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PRINCIPLES OF MANAGEMENT IN IMPLEMENTING BALANCED AND SUSTAINABLE DEVELOPMENT – SELECTED PROBLEMS

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ABSTRACT: The study presents selected issues concerning management principles in implementing balanced and sustainable development. These include the principles of: (1) traditional extensive economy, (2) intensive traditional economy, (3) alternative economies, (4) eco-development, (5) Sustainable Development and (6) entropy sustainable development. Selected criteria for the evaluation of these principles were also characterised.

KEYWORDS: balanced and sustainable development, principles of implementation of balanced and sustainable development, criteria for assessing the principles of implementation of Sustainable Development

Introduction

In the vast majority of studies on *Sustainable Development*¹, the issue of management principles or, as some authors emphasise, management of various forms of capital (resources) necessary for its implementation appears to a different extent. This is not surprising because rules are the elements that organise how resources are used, or their dynamic version – capital (Becla et al., 2020). However, there are a few things to clear up in the introduction before moving on to discussing the principles themselves.

Attention should be paid to the very notion of a principle. The “Great PWN dictionary of correct Polish language” defines the concept of a principle as the basis on which something is based or a standard of conduct recognised as binding (Markowski, 2004). This allows for the correct treatment of balanced and sustainable development principles. Therefore, these are recognised and accepted, in the sense of the achievements of science and practice, methods of dealing with economic resources (forms of capital) used to achieve the goals of such a development strategy. We will omit here the discussion on the understanding of economic resources (in their static approach) and capital (in dynamic terms) because an entire chapter in the monograph “Barriers in contemporary economics and economy” (Becla et al., 2020) is devoted to this issue.

The subject of the analysis in the following study is the principles of managing the forms of economic capital (resources) during the implementation of the strategy of sustainable and balanced development and, in fact, the ways of their formulation. Therefore, several theses can be formulated, which will be verified using the achievements of literature and practical experience. **First**, the multitude of such principles draws attention to the incredible complexity of the idea and the strategy of balanced and sustainable development. **Second**, a significant challenge is the cognitive and practical utility of such principles. Here there is a postulate that rules of this type should be more useful (therefore more detailed and applicable) the lower the level of implementation of sustainable and balanced development occurs (which confirms the concept of Agenda 21 – think globally, act locally). The direct contractors of individual projects should have more detailed guiding principles. **Third**, you should strive for a meaningful, preferably optimal, set of rules. In this case, optimality means the smallest number of them but the one that meets the conditions of economic efficiency and the effectiveness of the implementation of the strategy itself. **Fourthly**, the proposed principles should be

¹ In the study, we use the term balanced and sustainable development because we treat the balance as the proper relationship between the elements of the human-society-economy-natural environment super-system and sustainability as their maintenance over time (Czaja, 2011).

unambiguous and understandable to recipients with different levels of intellectual predispositions, different axiological systems, often different motivations and attitudes („philosophies”) in life, as well as their susceptibility to the influence of false information or anti-ecological ideologies, which is particularly important in the information society and open access to information.

The article, apart from the traditional, short review of the literature, published only on the Polish publishing market, presents and evaluates selected principles of managing economic capital, starting from the traditional, extensive and intensive economy through its mainstream and heterodox modifications, taking into account contemporary economic challenges, social and ecological, to an approach consistent with the idea of sustainable development and proprietary proposals of a physical approach. The leading idea of the study is the need to take a more serious look at the principles of capital management in the spirit of Sustainable Development. The scarcity of such analyses results, among other things, in (1) too free, sometimes even ignorant, interpretation of the very idea of Sustainable Development, (2) unnecessary disputes over the issue of how to understand the principles of such management or (3) lack of agreement on the implementation of the sustainable and sustainable development strategy (Becla et al., 2014; Żylicz, 2016).

An overview of the literature

The currently required literature review regarding management principles in implementing a sustainable and balanced development strategy is challenging. The main barrier here is the multitude of Polish and international literature studies. Therefore, it is necessary to limit the number and publishing scope of the analysed publications. Trying to organise them, the following problem groups can be identified:

- studies focusing on the ways of understanding and defining Sustainable Development,
- works containing the identification and analysis of the principles of implementation of balanced and sustainable development, which is particularly interesting from the point of view of this article,
- works presenting attempts at the practical implementation of pro-ecological projects and policies,
- studies that attempt to model a balanced and sustainable development in the spirit of mathematical and formal analyses of contemporary economics,
- studies on the philosophical-axiological and ethical aspects of balanced and sustainable development,

- legal analysis of normative and institutional regulations in this area,
- works undertaking political and ideological polemics with opponents of the balanced and sustainable development strategy.

While focusing on Polish studies containing the identification and analysis of the principles of implementing the idea and the strategy of sustainable and sustainable development, the following works can be noticed:

- briefly mentioning such issues, somehow in terms of signalling,
- papers discussing these principles in greater detail and analysing their usefulness,
- work focused on single principles that are given detailed and critical discussion.

The first group is represented primarily by studies that appeared in Polish literature at the turn of the 1980s and 1990s during the preparation of the Earth Ecological Summit in Rio de Janeiro and attempt to implement its postulates (Żylicz, 1989; Kozłowski, 1997), as well as monographs and textbooks focusing on the implementation of and indicators of balanced and sustainable development (Czaja et al., 2002; Kiełczewski & Dobrzańska, 2009; Kiełczewski, 2009; Poskrobko & Dobrzański, 2007; Dobrzański, 2002; Borys, 1999; Borys, 2005; Kiełczewski & Dobrzańska, 2007). The problem of managing capital and economic resources in conditions of balanced and sustainable development takes the form of general rules that translate into specific actions (Fiedor, 2000). The latter concerned, for example, the issues of consumption (Kiełczewski, 2008), rural areas, and agriculture (Fiedor & Jończy, 2009; Burchard-Dziubińska & Rzeńca, 2010; Kryk, 2010), education (Poskrobko, 2010c), legal and institutional regulations (Czaja, 2007; Czaja, 2001; Poskrobko & Kozłowski, 2005), preservation of biodiversity, (Poskrobko, 2003), and naturally valuable areas (Poskrobko, 2011).

The second group consists of studies that discuss in more detail the issues of specific management principles, at the same time referring to the scope of their cognitive values (Czaja, 1997; Śleszyński, 2000) and implementation usefulness in socio-economic practice (Czaja & Becla, 2007; Poskrobko, 2011; Poskrobko & Poskrobko, 2012). They tried not only to introduce the issue of management principles but also sought to translate into appropriate and, at the same time, differentiated levels of knowledge, awareness, and ecological attitudes (Kośmicki, 2015; Kośmicki, 2009; Kośmicki, 2010). Studies focusing on the lowest levels, human and local communities, and the highest, global ones were especially valuable here.

The third group of studies dealing with managing capital and economic resources in implementing balanced and sustainable development focuses more on their selected, often single forms (Kiełczewski, 1999). Such considerations, for example, dealt with various, often surprising, challenges when interpreting such principles and applying them in practice. Then, social, poli-

tical, ethical-moral, or religious conflicts arise (Kryk, 2012; Czaja, 2003; Borys, 2003; Czaja, 2005).

Review of the principles of managing capital and economic resources in the context of balanced and sustainable development

The principles of managing capital and economic resources are formulated in various forms of balanced and sustainable development. They are presented, inter alia, in: (1) with reference to traditional models of growth (development), both in their extensive and intensive form; (2) as principles based on the idea of equilibrium between orders and preserving certain relationships of natural capital to other capitals; (3) in the form of in-depth principles of rational management; (4) in the form of principles combining the physical and economical approach, and (5) in the form of principles based solely on the physic-thermodynamic approach to the idea of balanced and sustainable development (Figure 1).

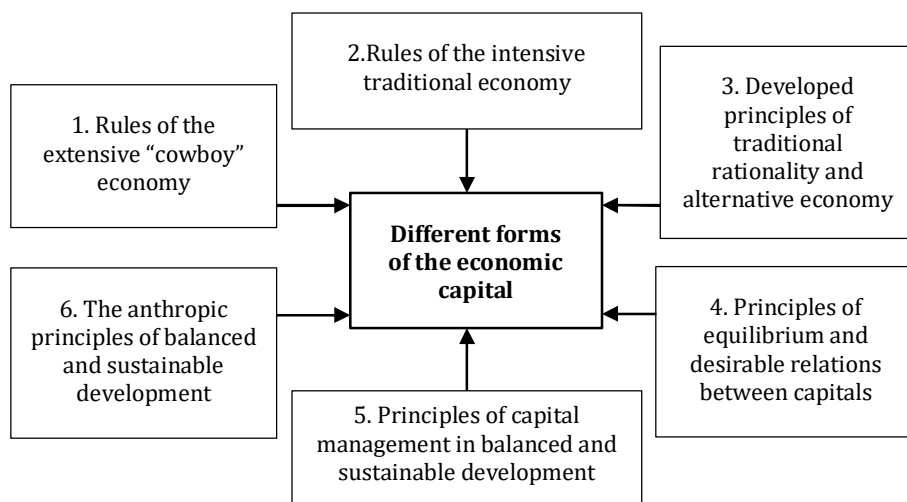


Figure 1. Selected groups of principles of managing various forms of capital and economic resources in traditional economics and the economics of balanced and sustainable development

The first approach is associated with traditional neoclassical models of economic growth, based on a paradigm using the following idealisation assumptions: (1) accepting the perfect competition model as a benchmark

for analysing various market structures; (2) recognising the legitimacy of the so-called Say's law, expressing the general ability of the economy to restore equilibrium and the related view of economic processes, (3) assuming the general rationality of behaviour of economic entities (*homo economicus*), (4) inclusion of cognitive and worldview and methodological individualism, related to subjectivism.

On the basis of this paradigm, several essential principles of managing capital and economic resources can be formulated, namely: (1) the principle of the domination of private property, (2) the principle of supremacy of the individual interest, (3) the principle of narrow individual rationality of management; (4) the principle of simple economic expansion into new socio-economic and geographic-natural spaces, similar to the cowboy economy, and (5) the principle of net profit maximisation as a criterion of operation. This way of understanding and applying economic principles remains essential, not to say dominant, especially in the developing economies of Latin America, Africa and Asia. The entities operating in them apply the above principles consistently, even in increasing social or environmental costs.

The second approach to the principles is also associated with the traditional economy, which is, however, of an intensive nature of economic exploitation. Within its framework, the hitherto critical criteria and management principles are modified better to use the available economic capital (resources). Thus, scientific and technological progress, human capital instead of labour (labour), knowledge and information, institutions and regulations, and relational social capital are included. This allows, *inter alia*, to formulate such principles of management as, for example: (1) the principle of extended economic rationality, taking into account a more comprehensive range of assessments and more sophisticated methods; (2) the principle of taking into account the social interest in addition to the still dominant individual interest; (3) the principle of more economically and praxeologically more effective use of capital; (4) the principle of applying the acceptable profit criterion instead of the maximum profit, and (5) the principle of transition to innovative forms of capital, with embodied and non-embodied technological progress or knowledge. As can be seen from the nature of the above principles, the transition primarily meant: (1) less wasteful use of available economic resources (the form of capital), (2) taking into account their increasing scarcity, *i.e.* including the temporal dimension, and (3) wider use of capital (resource) substitution, by replacing their "old" forms with "new" forms.

Further developed principles of the rationality of the traditional and alternative technology concept related to the evaluation criteria of the efficiency and optimisation assessment of management and management (Figure 2).

ECONOMICAL EFFICIENCY		
Goal – effect relationship (The criterion of purposefulness and effectiveness (usefulness of the effect))	Effect – outlay or outlay – effect relationship (Economic efficiency criterion)	Goal – outlay relationship (Criterion for assessing the feasibility of the selection of goals and the appropriateness of the selection of resources)
SOCIAL AND ECONOMIC OPTIMITY		

Figure 2. Criteria for the assessment of efficiency and optimisation of management

This approach, on the one hand, combines the issues of economic efficiency with economic and social optimality by expanding the range of criteria and dimensions of management, primarily through holism, globalism, ecologism, humanism and neo-them. This allows for the formulation of several interesting principles of management of economic capital (resources), such as (1) the principle of seeking the transition from economic efficiency to economic and social optimality by incorporating further assessment criteria, (2) the principle of a global economic perspective; (3) the principle of a holistic approach to economic, social and environmental problems; (4) the principle of humanistic treatment of the human place in management; (5) the principle of applying ethical criteria in management.

These principles were reflected not only in the models of mainstream economics (neoclassical economics, past-Keynesian economics) but also in alternative (heterodox) economics, such as in the model of rational market and economy by D. Korten. It includes such assumptions as: (1) life is a measure of all activities, which is in line with the ideas of deep ecology, and what is slightly less emphasizing the concept of sustainable development; (2) the costs are borne by those who decide what is included in the idea of sustainable development; (3) small enterprises with direct ownership by stakeholders, not shareholders, are supported; this element is exposed by all economic and quasi-economic doctrines of the present day, from liberalism to deep ecology; (4) striving for equality, which seems to be a postulate recognized in contemporary socio-political and economic thought; (5) preferring full information disclosure, considered in modern economic theory as the most crucial feature of an effective market and economy, (6) sharing (disseminating) knowledge and technology; (7) seeking diversity and self-sufficiency; the first element is regarded as desirable, the second (autarky) is regarded as a limitation of socio-economic development; (8) paying attention to the boundaries of management, which is also emphasized in the strategy of sustainable development; (9) respecting the necessary role of government; and (10) maintaining an ethical culture (Korten, 2002).

As a result, one can speak of a new way of seeing nature and society with the accompanying economy. They should be based on: (1) holism, treating the world as a whole; (2) abstinence or return to moderate consumption; (3) cooperation and mutual assistance in the implementation of individual economic undertakings; (4) ecological sensitivity, taking into account the ecological consequences of economic activity (production and consumption); (5) intuition when making decisions; (6) decentralisation of business ventures; (7) reducing the scale of the management processes carried out (Ernst Schumacher's "small is beautiful") (Schumacher, 1981) and (8) dehumanisation, i.e. restoring the human scale to these processes.

The following groups of management principles of economic capital (resources) are directly related to *Sustainable Development*. The first was related to the early version of such an approach, called eco-development in the literature. It used, inter alia, the following: (1) the principle of the domination of natural capital as the most difficult to substitute over other forms of capital; (2) the principle of rational management of all economic resources; (3) the principle of a radical reduction of anthropopressure in management processes; (4) the principle of applying the intergenerational equity criterion, especially in the management of natural capital; (5) the principle of reducing traditional economic growth (even to nil); (6) the principle of absolute protection of the natural environment and its resources, as well as (7) the principle of the necessary greening of all aspects of human life and society.

However, it turned out very quickly that the rather one-sided domination of the environmental dimension is practically impossible to reconcile with other challenges of the modern world, which were reflected, among other things, in the Millennium Development Goals. At the same time, this domination turned out to be almost entirely useless in solving these problems. For this reason, the following approaches to the Sustainable Development strategy highlight the principles that also emphasise the importance of social, economic, spatial and institutional order. Some of the principles of eco-development were also modified, the shots most mismatched to the current reality were removed, and new solutions were introduced. For example, the principle of intergenerational justice was enriched with the principle of intra-generation justice. The concept of zero growth was abandoned, and the principle of development based on sustainability and self-support was introduced. On the other hand, the principle of the necessary greening of all aspects of human life and society was replaced by the principle of developing people's environmental knowledge and awareness.

However, the principle of the balance of orders and the desirable relations between natural capital and other forms of capital aroused particular interest. While the first one is very difficult to define more precisely because it connects the desired, acceptable, but also objectively unattainable and

rejected by societies relations, in the second case, the problem was to choose the right solution. The sustainability of the maintenance of natural capital resources can be interpreted in four ways. This can be on the weak, sensitive, strong or restrictive principle of persistence. The first means maintaining the size of the total capital (natural, anthropogenic and social) without considering its structure. A sensitive principle requires that the entire capital and its appropriate structure be preserved. A strict rule highlights the need to preserve each capital resource separately, while a restrictive rule prohibits the depletion of any resource. The basic issue is, therefore, the choice of a solution (rules of conduct) and then adapting individual projects to the choice made. The above rules are directional and general. Therefore, they require explanation and clarification, preferably indicative, and have a macroeconomic dimension. This generates their biggest drawback – serious difficulties with operationalisation.

The authors, using the achievements of research on sustainable and balanced development and the previous experience of implementing such a strategy of civilisation transformations, proposed a more operational formulation of the principle of managing natural capital (Czaja & Becla, 2007). They can be specified as follows: (1) the principle of balancing resources and expenditures; (2) the principle of not depleting natural capital resources, fundamental natural capital; (3) the principle of maintaining the diversity of natural capital components; (4) the principle of substituting natural capital with other forms of capital; (5) principle of entropy source minimisation; (6) the principle of rational use of natural capital resources (application of the criterion of maximising the utility of natural capital) and (7) the principle of effective use of natural capital elements (excess of benefits over costs). Such an approach to management principles seems easier to use in practice and can be more precisely described by means of valuable indicators, which makes it easier to monitor and control both their application and the implementation of the balanced and sustainable development strategy.

The principles of entropy-balanced development are somewhat on the fringes of economic, social and ecological considerations. This is even more surprising because of the two dimensions of management – physical (natural) and financial – the former is more critical, and the latter remains a game of Platonic cave shadows. The former is subject to the influence of the first and second laws of thermodynamics in a unique way (Czaja, 1997; Czaja & Becla, 2007).

The principles of entropy-balanced development are of the most general nature. However, they provide precious clues for understanding the world around us and taking appropriate actions for humans (Figure 3).

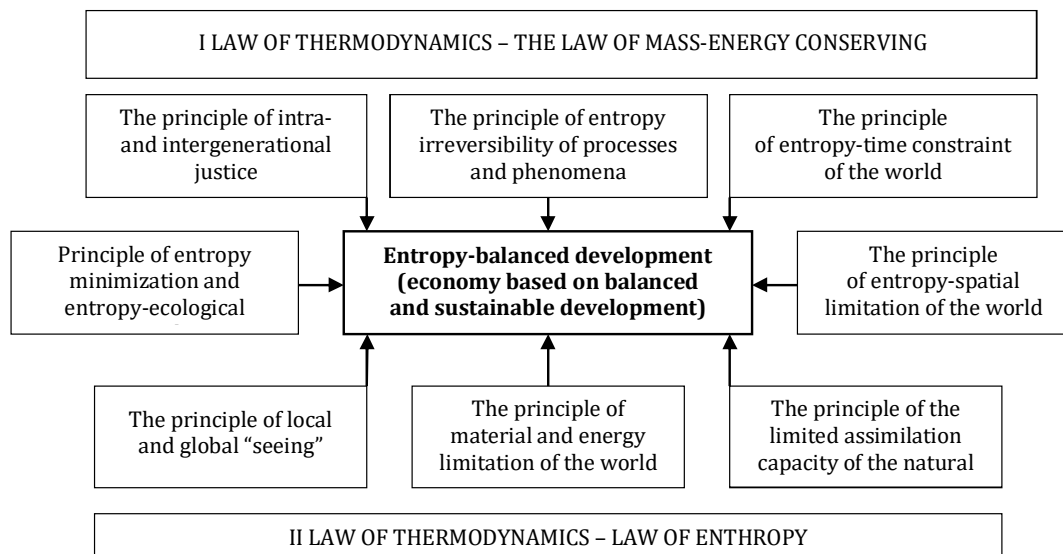


Figure 3. Principles of entropy-balanced development

The principles of entropy-balanced development take on a dual character. On the one hand, they expose the most important insurmountable limitations, on the other, they are guidelines for understanding development and its implementation.

General assessment of the principles of management of economic capital (resources) in the context of balanced and sustainable development

From the above-abbreviated presentation of the principles of managing capital in balanced and sustainable development, it can be seen that their assessment can be carried out on various levels in the context of appropriately selected criteria. They can be, for example: (1) the criterion of logical correctness of the rules, (2) the criterion of the legitimacy of their formulation from the perspective of sustainable and sustainable development, (3) the criterion of the generality of the form of principles in terms of the level of implementation of the development strategy, and (4) the criterion of utility. In the latter case, usability can be broken down into the practical, cognitive, and educational-awareness dimensions.

Using the logical correctness criterion, it can be concluded that each rule presented above meets them. It cannot be argued that they are wrong or logically incorrect. They result from the current identification of problems

(knowledge in this area) or from the adopted model assumptions. Even the most criticised principle of maximising net benefit (profit) cannot be accused of being illogical. It can be criticised for its consequences, it can be rejected, and it is possible to disagree with the methods of its implementation. However, its logical correctness cannot be questioned.

Greater possibilities of differentiated assessments are provided by the criterion of the legitimacy of their formulation in the context of balanced and sustainable development. A detailed assessment of a specific principle will depend on the way of understanding the development itself, the “have or be” relationship, the level of anthropocentrism adopted, and the impact of these principles on the long-term goals of civilisation changes. The axiological systems, ethical-moral systems and other modifying elements of the represented cultural circle, such as actual or declared life attitudes as well as religious and aesthetic views, are also important in such assessments. Undoubtedly, the price of legitimacy is also influenced by the level of environmental awareness and knowledge of the evaluator (Poskrobko, 2010a; Poskrobko, 2010b).

The use of the criterion of legitimacy does not allow for an unambiguous conclusion that the presented principles of management meet them unconditionally. The idea of balanced and sustainable development questions the principles of an extensive “cowboy” economy and some of the principles of an intensive, traditional economy. Subsequent ways of understanding the processes of management, economy and civilisation changes more effectively meet this evaluation criterion, which is logical and results from approaching such approaches to principles that are directly related to the idea and strategies of sustainable development. However, challenging such rules within them may be combined with the fact that they are redundant and / or duplicate. For if there are too many formulated rules or they overlap in terms of content, the phenomenon of information noise, which hinders the efficient (and therefore practical and efficient) implementation of the development itself, should be taken into account. When analysing the issue of the principles of balanced and sustainable development, these problems should be considered. The optimal number of such principles concerns their cognitive usefulness (a large number is acceptable), implementation (the need for them much more and less specific) and didactic, shaping attitudes (which requires a small number but is very expressive).

The third criterion of the generality of the form of rules is quite easy to use if one analyses their formulas and determines the functions that such rules should fulfil. As noted in the introduction, the rule is a reasonably general rule intended to indicate the choice made and facilitate the implementation of individual projects. It, therefore, has a directional, somewhat “philosophical” character. Thus, it can be seen, for example, that the principles of entropy-balanced development will have the most general scope and indicate

even global limitations. They are also common and cannot be “avoided” because the laws of physics condition them. The rules governing the relationship between the forms of capital or the balance between orders are also quite general.

The most important, in the context of active human activity, is the assessment of the usefulness of individual principles. It concerns the practical, cognitive, and educational-awareness dimensions. The practicality of managing capital (resources) combines detail with “indexing”, which facilitates monitoring and controlling its implementation.

From the cognitive point of view, each principle has greater or lesser values, allowing to expand and deepen the knowledge about balanced and sustainable development and its consequences for human civilisation at various levels of its functioning. However, these qualities are essential for the intellectual elite, interested people, and not all people. From an educational and awareness perspective, helpful principles effectively create human attitudes appropriate for sustainable development and desirable for a society implementing such a strategy. This narrows the range of principles to the most expressive and, simultaneously, reduces the usefulness of the principles to the level of the human individual. In the implementation context, these principles should enable, or in fact force, efficient, that is, practically and economically effective implementation of the strategy of balanced and sustainable development. The assessment based on the above four proposed criteria should concern a specific principle of managing economic capitals and, therefore, should be individualised.

Conclusions

Identification and analysis of the principles of capital management in balanced and sustainable development is an extremely important problem, more critical and more multidimensional than it seems at the beginning. Such principles are connected not only with the very essence of development, which is understanding and clarification of the idea or strategy (this is the cognitive aspect that is emphasised many times) but also with the efficiency of implementing such a form of development in practice, at all levels, from single micro-ventures to the planetary dimension. These principles also directly relate to increasing and deepening knowledge about balanced and sustainable development, environmental awareness and, what is particularly important, shaping real-life attitudes.

Principles of management in implementing balanced and sustainable development are the significant problems. Indeed, these principles determine the correctness of implementing such strategies at all levels. They also

determine the ways in which sustainable development ideas and strategies are understood.

A great challenge is the cognitive and practical utility of such principles. This translates into the efficiency and effectiveness of implementing individual projects within the framework of sustainable development.

The number of such rules should not be excessive, as this translates into the transparency of the goals and challenges of sustainable development and reduces information noise in this area. In addition, too many rules cannot be followed. A large number of such principles can generate the phenomenon of internal contradiction.

In addition, the principles of sustainable development should be understandable and acceptable to people with different intellectual levels and motivations for realising undertakings and goals arising from such development.

However, if we wanted to limit ourselves to a few recommendations resulting from the study itself, then we should focus on finding answers to the following questions:

- Which principles are necessary for balanced and sustainable development?
- What are these principles meant for?
- How are they understood and put into practice?

Obtaining them would be an extremely valuable contribution to the understanding and implementation of balanced and sustainable development.

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The contribution of the authors

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