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SUSTAINABILITY AND RESILIENCE, GUIDES OF THE PSYCHOLOGIST IN RURAL ENVIRONMENT PAPER PRESENTED AT THE IV LATIN AMERICAN CONGRESS OF RURAL PSYCHOLOGY

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Abstract: The psychologist in a rural environment has professional limitations. **Objective:** Provide guidelines for an ecological framework for sustainable action, supported by the UN concept: “Satisfy the needs of present generations, without compromising the possibilities of future ones.” Its axes: “economy, environment and society, to achieve an economic and social development that is respectful of the environment”. Backed by systematized experiences of research, teaching and field work. The rural environment is a living organism, formed by nature, people and groups in interaction. Ecology studies the nature and interactions of biological systems constituted in ecosystems (basic elements, and living organisms, from unicellular to human). The harmony of the whole responds to the intelligent principle of homeostatic balance. Imbalances can be imperceptible to humans; also drastic, dangerous and of global complexity such as Climate Change. Nature responds to an ecological hierarchy of sustenance; the strongest and healthiest elements provide energy for the weak. This hierarchy and health process do not have the same meaning in social systems. In rural areas, the possibility of contributing to global sustainability may be limited, because: Rural communities in LA live in a globalized environment that demands raw materials, natural resources and food. The expansion of cities impoverishes and encourages emigration of young rural population. Due to the economic preponderance, changes are induced: improvement of cultivable varieties and agroecological changes; The tourism industry at local, regional and transnational levels includes the rural population in its social, family and economic organization. Principles of the psychologist: 1) Understanding of community, group and family limitations 2) Identify the constant decision processes that people face. 3) Accept systemic thinking as a

sign of sustainability and provoke attitudes of change, *to solve recurring problems or eminent dangers.*

Keywords: Sustainability, resilience, psychology, rural environment.

INTRODUCTION

Psychology professionals who want to focus on the rural environment have cognitive challenges to overcome: **Sustainability and Resilience**, both are complex and synthesized concepts for their dissemination, however, we need to understand them from a concrete commitment action. When we analyze them from development processes, we touch limiting points of knowledge to discern actions and paths.

Congruent with the professional orientation that we are assuming, we will locate ourselves in the natural environment of the rural sector, in a sense we will go to knowledge of Ecology. Because she is the science that knows and explains nature, she focuses to the study of the interactions of biological systems; it does so with a holistic and global perspective. By understanding that nature is a pillar of sustainability, our approach is necessary to assess global situations, as well as concrete ones of life in rural communities and indigenous peoples.

SUSTAINABILITY

It is a concept generated in the report of the Commission, Brundtland of the UN (1987), explains it in the formula known as: “*Satisfying the needs of present generations without compromising the possibilities of future ones*”; This can be done with the support of the economy, the environment and society, to achieve economic and social development that is respectful of the environment. We understand that the definition indicates growth and development refers to the basic biology of the planet and its parts, that the

way forward must be harmonious because one affects the other; under the budget and desire, that the correct distribution will bring greater environmental, social and economic equity.

In academic environments, in the public and private sectors, this definition is well known. What complicates professional action on many occasions is not knowing *the basic biology of the planet*. This writing indicates only elements to motivate its study, the understanding that we require in terms of sustainable development in rural areas:

Ecology is the science of nature, it is devoted to the study of the interactions of the biological systems that constitute it, its unit of study is the interaction of various biological systems in a given area, which takes the name of Ecosystem. When studying it, six large ecosystems have been identified, accepted worldwide: deserts, seas, plains, tundras, forests and jungles. The concept involves the interaction of various biological systems in a given area. In each ecosystem, the basic elements are distinguished in greater or lesser proportion: air, soil, water, flora and fauna, which are necessary for any living organism, from unicellular to human beings. Ecosystems reproduce themselves permanently, if there is no excessive exploitation, natural disasters or wars that interfere with their processes. The intrinsic impulse of ecosystems is to conserve the systems that integrated into it, all its cycles and components. In these systems there are elements that are considered life; without which there is no survival: water, air and soil, are the basis of life; without them the flora, fauna and any organism cannot create a habitat.

The ecosystem or set of organic systems are related, in such a way that they always have a balance in the same place. If any species or system exceeds the limits, “of all”; everyone will be out of unbalance. If this happens the promotion of the new equilibrium, will

depend: on its degrees and the collaboration of all its elements.

The laws of Ecosystems are different from human ones. The natural laws capture the necessity of the whole and the strongest and healthiest elements give more energy, so that the weak ones become stronger. In the “whole” some fragile elements may be missing; but never the strongest ones. Because at risk of suffering disturbances that are difficult for the whole to recover. A global strength means the energy of the entire ecosystem. However, if there are some elements shared with other ecosystems and they are weak, they can succumb. On the contrary, if the shared elements are strong, both ecosystems are strengthened (Hernández, 1971).

In the life of ecosystems, there are favorable or unfavorable repercussions. The same happens between systems that share elements. Example: a river coming from the melting ice, comes down from the heights and is diluted in the necessary environments. This means subsistence of other systems that may contain basic elements, in different modalities and proportions. Thus, a mighty river (Figure 1) becomes vital for human groups that, according to their technological possibilities. The smallest rivers or streams, only conserves the humidity of the subsoil. As a vital liquid, it contains the same elements to support all systems and their members. It is also a sign of life in high or dry areas. At dry areas they support mosses and insects, which in turn are food for birds and lower and higher mammals. The mortal remains of everything return “to all” (Hernández).



Figure 1. Río Caudaloso

In the ecosystem each of the subsystems and elements, have an irreplaceable function, because they feed and feedback each other. In addition, living beings (from microscopic ones, plants, animals and human beings). That make up populations have the possibility of being included in the systems; depending on the support they provide to the ecosystem as a whole. The harmony of the whole reply to an intelligent principle of homeostatic balance, which sustains the energy to preserve the health of living beings, and “of the whole”. This is possible due to a very complex connectivity mechanism between all the members of the Ecosystem. Odum and Barrett (1971) discovered and described it as an energetic and dislocating power, that does not emerge from a single source. They can understand, that the intelligence of the homeostatic process unfolds in all the systems that constitute the ecosystem, and its elements preserve themselves as a whole.



Figure 2. Subsystems of the marine ecosystem

Source: EPA US Environmental Protection Agency.

Coral reefs are related to each other with hydrozoans, jellyfish and sea anemones. The algae provide them with food that they generate by photosynthesis, and color. They are the habitat of marine species (oysters, crabs) and a variety of fish are related. They function as a center of activity for marine life.

RESILIENCE

The originally related to the life of ecosystems, is also applied to the life of individuals, families, companies and groups of any activity. Of the English “*resilience*”, and from Latin *resilient, act. from resilire: jump back, rebound, fall back*”. The Royal Spanish Academy RAE defines it as the ability of a living being to adapt to a disturbing agent or adverse state or situation. The concept is also feasible to indicate the ability of a material, mechanism or system to recover its state when the disturbance has ceased. It is the capacity of a system to absorb a disturbance; undergo change and still retain essentially the same function in the set of systems, structure, and feedbacks. This ability allows change or coping without crossing the threshold to a different system regime.

Walker and Salt (2006, p. 35) they point out that in all the systems that are part of the ecosystem they have the same capacity to undergo some change, which reveals a complex behavior of the entire system; that cannot be predicted by understanding individual mechanisms. In such a way that the reconfiguration of the ecosystem can change to another state, with all its components. Each of its subsystems retains its same functions for the total ecosystem.

We can also think that all the systems are mobilized to recover their homeostasis and continue contributing to the homeostasis of the whole larger organism.

The resilience of an ecosystem tries to cultivate the capacity to sustain its balance in

the face of expected or unexpected change, and the various ways of subsistence according to their possible response thresholds to the affectations. Ecosystems tend to balance or balance before a disturbance, because their tools are the same as the systems that integrate them (Folke, 2016). Everyone search again the elements they need for their homeostasis. In addition, ecosystem disturbance is the lack of elements that support some link of the whole. The global response manifests itself as a complex system of adaptation in the face of changes. That is, its resilience capacity and the process that identifies it. Folke's explanation is that the capacity of the ecosystem can graduate changes, when interacting with other systems that are stronger or appear unexpectedly. The above is considered that the response of any system to damages and disturbances, depends on its particular context, on its connections between scales or segments in the present state. Because each situation is different and the elements are always in interactions and movement. For this reason, they can be in attention, of their resources at the appropriate moment or moments. The study of these processes outlined the concept of "*resilience thinking*".

HUMAN RESILIENCE

To address this concept, it is pertinent to accept the ecological basis that explains Resilience: In terms of response capacity and overcoming ecosystem disturbances. In humans, resilience is understood as the possibility of solving adverse problems with efficient coping. It is also correct to identify it as the ability to overcome, which translates into learning and strengthening of the person.

In different orientations of Psychology, coincides in identifying the dimensions in human behavior: emotional, motivational and social. According to Tenorio (2021) they were the basis for redefining resilience in teachers:

As a capacity, process and ability that allow knowing, the integration of capacities and the unity of the behavior of individuals and groups. Given their systemic characteristics that go beyond the person, they can be resonant in social agents such as the family, school or work institutions.

From the perspective of psychology or education professionals: A personal integration, problem or relationship conflicts between individual's; they direct attention and diagnosis towards the relationship between the three dimensions, and their respective functions. Which are manifested through indicators and concrete behaviors. Accepting the holistic essence and tendency towards development of the person, provided by Humanistic Psychology (C. Rogers, 1903-1987); We can equate resilient human behavior to that of the ecosystem. In this framework, the two behaviors are similar, and compatible.

HUMAN ECOLOGY

The appearance of the human being in the ecosystems is particularly explained by the theories of evolution: In an also estimated time obtained food, a created habitat and path with the ecosystems. In the process and interaction between humans and nature, favorable niches were created and their habitat grew between them. The identification of the human being and his communities in the life of the ecosystems, induced the study of their interactions. At the seam time to integrate them to the scientific task. In 1960 Human Ecology appears with the purpose of knowing the way in which societies use and affect the environment and vice versa. It was defined by Marten (2001) as the study of the structure and development of human communities. At the same time as well as the human needs, in terms of populations adapted to natural environments, including technological systems, patterns of social organization and

their form of adaptation.

According to Bates and Tukey (2010), *resilient thinking* is generated in human-environmental interaction and the possible reactions to: Adaptation changes, such as the conservation or preservation of its development; or the transformation that would be the change through emerging pathways. Marten 's definition, and the concept of resilient thinking, provide elements to review the parameters of current societies: In what way are they adapted to their environments; how do their social, industrial, technological, economic and political systems work. As well as its harmony with the trends of the world systems? Within the framework of these questions, we can identify the current environmental problems closest to our lives and to pro-environmental action in our country.

SOCIO-ECOLOGICAL SYSTEMS

In terms of development, Ecology included human beings, the interactions that their communities establish and sustain with ecosystems. They considered, among others, daily activities with the support of nature to feeding and sustaining their lives; as well as their actions of care and appreciation of natural resources. This breakthrough came about by thinking of human communities, as any other type of biological community, involved in the process of preserving the entire ecosystem.

The circumstances that have influenced the development of Ecology, Human Ecology and the current Social Ecology are: 1) The inevitable growth of human centers towards complex societies, and the inequitable nature of their relationship with ecosystems. 2) The basic assumption of ecology, that organism-environment encounters are influenced by contextual factors. The latter directs the gaze to very diverse scenarios, and initially to delimit the spaces of interest. (Haberl et al.,

2016).

Ecology with a human perspective found the limitations of community and social conditions. In this sense it is not possible to think of a clear and tacit distinction between Ecology and Social Ecology. However if the characteristics of their approaches: In the first, are the homeostatic and equilibrium processes; in the second, the models that emphasize imbalance and destabilization processes in human environments. (Borden, 2014).

The profiles of each one was supported by descriptive explanations that led to human inclusion, and the understanding of the needs of their communities; as well as a panorama of social transformation. Responsibilities are established to preserve the ecological knowledge of social communities. Such as traditional medicine, forms and logic of organization and inclusion of nature in their uses and customs.

The objectives of the current Social Ecology, were advancing beyond environmental science. According to Borden, it currently recognizes: 1) Any research aimed at improving the quality of people's transactions with their built; social and virtual environment, as well as with the natural world. 2) Ecological Analyzes include geographic, social and temporal scales, that facilitate understanding the behavior of communities and taking an interest in another situations. Such as health, resources and interactions between areas and regions. With the pressing need to understand environmental relations, incorporating socioeconomic studies and even national levels and international institutions. 3) Methodological adoption of models that allow broad understanding of the interactions. The foregoing produces information on contextual and amplitude variables (spatial, temporal and sociocultural limits) of research, human and environmental

transactions, for which reason, Social Ecology also adopts model methodologies.

Figure 3 illustrates a Socio-Institutional Model to find sustainable change actions in a defined territory. This path is described between the stages of an institutional hydrological system and its relations with institutional networks: It is about the biophysical-technical

system and a situation of hydrological risks. In the Socio-institutional space there is a key and decisive position for the objective of change: “*Mental Models*”, which invites us to think about the participation of our profession and what we can offer, understanding the problem of the Socio-ecological System from which try.

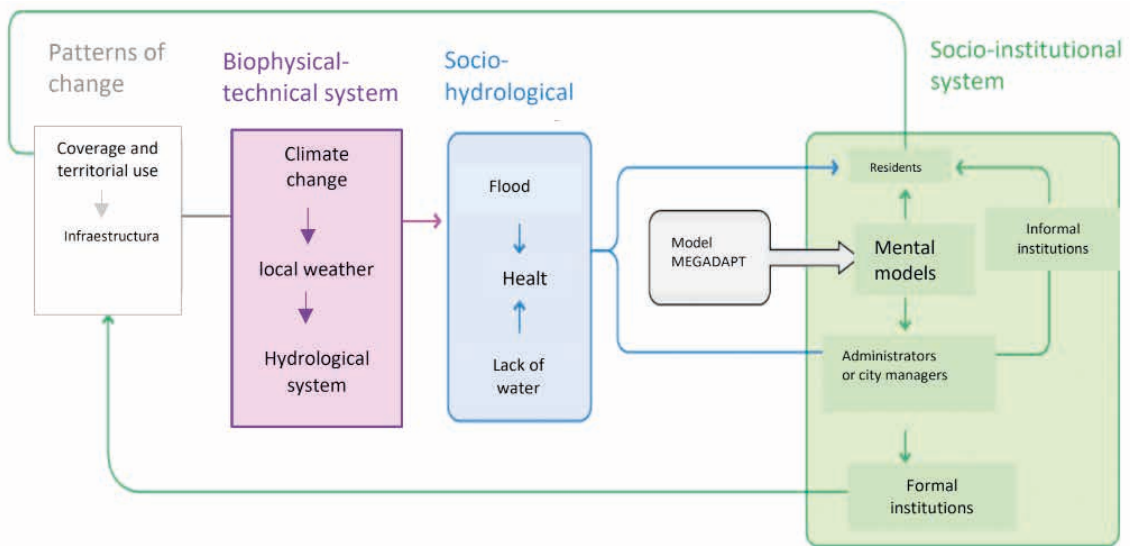


Figure 3. Example of a socio-ecological system

https://lancis.ecologia.unam.mx/iai/sistemas_socioecologicos

The difficulty for sustainable development, that interests us occurs when the ecosystem and the rural community have imbalances in their energy and capacity to interact homeostatically. Deteriorations or problems in the fields of nature and socio-economic are key for this purpose. Interest in socio-ecosystems opens paths for multidisciplinary interaction and collaboration. At different social, economic and environmental education levels, and institutional management.

PSYCHOLOGY IN A RURAL ENVIRONMENT

If we choose or confirm commitment to the rural environment, we need:

- Consider that rural communities in Latin

America are included in a globalizing environment, because they contain: Natural resources, produce cheaper food than in cities, and share different ways of life. Therefore, *they are vulnerable to the acceleration* of demands and economic competition: Introduction of crop variety improvements; agroecological changes, participation in the tourism industry at levels from community to international; influence of the urbanization and rapprochement of population conglomerates that generate poverty and emigration. The changes induced in rural societies, their population and resources, mainly in the recent social, family and economic organization.

- Understand that the more included human groups and communities live in nature. More than they, interact with it, and know its cycles because they feel them, perceive their signals and distinguish them, also through empirical knowledge of the cycles that are repeated.
- The original peoples, more than the peasants and rural, follow a life in the ecosystem. In general, they do not live from a single crop or food sources. Their development includes worldview explanations, in such a way that they can perceive “reactions” of plants in relation to the lunar and sun cycles, as well as interactions of other cosmic manifestations.
- Also, that empirical knowledge, observations and ancestral knowledge are transmitted from generation to generation, in different ways. Due to uses and customs, they mix them with stories, parables, tales, descriptions and interpretations for the future, or else in the teachings for raising children.
- The foregoing together is the cultural heritage that is somehow known in the cities, and historically they have been valued as cultural manifestations. At present there is valued knowledge that transcends rural areas: Especially medicinal ones for humans; and the folklore processes that form an important part of their regional and peasant identity, or as an economic activity to disseminate and attract tourists and visitors at commemorative festivals.
- Identify the socio-ecological systems to delineate a study framework and professional action, look for indicators where interest converges to promote sustainability and resilient aspects for rural groups and communities.

VISION FOR PSYCHOLOGICAL ACTION IN RURAL ENVIRONMENTS

This section presents considerations on sustainability and resilience as pillars of the professional practice of psychology that we want to develop. The first as a concept needs a resilient environment, and openness capabilities.

- Resilient thinking identified as a sustainability imprint can be initiated by two processes: 1) Systemic thinking to understand units of human behavior (people, communities, and groups) and socio-ecosystems in communities; and 2) Openness and willingness to change. Both as development habits of people and professionals, involved in sustainability processes, in social, community and management life in general. At least for reasonable times to facilitate learning in those directly involved and their communities.
- The previous processes will open paths of dialogue and learning between the people required in the field work, local and municipal authorities. With the professionals of the natural and social sciences, we need each other for achievements and goals in the short, medium and, if possible, in the long term, in *sustainable* development processes. This would be an initial attitude-action, to find people related to the human, social, productive promotion and consolidation of team. To assist the changes that are generated in the rural population and institutions that serve them.

Systems thinking: Ecology reveals the essence of nature: Interactive relationships and resilient behavior of the systems that comprise it. For our profession, systemic behaviors and processes would be a vehicle for personal and

professional growth, which would lead to the identification of the elements and processes that relate people, groups, and the community.

Both types of thoughts can affect the creation of spaces for relationships, convergence and discover resources and possibilities to decide and act. If the opening to change stops us or conflicts, a sign that we cannot do it immediately, more information on the case would be required, and scope or risks of causing or not, a change and a critical path.

Group learning makes it easier for people to become familiar with change processes, and prepare individually and as a group for actions or changes in customs in the families or communities in question. Also in group work, errors can be prevented and preparation for the collection of assertive information vs. rumors and distortion of information; it would be aiming for an error or deficit to reach the goal.

Looking for sustainability. The action of the psychology professional in rural areas can be considered in three large areas: Environmental education; support for sustainable change of groups and communities; collaboration in multi and interdisciplinary relationships for research or design of joint development actions.

Action suggestions to facilitate the change towards sustainable processes, in the rural environment, be it in the communities or institutions. The most common changes and conflicts can occur in:

- *Changes and legality:* The forms of land tenure that are identified as the basis of ecosystems have a dimension of legality: who owns the right, who owns the responsibility and how is the damage.
- *Conflicts* The changes foreseen and faced for development can generate problems, from internal reflections to defensive actions. Among the towns that recently

limited satisfiers, especially water, they tend to be sources and division. When they feel the danger or the cause outside the town, solidarity and cohesion generally appear, but also dangers depending on the forms of defense or the complexity of the local, regional, national conflict... that they support.

- *Precaution against environmental changes* It is required that the population have an orientation to understand the sequenced risks that cause the problems that deteriorate the context.
- *Changes and public policy* These changes require attention, because when they are carried out in communities, they are often implemented without understanding the effects that they will cause in the population, or what it will imply in their daily lives.
- *Changes and education* It is common that rural school teachers do not understand the almost immediate importance of children and young people taking an interest in the development of their community or region. The links between teachers and parents are customs already assimilated in many regions, they are feasible structures to operate if it is for the benefit of the communities.

SUPPORT FOR ACTION

- *Paulo Freire* had a great vision when *associating literacy with the problems* of the adult population and generated other educational procedures, also for adults in poorer and more needy countries than ours. This method and the Research-Action method could bear fruit again, now for sustainability in rural communities and their surroundings; as well as for the procedures to be carried out, preparation of reports or required

documentation.

- *Carl Rogers* Another educational approach for the adult population can be the People-Centered Approach, to identify needs and problems that require psychological guidance, as well as an understanding of their moods, fears, and fears.

Our profession is very suitable for adults who can make decisions in their environment, we just need to understand the forms of relationships between groups of the population and authorities, as well as their fears and limitations.

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