

THE RIGHT TO LOCAL SUSTAINABILITY IN IGNACY SACHS: AN APPROACH FROM THE STRATEGIC PLANNING WITHIN IN THE CONTEXT OF SMART RURAL COMMUNITIES

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ABSTRACT

This article aims to examine the right to local sustainability, from the author Ignacy Sachs, through the approach of the strategic planning of smart communities. Thus, the question is: how can sustainability be inserted in local spaces and in intelligent rural communities for implementation in Brazil, in order to minimize socio-environmental problems? In order to answer the problem, are use the methods of monographic procedure, deductive approach and literature review technique. As specific objectives, there are: (a) conceptualize sustainability and theoretical assumptions; (b) to study sustainability and its implementation as a subjective right of the community in the rural sphere; and (c) to analyze the municipal management of smart rural communities, based on rural strategic planning, verifying their limits and potentialities, having as a prospective element the local participation and the feasibility of the sustainability perspective under analysis. It is concluded that sustainability is a right of all, being possible the implementation of sustainability in the agricultural sphere as a right

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of the local community. Therefore, it was observed that alternatives are needed for sustainability in rural communities, due to the serious socio-environmental problems existing in the world, it was also analyzed that technology is an element of reducing environmental risks, since it can be used as an alternative in agricultural management and in the use of pesticides, so harmful to the environment, producer and final consumer.

Keywords: Ignacy Sachs; smart rural communities; sustainability; sustainable development.

O DIREITO À SUSTENTABILIDADE LOCAL EM IGNACY SACHS: UMA ABORDAGEM A PARTIR DO PLANEJAMENTO ESTRATÉGICO NO ÂMBITO DAS SMART RURAL COMMUNITIES

RESUMO

Este artigo tem como objetivo examinar o direito a sustentabilidade local, a partir do autor Ignacy Sachs, por meio da abordagem do planejamento estratégico das smart communities. Assim, questiona-se: como a sustentabilidade pode ser inserida nos espaços locais e nas comunidades rurais inteligentes para a implementação no Brasil, a fim de minimizar os problemas socioambientais? Visando responder ao problema, utilizam-se os métodos de procedimento monográfico, de abordagem dedutivo e a técnica de pesquisa bibliográfica. Como objetivos específicos, têm-se: (a) conceituar a sustentabilidade e pressupostos teóricos; (b) estudar a sustentabilidade e sua implementação como um direito subjetivo da comunidade no âmbito rural; e (c) analisar a gestão municipal das smart rural communities, baseada no planejamento estratégico rural, verificando seus limites e potencialidades, tendo como elemento prospectivo a participação local e a exequibilidade da perspectiva de sustentabilidade em análise. Conclui-se que a sustentabilidade é um direito de todos, sendo possível a implementação da sustentabilidade no âmbito agrícola como um direito da comunidade local. Portanto, observou-se que são necessárias alternativas para a sustentabilidade nas comunidades rurais, em razão dos sérios problemas socioambientais existentes no mundo, e ainda se analisou que a tecnologia é um elemento de redução dos riscos ambientais, uma vez

que pode ser usada como uma alternativa no manejo agropecuário e na utilização de agrotóxicos, tão prejudiciais ao meio ambiente, ao produtor e ao consumidor final.

Palavras-chave: *desenvolvimento sustentável; Ignacy Sachs; smart communities; sustentabilidade.*

INTRODUCTION

This article assesses sustainability and how it can be inserted in local spaces and smart rural communities. In this work, sustainability is viewed as a fundamental right for all, which must be enforced by both State and society. The concept of *smart cities* is used as an alternative to the right to local sustainability focused on the social and ecological idea, that is, cities that combine human development, the environment, as well as digital and technological communications, intending to make an ecologically efficient agricultural environment while promoting the sustainable production and a collaborative economy, allowing for an increase in the means of production and to reduce the issues arising from depopulation.

Thus, we point out that this research focuses on the analysis of the concept of sustainability, verifying its various structural dimensions, as well as seeking to understand the perspective of sustainable development to envision the possibility of economic growth based on economic, environmental, and social assumptions. For this purpose, it presents the dimensions of Sachs as a theoretical framework from the perspective of sustainable development goals.

The article is based on exploratory research, whose main objective is to provide greater familiarity with the topic studied and debated. Therefore, the procedural method is monographic, seeking a study of certain individuals, professions, conditions, institutions, groups, or communities, to obtain generalizations through the deductive approach, as it starts from an analysis of general data – major assumption –, looking for specific data – minor assumption. The research technique is bibliographical, based on the study of bibliographies on the proposed topic. Initially, the focus lies on the concept of sustainability, verifying its various structural dimensions, its polysemous discourse, and its interfaces and consequent paradoxes of anthropocentric nature. It also seeks to understand the perspective of sustainable development to glimpse at the possibility of economic growth based on economic, environmental, and social assumptions.

This first section presents the assumptions for the implementation of sustainability presented at the Stockholm Conference, which established the economic, environmental, and social tripod. Articulated with the centrality of the local sphere, sustainable development is analyzed from the theoretical framework that supports this approach, notably the five pillars of sustainability by Ignacy Sachs, as in the second section of the text. Finally, from the rural strategic planning, this work intends to verify the limits and potentialities of materializing the theoretical framework of this article, having as a prospective the element of local participation and the feasibility of the sustainability perspective under analysis.

1 THE AMBIVALENCE OF THE DISCOURSE ON SUSTAINABILITY AND THE LIMITS OF ANTHROPOCENTRISM: THE CONSTITUTIVE ASSUMPTIONS OF SUSTAINABLE DEVELOPMENT

In terms of the plan, it is worth analyzing the human being and the system in which it is inserted, in an attempt to find an explanation – contextualization – for its socio-environmental issues. The human being is the main driver of socio-environmental issues, as it uses progress³ and capital to enjoy natural goods with no respect for nature’s vital cycles.

This anthropocentric view results in the exploitation of nature⁴ aimed at the benefit of mankind, without considering options on how to equate the pillars of sustainability so that it can be made effective. The human being surrenders to the capitalist system, harming the pillars of sustainability in a scenario in which the economic interests always prevail over the social and environmental. Sustainable development strategies are, thus, created; but they usually surrender to economic power.

3 “Today, a more realistic view of human progress is necessary. Everywhere, overpopulation and disorderly development are destroying natural habitats and impairing biological diversity. In the real world, governed equally by the natural and the market economies, mankind has been waging a fierce war against nature. If this situation carries on, mankind shall enjoy a Pyrrhic victory, in which the biosphere will suffer first, then humanity itself” (WILSON, 2002, p. 64).

4 “The recognition of the Rights of Nature allows for its conversion into a subject of rights, so that it has value on its own, regardless of its possible usefulness or human use. This is a biocentric position, in which the survival of species and ecosystems must be guaranteed. It, therefore, does not imply an untouched nature, but it is possible to carry on taking advantage of natural resources as long as life systems are maintained” (ACOSTA; GUDYNAS, 2011, p. 108, free translation).

“El reconocimiento de los Derechos de la Naturaleza permite convertirla en sujeto de derechos, donde ésta vale por sí misma, independientemente de la posible utilidad o uso humano. Ésta es una postura biocéntrica, donde se debe asegurar la sobrevivencia de especies y ecosistemas. Por lo tanto, no implica una naturaleza intocada, sino que es posible seguir aprovechando los recursos naturales, pero mientras se mantengan los sistemas de vida” (ACOSTA; GUDYNAS, 2011, p. 108).

Nalini (2001, p. 6) states that the actual interdependence on the planet, which is a harmonic system where there is “intimate interdependence of the parts that make up the whole is unknown. The planet is a harmonic system. Everything is connected, forming a chain, disrespected, it will imply a rupture in a natural cycle”. To Leff (2002, p. 92), nature is an object of economic rationality, in which “it does not only appear as an object of natural sciences. To understand the dynamics of transformation of ecological systems, it is necessary to consider the overdetermination that productive practices generated by economic rationality exert on them”.

According to Arendt (2001, p. 31), “things and men constitute the environment of each and all human activity, which would have no meaning without such location”. The author warns that “however, this environment, the world we came to, would not exist without the human activity that produced it, as in the case of manufactured things, and takes care of it, as happens with farmland”. Furthermore, the author reinforces the idea that human activity established it “or that it established it through the organization, as in the case of the political body”. Therefore, “no human life, not even the hermit’s life amid wild nature, is possible outside of a world that directly or indirectly witnesses the presence of other human beings”.

Lévy (2001, p. 49-50) questions the human being, reflecting on why it has risen to the position of ruler of the world, trying to understand if this would be because “life only requires one thing, to reproduce, and man is the only possible vector of life which may allow it to propagate on other planets?”. Thus, “this would be one of mankind’s missions: to allow life and conscience to conquer the universe. Human culture biosphere’s reproductive organ, life’s DNA, which will perhaps allow it to further multiply and evolve”.

To Morin and Kern (2002, p. 176), human beings are incapable of controlling their nature, “madness drives them to dominate nature, losing control of themselves”. The authors question whether mankind plans on “dominating the world? While it is nothing but a microbe in the gigantic and enigmatic cosmos. Mastering life? But even if it could one day manufacture a bacterium, it would be merely replicating an organization it was never able to devise on its own”. Scathingly, people reiterate that “man transformed the Earth, domesticated its green spaces, became the master of its animals. But it does not control the world, not even Earth”.

Leff (2001, p. 15)⁵ warns about this view of the human being and

5 “Later we will see how far from this ideal world there is an intersubjectivity based on ‘deep

its connection with progress and economic development: “the mechanistic view of Cartesian reasoning became the constitutive principle of an economic theory that prevailed over the organicist paradigms of life processes”, a fact that legitimized the false idea of “modern civilization progress”. The author emphasizes that “economic rationality banned nature from the sphere of production, generating processes of ecological destruction and environmental degradation”.

In this context, Leff (2001, p. 19-20) states that “the ambivalence of the sustainability discourse arises from the polysemy of the term *sustainability*”, as it takes on two meanings: “one, which translates into Castilian as *sustainable*, which implies the internalization of ecological conditions to support the economic process; and the other, which adduces the durability of the economic process itself”. Therefore, “ecological sustainability constitutes a condition for the sustainability of the economic process”.

This progress calls for a new alternative, as, according to Georgescu-Roegen (2008, p. 57-58), the economic process “is solidly anchored to a material base subject to very precise constraints. It is because of such constraints that the economic process entails an irrevocable one-way evolution”. The author understands that, in the economic world, only “currency circulates in both directions from one economic sector to another (although even metal coins are slowly spent, in such a way that their stock must be continually replenished through the extraction of mineral deposits”. Finally, the author argues that a reflection is in order, as “it is clear that the economists of the two obediences succumbed to the worst economic fetishism. The fetishism of currency”.

To Leff (2008)⁶, degrowth is not only an ideological *slogan* against a

knowledge’ and the view of an environmental rationality composed of rationality matrices that do not unify its views, cognitions, and interpretations in any totality, and whose consensus does not dilutes differences that feed the productivity of the knowledge dialogue inscribed within them. In any case, the basic knowledge that establishes the conditions for consensus does not merely derive from an instrumental rationality or pre-established truth claim” (LEFF, 2003, p. 17, free translation).

“Veremos más adelante cuan alejado de este mundo ideal de una intersubjetividad basada en un ‘saber de fondo’ está la visión de una racionalidad ambiental conformada por matrices de racionalidad que no unifican sus visiones, cogniciones e interpretaciones en ninguna totalidad, y cuyos consensos no disuelven las diferencias que alimentan la productividad del diálogo de los saberes que en ellas se inscriben. En todo caso, el saber de fondo que establece las condiciones de consenso no sólo deriva de una racionalidad instrumental o a una pretensión de verdad preestablecida” (LEFF, 2003, p. 17).

6 “The call for degrowth is not just an ideological slogan against a myth, a *mot d’ordre* to mobilize society against the evils caused by growth, or its fatal outcome. It is not a counter-order to escape growth, as *hippies* have been able to abstract themselves from the dominant culture, nor is it a compliment to communities marginalized from the ‘development’. Currently, not even the most isolated indigenous communities are safe or can break free from the effects of globalization spread by the bellows of economic growth. But how to stop the growth of a process that has an engine as part of its original structure and a genetic code pushing it to either grow or die? How to fulfill this purpose without

myth, but a factor to mobilize society against the evils caused by growth, or its fatal outcome. It would not be a counter-order to escape growth, as *hippies* have been able to abstract themselves from the dominant culture, nor is it a compliment to marginalized communities. The idea is that you shouldn't just think in terms of shrinking, but rather a transition to an economy that is sustainable. This might not be a greening of the existing economic rationality, but another economy, based on different productive principles. The fall implies the deconstruction of the economy, at the same time new productive rationality is built.

The analysis of the sustainable development is based on these aspects⁷, which, according to Leff (2001, p. 57), is “a social and political project that points to the production's ecological ordering and territorial decentralization, as well as to the diversification of the kinds of development and the ways of life of the populations living on the planet”, that is, “it provides new principles to the processes of societal democratization that induce the direct participation of communities in the appropriation and transformation of their environmental resources”. In Barbieri's (2003, p. 37) understanding, sustainable development is a constant inheritance from one generation to another, so that everyone can promote their needs, sustainability, that is, the quality of what is sustainable, starts to incorporate the meaning of maintenance and *ab aeterno* conservation of natural

giving rise to an economic recession with social and environmental impacts on a global and planetary scale as a consequence? Although the economy cannot grow as much as the heads of government and businessmen would like given its own internal crises, to purposely stop growth is to bet on an economic crisis with incalculable effects. Therefore, we must not only think about a drop, but rather a transition to a sustainable economy. This might not be a greening of the existing economic rationality, but another economy, based on different productive principles. A decrease implies the deconstruction of the economy, at the same time that a new productive rationality is built” (LEFF, 2008, p. 84, free translation).

“El llamado al decrecimiento no es tan sólo un slogan ideológico contra un mito, un *mot d'ordre* para movilizar a la sociedad contra los males generados por el crecimiento, o por su desenlace fatal. No es una contraorden para huir del crecimiento como los *hippies* pudieron abstraerse de la cultura dominante, ni un elogio de las comunidades marginadas del ‘desarrollo’. Hoy ni siquiera las comunidades indígenas más aisladas están a salvo o pueden desvincularse de los efectos de la globalización insuflada por el fuelle del crecimiento económico. Pero ¿Cómo desactivar el crecimiento de un proceso que tiene instaurado en su estructura originaria y en su código genético un motor que lo impulsa a crecer o morir? ¿Cómo llevar a cabo tal propósito sin generar como consecuencia una recesión económica con impactos socioambientales de alcance global y planetario? Pues si bien la economía por sus propias crisis internas no alcanza a crecer lo que quisieran jefes de gobierno y empresarios, frenar propositivamente el crecimiento es apostar por una crisis económica de efectos incalculables. Por ello no debemos pensar solamente en términos de decrecimiento, sino de una **transición hacia una economía sustentable**. Ésta no podría ser una ecologización de la racionalidad económica existente, sino otra economía, fundada en otros principios productivos. El decrecimiento implica la **destrucción de la economía**, al tiempo que se construye una nueva racionalidad productiva” (LEFF, 2008, p. 84).

⁷ It is important to observe that there are criticisms of the term sustainable development, as argued by Santos (2013).

resources”. Thus, sustainable development “requires scientific and technological advances that permanently expand the capacity to use, recover, and preserve those resources, as well as new concepts of human needs to alleviate society’s pressures on them”.

Leff (2001, p. 82) presents a new vision for sustainable development, stating that it “goes beyond the purpose of capitalizing on nature and making the economic order greener”. Therefore, “environmental sustainability implies a process of socialization of nature and community management of resources, based on principles of ecological and cultural diversity”. Thus, “democracy and equity are redefined in terms of property rights and access to resources, and conditions for environmental reappropriation”.

According to Nalini (2001, p. 146, emphasis added), “not everyone will be an expert in biodiversity, sustainable development, macro-policies, or environmental macroeconomics”. Therefore, “the duty to be concerned, to participate, and to remain vigilant, however, can be efficiently exercised by anyone”. To the author, “the legal system legitimizes *every citizen* to defend the environment in court, for which they are responsible in front of present and future generations”.

In Penna’s (1999, p. 140) view, sustainable development “requires from the society that its needs are met by increasing productivity and creating equal political, economic, and social opportunities for all”. As such, “it must not endanger the atmosphere, water, soil, and ecosystems, which are fundamental to life on Earth.” Therefore, “sustainable development is a process of change, in which the use of resources, economic policies, population dynamics, and institutional structures are balanced and reinforce current and future potential for human progress”.

However, when it comes to sustainable development, this is understood as a kind of development that can meet the needs of present generations without compromising future generations.

The reality of life on the planet dictates economic development, but the way it is taking place is not sustainable, as environmental degradation and the use of natural resources are becoming increasingly harmful. ICLEI (1996) shows that economic activities are destroying ecological and community development processes, and understands that ecological development reproduces the biological wealth and climatic conditions necessary for life on our planet, while community development reproduces more educated and responsible communities, families, citizens, and civilizations.

Sustainable development is configured as “a program of action for

local and global economic reform – a program that has yet to be fully defined” (ICLEI, 1996). Therefore, “No one fully understands how, or even if, sustainable development can be achieved; however, there is a growing consensus that it must be accomplished at the local level if it is ever to be achieved on a global basis” (ICLEI, 1996).

The United Nations established the pillars for sustainability⁸ through sustainable development, namely, economic, social, and environmental, which must walk hand in hand for the benefit of mankind, nature, and economic development.

Thus, within the economic pillar, in addition to clean production, there is the demand for compliance with social obligations, such as the non-exploitation of labor, for example. Within the social pillar, economic activities must grant all people access to products, making it a global privilege not limited to a single class of society. Therefore, the economy must work towards allowing everyone, without distinction, access to quality goods.

Nowadays, the green economy is growing around the world, but this does not mean that the market⁹ has created environmental awareness. Instead, it remains the same, which does not provide everyone with access to the purchase of green products, which respect the environment. Green products are more expensive, as there is a social restriction for only one layer of the population which can afford such products, opening doors for differentiation.

On the environmental pillar, there is respect for nature, whose concern is in waste management and its production in nature, as well as how to cause a lesser impact. On the other hand, while seeking to reduce waste, such as, for example, using tire rubber to manufacture asphalt, developed countries burden developing countries with their bill and their loss.

The technological pillar of sustainability is important in that it makes it possible to produce without polluting. However, it is known that, even so, pollution exists, meaning that the great powers do not want to change the production matrix, as it would entail a high financial cost. Thus, they continue pushing the “awareness of production” agenda, surrendering to the dominance of the economic market over the social, environmental, and economic contexts.

8 “The construction of the concept of sustainable development continued during the UN World Summit on Sustainable Development, held in Johannesburg, South Africa, in 2010. The Johannesburg Declaration establishes that sustainable development is based on three pillars: economic development, social development, and environmental protection” (SENADO FEDERAL, 2020).

9 According to Scruton (2016, p. 165-166), markets fail when it comes to morals: “consumers would be willing to pay to protect environmental goods, or they would be willing to accept regulations. This is the origin of the ‘environmental economy’”.

In this article, sustainability is perceived as caring for both planet and society, a relationship that presupposes a systemic connection, seeking nature's preservation and social balance, reducing inequalities, poverty, and other problems derived from human action. It is also worrying about the economic issue, to reduce the pollution and halt climate change, for example. The system can sustain and preserve so that there is a balance between economic, social, and environmental development. This idea of sustainability is multifaceted, encompassing a concern about nature, but also the people who live in society, as well as the economic growth that must take place in an orderly and fair manner.

Such sustainability could be defined as the capacity to survive and remain within the social, economic, and environmental system. Leff (2001, p. 409) allows thinking about sustainability stating that "the times of entropic degradation, the cycles of nature and economic crises, technological innovation, and institutional changes are confronted", with that, "the construction of new knowledge paradigms, social behaviors, and productive rationalities is necessary".

As for Nalini (2001, p. 138-139, emphasis added), sustainability "matters in social transformation, being an integrating and unifying concept". Based on this, the author "proposes the celebration of the unity man/nature, in common origin and destiny, and it leads to a new paradigm. There is no need to forfeit progress to preserve the environmental heritage". The author also states that "mankind exploited nature as if it were a free of charge supermarket. Everything was at the service and disposal of the *lord-land owner of the Earth*", and highlights that "such irresponsibility is about to come to an end. After verifying the *finitude* of natural assets, the impairment and deterioration of what was left, rational beings must rethink themselves".

It should be noted that, at the local level, sustainable development means that local economic growth supports the life and power of the community, taking advantage of the talents and resources of residents. Furthermore, "It further challenges us to distribute the benefits of development equitably and to sustain these benefits for all social groups over the long term" (ICLEI, 1996).

2 SUSTAINABLE DEVELOPMENT AND ITS ACHIEVEMENT POTENTIAL WITHIN THE LOCAL SPHERE: THE FIVE "PILLARS" OF IGNACY SACHS

The processes arising from the assumptions of sustainable development must be implemented at the local level, in which the economy, community, and ecology can have their distinct processes, both conjugated and aligned, to enjoy full sustainable development. Thus, according to ICLEI (1996),

Sustainable development is a process of bringing these three development processes into balance with each other. The implementation of a sustainable development strategy, therefore, involves negotiation among the primary interest groups (stakeholders) involved in these three development processes. Once an Action Plan for balancing these development processes is established, these stakeholders must each take responsibility and leadership to implement the plan.

Sachs' (1993, p. 25-27)¹⁰ idea on sustainability is based on five pillars considered fundamental to this work, them being: (1) social sustainability, which is based on a growth process guided by a vision of what is good for society, but to promote equity; (2) economic sustainability, based on more efficient allocation and management of resources, with a regular flow of public and private investment; (3) ecological sustainability, which is based on environmental protection and eco-efficient alternatives; (4) spatial sustainability, aimed at a balanced rural and urban configuration;

¹⁰ The five dimensions of ecodevelopment are:

- “a) *Social sustainability*, understood as the consolidation of a development process based on another type of growth and guided by another view of what a good society is. The objective is to build a civilization of the ‘being’, in which there is greater equity in the distribution of the ‘owning’ and the income to substantially improve the rights and conditions of broad masses of the population and shorten the distance between the life standards of the wealthy and the poor [...]
- b) *Economic sustainability*, allows for a more efficient allocation and management of resources and a regular flow of public and private investment. A fundamental part of this is overcoming the current external conditions, arising from a combination of negative factors, as mentioned: the burden of debt service and the net flow of financial resources from the South to the North, adverse exchange relations, protectionist barriers still existing in industrialized countries and, finally, the limitations of access to science and technology [...]
- c) *Ecological sustainability*, which can be enhanced with the assistance of the following drivers:
 - increasing the carrying capacity of Spacecraft Earth through ingenuity [...]
 - limiting the consumption of fossil fuels and other easily exhaustible or environmentally harmful resources and products [...]
 - reduction in the volume of waste and pollution through the conservation and recycling of energy and resources;
 - self-limitation of material consumption by rich countries and privileged social strata throughout the world;
 - intensifying research into clean technologies, allowing for a more efficient use of resources to promote urban, rural, and industrial development;
 - definition of the rules for adequate environmental protection [...]
- d) *Spatial sustainability*, aimed at a more balanced rural-urban configuration and a better territorial distribution of human settlements and economic activities, [...]
- e) *Cultural sustainability*, in search of the modernization models and integrated rural production systems endogenous roots, favoring change processes within cultural continuity and translating the normative concept of ecodevelopment into a plurality of particular solutions, which respect the specialties of each ecosystem, culture, and location” (SACHS, 1993, p. 25-27).

and (5) cultural sustainability, which seeks models of modernization and integrated rural production systems, favoring change processes within a cultural continuity.

To Ruschel and Portanova (2015, p. 35), there is an assumption of five dimensions of sustainability:

Social, economic, ecological, spatial, and cultural, that is, it must reduce social inequalities with more efficient management of resources, including the use of the potential inherent to the various systems, avoiding excessive geographic concentration of the population, bringing a plurality of particular solutions.

However, sustainability is not a finished concept, rather being in constant construction. In Veiga's (2008, p. 53-55) words, sustainability "is not, and never will be, a notion of precise, discrete, analytical, or arithmetic nature, as any positivist would like it to be". Thus, "as much as the concept of democracy – among many other ideas fundamental to the evolution of mankind –, it will always be contradictory, as it can never be found in its pure state".

Given this, according to Cruz and Real Ferrer (2015, p. 239), sustainability is a concept based on "a process through which one tries to build a global society capable of perpetuating itself indefinitely over time under conditions that ensure human dignity". Meanwhile, Cavalcanti (1998, p. 161) affirms that sustainability is the "possibility of continuously obtaining equal or superior conditions of life for a group of people and their successors within a given ecosystem". Seemingly, sustainability walks hand in hand with an eco-efficient bias, to minimize the social and environmental issues derived from modernity, especially in rural areas.

Sustainability is based on several biases, which should be considered in modern society so that effective local public policies can be implemented. With this prospect on sight, Sachs (1993, p. 27) presents ecological sustainability, explained as the mechanism by which "[...] nature finds new balances through utilization processes that respect its cycle time while preserving the sources of energy and natural resources".

As for social sustainability, Sachs (1993, p. 16) argues that it is based on "development in its multidimensionality, covering the whole spectrum of material and non-material needs". To Freitas (2009, p. 55), "the social dimension of Sustainability manifests in the sense that an exclusionary model cannot be accepted", this happens "because it is useless to contemplate the survival of a few or the relapsed and indifferent oligarchic style,

which denies the link between all beings and the connection of everything, and, thus, the very immaterial nature of development”. In Neves’ (2011, p. 17) view, this kind of sustainability occurs “[...] through the improvement of the population’s quality of life, equity in the distribution of income, and the reduction of social differences, with popular participation and organization”.

Regarding economic sustainability, Cruz and Real Ferrer (2015, p. 239) understand that it consists of “[...] solving a double challenge: on the one hand, increasing wealth generation in an environmentally sustainable way and, on the other, finding the mechanisms for its fairer and more homogeneous distribution”.

Freitas (2009, p. 58) brings in the concept of ethical sustainability: “in fact, the ethically sustainable attitude consists in going in such a way that the production of lasting well-being can be universalized, both within the individual and in their interaction with nature”. The author also points out sustainability’s legal-political dimension, which, according to his understanding, can be split into eleven social rights, such as the rights to a healthy environment, good public administration, and housing¹¹.

According to Sachs (1993, p. 26), social sustainability “presupposes avoiding the exaggerated geographic concentration of populations, activities, and power. It seeks a balanced urban-rural relationship”. It is the sort of sustainability that seeks to balance urban and rural spaces, leading to social equity and sustainable consumption. This is an alternative to intertwining geographic spaces to reduce depopulation in rural areas. Coupled with the others, if this sustainability were effective, besides reducing socio-environmental issues in rural areas, there would be more eco-efficient models of agricultural production, which would lead to the reduction of the biggest problem presented above, that of the depopulation in the agricultural area.

Cultural sustainability, which Sachs (1993, p. 26) introduces as a “normative concept of Ecodevelopment in a plurality of particular solutions, which respect the specificities of each ecosystem, culture, and location” is also included. In Mendes’ (2009, p. 55) view, such sustainability aims at

¹¹ “A – the right to dignified longevity, through effective public policies for physical and mental well-being; B – the right to food with no excesses or shortages; C – the right to a clean environment, with rights to renewable energy; D – the right to education, with emphasis on the harmonious development of the various intelligences and will; E – the right to democracy; F – the right to information free of appreciable content; G – the right to legal and administrative proceedings with a timely outcome; H – the right to security, with creative strategies to resocialize the multiple types of offenders; I – the right to income from honest work above speculation, with monetary stability and fiscal austerity; J – the right to good public administration; K – the right to decent and safe housing” (FREITAS, 2009, p. 64-65).

“promoting, preserving, and disseminating regional history, traditions, and values, as well as monitor their transformations”.

Gingras (2005, p. 56)¹² brings up technological sustainability, by addressing the way of living, and even of thinking, in which the human being interacts in a society guided by reason, but with a strong connection with technological elements. Real Ferrer (2012, p. 307) understands that technologies deemed sustainable are presented as

[...] economically viable methodologies, techniques, systems, equipment, or processes, produced and applied in such a way as to minimize negative and promote positive impacts on the environment, people’s quality of life, and socio-environmentally sustainable development.

The technology used in the field of sustainability allows, for example, for the creation of smart cities, which later lead to the construction of *smart rural communities* to implement smart cities in rural areas, whose bias is linked to the community aspect, with more local public policies and law.

Bodnar (2011, p. 331) understands that technological sustainability “was initially built from a triple dimension: environmental, social, and economic”. Therefore, “in the current knowledge society, it is essential that the technological dimension is added, as it is the accumulated and multiplied individual and collective human intelligence that can ensure a more sustainable future”. The author also states that, from a legal point of view, these dimensions “identify with the basis of various human and fundamental rights (environment, development, social benefit rights, among others), each with its peculiarities and risks”¹³.

12 “The world we live in is a product of human reason. It is the combination of technique and reason that gives rise to technology. Since the *homo sapiens* is a *homo faber*, everything around them can only be artificial, that is, a product of art. In this precise sense, the human being is necessarily an unnatural being, the most paradoxical product of nature. In short, it became a *homo techno-logicus*” (GINGRAS, 2005, p. 56, free translation).

“Le monde dans lequel on vit est un produit de la raison humaine. C’est la combinaison de la technique et de la raison qui donne naissance à la technologie. L’*homo sapiens* étant un *homo faber*, tout ce qui l’entoure ne peut qu’être artificiel, c’est-à-dire un produit de l’art. En ce sens précis, l’être humain est nécessairement un être contre-nature, anti-nature, produit le plus paradoxal de la nature. Il est devenu, en somme, un *homo techno-logicus*” (GINGRAS, 2005, p. 56).

13 “Sustainability must be understood in its environmental, social, economic, and technological dimensions. And also as a three-dimensional ethical imperative: implemented in synchronous solidarity with the current generation, diachronic with future generations, and in solidarity with nature, that is, for the benefit of the entire life-community and including the abiotic elements that support it. The guarantee of a just social and environmental legal order depends on a new global development model that internalizes environmental protection as a central object of concern. This requires the legal construction of sustainability as a principle endowed with a promotional, optimizing, and guiding form. The consolidation of sustainability as a legal principle is of extraordinary importance to ensure environmental justice across present and future generations and also consolidate a true culture of global sustainability based on the paradigm of bringing people and cultures closer together, with the citizen’s participation in a conscious and reflexive way within the political, economic, and social

Zylbersztajn and Lins (2010, p. XV) point at the idea of corporate sustainability, which will induce a new business management model, taking the economic-financial dimensions together, with the environmental and social dimensions into consideration in the decision-making process. This concept “starts from the observation that productive activities or service providers generate both positive and negative externalities”. The authors place “the economic and social development of a certain region based on the installation of an industry in the location”, or, also, “the improvement of the quality of life of communities when contemplated with employment opportunities” as an example of positive externalities. One could mention “air pollution, the emission of greenhouse gases, the increase in noise, or even the disorderly growth of a given location due to unplanned interference by a productive activity” as examples of negative externalities.

Zylbersztajn and Lins (2010, p. XV) carry on by saying that corporate sustainability “concerns the way of doing business, as well as the kind of business that a company intends to develop”, in addition to “encompassing production processes, relationships with stakeholders, accountability and public commitments, and requires a willingness to break paradigms”.

Regarding this aspect, we observe that to preserve the environment and society, there are many dimensions to sustainability. Thus, we must look for parameters tending to harmony.

Sachs (2002), in turn, presents some criteria for achieving sustainability: the first is based on the social bias, with the search for income distribution and social homogeneity, as well as equal access to social resources and services¹⁴. The cultural aspect appears as the second criterion, which proposes changes and balance between tradition and culture while seeking some self-confidence¹⁵. The third is based on ecology, with the search for the preservation of natural capital and natural resources¹⁶.

The fourth criterion is based on environmental issues, which must respect natural ecosystems. The fifth criterion is a territorial concern, based

management” (BODNAR, 2011, p. 340).

14 “**Social:** – reaching a reasonable level of social homogeneity; – fair income distribution; – full and/or autonomous employment with decent quality of life; – equality in access to social resources and services” (SACHS, 2002, p. 85-89).

15 “**Cultural:** changes within continuity (balance between respect for tradition and innovation); – autonomy capacity for the elaboration of an integrated and endogenous national project (as opposed to servile copies of alien models); – self-confidence combined with openness to the world” (SACHS, 2002, p. 85-89).

16 “**Ecological:** – preservation of the potential of natural capital in its production of renewable resources; – limited use of non-renewable resources” (SACHS, 2002, p. 85-89).

on better planned urban and rural configurations¹⁷. As the sixth criterion, the author highlights the economic aspect, including the search for food security, balanced economic development, among others¹⁸. The seventh criterion regards politics, under a national perspective, in which democracy and the universalization of rights are defended as a project of the national State¹⁹. Finally, the eighth criterion is bound to politics at the international level, aiming, for example, at the effectiveness of the war protection system, peace maintenance, and international cooperation (SACHS, 2002)²⁰.

The conflict between development and the environment requires an answer, as sustainability does not materialize without it. These are fundamental pillars for the achievement of the different types of sustainability, allowing it to shift into a right, to allow populations to enjoy sustainability in a way that respects nature's vital cycles, as well as granting the populations living on the margins of social inequality and poverty in Brazil. Sustainability is one of the means to minimize the socio-environmental problems faced by those countries, however, mankind and the way capital exists nowadays must be perceived through new rationality.

Sustainability surpasses the meaning of simply not degrading the environment, it incorporates issues of quality of life, business competitiveness, technologies, corporatism, clean technologies, rational use of soil and natural resources, poverty reduction and social inequality, social responsibility, among other aspects. This allows for growth and

17 **“Environmental:** – respect and enhance the self-purification capacity of natural ecosystems”; Territorial “- balanced urban and rural configurations (elimination of the urban bias in public investment allocations); – improvement of the urban environment; – overcoming inter-regional disparities; – environmentally safe development strategies for ecologically fragile areas (conservation of biodiversity through ecodevelopment)” (SACHS, 2002, p. 85-89).

18 **Economic** – “balanced intersectoral economic development; – food safety; – capacity for the continuous modernization of production instruments; reasonable autonomy level in scientific and technological research; – sovereign insertion within international economy” (SACHS, 2002, p. 85-89).

19 **Politics at the national level,** in which “- democracy is defined in terms of universal appropriation of human rights; – development of the State’s ability to implement the national project, in partnership with all entrepreneurs;” thus being considered “- a reasonable level of social cohesion” (SACHS, 2002, p. 85-89).

20 **Politics at the global level** “- the effectiveness of the UN war preservation system, in ensuring peace and promoting international cooperation; – a North-South co-development package, based on the principle of equality (rules of the game and sharing responsibility to favor weaker partners); effective institutional control of the international financial and business systems”; effective institutional control of the Precautionary Principle application in the management of environment and natural resources; negative global changes preservation; biological (and cultural) diversity preservation; the same criterion for the global heritage management, as a common heritage of humanity; – an effective system for international scientific and technological cooperation and partial elimination of the commodity character of science and technology, also as a property of the common heritage of humanity” (SACHS, 2002, p. 85-89).

profit generation, but in an orderly manner, so that natural resources are not degraded with the only purpose of generating exaggerated profits for some, while others are kept on the outskirts of social inequality and poverty. The idea is that sustainability should be everyone's right, and its pillars and various faces, as seen above, can provide well-being not only to human beings but mainly to nature.

As noted, there is no single definition for sustainability; however, there are guidelines from the authors that allow us to verify and understand which factors should be considered when assessing sustainability in today's society and within the capitalist system in which society is inserted. The search for sustainable organizations and companies, and the growing awareness that there must be an improvement in environmental, social, and economic conditions, results in socially sustainable individuals. There must be a change in the capitalist rationality, guiding it towards the goal to preserve the environment and its natural resources, together with humanity, as, in a so-called modern globalized society, it is inconceivable that there are so many people facing poverty and social inequality.

3 STRATEGIC PLANNING IN *SMART RURAL COMMUNITIES* AS A MECHANISM FOR LOCAL PARTICIPATION AND SUSTAINABILITY FEASIBILITY

Management and planning are necessary for the programming of a public policy for the realization of the *smart rural communities*²¹ – which represents the potential of making Sachs' sustainability effective. With these elements, such intelligent communities can function efficiently and effectively, with the possibility for their implementation within the agricultural sphere and, therefore, fomenting local participation and sustainability to minimize social and environmental problems.

The idea of strategic planning in the agricultural sphere relates to the fact that their reality is quite different from urban reality. The idea is to expand this planning to the rural area, which deserves a differentiated municipal management to promote its particularities and individualities for the better development of its community.

²¹ "A smart rural community uses broadband networks to enable a series of applications that the community can leverage for innovative economic development and commerce, topnotch education, first-rate health care, cutting-edge government services, enhanced security and more efficient utility use. Broadband facilitates greater interconnection for intra and intercommunity resources. Moreover, broadband enables intelligent networks, making communities smarter, more efficient and better able to prepare their citizens to participate in the global economy" (WARD, 2012, p. 3).

Within the urban sphere, the City Statute appears with the purpose of establishing norms of public order and also of “social interest, aiming at the regulation of the use of urban property in favor of a sustainable use of urban space, seeking quality of life for both current and future generations” (NASCIMENTO; CAMPOS; SCHENINI, 2006, p. 133). Thus, the statute presents the regulation of legal instruments for cities management and democratic participation, recommending popular participation in master plans (SANT’ANNA, 2011).

Sant’anna (2011, p. 134) affirms that a planning closely linked to local spaces is essential for the implementation of *smart rural communities*. Thus, when a viable local planning is sought, it is necessary to provide the citizens’ well-being, bearing in mind that the community “is the sensitive core of urban issues and the main interest in improving their living conditions, and must act effectively in the discussion and solution of each of the aspects that involve their government”. To Lodder (1976, p. 2), the fact of “emphasizing the rural aspects of planning is not to deny the interrelationship and interdependence between rural and urban regions, but rather to emphasize the specificity of certain issues”.

Planning²² is essential, whether at the local or national level, as the lack of it can allow for changes caused by man in the environment, often in an accelerated way, and which, in many cases, do not allow for the natural recovery. Therefore, natural life cycles are not respected. According to Nascimento, Campos, and Schnini (2006, p. 123-124), the participation of all actors involved in the dynamics of cities is necessary for this complex system to be planned. However, in addition to urban, environmental planning is essential, as the environment is the “core keynote and backdrop for any type of discussion, from the improvement of industrial performance, which is dependent on environmentally correct actions, to global public policies such as the Agenda 21”.

In local planning, there is the need for the urban planning to aim at the rural planning to enable the implementation of *smart rural communities*. The strategic planning concept applied in cities becomes important in rural areas, as it allows for the feasibility of *smart rural communities’ implementation and efficiency*. This way, strategic planning becomes

²² “It is impossible to separate urban and rural to ensure the full development of the social functions within the city, as the local social and economic system rely on urban equipment, infrastructure, and services to develop its agricultural and agrarian activities across the rural areas of the city. Thus, for the municipality to promote the urban development policy, the Master Plan must be understood as an instrument of sustainable local development with norms targeted at covering the entire territory, including urban and rural areas” (SAULE JÚNIOR, 2004, p. 46).

a management process that presents the future of institutional decisions based on the formulation of objectives, programs, goals, and strategies that, when implemented, will ensure the effectiveness of the planning. By instrumentalizing strategic planning, it contributes to the use of essential instruments for better management in rural areas.

Strategic planning seeks alternatives to implement *smart rural communities*, sustainability, law, and public policies in rural spaces. There must be a set of systemic mechanisms at the core of *smart communities*, allowing for the contextualization and definition of established goals, the undertaking of actions, mobilization of resources, and decision-making to reduce the problems which are rampant in Brazil.

Some alternatives and important points that should be part of the strategic planning are proposed below, outlining several aspects that may contribute so that rural areas can minimize their issues. It starts with rural strategic planning, considering that services must be provided in the long term, promoting the maintenance of various systems, such as infrastructure, that is, public transport, sewage, and basic sanitation systems, education, etc. There must also be health care, public safety, and education programs, as well as others allowing people to remain in the countryside.

Procedures should be developed to look for methods of approving the economic development as it is being pursued. With the help of technology, we can develop orderly production and development processes, based on sustainability and social concern.

A management routine is also imperative, as technology can help human beings where there are recurrent activities, such as garbage collection and buildings inspection. Such technology could also help with waste disposal without polluting the environment. In this case, rural management in waste disposal is essential, in which the government can verify the best disposal alternative, either by reverse logistics, recycling companies within the community, or a way of using technology to recycle. This allows for management intervention, admitting that it is possible to control pollution, raise awareness, and educate farmers in the use of pesticides, which are so harmful to themselves and the environment.

Nowadays, there is a very negative perception of waste disposal methods, and one of the causes may lie within the existing means of production. In this transformation scenario, a cyclical look is in order so that different means of disposal are found, such as the production of natural fertilizers, encouragement of clean energy with less use of fossil fuels, a

method to dispose of pesticide containers, among other aspects that could be rethought.

Another concern is related to climate change, which is something very pressing today. Therefore, we need sustainable practices for agriculture, especially in Brazil, but also in Spain. It is essential to seek contributions and local public policies for the maintenance of ecosystem services and biomes restoration, in addition to a form or a productive system based on low carbon usage, actions to allow the reduction of the impacts of climate change now and in the future.

A matrix to assist those who want to invest and those who want to produce is mandatory, but the risks must also be assessed, seeking strategies to adapt to climate change based on which there is the adjustment of territorial and legal ordering combined with the reduction of vulnerability producer due to climate changes and external events. Therefore, direct financial investments, such as more affordable plantation insurance, are also in order.

Land management is another issue to be addressed, as well as a local-based public policy aiming at the management of segments of plantations worked unsustainably, compensating another segment in a highly sustainable way, as the existence of unsustainable productions cannot be denied, and, therefore, calls for the systemic balancing of this reality.

This management demands actions such as the reduction of chemical fertilizers and fertilizers; the use of sustainable techniques to avoid soil, water, and air pollution; the elimination of pesticides or their rational use and implementation only when necessary, as well as the prohibition of use for illegally acquired pesticides, at the risk of contaminating the soil and being a hazard for the producer; the use of rainwater harvesting systems for cultivated products irrigation; no deforestation and environmental preservation of areas to increase production; waste avoidance, applying recycling techniques whenever possible; the use of clean energy; and respect for the labor laws for rural workers.

Thanks to the use of technology, municipal services in smart communities allow for the effecting of resources relevant for the insurance of people's basic rights, such as drinking water and sanitation, as well as the preservation of natural resources. Thus, human resources, such as qualified labor and working conditions, must also be part of this agenda. It is imperative to enforce labor rights and the issue of occupational health of workers who must use PPE to apply pesticides and need to be aware of what kind

of products are prohibited and harmful to their health, in addition to having their rights guaranteed by the national legislation. Technology contributes to this, proving that work can be less unhealthy and/or dangerous. They must be protected from labor hazards, with rights supported by Law and specific legislations.

It is also key that the smart community seeks sustainability together with municipal services, aiming at the protection of ecosystems such as watersheds and caring for coastal fishing, forests, and land management, among other aspects. There must also be a concern for social systems, so that families and community organizations are provided with health services, education, culture, etc. Therefore, if the municipal appliances do not provide these services, the *smart communities* are doomed to failure, unable to sustain themselves, even if the technology is used.

All of this calls for the elaboration of a national and local education policy, articulated with a sustainability project for rural areas, as well as the verification of how action proposals could be implemented. Education should facilitate the use of technologies and citizen awareness, enabling the participation of members of the rural community in decision-making regarding their communities' issues and successes.

A study of the socio-environmental and agro-ecological realities of the community is paramount to the verification of how each agricultural municipality investigates its activities and issues. Thus, it is possible to identify inadequate practices in production and processing and, based on this assessment, create public policies that include soil management and management techniques aimed at the tripod of sustainability: economic, social, and environmental. Local public policies are a means to solve local socio-environmental problems, as they allow for the definition of specific problems in a given community, those which would probably not be covered by a national public policy.

It is through structured and well-aligned strategic planning that rural producers can be made competitive, in addition to ensuring that their actions are based on the economic, social, and environmental pillars of sustainability. The consolidation of rural producers' actions based on the tripod of sustainability generates a more profitable production with environmental quality, as well as leading to better prices, product quality, new markets, consolidation within current markets, environmental preservation, equitable justice, among other aspects. Therefore, local public policies are a way to consolidate strategic planning, together with the Law and its legislation.

Without a doubt, the reality of each community is known within the local space, allowing the government to listen to them and accept, as well as respect, their decisions, strengthening the feeling of belonging and respect towards others and the environment.

This requires a larger number of aware markets, demanding products whose quality is bound to sustainability, implementing compliance guidelines and policies to integrate the strategic planning of smart communities. Protocols and execution standards are needed to meet the specifications for employment and soil management, as well as actions for the use of natural resources to preserve the environment and safety concerning the health of rural workers involved in agricultural production.

Technology and its management are also important factors allowing intelligent communities to function. Technology in agriculture promotes sustainability expansion, having the reduction of greenhouse gas emissions, the recovery of degraded pastures, and livestock, farming, and forestry integration with a no-tillage system and the treatment of animal waste as applicable levels, contributions that can be implemented by local public policies, considering the needs of each rural municipality.

In Brazil, there are a few strategies for strategic planning. According to Embrapa (VICENTE, 2018), there are sustainability indicators for the adoption of technological innovations (Ambitec-Agro) and environmental management of rural activities. Biological pest control is also needed, a “rational and healthy control method, whose ultimate objective is to implement these natural enemies, which do not add residues to the foods and are harmless to the environment and the health of the population”. Also, an electrostatic technology is needed for the application of pesticides: the “electrostatic spraying method is a state-of-the-art technology for more rational phytosanitary pest control processes, applying the appropriate amount of spray directly on the target plant, avoiding excesses and losses”. As a result, “tests show savings of up to 70% in the volume of spray liquid and a reduction of up to 20 times in losses to the soil”.

Furthermore, participation in public policies and government programs is essential, which reiterates the importance of public sustainability policies. A forest code assessing the demands of environmental degradation is also in order. Some alternatives presented by Vicente (2018) are the ABC Plan, whose acronym ‘ABC’ derives from the initials of the words ‘Agricultura de Baixo Carbono,’ meaning ‘Low Carbon Agriculture,’ a term initially adopted to identify GHG emission mitigation actions in agriculture. This is

a public policy based on a “set of actions aimed at promoting the expansion of the adoption of sustainable agricultural technologies with high potential for mitigating Greenhouse Gas (GHG) emissions”. Those technologies being: “Recovery of Degraded Pastures, Crop-Livestock-Forest Integration (ILPF), Direct Tillage System (SPD), Biological Nitrogen Fixation (FBN), Planted Forests and Animal Waste Treatment” (VICENTE, 2018).

Another strategy is the National ILPF Policy, which presents “among its objectives the promotion of degraded pastures, with the adoption of Crop-Livestock-Forest Integration systems”. Besides that, there is the integrated production (IP), which consists of “a production system that advocates the adoption of a set of best agronomic practices”. This policy aims to “ensure the quality and productivity of crops within a sustainable basis, respecting the environment and human health, with the generation of economic profitability and social equity”. There is the National Biofuel Policy (RenovaBio), a State policy aimed at outlining a joint tactic “to recognize the strategic role of all types of biofuels within the Brazilian energy matrix, both for energy security and mitigation of greenhouse gas emissions reduction” (VICENTE, 2018).

These are alternatives of public policies used in Brazil that could be part of the strategic planning to assist in the implementation of methodologies, objectives, and tactics to make the *smart rural communities* effective and, mainly, to reduce the existing socio-environmental problems. We must look at rural communities and their problems. With this, it is understood that there is a need to analyze local community problems and issues related to development and services, which proves essential to solving such issues, as all citizens can take part in it, feeling that they belong to the spaces they inhabit. There is a need for municipal investments and support from public and private authorities in actions that respond to the needs, problems, and concerns found in rural municipalities. Therefore, service strategies are beneficial to both the knowledge and the resources that people in these municipalities and local institutions have to contribute to solving the problems that arise. A process is also mandatory to analyze these problems, which should facilitate education and awareness among stakeholders regarding the conditions for providing technological, financial, social, and ecosystem services.

Therefore, to analyze the problem of the rural community, it is necessary to establish a process to gather and discuss local agents’ knowledge and perspectives. Also, a technical assessment is needed so that additional

information can be provided to the stakeholders, honing their potential for decision-making and ensuring accuracy and consensus concerning local issues. With the knowledge of what is available within the rural community, there are good benefits, in addition to a process that can help to establish priorities for which actions, programs, and public policies may assist in the strategic planning.

CONCLUSION

From the study of this article, anchored by Ignacy Sachs' (1993) theoretical framework of the dimensions, to implement the sustainability presented at the Stockholm Conference with the introduction of the economic, environmental, and social tripod, we observed that sustainability can be approached as everyone's right. Also, there is no single definition for the concept of sustainability. However, the authors provide us with guidelines that allow for the verification and understanding of which factors should be taken into consideration in the assessment of sustainability and how it can be linked to the principle of subsidiarity, which brings a new perspective for the community development.

It is understood that the State must develop public policies based on the requirements of sustainability focused on social, economic, and environmental concerns, to protect and defend both the environment and people living in society, creating spaces of protection and enforcement of social and environmental planning. With that, there is the argument that municipalities can fully debate the matters of local interest related to the environment, as the municipal legislation cannot contravene the norms of the Union, which are general, nor the state norms, although it is granted the function of adapting national laws and guidelines to local particularities.

We have also observed the inexistence of a single unified definition for sustainability. However, the authors provide us with directions that allow us to verify and understanding which factors to consider while measuring sustainability in today's society. Besides that, sustainable organizations and companies able to grow from the awareness of the improvement in environmental, social, and economic conditions, thus allowing people and companies to turn socially sustainable. There is a need for a change in rationality, seeking to preserve the environment and its natural resources, together with mankind in its entirety, with no distinctions of any kind, that is, a systemic view on economic growth, social development, and respect

for the environment and its natural resources is needed.

Finally, there was evidence that it is possible to implement sustainability in the agricultural sphere as a right of the local community. We have also observed that alternatives for sustainability are lacking in rural communities, given the serious social and environmental issues rampant across the world. Another point addressed was the use of technology as an element to reduce environmental risks, as it can be applied as an alternative in agricultural management and the use of pesticides, which are harmful to the environment, the producer, and the final consumer.

In the third and last topic, the municipal management of *smart rural communities* was analyzed as a mechanism for local participation and sustainability feasibility. In this topic, strategic planning was presented to explain the core processes, guidelines, and expectations paramount in smart rural communities.

Rural strategic planning at the local level is essential, as its absence allows for potentially negative changes as a result of the absence of a guideline establishing what can or cannot be done. Planning works together with the master plan, as it must take into account a series of issues and themes related to local development, such as food security, combating poverty and social inequality, health, culture, social mobility, and education.

Therefore, the planning of actions is essential during *smart rural communities'* implementation, allowing for the identification and analysis of the action goals, which constitute the objectives the community intends to pursue to facilitate the verification of the guidelines and priorities for resources allocation. With goals, it is possible to lead the public and private powers, as well as specialists and the population, so that specific public programs or policies are developed and, thus, the community's vision is materialized in measurable goals aimed at the social, environmental, and economic concerns, and bringing the sustainability bias into intelligent communities.

The implementation of action requires the establishment of partnerships and, at times, it will require operational adjustments and institutional reorganization, which is the norm, since the successes and errors in the original plan can only be assessed after their implementation. Pre-existing administrative and legal procedures, the splitting of responsibilities between public entities, and contractual agreements must also be observed and adjusted in a way that allows for transparency and participation of all who will help in practice, whether service users or partner institutions.

Rural municipalities must carry out internal reforms to support partnerships and external projects, as well as monitoring and inspecting the work carried out within *smart rural communities*.

In short, within its action plan, the rural strategic planning must contain a technical-productive framework, including technical components and property limitations, in which the internal production flow can be verified, the technology is allowed to certify how many and which inputs shall be used over time, as well as examining and estimating whether the production needs agricultural defensives and planning investments, seeking maximum production efficiency and optimizing the use of inputs to generate sustainability. Marketing planning is another key issue, requiring a product procurement and sales plan, checking the best price and sales to assess both market behavior and the availability of inputs and products, allowing for a financial estimate ascertaining whether such resources support the investment capacity.

Rural strategic planning is the result of a series of variables and is vital for the success of the activities to be developed, as in the case of *smart rural communities* implementation. It brings together several components and provides insight into the hits and misses and what must be done to define and align decision-making, reiterating that everyone's participation is essential. Such planning configures policy management, ranging from risk to success. A well-designed planning with defined guidelines represents a great competitive advantage, as it could mean the difference between a positive and negative outcome, which should sustain the rural environment in the face of current economic, social, and environmental uncertainties.

Agricultural production makes way for externalities that affect societies, but if strategic planning and local public policies are used, it will be possible to reduce the environmental and social risks of production, as well as encouraging people to remain in rural communities to produce and, with this, minimize the problem of rural depopulation. Therefore, all these issues must be evaluated under good strategic planning, aimed at the development of a rural municipal service system, able to ensure service distribution systems working equitably and sustainably, being economically viable, and capable to contribute to the community and protect the environment and its natural resources.

REFERENCES

- ACOSTA, A.; GUDYNAS, E. El buen vivir o la disolución de la idea del progreso. In: ROJAS, M. (coord.). *La medición del progreso y bienestar: propuestas desde América Latina*. México, DF: Foro Consultivo Científico y Tecnológico, 2011.
- ARENDT, H. *A condição humana*. 10. ed. Rio de Janeiro: Forense Universitária, 2001.
- BARBIERI, J. C. *Desenvolvimento e meio ambiente: as estratégias de mudanças da Agenda 21*. Petrópolis: Vozes, 2003.
- BODNAR, Z. A sustentabilidade por meio do direito e da jurisdição. *Revista Jurídica Cesumar*, Maringá, v. 11, n. 1, p. 325-343, jan./jun. 2011. Available from: <https://periodicos.unicesumar.edu.br/index.php/revjuridica/article/download/1885/1262/>. Access on: Feb. 25, 2020.
- CAVALCANTI, C. Sustentabilidade da economia: paradigmas alternativos da realização econômica. In: CAVALCANTI, C. (org.). *Desenvolvimento e natureza: estudo para uma sociedade sustentável*. São Paulo: Cortez; Recife, PE: Fundação Joaquim Nabuco, 1998.
- CRUZ, P. M.; REAL FERRER, G. Direito, sustentabilidade e a premissa tecnológica como ampliação de seus fundamentos. *Sequência: Estudos Jurídicos e Políticos*, Florianópolis, v. 36, n. 71, p. 239, dez. 2015. Available from: <https://periodicos.ufsc.br/index.php/sequencia/article/view/2177-7055.2015v36n71p239/30798>. Access on: Sep. 1, 2019.
- FREITAS, J. *Sustentabilidade: direito ao futuro*. São Paulo: Fórum, 2009.
- GEORGESCU-ROEGEN, N. *O decrescimento: entropia, ecologia e economia*. Lisboa: Instituto Piaget, 2008.
- GINGRAS, Y. *Éloge de l'homme techno-logicus*. Saint-Laurent: Fides, 2005. (Coleção Les grandes conférences).
- ICLEI – INTERNATIONAL COUNCIL FOR LOCAL ENVIRONMENTAL INITIATIVES. *The local agenda 21 planning guide: an introduction to sustainable development planning*. Toronto: ICLEI, 1996. Available from: https://www.idrc.ca/sites/default/files/openbooks/448-2/index.html#page_1. Access on: Apr. 3, 2020.
- LEFF, E. Decrecimiento o desconstrucción de la economía: hacia un mundo sustentable. *Revista Polis*, v. 7, n. 21, 2008, p. 81-90.

LEFF, E. *Epistemologia ambiental*. São Paulo: Cortez, 2002.

LEFF, E. Racionalidade ambiental y diálogo de saberes: sentidos y senderos de un futuro sustentable. *Desenvolvimento e Meio Ambiente*, Curitiba, n. 7, p. 13-40, jan./jun. 2003.

LEFF, E. *Saber ambiental: sustentabilidade, racionalidade, complexidade e poder*. Rio de Janeiro: Vozes, 2001.

LÉVY, P. *A conexão planetária: o mercado, o ciberespaço, a consciência*. São Paulo: Editora 34, 2001.

LODDER, C. A. Planejamento regional: o ponto de vista rural. *Pesquisa e Planejamento Econômico*, Rio de Janeiro, v. 6, n. 3, p. 807-8016, dez. 1976.

MENDES, J. M. G. Dimensões da sustentabilidade. *Revista das Faculdades Santa Cruz*, Curitiba, v. 7, n. 2, p. 49-59, jul./dez. 2009. Available from: <http://www.santacruz.br/v4/download/revista-academica/13/cap5.pdf>. Access on: Sep. 1, 2019.

MORIN, E.; KERN, A. B. *Terra pátria*. 3. ed. Porto Alegre: Sulina, 2002.

NALINI, J. R. *Ética ambiental*. Campinas: Millennium, 2001.

NASCIMENTO, D. T.; CAMPOS, E. T.; SCHENINI, P. C. Estatuto da cidade: um instrumento democrático para o ordenamento territorial urbano. In: NASCIMENTO, D. T.; CAMPOS, E. T.; SCHENINI, P. C. (orgs.). *Planejamento, gestão e legislação territorial urbana: uma abordagem sustentável*. Florianópolis: Papa-livro, 2006.

NASCIMENTO, D. T.; CAMPOS, E. T.; SCHENINI, P. C. Estatuto da cidade: um instrumento democrático para o ordenamento territorial urbano. *Katálysis*, Florianópolis, v. 6, n. 2, p. 181-192, jul./dez. 2003. Available from: <https://periodicos.ufsc.br/index.php/katalysis/article/view/6460/6304>. Access on: Apr. 17, 2020.

NEVES, L. S. *Sustentabilidade: anais de textos selecionados do 5º seminário sobre sustentabilidade*. Curitiba: Juruá, 2011.

PENNA, C. G. *O estado do planeta: a sociedade de consumo e degradação ambiental*. Rio de Janeiro: Record, 1999.

REAL FERRER, G. Calidad de vida, medio ambiente, sostenibilidad y ciudadanía ¿construimos juntos el futuro? *Revista Novos Estudos Jurídicos*,

Itajaí, v. 17, n. 3, p. 310-326, set./dez. 2012.

RUSCHEL, C. V.; PORTANOVA, R. Desenvolvimento e meio ambiente: que rumo o direito deve seguir? *Revista Eletrônica Direito e Política*, Itajaí, v. 10, n. 1, p. 24-45, 2015. Available from: <https://siaiap32.univali.br/seer/index.php/rdp/article/download/7158/4057>. Access on: Apr. 6, 2020.

SACHS, I. *Caminhos para o desenvolvimento sustentável*. Rio de Janeiro: Garamond, 2002.

SACHS, I. *Estratégias de transição para o século XXI: desenvolvimento e meio ambiente*. São Paulo: Studio Nobel, 1993.

SANT'ANNA, M. S. Planejamento urbano e qualidade de vida – da Constituição Federal ao Plano Diretor. In: DALLARI, A. A.; DI SARNO, D. C. L. (coords.). *Direito urbanístico e ambiental*. 2. ed. rev. Belo Horizonte: Fórum, 2011.

SANTOS, B. S. Direitos humanos, democracia e desenvolvimento. In: CHAUI, M.; SANTOS, B. S. *Direitos humanos, democracia e desenvolvimento*. São Paulo: Cortez, 2013.

SAULE JÚNIOR, N. A competência do município para disciplinar o território rural. In: SANTORO, P.; PINHEIRO, E. (orgs.). *O planejamento do município e o território rural*. São Paulo: Instituto Pólis, 2004. p. 41-52. (Cadernos Pólis, 8).

SCRUTON, R. *Filosofia verde: como pensar seriamente o planeta*. São Paulo: É Realizações, 2016.

SENADO FEDERAL. ONU estabelece três pilares para o desenvolvimento sustentável dos países: econômico, social e ambiental. *Revista Em Discussão* Available from: <https://www.senado.gov.br/noticias/Jornal/em-discussao/rio20/temas-em-discussao-na-rio20/onu-estabelece-tres-pilares-para-o-desenvolvimento-sustentavel-dos-paises-economico-social-e-ambiental.aspx>. Access on: Apr. 1, 2020.

VEIGA, J. E. *Desenvolvimento sustentável: o desafio do século XXI*. 3. ed. Rio de Janeiro: 2008.

VICENTE, M. EMBRAPA destaca as contribuições da pesquisa para a sustentabilidade. *NEO MONDO*, jun. 2018. Available from: <http://www.neomundo.org.br/2018/06/28/agricultura-e-meio-ambiente/>. Access on: Apr. 13, 2020.

WARD, J. *The smart rural community*. Arlington: The Rural Broadband Association, 2012. Available from: <https://www.ntca.org/sites/default/files/documents/2017-12/TheSmartRuralCommunity.pdf>. Access on: Mar. 27, 2020.

WILSON, E. O. *O futuro da vida: um estudo da biosfera para a proteção de todas as espécies, inclusive a humana*. Rio de Janeiro: Campus, 2002.

ZYLBERSZTAJN, D.; LINS, C. *Sustentabilidade e geração de valor: a transição para o século XXI*. Rio de Janeiro: Elsevier, 2010.

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