

Editorial: Sustainable social development: the need for talent training in education, technology and food production

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1 Definition of sustainable social development

A proposal for the definition of sustainable social development from the perspective of socioformation is presented, considering the current and future challenges regarding global warming, environmental pollution, loss of biodiversity, poverty, violence, and lack of quality of life. To this end, the need to develop talent in people, communities, and organisations, so that they work collaboratively to overcome these problems based on the inclusion and the use of digital technology. This is done as part of the presentation of the monograph ‘Sustainable development: science, technology, and education to achieve global goals’.

Several concepts are surrounding the approach to sustainability, such as: sustainable human development (Hodge et al., 2018); sustainable development objectives (Maurer and Bogner, 2019); socio-ecological transitions towards sustainability (Loorbach and Rotmans, 2006); eco-development (Vanhulst and Günther, 2019); and sustainable social development (Luna-Nemecio, 2020).

These concepts and proposals have been given more by policies and social movements, than by theoretical research and the formulation of theories. Currently, almost all references to sustainable development are given by the millennium goals, which is a political and social agreement, but not by a theory based on the contributions of the various sciences. A strong theory of sustainable development is required to help guide research, and for this purpose, it is proposed to start from sustainable social development, because it is the concept that expresses most clearly the transformations that are necessary for the environment, since it starts from the social and the articulation of knowledge, considering technological, industrial and educational advances in an articulated way, to generate impact in controlling global warming and the destruction of natural resources, and to seek to overcome poverty.

In this sense, we believe that a theory of sustainable social development of a transdisciplinary nature is urgently needed, which focuses on seeking actions to generate changes in human behaviour and in ways of life and production since the millennium goals have not achieved the expected impact. This new theory should be based on a set of intervention strategies in the different social fields, based on collaboration and the establishment of agreements between different sectors of world society; to this end, the formation of a culture of sustainability should be promoted, leading to a reorientation of the economy and the development of communities. Also, education must be transformed to focus on training the necessary talent that will make it possible to face the climate crisis and the great problems of humanity. This could better advance the achievement of the millennium goals and set a more ambitious agenda for the next decade.

In this regard, among the possible ways to build a strong theory of sustainable social development is the socioformative approach, which consists of training individual, group, and community talent based on the resolution of real problems to help improve living conditions and ensure environmental sustainability, through the ethical life project (Bautista Lima et al., 2019), the undertaking of articulated and transversal projects, collaborative work, complex thinking skills, the management and co-creation of knowledge in rigorous sources and the use of digital technology (Arrieta-Álmario et al., 2018; Núñez et al., 2019; Zamora et al., 2016). According to this line, it is proposed to define sustainable social development as the process of collaborative work between different people, organisations, and entities to improve the quality of life with inclusion, ensure a permanent socioeconomic development, strengthen coexistence, take care of the

environment and mitigate global warming, considering the basis of the millennium objectives, but looking for more ambitious goals.

Sustainable social development, considering the socioformative perspective, would have the following characteristics:

- 1 It is a process of collaborative work between citizens, organisations, companies and governments, to ensure a minimum of actions that guarantee the minimum levels of quality of life, care for the environment and the reduction of global warming.
- 2 It is based on the development of an ecosystemic vision, which allows balance at the level of the individual, between communities and with the environment.
- 3 It is based on a shared vision, that is, that all communities work based on the same principles and actions.
- 4 It seeks to develop talent in people and communities in order to solve environmental problems with creativity.
- 5 Addresses transdisciplinarity to appropriate the contributions of different disciplines and thus have coordinated actions working around the problems affecting people and the environment.
- 6 Applies mechanisms to address resistance to change and lack of awareness of the problem of climate change that many leaders, individuals, politicians, organisations and businesses have.
- 7 Promotes a culture of environmental care that is cross-cutting all development projects that are implemented, including food production, tourism, health, education, etc.
- 8 Applies strategies of resilience to face problems and move forward, considering situations of uncertainty.
- 9 Promotes the formation of an active citizenship focused on the implementation of daily practices of environmental care in everything they do.

Sustainable social development cannot be achieved without developing talent in individuals, communities and groups (Boštjančič and Slana, 2018; Worrell et al., 2019; Cao and Zhou, 2018; Becker et al., 2009). Although there are various definitions of talent, there is little agreement regarding its conceptualisation (Dries, 2013; Thunnissen and Van Arensbergen, 2015). In socioformative approach, it consists of a general action to identify, understand, explain and solve problems in the environment based on collaborative work aimed at achieving certain goals, integrating industriousness, skills, complex thinking skills, continuous improvement, and universal values within the framework of the ethical life project (Tobon and Luna-Nemecio, 2021). For this, the complex thought of Morin (1992) is taken as a reference.

Sustainable social development requires the development of talent in citizens in various areas. However, three essential areas often do not receive the necessary emphasis in research, such as: improving education so that it is inclusive and in line with the millennium goals; developing innovative talent in businesses so that they can help overcome social problems and generate mechanisms to significantly reduce global warming and implementing innovations in agricultural production that make better use of resources and help care for the environment. It is necessary to articulate these three areas

to have a common vision, which ensures the implementation of actions with the necessary continuity.

2 Presentation of the monograph

The present monographic issue ‘Sustainable development: science, technology, and education to achieve global goals’ presents four relevant types of research to strengthen sustainable social development, contributing to four of the proposed millennium goals. First, Mendoza, Munca, Ávila and Tovar from Colombia present the work entitled ‘Equal access to quality higher education: consolidation of the sustainable development goals, case of virtual software engineering of the Manuela Beltrán University’, which makes a series of contributions to ODS No. 4, on how to achieve equal access to an online training program on software engineering. This is important for sustainable social development in the socioeconomic field, as people must have opportunities to access higher education in the area of technology, particularly in software engineering, considering its diverse conditions and characteristics.

Secondly, Pastrana and Tobón in their work ‘Emerging needs of human talent training in leading information technology companies, a socioformative analysis’ analyse the different needs of human talent that digital technology companies have, and based on this they make a series of suggestions to improve the development of talent and contribute to ODS Nos. 4 and 9. It is required that companies focused on information technologies be creative and innovative to support society in overcoming its various needs, such as poverty, pollution, addictions, lack of employment, among others.

Thirdly, Amaya, Zafra and Gaona-García of Colombia, in their work ‘Visual guideline for agile creation of IoT applications for LoRaWAN networks’ present the recommended guidelines for the creation of applications for the IoT LP-WAN network technology, LoRaWAN. Based on that, it is deployment a complete implementation of a LoRaWAN application that collects data from multiple nodes with environmental quality sensors and allows them to display dynamically on a graph in real-time. The main contribution is focused on UN Global Goal No. 9, helping communities to increase the infrastructure connectivity in real-time.

Finally, Torregróza, Rodríguez, Ruíz and López from Colombia in their work ‘Multivariate analysis of volumetric shrinking of industrial cassava varieties’ analysed the factors that affect the volumetric shrinkage of three varieties of industrial cassava. Based on that, the authors found out direct effect in the volumetric reduction of the three varieties due to the fact of variety and speed dried, as well as, the variety acting together with the temperature. The study contributes to the UN Global Objective No. 12 providing results to improve the optimisation of the cassava industrialisation processes. This allows to reduce energy consumption and increases food production.

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