno bolj dostopno zagotavljanje varstva okolja. Na drugi strani pa razvite države z veliko kapitala uporabljajo vire in ustvarjajo odpadke, onesnažujejo okolje ter so zaradi večjega povpraševanja potrošnikov tudi bolj odvisne od fosilnih goriv. Tudi države v razvoju imajo težave pri doseganju trajnostnega razvoja. Naraščanje prebivalstva in gospodarska rast ustvarjata pritisk na uporabo virov in povečujeta nastajanje odpadkov ter onesnaževanje. Svetovni trend je, da je poleg neenakosti na ravni porabe med razvitimi državami in državami v razvoju, trenutna in naraščajoča neenakost tudi v ravni porabe energije med državami v razvoju. Dejstvo je tudi, da je celotno povečanje porabe virov v razvitih državah nadomestilo tehnične in okoljske izboljšave. Ključno vprašanje je, ali bodo razvite države in države v razvoju lahko sodelovale pri določanju razvojnih poti, ki so trajnostne za okolje.

Če resno upoštevamo trajnostni razvoj, lahko kot rezultat dobimo dramatične zahteve po spremembah na vseh področjih življenja in dela. Te spremembe so zelo kompleksne, saj se nanašajo na spreminjanje navad potrošnikov, prav tako pa na večjo ozaveščenost ekonomije, politike in družbe. Na ekonomskem področju se spremenijo tudi zahteve za izračunavanje deležev, ker je faktor narave potrebno upoštevati kot dejavnik za nadaljnjo proizvodnjo. Na socialnem področju je pomembno razmišljati na način, da je naša sedanost pravzaprav preteklost za prihodnje generacije. Antropogeni dejavniki se sedaj pojavljajo kot pobuda, da se mora prevzeti odgovornost za izvajanje politike trajnostnega razvoja. To dejstvo je potrdilo tudi 190 držav podpisnic sporazuma o zmanjšanju emisij plinov, ki povzročajo učinek tople grede, na Mednarodni konferenci o podnebnih spremembah v Parizu leta 2015. Te države morajo vsakih pet let predložiti vedno bolj napredne načrte za zmanjšanje emisij toplogrednih plinov.

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