

# Sustainable development as a subject of measurement in New Public Management context

Sulich A.<sup>1,\*</sup>

<sup>1</sup> Wroclaw University of Technology, Faculty of Computer Science and Management, Department of Infrastructure of Management, ul. Smoluchowskiego 25, 50-372 Wroclaw, Poland,

\*corresponding author:

e-mail: [adam.sulich@pwr.edu.pl](mailto:adam.sulich@pwr.edu.pl)

**Abstract** The aim of the article is to propose measurable definition of green jobs based on balanced and sustainable development which is ample of green economy and New Public Management concepts. This approach is justified due to nature of NPM, which uses management by goals and effectiveness measurement. Proposed in this paper green jobs characteristic based on section E of PKD is more specific and can be source of measurement not only in Polish conditions.

**Keywords:** efficiency, green jobs.

## 1. Introduction

Sustainable development is a popular and very important concept, which is open to a variety of interpretations. Since published in 1987 Brundtland report (Brundtland Commission, 1987), many researchers in universities, environmental organizations, national governments and international agencies have offered proposals for measuring sustainable development. The wide variety of indicators in existing national and international policy-based sets testifies to the difficulty of the challenge.

The assessment of sustainable development is a task not without considerable difficulties, however it can achieve positive effects that can be used in other fields of science. There is ongoing multidimensional discussion in Poland about measurement and analysis of sustainable development and its impact on environment and economy. Evaluation is important both for scientists and governments and administration, who want properly manage using tools of New Public Management, which allows to manage by goals using measurement of efficiency of undertaken actions. This discussion it also visible in international context what is proved by numerous publications also issued by United Nations (UN, 2007) who joined stream of methodology of sustainable development measurement. The fundamental questions are intertwined with green economy and green jobs (Rutkowska-Podolowska *et al.* 2016), because they reflect the connections of sustainable development also with social and financial aspects (Pearce and Atkinson, 1993). However there is a very small number of specific indicators which allow measurement, assessment and evaluation of the sustainable development.

This article presents the review of the most important sustainability and New Public Management concepts based on this presents areas of possible measurement. On this background green jobs as an chosen indicator are analysed.

## 2. Sustainable development concept

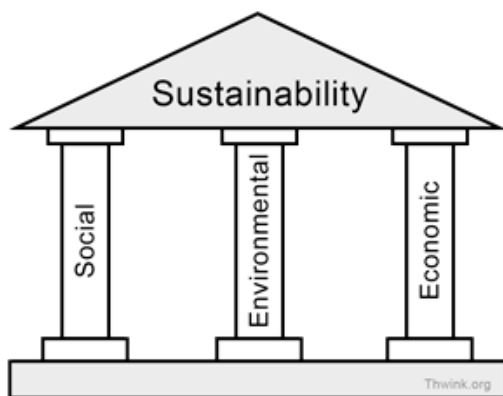
In the literature the development concept is widely discussed in context of economic growth (Borys 2005). Both the economy and the ecology may contribute to social welfare and incorporate some (limited) degree of sustainability. However there are convincing indications now that labour, capital and technology are substituted for environmental production factors up to a level which is clearly unsustainable for both systems in the long run. On the other hand, environmental commodities and amenities (such as drinking water) are economically used up to a which clearly exceeds environmental growth and production rates, this threatens environmental regeneration potentials.

According to Brundtland Commission (1987), sustainable development covers the concept of needs in particular needs of the world's poor, to which overriding priority should be given and the idea of limitation imposed by the state of the technology and social organizations on the environment's ability to meet present and future needs. It is clear that formulated by Brundtland Commission sustainable development definition is more inspirational than practical, moreover neither precise nor measurable. (Thwink.org, 2017).

In itself, the concept of sustainable development is not a special novelty in the evolution of economic thinking. The wish to take account of the needs of future generations while, at the same time, aiming to satisfy the needs of present generations refers essentially to the opportunity of taking account of objectives to both long and the medium term. However it is evident that sustainable development currently faces an imbalance when it comes to its three main pillars – the economic, social and environmental. There exists a challenge to equilibrate them, searching intensely for ways that have as their goal, to reach sustainable development for all and promote this as the main gap that has to be filled for the safety of the world. Therefore, measurement is important for management and

planning of sustainable development and the balance of all three pillars (Figure 1).

Figure 1. The tree pillars of sustainability



Source: (Thwink.org, 2017).

Sustainability is the ability to continue a defined behaviour for an unlimited or unspecified period of time what creates some concept of life quality (Figure 2). Therefore environmental sustainability is the ability to maintain rates of renewable resources harvest, pollution creation and non-renewable resource depletion that can be continued – in durability aspect. Secondly, economic sustainability is the ability to support a defined level of economic production indefinitely. Then the social sustainability is the ability of a social system, such as country, to function at defined level of social well-being.

The scientific outlook on development takes development as its top priority, putting people first as its core (Figure 2), comprehensive, balanced and sustainable development as its basic requirement, and overall consideration as its fundamental approach. Its methods are to integrate the urban and rural development, regional development, economic and social development, harmonious development between man and nature, domestic development and opening to the outside world. Its important goals are to make sure that the aims and outcomes of all the work of the state are to realize, safeguard and expand the fundamental interests of the overwhelming majority of the people, respect the principal position of the people, give play to their creativity, protect their rights and interests, and promote their all-round development and social progress (Agenda 21, 1992).

As presented on Figure 2, sustainability is related to the quality of life in a community whether the economic, social and environmental systems that make up the community are providing a healthy, productive, meaningful life for all community residents, present and future.

Understanding the three parts and their links is key to understanding sustainability, because sustainability is about more than just quality of life. It is about understanding the connections between and achieving balance among the social, economic, and environmental pieces of a community

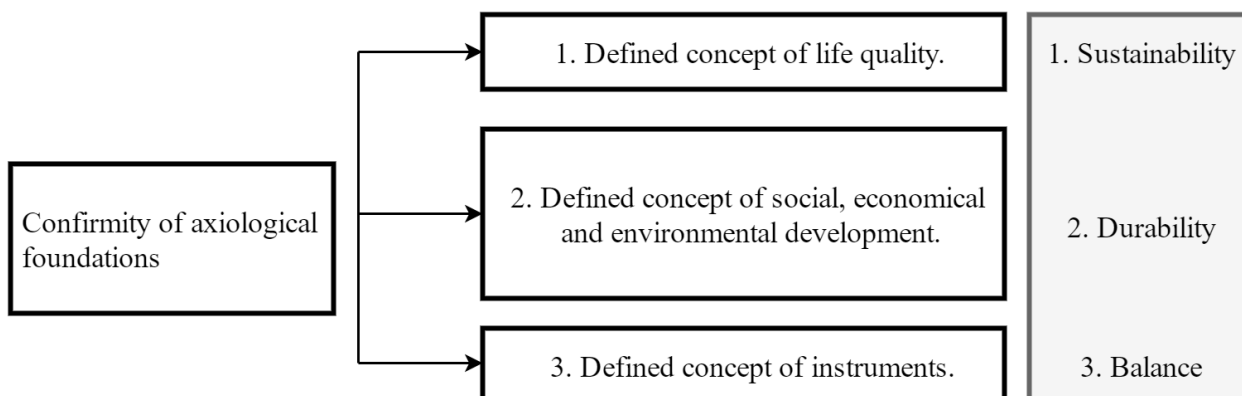
### 3. New Public Management

The New Public Management (NPM) is nothing more than a set of almost every management tool found to be suitable for the public-sector. NPM is the practical result of the 1980s normative idea of ‘private is better than public’. The basic idea was that instrument used in the private sector must be successful in the public administration sector. Achievements in NPM are usually presented in opposition to the past and are evaluated in comparison, however this concept is far more than management systems or performance measurement.

The bureaucratic model of management worked exceedingly well for its time, but times have changed and a new approach to management, emphasizing teams and customer service, has emerged to challenge the traditional model of public administration. The market models of reforms take places against the traditional models of public administration as alternative models.

The shift from bureaucratic administration to business-like professional management with NPM was promoted as a strategy fitting for all levels, and branches of the public-sector, local as well as central governments, and every kind of administrative culture in any country whatsoever. NPM has been presented as a remedy to cure management ills in various organizational contexts, as well as in various areas of policy making, from education to healthcare.

Figure 2. Two main streams of sustainable development



Source: author own elaboration

The establishment of sustainable development indicators has been for many countries and institutions a key opportunity to move environmental issues higher up the policy agenda alongside economic and social issues in frame of NPM. The sustainable development indicators have also been instrumental in promoting the concept in a much clearer way than can be achieved through national sustainable development strategies alone

In many cases the relationship between indicators and policy is very strong – with the policy framework in effect determining the indicators. While there may be concerns about having indicators closely aligned with policy and hence potentially biased towards particular policy priorities at the expense of other aspects of sustainable development, this is also one of their strengths. Policy makers see them as being directly relevant to the policies they have established and effective for communication

Within the European Union, at least, there has been some inevitable convergence among national indicators used. This is for two reasons. Firstly, and most obviously, as newer member states develop their indicator systems, they are likely to be influenced by the indicators adopted at the European Union level. Secondly, and less obviously, the indicators used by the European Union itself have been developed through engagement with older member states and those with well-established national indicator sets have been influential in the direction taken by the European Union.

It is characterized by a government which use NPM to have a led role and wide public participation, with an aim to improve the quality of the poor and build their capacity for employment and entrepreneurship. To meet this end, the poor labour force are provided with vocational education, entrepreneurship training and practical training on agricultural techniques; They are encouraged to seek new jobs or start their own businesses. Young farmers in poor areas are offered with assistance when they encounter difficulties in employment and entrepreneurship activities, with an ultimate goal of production growth, employment transfer, income increase and economic growth in poverty-stricken areas (OECD,2001).

NPM reforms, if they are to be effectively implemented, require a holistic approach, integrating the multiple human

resources, financial, technical and structural factors involved within a dynamic environment. Green activities are key actions of policy makers in countries and regions across the world that can be created in almost all economy sectors which help in sustainable development leading to greening the economy and are an important tool in counteraction to unemployment.

#### 4. Green jobs

Green jobs definition should be objective and measurable – and this second part makes most troubles for researchers and statistic offices around the world. The measurable green jobs can be an effective tool for assessment of sustainable development, hence it was never before proposed as indicator by Eurostat, OECD and UN (UN, 2008).

Green jobs are places of employment that contribute to preserve or restore the environment, applied in traditional sectors such as manufacturing and construction, or in new, emerging sectors such as renewable energy and energy efficiency (Rutkowska-Podolowska *et al.*, 2016). Moreover, green jobs are a solution for young, unemployed people who not only can find employment but can become entrepreneurs in this sector of economy.

A green job is any job or self-employment that genuinely contributes to a more sustainable world. At the enterprise level, green jobs can produce goods or provide services that benefit the environment, for example green buildings or clean transportation. For persons beginning the professional career, the meaning and potential of green places for employment is very high.

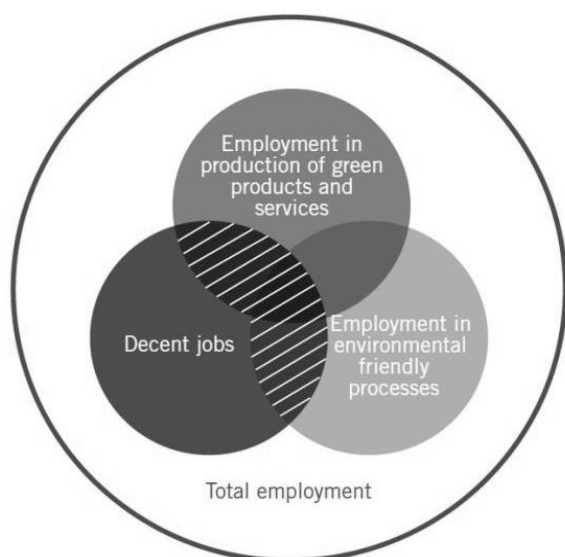
Based on sustainable development distinction can be drawn between employment in green economic sectors from an output perspective and job functions in all sectors from an environmentally friendly process perspective. For the ILO (2016), green jobs are all those jobs that fall in the dashed area (Figure 2).

Table 1. They key differences between Weberian model and New Public Management.

Classic (Weberian) model	New Public Management
Hierarchy and functional structure (machine like, rigid and impersonal)	No rigid/ pure model of administration Initiatives from bottom of structure Managerialism
Professionalism and specialisation	Maximise public interest rather than self (bureaucracy)
Work division	Cost control and efficiency
Political accountability	Measures of effects by achieving goals
Administrative man	Healthy competition, democracy in public administration
Realisation of processes	Oriented to processes perfection Client oriented

Centralisation and power differentiation	-	Decentralisation Efficiency – regard to personnel
Bounded rationality		High quality of services
Public-Private distinction		Public - Private partnership

Source: author own elaboration



Source: (ILO, 2016)

Table 2. Green jobs based on E category PKD

PKD section	PKD group	PKD description of group
E - water supply; sewerage, waste management and remediation activities	36.0	Collection, purification and distribution of water
	37.0	Sewage disposal and treatment
	38.1	Waste collection
	38.2	Waste treatment and disposal
	38.3	Materials recovery
	39.0	Remediation activities and other service activities related to waste management

Source: authors own interpretation based on (PKD, 2007)

The definition focused on result of human action defines green jobs as: ‘jobs in businesses that produce goods or provide services that benefit the environment or conserve natural resources’. Another approach concern more process states that green jobs are: ‘jobs in which workers’ duties involve making their establishment’s production processes more environmentally friendly or use fewer natural resources’. Based on these two approaches it is possible to measure and identify categories of green jobs based on Polish Classification of Activities (Pol. *Polska Klasyfikacja Działalności*, PKD) in table 2. The PKD is based on ISIC proposed by UN and UE standards of NACE (PKD, 2007).

Indicator connected to the definition based on PKD is more specific and easy to measure both as number of unemployed or employed in this specific section. These are traditional measures of communities. All statistical

offices use numbers to show progress, but the traditional numbers only show changes in one part of the community without showing the many links between the community's economy, society and environment. Rather than a piecemeal approach, there is a need for a holistic view of the community that takes into account the links between the economy, the environment and the society (Table 3). Therefore it is possible to take actions to improve conditions in a sustainable community take these connections into account. Indicators of sustainability are different from traditional indicators of economic, social, and environmental progress.

Traditional indicators measure changes in one part of a community as if they were entirely independent of the other parts. Sustainability indicators reflect the reality that the three different segments are very tightly interconnected.

Table 3. Traditional and sustainable indicators related to the labour market

Traditional Indicators	Sustainability indicators	Emphasis of Sustainability Indicators
Unemployment rate	Variability of skill levels required for jobs	Resilience of the job market
Number of companies	Number and variability in size of companies	
	Number and variability of industry types	Ability of the job market to be flexible in times of economic change
Number of jobs	Diversity and vitality of local job base	
	Number of green jobs	

Source: authors own interpretation based on (Sustainable Measures, 2017)

## 5. Conclusions

The article points out the economic importance of green jobs as a new indicator in sustainable development assessment and precise what is a green job category based on Polish PKD example.

The proposals presented in this paper have revolved around two main themes; green economy and New Public Management that play normative, operational and monitoring roles for green jobs. Based on them it is possible to consider the ways to strengthen the framework for sustainable development.

While economic wealth is an important measure of sustainable development from the capital perspective, it cannot stand alone. It must be supplemented to form a practical and complete indicator set

Presented in this paper green jobs is not intended as an international recommendation, but as a research proposal worthy of consideration by countries interested in finding a conceptually clear and defensible basis for sustainable development indicators focused on long-term well-being.

## References

Agenda 21 (1992) United Nations Conference on Environment & Development Rio de Janeiro, Brazil, 3 to 14 June 1992.

Borys, T. (2005) Zrównowazony rozwój jako przedmiot pomiaru wskaźnikowego [in] Borys T. (ed) Wskaźniki zrównowzonego rozwoju, Wydawnictwo Ekonomia i Środowisko, Warszawa-Białystok

Brundtland Commission (1987) Report of the World Commission on Environment and Development. United Nations. <http://www.un-documents.net/our-common-future.pdf> [access: 02.03.2017].

ILO, International Labour Office (2016) What is a green job? [http://www.ilo.org/global/topics/green-jobs/news/WCMS\\_220248/lang--en/index.htm](http://www.ilo.org/global/topics/green-jobs/news/WCMS_220248/lang--en/index.htm) [access: 22.05.2017]

OECD, (2001) Policies to Enhance Sustainable Development, Meeting of the OECD Council at Ministerial Level, <https://www.oecd.org/greengrowth/1869800.pdf> [access: 25.05.2017]

Pearce, D.W. and Atkinson, G.D. (1993) Capital theory and the measurement of weak sustainable development: an indicator of "weak" sustainability. *Ecol. Econ.*, 8: 103-108.

PKD, Polska Klasyfikacja Działalności (2007) [http://stat.gov.pl/Klasyfikacje/doc/pkd\\_07/pkd\\_07.htm](http://stat.gov.pl/Klasyfikacje/doc/pkd_07/pkd_07.htm) [access: 05.05.2017]

Rutkowska-Podołowska M., Sulich A., Szczygieł N. (2016) Green jobs, Proceedings of the 3rd International Conference on European Integration 2016, ICEI 2016, May 19-20, 2016, Ostrava, Czech Republic. Pt. 2 / [Eds. Eva Kovářová, Lukáš Melecký, Michaela Staníčková]. Ostrava: VŠB - Technical University of Ostrava, cop. 2016: 822-829.

Sustainable Measures (2017) Traditional vs. sustainability indicators, <http://www.sustainablemeasures.com/node/90> [access: 02.05.2017]

Thwink.org, Sustainable Development <http://www.thwink.org/sustain/glossary/Sustainability.htm> [access: 02.05.2017]

UN, United Nations, (2008), Measuring sustainable development, Report of the Joint UNECE/OECD/Eurostat Working Group on Statistics for Sustainable Development, United Nations New York and Geneva,