

# Good governance and public management to achieve sustainable development in the face of climate change

## Abstract

Good Governance and efficient Public Management in all states is vital to achieve the objectives of sustainable development, to this must be added the private sector and society; all together must face climate change, which is a major threat to humanity, because it greatly affects the most vulnerable populations; In this sense, this qualitative research aimed to review and analyze documentary information, results of studies on environment, climate change, sustainable development, public management and environmental education, considering articles from the Scopus database, Web of Science, Scielo and others that analyze the categories and subcategories developed under various contexts, it was concluded that it is of great interest to generate scientific information to formulate public policies and adaptation strategies. The results show that it is of great interest to generate scientific information for the formulation of public policies and adaptation strategies to the various impacts generated by climate change on nature. Good governance and public management must have a new vision, with solid criteria that promote investment projects, to achieve the development of a country; good practices must be motivated in citizens and society through new approaches that trace a new route for social change.

**Keywords:** good governance, public management, climate change, environmental management, environmental education

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**Abbreviations:** UN, united nations; GHG, greenhouse gases; OECD, organization for economic co-operation and development; SDGs, sustainable development goals; UNICEF, united nations children's fund

## Introduction

This study analyzes various researches that address the environment, economy, public management and human development at the Latin American level, considering that various countries through world leaders are focused on achieving the sustainable development goals established since 2015. To this end, various summits and events have been developed to determine objectives and strategies to achieve prosperity. For the United Nations (UN, 2023), no one is immune to the consequences of climate change due to pollution, deforestation and conflicts, which generate devastating imbalances in the natural and human system. In view of this, it is necessary to promote cooperation aligned with an adequate and integrated international response among all States.

Likewise, points out that a considerable number of the world's population does not have access to essential services, which puts health and the achievement of the goals of the 2030 Agenda at risk, so it proposes new strategies to face future pandemics such as COVID-19; likewise, it proposes global agreements against tuberculosis. The situation caused by the climate emergency and global warming is today becoming a major problem for mankind that harms society and the economy. Addressing it is a global political issue.<sup>1</sup> The war between Russia and Ukraine according to Pereira et al.,<sup>2</sup> Affected peace, economy, health, food security and environment. A similar situation is highlighted by Rawtani et al.,<sup>3</sup> who emphasizes greatly the great negative effects generated by the war to the planet and humanity that brought with it the loss of a large amount of areas that were left deserted and unsuitable for agriculture.

A good government observes the rules issued by the governing bodies, provides for their application, considers the principles in the procedures to be carried out to provide goods and services to society; has the ability to direct an efficient public management to address various problems within their territories, involves citizens in all its activities and through programs and projects ensures their physical, material and social welfare; The resources that count are allocated responsibly; that is, with few resources it achieves the programmed goals and renders accounts in a clear, transparent and timely manner; as well as, through legality and control, it fights corruption.<sup>4</sup>

Climate change generates and creates dissent of great concern at the global level.<sup>5</sup> It is vital to transform and innovate the competencies of public entities, through permanent evaluations of the training ranks of all public servants, which should be carried out under a civic culture respectful of the environment, in order to measure the efficiency of the authorities.<sup>6</sup>

Given the enormous population growth, there is an urgent need to produce a greater amount of healthy food, which increases the emission of greenhouse gases (GHG), and in this sense, diagnoses must be made and analyzed to identify the risks in order to mitigate their effects. It is highlighted that the constant change of climate, high pollution becomes a threat to life and health of humanity. Based on the above, the Organization for Economic Co-operation and Development (OECD) points out that extreme events in nature leave great effects on the world, if a rapid action plan is not adopted, human health and food security are at risk, limiting the achievement of the Sustainable Development Goals (SDGs).

The Social Responsibility that every state should have was an initiative of the UN, which is based on human rights and values, the relationship between the environment, the territory and all actors in society, which has clearly not been effective and therefore requires due attention to ensure the common good between nature and

humanity. In such a situation, the State must have the capacity to develop and make assertive decisions, in public administrations, lay the normative foundations, principles and an organizational structure, where processes and tools are developed, leading to the achievement of institutional objectives and the social closing of gaps.

Along the same lines, Zaidman,<sup>7</sup> points out that a government from the public administration must attend to all the needs of citizens without discrimination and in an egalitarian manner, always considering the collective and participatory interest; in addition, it demands that officials comply with legal and ethical standards, leaving aside benefits of a particular nature. The UN recommends that various investments in environmentally focused infrastructure be programmed to close the situations caused by climate change. It is still difficult to reduce the danger of environmental degradation; therefore, it should be addressed through multilateral consultations.

Household waste is one of the causes of soil contamination, it is necessary to perform a proper management through a system for its correct collection, transfer and storage,<sup>8</sup> these actions are competencies of the governors of local municipalities. Climate change generates climate disaster and social problems, so the ecosystem must be safeguarded through infrastructure.<sup>9</sup> Considering the danger to the survival of nature and humanity, international efforts should be directed at mitigating and reversing the deterioration of the planet and assuming commitments in a responsible manner.

Regarding poverty eradication to achieve sustainable development, the UN considers addressing it at a global level; it is vital to minimize it and promote awareness for environmental care. Results show that poverty rates due to income inequality are still very high in underdeveloped countries; therefore, both issues must be addressed to achieve environmental sustainability.<sup>10</sup> It is emphasized that only a comprehensive transformation of the economy and the commitment of governments leading states, together with private companies and society, can prevent the acceleration of the climate change disaster impacting underdeveloped countries.

Bolivia and Peru are the countries most vulnerable to heavy rains and floods, homeless people are more likely to lose the limited assets they have and, if affected, do not have the capacity to recover, due to the limited resources they have. Bergman et al.<sup>11</sup> points out that Peru has a paradigmatic situation to climate impacts, it has a unique biodiversity with a very striking topography, however, it will be affected by the loss of glaciers and the depletion of the rainforest. Timely adaptation measures will support agricultural livelihoods through techniques for resilient crops, sensitize farmers for effective prevention and efficiently manage water resources; identify vulnerable areas; prepare urban areas to receive increased quantities and address potential impacts.

According to the Ministry of the Environment (MINAM, 2020), Peru is the 3rd country in terms of vulnerability to the effects of climate risks, having lost 22% of its glaciers, which reflects 71% of the world's tropical glaciers. In 2021, CO<sub>2</sub> emissions will be 55,144 megatons, which places Peru in 129th place in the ranking, which is made up of 184 countries, ordered from least to most polluting. In the coastal areas of northern Peru, climate change is having major effects in the department of Piura, such as high temperatures. Another situation is the rise in sea level. Metropolitan Lima is also affected in the supply of drinking water; because it houses an average of 10 million families and the need for water supply is 30.8 m<sup>3</sup> /s; However, the capacity to produce this vital element is only 20.7 m<sup>3</sup> /s, thus there is a deficiency in water supply, which considers it critical, especially

in hot weather. In 2021, it approved the Local Climate Change Plan 2021-2030 (PLCC-LIMA), which includes 144 mitigation and adaptation actions, which add efforts to meet the SDGs.

According to SINIA information, Santa María del Mar has 31.54 m<sup>2</sup> of green areas, in the case of San Isidro it has 22.09 m<sup>2</sup>, Miraflores 13.84m<sup>2</sup>, San Borja (11.86 m<sup>2</sup>) and Jesús María (9.27 m<sup>2</sup>) of green areas; which are the only districts that exceed 9m<sup>2</sup> in green areas; In the case of Pucusana it only has 0.11 m<sup>2</sup>; in the case of Villa María del Triunfo it is 0.37 m<sup>2</sup>, Pachacámac, 0.85 m<sup>2</sup>, Puente Piedra 1 m<sup>2</sup> and Breña 1.01m<sup>2</sup>: given this, they are considered the districts that have the least areas in their jurisdictions. From this it is clear that Lima is the region with limited green spaces.... The objective of this research is to analyze research on environment, climate change, sustainable development, public management and human development; as well as the influence of good governance on sustainable development.

### Education as a vital tool in the face of social problems

Considering that through knowledge, understanding of various issues can be achieved, as well as addressing various problems, education can raise public awareness, reflect on lifestyle and empower people to solve various problems.<sup>12</sup> Environmental awareness and education are tools to mitigate environmental problems and guide us towards sustainable development, and society has an important role to play in raising awareness and promoting strategies. Environmental education should be considered in school plans and should be addressed according to the reality of each region.<sup>13</sup>

Education that addresses the environmental issue allows young people to connect with nature and, consequently, develop attitudes, knowledge and motivation in their actions.<sup>14</sup> Public perception of the need for environmental education has been supported by scientific articles. addressing the issue of marine litter.<sup>15</sup> Education to raise awareness and train the public about nature is approached individually or collectively through organizations, companies and government agencies, which must be complemented with practice to analyze the results, theory must be developed and this must go hand in hand with practice. To be more effective, a recycling infrastructure must be created. Sustainability should also be part of our daily lives and be part of the school curriculum.<sup>16</sup>

Teachers must have a positive trait in their personality and solidity in sustainable development, to guide the solutions, they must involve external actors for the respective evaluation and have adequate instruments that allow to meet the objectives of sustainability. This will ensure the transmission of skills and values.<sup>17</sup> Considering that it is necessary to involve the heart with the intellectual, we must not only address environmental knowledge, but also observe and value the beauty of nature from a social perspective. Appreciating beauty is personal, we must understand its most valuable dimensions that are caring and engaging. Teaching should be approached from the natural infatuation and beauty that comes from experience and thus from a forced voluntarism that would lead to mutilating the heart; therefore, the environmental impact will become a tool for education and will contribute to achieve sustainable development.<sup>18</sup>

Beauty improves morality and education should be perceived in its full breadth, including moral strength, have a contemplative look, where the value discovered is highlighted; It should be noted that beauty invites change in our life and behavior, promote the awakening of the heart that unites harmony with sensitivity, intelligence and commitment.<sup>19</sup>

Not only should they be literate in environmental issues, it is also necessary to be involved in an environmental culture individually and collectively, including life in the family home (Ortiz & Ayala, 2013). It is necessary to propose more appropriate strategies to motivate critical thinking with a meaning of responsibility for the benefit of the environment, to address the problem of climate change.<sup>20</sup> According to the UN (2019),<sup>21</sup> there are youth-driven movements worldwide that have generated impact on various political agendas, at the economic, social and existing levels, demanding justice and funding for the damages caused by climate change. They also highlight that freshmen between 10 and 24 years of age are part of the generation of young people in history.

Globally, young people also face the challenges caused by climate change, added to the effects caused by families with complex structures where the child lives alone with the mother or father, which cause disruptions in society, situations that affect adolescents, from which it follows that students with higher well-being are more likely to achieve high academic scores and those with depression show lower educational performance, hence the importance for the health of a young person and the productivity that will reach the next generation.<sup>22</sup> The United Nations Children's Fund (UNICEF) specifies that young people are beginning to demonstrate on a large scale, from school age, raising their voices to protest against climate change situations, because a sustainable future must be guaranteed.

According to the Universidad Online a Distancia (UNIR Peru), Formal education is compulsory education, which ends with the skills learned and obtaining a certification. This type of education is compulsory in each country and non-formal education encompasses educational programs away from formal education. In informal education, this is done by people for their own reasons, and the programs are organized for learning, the topics addressed complement and value the experiences. Informal education encompasses involuntary learning processes, the student is not fixed on a learning objective, this type of education helps to acquire skills and knowledge to face sustainability and pollution problems.

## Methodology

The present research is a study with a qualitative approach, to clarify what was stated, Hernández, Fernández and Baptista (2014) were quoted, who specify that a qualitative study allows an in-depth immersion of the object studied. Naupas<sup>23</sup> points out that through qualitative research it is possible to demonstrate the knowledge already acquired that will serve as support to clarify a given social problem. While Bernal (2010) states that a qualitative study is born from intersubjective assumptions of a given social reality; therefore, it seeks to deduce concepts and theories to provide a solution to the problem posed.

The documentary analysis technique was used, for Sanchez (2019), through the documentary review, cases related to the study variables are observed and analyzed for a better understanding. According to Palella and Martines,<sup>24</sup> it is the action through which various sources and related literature are collected to investigate a given topic; the information can be handwritten or oral. In terms of design, Hernández, Fernández & Baptista<sup>25</sup> mention grounded theory, ethnographic designs, as well as narrative designs, action research designs and phenomenological designs, some of which are juxtaposed. In this particular case, the Action Research design was considered because through observation data are collected and the problem is posed, then analyzed and acted upon to solve the problems in this case. of climate

change and improve practices to reduce its effects.

The combination or articulation of methods and techniques makes it possible to obtain a variety of valid information that provides credibility when presenting the results. In this sense, the analysis of various theoretical sketches related to the proposed keywords will make it possible to propose some actions to counteract the problem of climate change and achieve sustainable development through good governance. In this research, several articles from the Scopus database, Web of Science, Scielo and others were used, which were considered for the development of this study.

## Results

The rules of international humanitarian law seek strict legal compliance with the provisions for the protection of the environment, so importance should be given to the application of and respect for the established treaties and protocols. In terms of environmental damage, the rule is not clear; the way it is applied in the scenario of armed conflicts must be analyzed.<sup>26</sup>

For the UN, governance is vital to achieve sustainable development in the face of scarcity and rising food prices, effective management practices are required, as well as assuming public responsibility, promoting proper financial management, promoting development for all, timely accountability and promoting open information under transparency where citizens are involved, only in this way will a vision towards sustainable development be fostered. The effectiveness of accountability considers the vital element of transparency through which they inform and justify the destination of public resources.<sup>27</sup>

Public Management must consider that environmental impact affects the main economic sectors. According to the World Bank (2022), investments to address the effects of this problem are decisive, in addition to generating benefits for development, because it will help restore the soil, promote the sanitation of basic services.

A new educational system must provide training in knowledge, skills and abilities, that is, achieve an integral education without distinction of social class; teachers must be the transforming and shaping agents of an intellectual, humanitarian and productive society.

Responsibility and compliance with international conventions and treaties is the only path to order and sustainable development of the planet. By Maya<sup>28</sup> humanity must rethink its actions regarding economic growth and global warming.

Developed countries must transform the forms of production and consumption, and must also promote a better distribution of wealth, both at the international and national levels. Achieving an economy for well-being under a model of inclusion must consider education and research as pillars to reach the expected goal.

Biodiversity is a great supplier of food that is the basis for preventing diseases. That is, it is the key piece for sustainability and sustainability by considering good practices with the environment, so drastic policies that favor the fight against deforestation and desertification are required.<sup>29</sup> While UNDP<sup>21</sup> points out that in our approach the great loss of biodiversity is evident, which affects the balance and brings great risks.

For Flensburg<sup>30</sup> the search for consensus and discussions to propose solutions must have a global scope, which should lead to global commitments and an action plan to combat climate change.



Agriculture must have a relational database on different crops where soil type, water and climate are considered in order to achieve optimal land use in a sustainable manner and identify solutions for better yields and minimize field costs and water consumption. In this way, the typical intuitive process of land use will be abandoned.<sup>31</sup>

For Chai et al.,<sup>32</sup> climatic factors, market and education policies influenced the modification of the agricultural pattern. However, climatic agents have surpassed economic co-factors in the period 2010-2018, in this sense, the urgency of ensuring crop sustainability arises.

Tetrevova & Jelinkova<sup>33</sup> point out that social responsibility supports public administration to generate positive effects on management and its citizens. Justice and equity are fundamental keys to achieve sustainability; as well as encouraging ontological, epistemological and political reflection on the work performed by academics and professionals.<sup>34</sup> More in-depth research on climate change, considering social approaches towards social equity, is required to support the transformation, adaptation and survival of a society.<sup>35-41</sup>

## Conclusion

From the literature review it is concluded that if a State is managed and administered under good governance, equity and access to basic services for all citizens is guaranteed. The practice of good governance is still incipient, private interests prevail, public policies have no basis for closing social gaps, and there is a lack of solid international standards to protect the environment from climate change and environmental pollution. To achieve sustainable development, complementary policy initiatives must be proposed to combat climate change, accompanied by strategies for social change with responsibility and commitment. It is necessary to promote an effective and efficient Public Management in the use of water and soil, giving it green value, to counteract (GHG), improve adaptation that will impact on an optimal quality of life. Private investment, which has a transcendental role in the use of clean and renewable energies, must be committed to analyzing risks and opportunities throughout the value chain. Invest in international development investment (IDI). Promote cities that are more resilient to climate events and reduce GHG emissions, and finally consider in the educational program the observation and appreciation of the beauty of nature in order to respect and care for it, only in this way will we guarantee a stable planet for future generations.

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## Conflicts of interest

The author declares there is no conflict of interest.

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