



Risk management in rural development and land use planning: the case of San Lorenzo, Esmeraldas – Ecuador

Gestión de riesgo en el desarrollo y ordenamiento territorial rural: caso San Lorenzo, Esmeraldas – Ecuador

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Abstract

The present investigation was carried out with the objective of evaluating the risk management strategies established by the decentralized autonomous parish governments, through the development and territorial planning plans, considering the objectives of sustainable development. For this case, nine rural parishes in the canton of San Lorenzo, Esmeraldas, Ecuador were taken as the territorial scope of the analysis. A review of the Ecuadorian legislation that regulates rural territorial planning was carried out, as well as interviews with key actors of the communities located in the parish capitals, to evaluate their knowledge of strategies, programs and projects focused on disaster risk management and citizen contribution in the construction of development plans and land use planning. One of the findings found in this study is that the participation of the community in the construction of development plans and land use planning is very low, since only 32.22% of them state that they have contributed to the development of these tools of planning of the parochial decentralized autonomous governments.

Keyword: land use planning; risk management; sustainable development goals.

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Resumen

La presente investigación se realizó con el objetivo de evaluar las estrategias de gestión de riesgo que establecen los gobiernos autónomos descentralizados parroquiales, a través de los planes de desarrollo y ordenamiento territorial, considerando los objetivos de desarrollo sostenible. Para este caso, se tomó como ámbito territorial análisis, nueve parroquias rurales del cantón San Lorenzo, Esmeraldas, Ecuador. Se realizó una revisión de la legislación ecuatoriana que norma el ordenamiento territorial rural, así como entrevistas a actores claves de las comunidades situadas en las cabeceras parroquiales, para evaluar su conocimiento frente a estrategias, programas y proyectos enfocados a la gestión de riesgo de desastre y el aporte ciudadano en la construcción de los planes de desarrollo y ordenamiento territorial. Uno de los hallazgos encontrados en este estudio es que la participación de la comunidad en la construcción de los planes de desarrollo y ordenamiento territorial, es muy baja, ya que solo el 32,22% de ellos manifiesta haber aportado en la elaboración de estas herramientas de planificación de los gobiernos autónomos descentralizados parroquiales.

Palabras clave: ordenamiento territorial; gestión de riesgo; objetivos de desarrollo sostenible.

Introduction

The United Nations General Assembly adopted in September 2015 the 2030 Agenda, which included the 17 Sustainable Development Goals (UNITED NATIONS, 2015), under criteria of economic, social and environmental sustainability, (Arzeno, 2019) considering risk management as an international policy to limit, mitigate, reduce, prevent and control the negative effects generated by adverse events, whether natural or anthropogenic (Mora, 2020).

In 2018, Ecuador reiterated this commitment, so it urged and provided the institution that governs state planning and development, the articulation of public policies on land use planning with the 2030 Agenda for sustainable development (PLANIFICA ECUADOR, 2019). Land use planning is constituted as a legal technical instrument that allows planning (Carrión, Vieyra, Arena, & Alvarado, 2020) at the regional, provincial, cantonal and parish levels; in which the decentralized autonomous governments are responsible for its formulation and execution for the development of their jurisdiction (Benavent & Vivanco, 2019).

The Sustainable Development Goals (SDGs), also known as global goals, were adopted by all Member States in 2015 (Alonso, 2021) as a universal call to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030 (UNDP, 2021). Risk management is conceived as an integral process (Sandoval, 2020), which seeks to identify, analyze and quantify the probabilities of losses and effects generated by the presence of adverse natural or anthropogenic events (Bernabé, Baile, Carreón, & Cerca, 2015). In this sense, disaster risk management in planning and land use planning processes is seen as a prospective strategy with a holistic approach (Padrón, 2018).

According to Rosero and Medina (2018), they indicate that the Sendai Framework for Action should be understood as the result of a series of contributions and systematization of technical recommendations, product of a historical evolution that was chronologically fed back worldwide; A result that began with the declaration of the "international decade for disaster risk reduction" in the 90's; continuing with the promulgation of the Yokohama Action Plan in 2004-2005 and the subsequent issuance of the Hyogo Framework for Action 2005-2015 (Hardy, Cuevas, & Gallardo, 2019).

The remarkable changes and the impact of the environmental crisis in the world, result in a global concern, which leads us to an emerging evolution of the policies established in territorial planning (Villamil, 2022). This problem is not specific to a particular country, but a structural problem of all Latin American countries (Villagomez, Cuesta, Sili, & Vieyra, 2019).

In Ecuador, the planning processes for rural development according to the competencies of the Parochial Decentralized Autonomous Governments, are concentrated in the so-called Development and Land Management Plan, as established from the Constitution of the Republic, to regulations such as the Organic Code of Territorial Organization, Autonomy and Decentralization; Organic Law of Land Management, Land Use and Management; and Organic Code of Planning and Public Finance (Vivanco & Cordero, 2019) for which an analysis of this mentioned legislation was carried out.

This article is a product of the findings found in the research project "Study of the social, economic and environmental reality of Canton San Lorenzo, Esmeraldas-Ecuador", which was approved by the Higher University Council of the Technical University Luis Vargas Torres of Esmeraldas and has been in execution since 2018; which seeks to analyze the current problems of rural land use planning and the implications of this in risk management from the public administration of the Decentralized Autonomous Parochial Governments of Ecuador, with emphasis on what is established in the Sustainable Development Goals.

The Constitution of the Republic of Ecuador establishes that the planning strategy will guarantee land use planning and this is mandatory at all levels of decentralized autonomous governments (Constitution of the Republic of Ecuador, 2008, article 241), and also indicates that the Parochial Autonomous Governments have the exclusive competence to formulate the corresponding land use plans, with a focus on articulation with national, provincial, cantonal and parochial planning (Constitution of the Republic of Ecuador, 2008, article 262, numeral 1).

Regarding the Organic Code of Territorial Organization, Autonomy and Decentralization, on the functions of the rural parish decentralized autonomous government, it establishes the obligation to promote sustainable development with the objective of guaranteeing good living through the implementation of parish public policies (Organic Code of Territorial Organization, Autonomy and Decentralization,

2010, article 64, paragraph a), as well as the responsibility to elaborate the rural parish development plan, including the land use plan; to execute actions in coordination with cantonal and provincial planning; and to monitor and render accounts on the fulfillment of proposed goals" (Organic Code of Territorial Organization, Autonomy and Decentralization, 2010, article 64, paragraph b).

According to the Organic Law on Land Management, Land Use and Management, defines land management as the process and result of spatially and functionally organizing activities and resources in the territory, with the objective of making the implementation and concretion of public policies viable in the scope of democracy and participation, to facilitate the achievement of development objectives (Ley Orgánica de Ordenamiento Territorial, Uso y Gestión del Suelo, 2016, article 9).

According to the Organic Code of Planning and Public Finance (COPFP), it establishes that development and land use plans are planning instruments that contain the main guidelines of the Decentralized Autonomous Governments with respect to strategic development decisions; their objective is to organize, make compatible and harmonize strategic development decisions regarding human settlements, economic-productive activities and natural resource management, through the definition of guidelines for the materialization of the desired territorial model (Organic Code of Planning and Public Finance, 2010, article 41).

Likewise, regarding the minimum contents of the development and land use plans, it establishes that these must contain a diagnosis, proposal and management model, in accordance with the provisions of the Code of Territorial Organization, Autonomy and Decentralization (Organic Code of Planning and Public Finance, 2010, article 42).

Materials and methods

For the analysis of the information, the 2015 - 2019 development and territorial planning plans of the Autonomous Decentralized Parochial Governments of 5 de Junio, Alto Tambo, Ancón de Sardinias, Calderón, Carondelet, Concepción, San Javier de Cachaví, Santa Rita and Tululbí, of the San Lorenzo canton, Esmeraldas Province, Ecuador, were reviewed with regard to the management model that includes the programs and projects to be executed during this administration period.

To base the information on the territory, interviews and surveys with closed questions were conducted with community leaders in each of the rural parishes that correspond to the study area, to evaluate their knowledge of the risk management mechanisms that are implemented in their community, as well as their participation in the construction of development plans and land use planning. A total of 252 key actors were identified in the 9 parishes (universe population), at a rate of 28 key actors per parish decentralized autonomous government. With the total number of key stakeholders, the sample calculation formula was applied to the total population, resulting in 90 individuals to be surveyed, and finally, this number was divided by the 9 rural parishes, resulting in 10 quality informants per parish. The questions were aimed at inquiring about the

knowledge of projects or activities that are or have been implemented in their communities for risk mitigation, participation in response activities for the occurrence of adverse events and participation in the construction of development plans.

Results

Weak or lacking risk management processes in rural areas impede the construction and execution of true integral projects that tend to improve the quality of life of their inhabitants. The development of towns is achieved with projects in the economic and productive areas; however, the few or non-existent risk management strategies in land use planning processes have generated negative impacts on our environment, which is why it is necessary to build a participatory land use planning model that considers risk management as the starting point for rural development.

Although the development and land use planning approach is justified in Ecuadorian legislation, it can be said that it is not harmonized with risk and disaster management strategies or policies, as it is only referred to in the COPFP, specifically in the diagnostic process of development and land use planning, and is absent in the proposal and management model.

This disparity in the normative framework between territorial planning and risk management further increases the problems of planning and execution of projects that improve the quality of life of the population, but at the same time promote safe scenarios or allow the application of prevention, mitigation and recovery measures in the presence of adverse events. To this must be added the most evident problem of rural governments, which is the lack of resources (economic and technical) to assist in the formulation of development plans with an integral logic, including participatory mechanisms and disaster risk management. This weakness of the risk management approach with the legislation that frames territorial planning is more notorious in rural development plans; that is, those built from and for the Autonomous Decentralized Parochial Governments.

The documentary analysis of the development and land use plans of the study area showed that, of the nine rural parishes investigated, only five included at least one project aimed at improving local capacities for disaster risk reduction, as shown in Table 1

Table 1. *Projects for risk and vulnerability mitigation, which were presented in the PDyOTs of the study area, period 2015 -2019.*

PARISH GAD	PROJECT	BENEFICIARIES
June 5th	Disaster prevention and first aid training project	
Alto Tambo	Not included in the PDyOT	N/A
Sardine Anchovy	Not included in the PDyOT	N/A
Calderon	Risk management training	Does not indicate

Carondelet	Disaster prevention training and parish contingency plan project	
Concepcion	Construction of retaining walls in the populations settled on the banks of the Santiago River.	Does not indicate
San Javier de Cachaví	Disaster prevention training project	
Santa Rita	Not included in the PDyOT	N/A
Tululbi	Not included in the PDyOT	N/A

The decentralized autonomous parish governments of San Lorenzo canton show a notable lack in the generation of projects aimed at improving disaster risk management strategies, including the construction of infrastructure works, as well as capacity building processes for immediate response of the population to adverse events; this is based on the review of the development and land use plans of the parishes investigated, where only five of a total of nine, include at least one activity focused on risk management. In this context, four parishes did not plan activities or projects for risk mitigation due to the presence of adverse events for the period 2014 – 2019.

With this analysis we can sustain that the solution to the weakness of the Decentralized Autonomous Parochial Governments in Ecuador for the promotion of risk and disaster management mechanisms in the planning of the development of their territory, goes beyond policies and regulations, it requires will from the governments and an active participation of the society for the effective decision making in search of an integral development and to the benefit of all the sectors of the community.

Citizen participation is essential for the development of a society that seeks equity, justice and governance; in the interviews we conducted, we learned that the population of the rural parishes of San Lorenzo canton does not actively participate in the formulation of development plans and land use planning, indicating in many cases, the lack of convening and leadership of those who administer these local governments.

The 17 SDGs express a responsibility from the member countries to address the most pressing problems currently facing the planet; for this reason they are related, which means that the results obtained by one will allow the realization of others. In this context, they seek to be a planning instrument for the progress of the states.

The legal framework in Ecuador indicates, promotes and regulates all land use planning processes, from a regional to a rural parish perspective; however, in general terms, land use planning that includes technical and participatory strategies is still a utopia, beyond the issuance of standards or guidelines for its construction and monitoring, true governance processes are needed from and towards society.

The Autonomous Decentralized Parochial Governments in Ecuador, with honorable exceptions, are administratively weak, which has repercussions on the generation of

discussion spaces for the harmonization of risk management initiatives in development and territorial planning.

The Secretariat of Planning of Ecuador, as the governing body of risk management in our country, should generate greater impact in rural areas; a little more is needed than the elaboration and execution of territorial agendas, if these are only fulfilled or articulated from the comfort of desks and event rooms to expose dubious progress in terms of disaster risk management.

Risk management, being a global policy, is not conceived as an urgent responsibility, due to the fact that, in the poorest states, their rulers comply with government plans that promote the payment of social debt, focusing on health, education and employment criteria, leaving aside the risk and vulnerability of the population.

From the aforementioned, we can point out that parish development and land use plans should be built considering an integral approach to their geographic reality and the evaluation of the population's vulnerabilities, in order to propitiate real risk mitigation scenarios.

Under this argument, the National Secretariat of Risk Management has the power to issue regulations and propose policies to mitigate, reduce, prevent and control risk and vulnerability, but does not consider land use planning as the basis for planning the development of society, which translates into a legal weakness that affects the non-inclusion of risk management strategies in the Development and Land Use Plans of the Decentralized Autonomous Governments, being the parishes by their very rural nature, which are more vulnerable to natural phenomena and their effects.

Although Ecuador ratified its commitment to the fulfillment of the 2030 Agenda and the Sustainable Development Goals and provided Planifica Ecuador to generate mechanisms that respond to the fulfillment of this agenda with planning instruments, in coordination with the different levels of government; this articulation is not noticeable in the various projects that are implemented from the parish level of government, as they are increasingly evident in rural areas, the ravages by phenomena of meteorological, climatic or geological nature.

The most profound and structural changes in a society take place in long-term projects, we know that, however, generational changes, the intervention of academia, the cooperation of non-governmental organizations and the contribution of the various social and productive sectors of the community must understand that the decision to act must be made now, because the planet has given us signs of the deterioration of the environment, the excessive use of natural resources and the passivity of us as a society, will soon take its toll.

Conclusions

The 17 SDGs express a responsibility from the member countries to address the most pressing problems currently facing the planet; for this reason they are related, which means that the results obtained by one will allow the realization of others. In this context, they seek to be a planning instrument for the progress of the states.

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The Autonomous Decentralized Parochial Governments in Ecuador, with honorable exceptions, are administratively weak, which has repercussions on the generation of discussion spaces for the harmonization of risk management initiatives in development and territorial planning.

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