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Social Sciences

THE FUTURE WELL-BEING AS A RESULT OF NATURAL, HUMAN, SOCIAL AND ECONOMIC CAPITAL INVESTMENT.

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ABSTRACT The future well-being depends on choices and decisions made today in regard to the key resources determining the well-being: the natural, human, social and economic capital. Understanding and keeping track of these resources dynamic, which are forms of capital for well-being, will be a priority to manage and make decisions today to ensure that future generations have sufficient resources for their well-being. This paper analyzes the importance of capital in well-being by reviewing the objective vision of well-being, which points to the contribution of the State as a participant in this well-being. This analysis focuses on food security.

KEYWORDS : social capital, human capital, ecosystems service

Introduction

In the Diccionario de la Real Academia Española (The dictionary of the Royal Academy of Spanish Language) defines well-being as a set of things necessary to live well. On the other hand, the Dictionary of the Spanish Language *Espasa Calpe* defines well-being as: State or situation of satisfaction or happiness. The first definition identifies well-being with material things and the second with a sensitive state of the person, in other words, a way of being well. These different interpretations reflect the diversity of conceptions that this term has been given.

For Aristotle, well-being is a certain state of man, in which he has his basic needs met with material requirements that make man happy (Gómez de Pedro, 2001). This conception integrates the material with a state of mind.

In this sense, it has been considered that well-being has a psychological dimension linked to the feeling of happiness, which is culturally determined, with a high subjective component (Uribe, 2004). Furthermore, well-being is also associated with tasks that the State should promote or ensure in order to generate the necessary conditions to guarantee and secure an appropriate level of human development in its citizens (Briseño and Gillezeau, 2012), as well as to provide a decent standard of living (Malem, 1991).

As you can see, the concept of well-being, in addition to a subjective vision, has an objective vision as a standard of living and in order to judge the living standard of a person we must know what they are that person: skills and abilities to develop a productive activity, his health levels, his ability to have time for leisure, his family environment (Malem, 1991). These aspects, among others are relevant issues to consider in the well-being issue.

The well-being and ecosystems' services.

Likewise, it is known that environmental goods and services of ecosystems were the first component considered in the issue of quality of life (Collados, 1999). It is recognized that for the well-being of people, ecosystem services are indispensable (Chivian and Bernstein, 2015). Daily (1997) defined the environmental services of the ecosystems as "the conditions and processes through which ecosystems sustain and satisfy human life". On the other hand, Costanza et al. (1997) describe them as "the benefits that human populations derive, directly or indirectly, from ecosystem functions". Subsequently, as part of an international effort that involved more than 1,300 scientists from different countries, ecosystem services were defined as the benefits that ecosystems provide to human beings and contribute to make a possible and dignified life (MEA, 2003). Such services include provisioning, regulation and cultural services, as well as support services that directly affect people. Provisioning services are products obtained from ecosystems that include food and medicine. Regulation services are the benefits that people get from the control of climate, pests and pathogens, animal diseases (including those that affect humans), water quality, soil erosion and much more. Cultural services are the non-material benefits that people obtain from ecosystems: recreational, esthetic, spiritual and intellectual. Support services are necessary for the production of all other services, and include the production of new organic matter by plants through photosynthesis and the cycle of essential nutrients for life such as carbon, nitrogen, phosphorus and among other necessary elements for the chemistry of life (Chivian and Bernstein, 2015). Therefrom, ecosystem services have consequences on the well-being of human society, not only in its economy, but also in human health, safety, social relations, among many others.

Ecosystem and capital

Ecosystems constitute a natural capital (Onaindai, 2010) that is basically the environment that provides essential goods and services for life (Pimentel et al, 1992). This capital must be preserved, sustained, in such a way that it is maintained in favorable conditions for humanity, including future generations, as the concept of sustainable development points out. For sustainable development are important in addition to natural capital, the human, social, financial and physical capital, as they are interrelated and part of human dynamics.

The tasks related to well-being, which concern the State, to guarantee the satisfaction of the basic needs of the population and raise the quality of life, can be ineffective when the existing conditions are not appropriate or sufficient. Therefore, preserving ecosystems' environmental goods and services and investing in natural, human, social and economic capital are the basis for the drive towards a future well-being.

Capitals and future well-being

There are a number of available resources that are accumulated value reserve for future well-being. These resources are called capital (OECD, 2015). The capitals are those resources that a community has (Gutiérrez and Siles, 2008). The capital approach was developed as a methodological and conceptual framework that allows relating communities well-being with its resources available (Flora, *et al*. 2004), it is flexible and can be articulated with other methodologies (Morales Diaz, 2014). Some authors divide the capital into two groups, humans (which include human, cultural, social and political) and materials (which include natural, physical or built and financial) (Flora *et al.,* 2004; Gutiérrez-Montes *et al.* 2009). Natural capital refers to natural resources, may include individual assets such as land, soil, water, trees, plants, as well as broader ecosystems, such as; forests, aquatic environments, the atmosphere (OECD, 2015). Human capital is identified as the active labor, education, knowledge and skills, health status of individuals (DFID, 1999, Flora *et al*., 2004). Financial capital refers to resources in cash, income, loans (DFID, 1999). Physical capital refers to physical infrastructure. Social capital has to do with the way people organize themselves (Flora *et al*., 2004).

Food as a fundamental need for well-being

From the previous considerations, it is assumed that a fundamental need for the well-being of living beings is food, which is one of the most studied production functions of ecosystem services because of the importance it has in preserving life.

Due to the accelerated population growth, systems that produce food have been threatened by their inappropriate use and overexploitation. Although global food production is currently sufficient to meet the needs of all (WHO, 2005, FAO, 2002), the location of populations and food marketing systems have made it difficult for some families to have sufficient and adequate access, availability and supply of food; indispensable requirements for food security.

At the World Food Summit held in 1996, it was established that there is food security when all people have at all times physical and economic access to enough safe and nutritious food to meet their food needs and food preferences, in order to lead an active and healthy life.

With the purpose to provide evidence on the availability of :human, financial, physical, social and natural capital in relation to food, a fundamental need for well-being, an analysis is presented of the disposition of these capitals in the subject of food security, in the twenty municipalities of the state of Nayarit, Mexico.

Methodology

Indicators determination was structured and prioritized with a panel of researchers. When selecting the series of indicators that were used, it was taken as a criterion that they should be related to a food security component; availability, access, stability and use of food.

They were selected five indicators of human capital, four of financial capital, five of physical capital, three of social capital and two of natural capital (See Table 1). The integration of these 19 indicators was called the Index of Availability of Resources for Food Security.

Table 1. Capital indicators: human, financial, physical, social and natural according to food security component

Indicator	Availability	Access	Consumption/ stability	use
Human capital				
Average grade of schooling				✓
Qualification level of population		✓		
Gross rate of economic activity		✓		
Access to health coverage				✓
Employed population with income of more than 2 minimum wages		✓		
Financial capital				
Income Index		✓		
Rate of adult economic support Prospera	✓			
Rate of family economic support PAL, PAL VM, Prospera, Prospera compensatorio	✓			
Rate of child economic support PAL VM y Prospera	✓			
Physical capital				
Road coverage index	✓			
Service points Diconsa			✓	
Attention points Liconsa			✓	
Stores and convenience stores	✓			
Private inhabited houses that have piped water				
Social capital				
Adults benefited by Program Prospera		✓		
Families benefited by PAL y Prospera		✓		
Children benefited by PAL VM y Prospera		✓		
Natural capital				
Agricultural area	✓			
Agricultural production	✓			

Source: Elaborated by the authors

To generate the capital indexes: human, financial, physical, social and natural; the standardized values of the indicators used were averaged. The indicators were standardized so that they were comparable; in this procedure the direct values were transformed into normalized values of a distribution characterized by the means and standard deviation arguments. The formula used to standardize was: $Z = (X-\mu) / \sigma$; where X is the value to be normalized, μ the arithmetic mean and σ the standard deviation. The index of resources availability was formulated by adding the averaged values of each capital and dividing by the number of capitals (five). Finally, municipalities were classified into five levels, according to the value of each index: very low (less than -0.75), low (from ≥ -0.75 to -0.25), medium (from> -0.25 to 0.25), high (from> 0.25 to 0.75) and very high (greater than 0.75).

Results

The results of the analysis show that the municipalities where social and financial capital are stronger, have reached a better food security condition.

Table 2. Availability indexes of resources for the food security

Municipality	Resources availability index	
Bahía de Banderas	-0.36	Low
La Yesca	-0.34	Low
Ahuacatlán	-0.32	Low
Rosamorada	-0.28	Low
Ruíz	-0.21	medium
Santiago Ixcuintla	-0.21	medium
Tecuala	-0.20	medium
Huajicori	-0.15	medium
Amatlán de Cañas	-0.14	medium
Del Nayar	-0.12	medium
San Blas	-0.09	medium
Santa María del Oro	-0.07	medium
Ixtlán del Río	-0.05	medium
Compostela	-0.01	medium
Acaponeta	0.05	medium
Jala	0.12	medium
Xalisco	0.36	high
San Pedro Lagunillas	0.54	high
Tepic	0.55	high
Tuxpan	0.86	very high

Source: Elaborated by the authors

In regards to the resources availability, it is worth noting that only Tuxpán was identified with a very high rate of availability of resources

and that no municipality was classified with very low availability of resources (Table 2). The municipality of Tuxpán had the largest provisioning of financial capital, followed by Tepic and Xalisco; among the indicators of financial capital, it is worth noting that Tuxpán had the highest rate of economic support to adults. On the contrary, Bahia de Banderas, La Yesca, Ahuacatlán and Rosamorada; the four municipalities with a low resource availability index have low financial capital. As regards the social capital, that together with the financial capital represent the State contribution for well-being, it is observed that Del Nayar, the municipality with the lowest human capital has a medium index of availability of resources for food security, because it has very high social capital.

These results allow us to conclude that the State support contributes significantly to the people well-being, since the municipalities where the social and financial capitals are stronger have reached a better condition of food security.

Conclusions

In the future well-being, it is not enough only the direct contribution of the State, materialized in the social and financial capital. In addition, it is necessary to invest in people, their training, their health, infrastructure, promotion of the efficient use of resources to move towards global sustainability. Undoubtedly, investment in human capital will allow citizens to be trained to make right decisions for ecosystem services and the natural capital that produces them. Likewise, a high level of human capital, among other things, benefits physical and mental health, also improving the competence of people and enabling them to obtain jobs with sufficient income to guarantee their food security. Moreover, applying economic resources in physical capital can influence long-term social well-being. Simultaneously, it is necessary to focus efforts so that natural capital is protected and restored in such a way that its sustainable use is guaranteed.

The challenge is to focus investment on capital or assets to ensure optimal use of the benefits received from ecosystems, in order to meet our current needs without compromising the ability of future generations to meet theirs, as described by the 1987 United Nations Sustainable Development Report.

Finally, in this subject it is important to remember Vogt (1948), who pointed out that by using up our real capital of natural resources, we reduce the possibility of ever paying off the debt.

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