# The Connection Between the Quality of Life and Sustainable Ecological Development

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**Abstract**

The research aims to analyze the evolution of the concept of sustainable ecological development and the central rule of the government policy for the improvement of the quality of life. The paper, using the model of five capitals, explains how the sustainable ecological development can help to improve the quality of life of citizens. A minimum necessary condition for sustainable ecological development is the maintenance of the total natural capital stock at or above the current level. This work explores the link between natural capital and sustainability from a government policy perspective and it examines how sustainable ecological development must be integrated within public sector organization's planning. The research considers that the goal of sustainable ecological development is to use the natural resources wisely in the short-term so that these resources are available in the long-term. Ecological sustainability relies on the fact that humans can exhaust the natural resources, leaving nothing but polluted water and infertile soil for future generations. Ecological sustainability is the belief that all humans must use resources wisely and efficiently so that these resources never become exhausted or over polluted.

**Keywords:** Sustainable ecological development, quality of life, natural capital, social capital

## Introduction

Nowadays sustainability is at the forefront of many organization's agenda. Government policies play a fundamental rule, but there is a disjoint between the government policy on sustainable development and its actual participation in the endeavor. The government should take account of sustainable development as a part of how it develops its policies. The system must be defined at various levels of aggregation. It is assumed that changes in the behavior of public institutions and organizations are a prerequisite for sustainable ecological development. Sustainable development and quality of

life were often analyzed separately until now, but it's necessary to understand the connection. Sustainable development is a demanding challenge for human beings to survive generation after generation while retaining economic growth and improving living standards. Exploring different dimensions of sustainability should relate to the exploration of quality of life and developments on a global level as it is there, where sustainability can be destroyed or ensured. A minimum necessary condition for sustainability is the maintenance of the total natural capital stock at or above the current level. In both the quality of life and sustainable development debates, the natural environment plays an important role (Gazzola, Dymchenko & Panova, 2014). The concept of sustainability is a wide approach everybody is talking about in a period when environmental problems caused by various human activities are requiring serious solutions. The basic meaning of the word sustainability is the capacity for continuance indefinitely into the future. The concept of sustainable development arose from increasing evidence that human activities have destroyed the global equilibrium and cannot be sustained forever. In the concept of sustainable ecological development, the word "ecological" emphasizes the necessary integration of economy and environment. Ecology is defined as the relationship between organisms and their environment. In terms of human beings, ecology also entails the interaction between human groups and their social and physical environments, also referred to as human ecology. Seeing that humans are organisms, even though they don't give considerable attention in general ecology and biodiversity dialogue, ecological management should in fact incorporate programs which focus on the wellbeing of humans, other animals and their environment, along with their interlinked relationships. We use the term "ecological" for describing a body or process which is beneficial to the environment, or results in minimum damage to the environment. Ecological management can be defined as the act of incorporating personnel to effectively and efficiently achieve desired objectives pertaining to the relationship between organisms and the natural environment, in a manner that is beneficial or causes minimum damage to the environment. The word sustainable relates to a process that can be maintained over a long period. With the evolution of environmental theories, including sustainable development models, the term sustainable is commonly linked with the definition of sustainable development. Sustainable development is development where the current generation can adequately meet its own needs without compromising the needs of future generations (McKenzie, 2004; Gazzola et al., 2013). In this light, the word sustainable is used to describe a process, which can be conducted over a time frame with minimal long-term detrimental effect to the environment.

## Methodology

The research methodology is based on the theoretical analysis of available literature on sustainability frameworks, as well as methodologies for the integration of development models and decision-making. For the research, the authors use some of the basic methods of the scientific research to obtain the information necessary to the complex systemic processing of the issue. The methods usually complement each other and, in consequence, overlap. The authors predominantly use methods of qualitative research.

The first part is about the literature review. The authors describe and synthesize the literature on the topic of sustainability because it is very wide and varied and on quality of life. The literature and definitions, research was conducted to analyze the lines of thought, retrieved in the major and specialized journals. To complete the analysis were also considered the actions introduced by supranational and national organizations.

The second part is about the development of one model useful for the public sector organizations to improve the quality of life of the citizens. The model help to develop the concept of sustainability in public organizations and to solve embraces a wide range of complex questions from "what is socially and ethically acceptable?" to "how do public organizations decide what they can afford?" It is important to ask: "What kinds of investments are most cost-effective to improve the quality of the life?" "In what ways does the system deliver good value for the money we spend now, and where can we do better?"

The main contribution of this line of research is to explain the important relation between the Natural Capital Framework of sustainable development (Porritt, 2007) and the quality of life model with the rule of government policy.

## Literature Review

Brundtland Commission report introduced the first well known definition of sustainable development in 1987: "Development that meets the needs of the present, without compromising the ability of future generations to meet their own needs." (World Commission on Environment and Development WCED, 1987). Sustainability is based on the idea that resources should as needed for present needs but not be used faster than they can naturally regenerate and be available for future and that the negative effects of the processes for production of goods cannot be transferred to future generations. Elkington goes more into detail when arguing that companies should not only focus on enhancing its value through maximizing profit and outcome without worrying about the consequences of general environmental but concentrate on environmental and social issues equally (Elkington, 1997). In effect sustainability implies: "... a broad interpretation

of ecological economics where environmental and ecological variables and issues are basic but part of a multidimensional perspective. Social, cultural, health-related and monetary/financial aspects have to be integrated into the analysis" (Söderbaum, 2008). Moreover, referring to the definition by the "Brundtland Commission" (1987), Adams (2006, page 1) observes: "Over these decades, the definition of sustainable development evolved. … This definition was vague, but it cleverly captured two fundamental issues, the problem of the environmental degradation that so commonly accompanies economic growth, and yet the need for such growth to alleviate poverty".

The United Nations Secretary-General, Kofi Annan (2002), challenged business leaders to join an international initiative, the Global Compact, that would bring companies together with UN agencies, labor and civil society to embrace a set of shared values and principles in the areas of human rights and labor and environmental standards. Costanza and Patten (1995) emphasized, taking the meaning of sustainability from biology, that: "Biologically, sustainability means avoiding extinction and living to survive and reproduce. Economically, it means avoiding major disruptions and collapses, hedging against instabilities and discontinuities. Sustainability, at its base, always concerns temporality, and in particular, longevity".

Nevertheless, in general, as Pearce (1999, page 69) has commented: "defining sustainable development is not a difficult issue. The difficult issue is in determining what has to be done to achieve sustainable development, assuming it is a desirable goal". Sustainable development was further developed at the World Environment Conference in Rio de Janeiro in 1992 with Agenda 21 and Local Agenda 21. The Local Agenda 21 concept has since been taken up by an increasing number of cities in countries around the world (2003). In 2012, twenty years after the first Earth Summit the key directions of green economic development and poverty elimination were discussed at the Rio+20. The concept of sustainable development was revised by putting the emphasis on the social and human dimensions that inherently broaden the scope of ecological and economic pillars of sustainable development. According to the Rio Declaration 1992 and Agenda 21 (2003), any strategy for sustainable development has to include all dimensions of economic, social, ecological, spatial and cultural development (World Bank, 2001). Sustainable social development here means continuous progression towards the creation of a human society that treats equally all cultural, racial and language differences. Equitable distribution of resources, revenues and information, are other necessities of social justice. Ecologically sustainable development is a long-standing and internationally recognized concept. The concept has been affirmed by the World Summit for Sustainable Development (WSSD, 2002). The Australia's National Strategy for Ecologically Sustainable Development (Commonwealth of Australia,

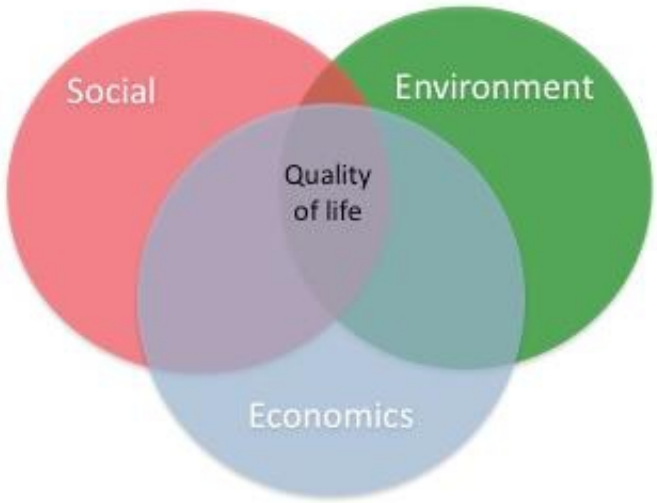
1992) defines ecologically sustainable development as the use, the conservation and the enhance of the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased.

The second concept we analyze is Quality of life (QOL) represent human perceptions of different aspects of the environment. It is "meant to represent either how well human needs and aspirations are met or the extent to which individuals or groups perceive satisfaction or dissatisfaction in various life domains" (Costanza, et al. 2006, p. 268). Quality of the life is a focus on a person's well-being and mental state. In the social sciences, quality of life is defined as the overall well-being of individuals in a broad and a multidimensional sense (Böhnke, 2005). Moreover, quality of life has been often analyzed as a property of society overall, using a macro-perspective. But it can also refer to conditions or evaluative judgments from a micro-perspective. Therefore, quality of life should be best conceptualized in terms of individuals' life situations (Vesan & Bizzotto, 2011). The notion of quality applies to several domains that may affect human life experience. This implies analyzing the different aspects that contribute to individual well-being, both at individual and macro level.

Sustainable development is connected with the improvement of quality of life (Beck, van der Maesen & Walker, 1998) through education, justice, community participation and recreation. The social sustainability (Colantonio, 2008) is a fundamental component of sustainable development to encompass human rights, labor rights, and corporate governance (Walker & van der Maesen, 2004) that is becoming increasingly entwined with the delivery in sustainable community discourse and the urban sustainability discourse. The goals of social sustainability are that future generations should have the same or greater access to social resources as the current generation (Mak & Peacock, 2011). Sustainability is connected to the quality of life in a community. It is about whether the economic, social and environmental systems that build the community are providing a healthy, productive, meaningful life for all the community residents, present and future. Social sustainability is a life-enhancing condition within communities, and a process within communities that can achieve that condition (Davidson & Wilson, 2009). Social sustainability can be also defined as the well-being maintenance and improvement of the current and future generations (Chiu, 2003). It incorporates equity of access to key services (including health, education, transport housing and recreation), as well as equity between generations, meaning that future generations will not be disadvantaged by the activities of the current generation (McKenzie, 2004). The literature analysis of the link between quality of life and sustainability reveals some interesting temporal components to the concepts.

When describing the connection between quality of life and sustainability, livability is thought to be the result of the interaction between the physical and social components with this relationship being very much related to the "here and now". Sustainability is viewed as being more heavily influenced by the physical and economic components and usually associated with future (van Kamp et al., 2003; Shafer; Lee & Turner, 2000). We can show the interaction using the three pillars (Cato, 2009) and in accordance with the WCED (1987) sustainability ideal in Figure 1.

Figure 1 – Sustainability and the quality of life




Source: Schafer et al. 2000, page 166

**The Different Level of Sustainability**

It's possible to recognize three levels of sustainable development connected with the QOL: survival sustainability, maintaining quality of life, improving quality of life.

The survival sustainability is a basic level of sustainability. The definition of sustainability is related to the natural systems function, how to produces what is Necessary for the ecology to remain in balance. Also it considers That human civilization takes resources to sustain our modern way of life. There are several examples Throughout history where a civilization has damaged its own environment and seriously affected its own survival chances. Sustainability considers how we might live in harmony with the natural world, protecting it from damage and destruction (Goodland, 2002). It is widely acknowledged that many societies collapsed due to an inability to adapt to the conditions brought on by these unsustainable practices. The survival sustainability involves the maintenance of ecological life-support systems, the social capacity to solve major problems with actions that

enabling the survival of humans and the economic capacity to meet subsistence needs of the population. At this basic level of sustainability all three requirements must be met simultaneously.

The second level is related to the maintenance of the normally expected quality of life. In some regions, this quality of life, is far beyond the level required for basic survival. Sometimes the pursuit of sustainability and improved quality of life may conflict. It is possible for communities to put such large amounts of effort into improving the experiential aspects of their quality of life (aesthetic, time saving, or stimulus generating aspects) that they fail to put enough effort into ensuring survival sustainability. This is what modern societies are doing (Sutton, 2000).

The third level of sustainability considers sustainability to be a paradigm for thinking about a future in which environmental, societal, and economic considerations are balanced in the pursuit of development and improved quality of life without impairing the ability of future generations to enjoy quality of life and opportunity at least as good as ours (Dorsey, 2003).

Figure 2– The different level of sustainability

| | **Economic** | **Social** | **Environment** |
|---|---|---|---|
| **Survival sustainability** | Subsistence | Capacity to solve important problems | Protection of life support systems Prevention of species extinction |
| **Maintaining quality of life** | Maintenance of decent standard of living | Maintenance of decent social quality | Maintenance of decent environmental quality |
| **Improving quality of life** | Improving standard of leaving | Improving social quality | Improving environmental quality |

Source: adapted by Sutton, 2000

## The Central Rule of Public Sector

The public sector is facing two major challenges: a struggle to find operational efficiencies in delivering services today, a need to do more with less, and a need to show leadership and take immediate action on climate change and wider sustainability issues. The evolution in the role of public organizations has led to the recognition of a social and environmental aspect to their activities which obliges them to seek sustainable growth and not one "at all costs"; this requires that they modify the concept of growth and its sustainability. The concept of growth refers to the material increase in size and development considers the improvement in the organization without size change. Given these definitions, growth cannot be sustainable indefinitely on a finite planet (Costanza & Daly, 1992). If public sector bodies do not take

on this leadership challenge, citizens may find themselves cut off from sustainable lifestyles.

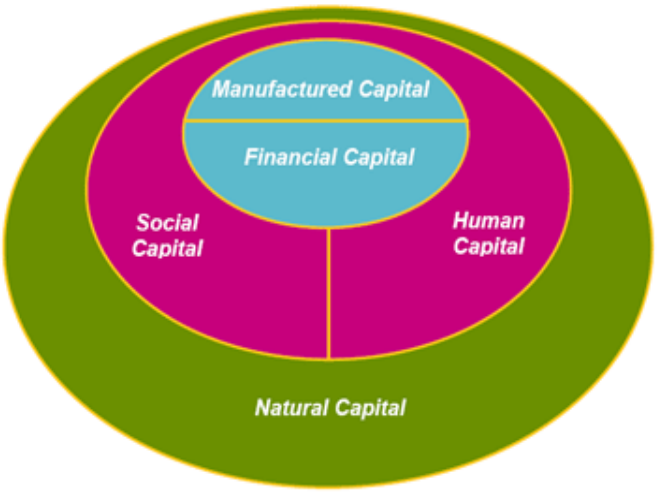
Sustainable development does not represent an option but is rather a necessary condition for success in the medium-long term and becomes an important strategic factor (Clarkson, 1995) also for public sector organizations. Growth and development must be compatible with the needs and expectations of the citizens: consensus and social legitimization favor the conditions of trust necessary to achieve earnings and competitive advantages (GBS, 2001). There is a high probability that action taken to achieve local sustainability, that is not combined with the action of the Government policy to achieve global sustainability, is doomed to failure. At a time when sustainability is at the forefront of many organization's agenda, there is a disjoint between the public sector's supposedly central role in sustainable development and its actual participation in the endeavor. The reason behind this is the difficulty in integrating the numerous needs and requirements of different cultures and localities into a single, comprehensive blueprint. The difficulty in mapping out sustainable practices for public sector organizations lies in the wide variety of stakeholders (Freeman, 1984) and the dynamic tensions between them. What's more, the process doesn't stop upon implementation. Complex decisions must be made constantly, and because these policies and programs do not exist in a vacuum, there is no getting around the learning-by-doing process.

Public organizations involved in sustainable development should take an active part in the process of planning and implementing development activities as well people can enjoy their benefits. Government policy has to consider every aspect of politics, economy, and society that is an important goal and means of sustainable development.

**Result and Discussion**

The Five Capitals' Model (Figure 3) is widely accepted as a practical expression of the principles of sustainable development Also public sector organizations use five types of capital to deliver its services.

Figure 3 – Five Capitals' Model




Source: Forum for the Future

A sustainable organization must maintain and where possible enhance these stocks of capital assets, rather than deplete or degrade them. A community is healthy and sustainable when five kinds of capital are present in people's lives:

1) Natural capital (also referred to as environmental or ecological capital): the quality and productivity of the natural environment. It considers any stock or flow of energy and matter that yields valuable goods and services. Natural capital is the basis not only of production, but of life itself.

2) Human capital: it consists of health, knowledge and motivation. It considers the life skills, social skills and technical skills that give people the self-efficacy to lead autonomous lives.

3) Social capital: it takes the form of structures, institutions, networks and relationships which enable individuals to maintain and develop their human capital in partnership with others, and to be more productive when working together than in isolation. It includes families, the web of voluntary organizations like trade unions, clubs and societies, play groups, Land care groups, and so on.

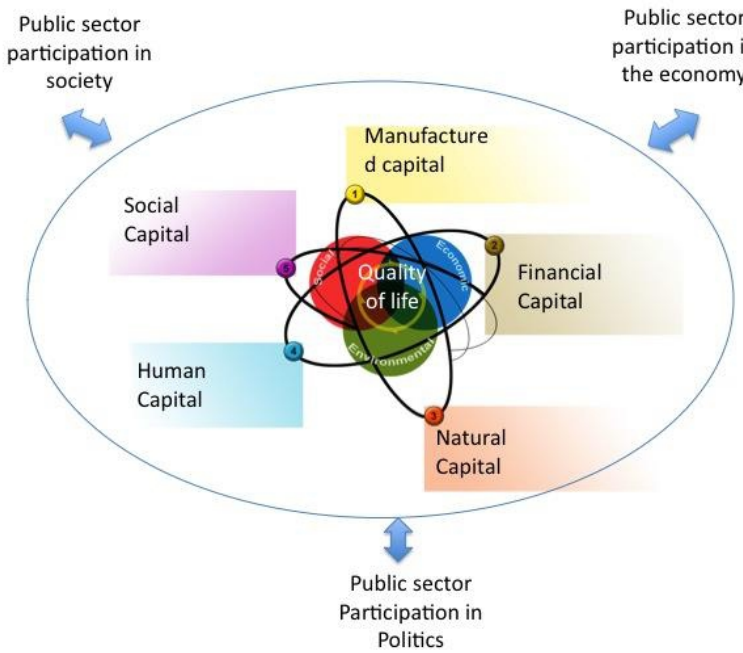
4) Manufactured capital: it comprises quality of housing, accessible transport, medical and welfare services, food distribution systems, communication infrastructure, and so on.

5) Financial capital: access to liquidity, fair wages. Plays an important role in our economy by reflecting the productive power of other types of capital, and enabling them to be owned and traded. Its value is purely representative of human, social or manufactured capital. The Five

Capitals Model provides a basis for understanding sustainability in terms of the economic concept of wealth creation or "capital".

The Five Capitals Model can be used to allow organizations to develop a vision of what sustainability looks like for its own operations and services. This vision is developed considering what an organization needs to do in order to maximize the value of each capital. However, an organization needs to consider the impact of its activities on each of the capitals in an integrated way to avoid "trade-offs". Using the model in this way for decision-making can lead to more sustainable outcomes. Starting from the main representations of sustainability (Figure 1) we can join in the model the Five Capitals Framework of sustainable development (Figure 3) (Porritt, 2007, p. 139) integrating it with rule of the public sector organizations (Figure 4).

Figure 4 - Sustainability and five capitals model




Source: Gazzola, 2015

The model provides a basis for understanding sustainability in terms of the economic concept of wealth creation of capital. The system conditions established through these relationships show that the goal may sometimes be achieved at the cost of the destruction of value in one or more of the remaining capitals. (Schienke et al., 2009).

The maintenance of critical natural capital is an important objective of sustainable development. Natural capital, e.g. renewable and non-

renewable resources and the ecosystem services that the natural capital stocks provide, are now the limiting factors of economic development. (Korhonen, 2004). The rule of the public sector is fundamental for the participation in politics, in societal and in the economic decisions to support the quality of life.

The maintenance of social capital is also critical for the QOL. Social capital is investments and services that create the basic framework for society. A systematic community participation and a strong civil society, including government, can achieve this goal. Cohesion of community for mutual benefit, connectedness between groups of people bring to accepted standards of honesty, discipline and ethics. Commonly shared rules and laws promote social sustainability (Goodland, 2002).

According to Daly (1996) it's possible to define the focus of sustainable development with the 'full world' metaphor: modern world has become 'full' of human-manufactured capital and 'empty' of natural capital. The natural resource use and waste and emission generation of economic systems are unsustainable. With the industrial revolution and rapid economic expansion, the human economic system has grown rapidly relative to the ecosystem, making the ecosystem 'full', because the economic system is the subsystem of nature and nature is not growing and materially closed. (O'Hara, 1997).

**Conclusion**

Sustainable development that considers the five capitals, in particular the natural capital, supports quality of life (Eckersley, 1999) and implies its improvement (Beck, van der Masesn & Walker, 1998). Sustainable ecological development can be defined as maintenance and improvement of the quality of life of the current and future generations (Chiu, 2003).

Sustainable development focuses on a "good" life for all humans living today and for future generations in harmony with the environment. Quality of life has several components, including physical, mental, social and spiritual. It is also used in a collective sense to describe how well a society satisfies people's wants and needs (Eckersley, 1998). However, it is generally assumed that this "good" life can only be maintained in the long run when natural limits, such as the carrying capacity of ecosystems and resource availability, are respected. In this way, the sustainable development concept extends the perspective from today to the future, from here to the people on the entire planet and from human beings alone to their coexistence with the natural environment. Sustainable development means encouraging economic growth while protecting the environment and improving our quality of life, all without affecting the ability of future generations to do the same.

Public sector organizations must develop a framework that evaluates the natural capital impacts on environmental, economic, and social decisions and plans currently being implemented in cities and communities. The public sector plays a vital role in developing effective platforms and mechanisms to encourage responsible development for the long term. This requires a proactive leadership that fosters sustainability thinking and acting, along with appropriate guidance, tools, etc. A distinct 'tool set' help formulate and implement activities by which sustainability-based policies and programs are incorporated into public policy organizations. Synergy, or generating results that are more than the sum of separate parts, is also a key aspect in implementing in that there must be cooperation and coordination among a variety of entities oriented towards the same visions and goals.

Without the engagement of the public sector it will be impossible to create a sustainable society. Legislation is gradually pushing public sector organizations in this direction. But there is a good case for public sector organizations to take a leadership role on sustainable development, moving quicker than the legislation requires. Just as leading private sector organizations have found that there is a strong business case for sustainable development in enhancing profitability and shareholder value, so there is a corresponding public value case for sustainable development (Gazzola & Colombo, 2013).

A governmental strategy for sustainable ecological development provides broad strategic directions and framework for governments to direct policy and decision-making. The strategy facilitates a coordinated and co-operative approach to sustainable ecological development and encourages long-term benefits over short-term gains (Commonwealth of Australia, 1992). The government takes account of sustainable ecological development as a part of how it develops its policies, how it runs its buildings and how it buys its goods and services (Gazzola, 2015).

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