

territorios | 7

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REVISTA DEL CONSORCIO DE GOBIERNOS AUTÓNOMOS PROVINCIALES DEL ECUADOR CONGOPE



**Territorial
development,**
through climate
change policies

**Intermediate
government**
role towards
climate change

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INTRODUCTION

Shortly before the Conference of the Parties on Climate Change No. 24 (COP 24), in which shall be discussed the implementation of national commitments assumed by countries that have ratified the Paris Agreement, the CONGOPE has decided that this seventh edition of the institutional magazine Territorios would focus on climate change topics.

This edition gathers opinions and experiences from several experts: academics, authorities, people knowledgeable of national and international topics who through their testimonies make a reflection on the importance of local actions to face this global issue. Besides, it shows some efforts implemented by province governments in order to help reducing greenhouse gas emissions, as in the case of Pastaza. It also informs how to manage information appropriately in order to reduce population vulnerability, as Tungurahua does.

This magazine focuses on two main approaches. The first approach regarding the climate change evidences in the territory explains how climate crisis effects are different in each region, and each one of its systems. Therefore, we address some experiences in respect to impacts of this problem within production, hydric resources, women, and how cities are exposed; and, besides, have a great potential to engage actions in order to mitigate climate change. The second focus faces climate change management from territory. We have the introductory note of Tarcisio Granizo, former Environment minister, who points that the territory management and the local public policy shall actually help us dealing with the climate crisis. The edition also offers interviews highlighting the importance of coordinating with other intermediate governments in an international range, actions that our partners, province governments, have already implemented; and, the project that nowadays is executed by the CONGOPE with the funding of the European Union, denominated Province Action towards Climate Change, with the strong believe that actions from the territory shall allow, as a country, to face this major issue known as climate change.

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President of CONGOPE

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Letter from the Director



Intermediate governments could trace the path that shall help us dealing with climate change

Climate change requires radical, intense and systematic actions. Naomi Klein already mentioned: "Climate change presents a profound challenge to this cautious centrism because half measures won't cut it". We cannot neither continue denying what is evident, nor continue postponing actions we require to really deal with this problem; we need to reinvent ourselves and to establish structural changes to our economic and planning model of territorial development.

In this seventh edition of the Territorios magazine, we have decided to address this issue of climate change, and to highlight how, from the local, we can develop appropriate actions that, to the macro, help us to deal with this problem. The global warming leads us to consider many doubts over our way to move, produce, plan, etc. What makes us create an international agenda under the lens of territory, in which subnational governments shall lead these joint actions in a long term, and shall allow us limiting and dealing with this problem.

This month, as a result of a hard work within the Congope, finally we have created the Department for the Peace Promotion and Coordination with Subnational Governments within the Organization of American States, OAS. This shall enable us to strength relations and interchange experiences and knowledge between local governments, as well as to promote development topics. Among them, climate change and challenges that this phenomenon represents to territories and subnational and regional governments in America. Now, more than ever, we have to work and bring us together for a worldwide pact that arises from the local. Only then we could provide sustainability to the Paris Agreement.

In Ecuador, province governments are key actors in the struggle against the climate change since in their intermediate government position can trace the path guiding us to the comprising action in order to strength our social, economic and institutional systems, to help us to adapt ourselves and mitigate climate change. For this reason, we need more accurate data and information that allow decision making, that do not give causes for negating and postponing solutions to this issue, that some people prefer to ignore. In conclusion, one solution that leads to reflection and to the search of innovative intervention strategies.

Therefore, in this edition we sought to show different edges and commitments that has climate change in the territory. This reinforces the importance to generate a local public policy in order to radically and robustly face this worldwide problem, since half-heartedness shall lead us to a resounding failure.

1. Klein, Nahomi. This Changes Everything: Capitalism vs. the Climate. Ed.: Simon & Schuster, 2014.

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Intermediate governments, a joined force to confront climate change

Synchronization between levels of government is critical to develop actions, strategies and policies going along mitigation and adaptation. In this context, GADs are crucial actors to achieve goals.

In this megadiverse country, with ecosystems both so different and, at the same time, incorporated, like Ecuador, the position of intermediate governments in the context of climate change is crucial. Challenges are countless, but possible with an appropriate interrelation between levels of government. As explained by Jorge Núñez, technical specialist of the Environment Ministry: “From the national, we need to work hard specially in aspects related to the capacity of development in both province and local ranges. This shall allow the availability of instruments and elements series in order to manage effectively GADs in territory. Then,

if regulation, development planning instruments, plans, strategies, among others, managed in province range, in local range, they are bonded to national goals, this is their first major step”.

A second step is to identify synergies, i.e. that territories shall find the way to associate themselves, to participate, and to intervene in actions that determine the national context. In this sense, it is not required that GADs try to “reinvent the wheel” and to propose strategies that have no articulation. On the contrary, their approaches shall be complementary, synergic. For instance, a sector policy directed to



Photos: Pavel Calahorrano

reduce vulnerability in crops is encouraged from a national level, GADs can identify among their actions, programs, projects, or efforts, those that are aligned. Hence, identifying similar proposals in other countries shall become easier by encouraging their effectiveness.

As third aspect intermediate governments shall consider every time is the funding issue, in order to implement actions against climate change. Whilst nowadays demands to access worldwide, multilateral financing agencies, cooperation agencies, etc., are prevalent, it does not mean that it is impossible. “It is true that there is a series of

procedures and mechanisms, filters, requirements, etc., but there are also many possibilities for those actions that are aligned to a national policy, and that are synergic among provinces. One thing is that a province or canton or parish proposes something by themselves, another is that 40 parishes propose the same; it is different that a province proposes an idea than a region or 24 provinces. A more articulated and complete proposal becomes much more important and shall have more possibilities to access resources. Working in isolation is not a good idea”, Núñez adds.

In this line, intermediate governments have a very

① high potential of articulation, since, on the one hand, they have a deep knowledge of province identity and, on the other hand, they sum enough capacities, information, experience and resources, enabling them to lead an articulation process and to push hard in order to achieve development goals.

In a didactic way, Núñez analyzes: “Obviously, in big cities such as Quito, Guayaquil, Cuenca, municipal GADs are on a different level because they manage many resources, people and capacities; but, in the vast majority of national territory, province governments have to be more involved. In other terms, they need to have a leading role enabling them to act both in the adaptation, as well as in the mitigation of climate change effects. The most interesting thing is that, even though this is a global phenomenon, GADs can act upon their territory by contributing to the fight against this world issue.

Hence, many opportunities emerge from this”.

Finally, the specialist mentions that, even there are commitments in a country scale, with national responsibilities, local governments should focus on fulfilling people needs, “because a mayor, a prefect, a president of a parish board were not elected to solve global problems, but to address issues in their territories”. Nevertheless, in this dynamic, the support of everyone is necessary, from the smallest parish board to the biggest municipal or provincial government. Everything must be tuned according the national and global effort to reduce greenhouse gas emissions and, at the same time, to preserve and protect carbon sinks (woods, wetlands, moorlands). “We can work simultaneously, it is not mandatory to work separately in adaptation and mitigation. There are many adaptation measures assisting in mitigation, and vice versa”, Núñez concludes.



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In the next 20 years, challenges increase for decentralized autonomous governments

Rains, dry days, and climate need to be included in planning strategies. The scenario towards 2040 does not seem optimistic; therefore, by all means, it is necessary to outline strategies in order to confront these issues.



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Ecuador is a country that has climate specific features which represent a challenge when being assessed. Territory scale planning within climate change management can be improved by means of complementary measures at all levels: Central Government, Decentralized Autonomous Governments (GADs), and other actors from public and private sectors. Considering that they have different roles, they can be combined in a productive manner to solve complex problems. Under this assumption, a project of Province Action

confronting Climate Change was executed between the Autonomous Province Governments Consortium in Ecuador (Congope, by its Spanish acronym), and the European Union (EU).

Guillermo Armenta, specialist on weather and climate change, was part of the advice team that worked in the Province Diagnosis of Climate Change that focused on the project of Province Action confronting Climate Change. He states that, in general terms, an interest on climate impact in each



Photos: Pavel Calahorrano

province was detected, specially, in those that could cause climate change in short-term. Nevertheless, he explains that, if it is true that Autonomous Province Governments seek or should seek among their activities to define measures, projects and strategies to respond in the best possible way to impacts that climate can cause from several months up to one to five years, there is a confusion to put into context these actions within “climate change”, which clearly is not.

The accurate concept of terms is a variable to be considered within GADs. On the one hand, they should understand that, when talking about climate change, they should refer to lasting changes in a long-term (more than 30 years), among them, the dominant conditions of climate (mean temperature, higher compared to the one of 20 years ago, or

permanent changes at the beginning and end of either dry or raining seasons). On the other hand, they should consider that events present on weather within short periods are not “climate change”, but “climate variability”, which basically corresponds to variations that may happen in medium weather values due to multiple phenomena (for instance, El Niño/La Niña).

“This confusion, in my opinion, makes that the topic of climate change is seen differently in several provinces. And when it is already clear what climate change is about, there are various reactions to that, where most of people give more importance to the topic, and include it appropriately in their diverse strategies and projects, ability strengthening plans, joint actions with other sectors and provinces” Armenta states.



Projections to 2040

Guillermo Armenta shares experiences and conclusions of the study conducted in the country. In general terms, the performed climate assessment found that the main threats that have affected to Ecuador in the past, currently, and in a higher degree in the future, are related to the increase of rains, both in intensity (annually and daily) and in amount, and even combining with days with extreme rains.

Guayas, Los Ríos and Santo Domingo de los Tsáchilas, Cotopaxi, Tungurahua, Bolívar and Chimborazo provinces present a higher trend to increase daily intensity of precipitation, projecting towards passing to one average increase of 3%, currently, to having

one between 15 and 30% in 2040.

For seasons with extreme rains, trends increase substantially in number of days in the year within most part of the country, especially in Amazonian provinces (Sucumbíos, Orellana and Pastaza), where in 2015 there are three to six days more with extreme rains compared to 1981; and they are expecting 15 to 30 more in 2040.

These trends of rain increasing contrast to the reduction of consecutive dry days in most part of the country. Nevertheless, in Santa Elena and El Oro provinces, there is a different behavior where the amount of consecutive dry days shall increase; in 2040 there might be areas with three to six or more days.



“This precipitation behavior should bring more problems in several sectors; for instance, increasing the possibility to landslides and floods, or likely increasing of respiratory diseases. As an opportunity, people could take the advantage of the precipitation intensity increase in the agricultural sector and dry areas by preparing farmers to make full use of rain season in order to have a more efficient production and a higher diversity among crops, if possible. In addition, although it is expected less consecutive dry days, it does not mean that periods with several days like those shall stop, whereupon it is even important to continue taking valid actions when such events are produced, especially in the agricultural sector and with hybrid resources, which are the most affected ones” Armenta explains.

The analysis shows that in the last years, temperature has increased and it shall continue increasing in the

future. This temperature increase shall bring along several problems from affecting crops (they should be done in higher areas) to significant changes in ecosystems and populations, many of them shall disappear or they shall move to places with better climate conditions.

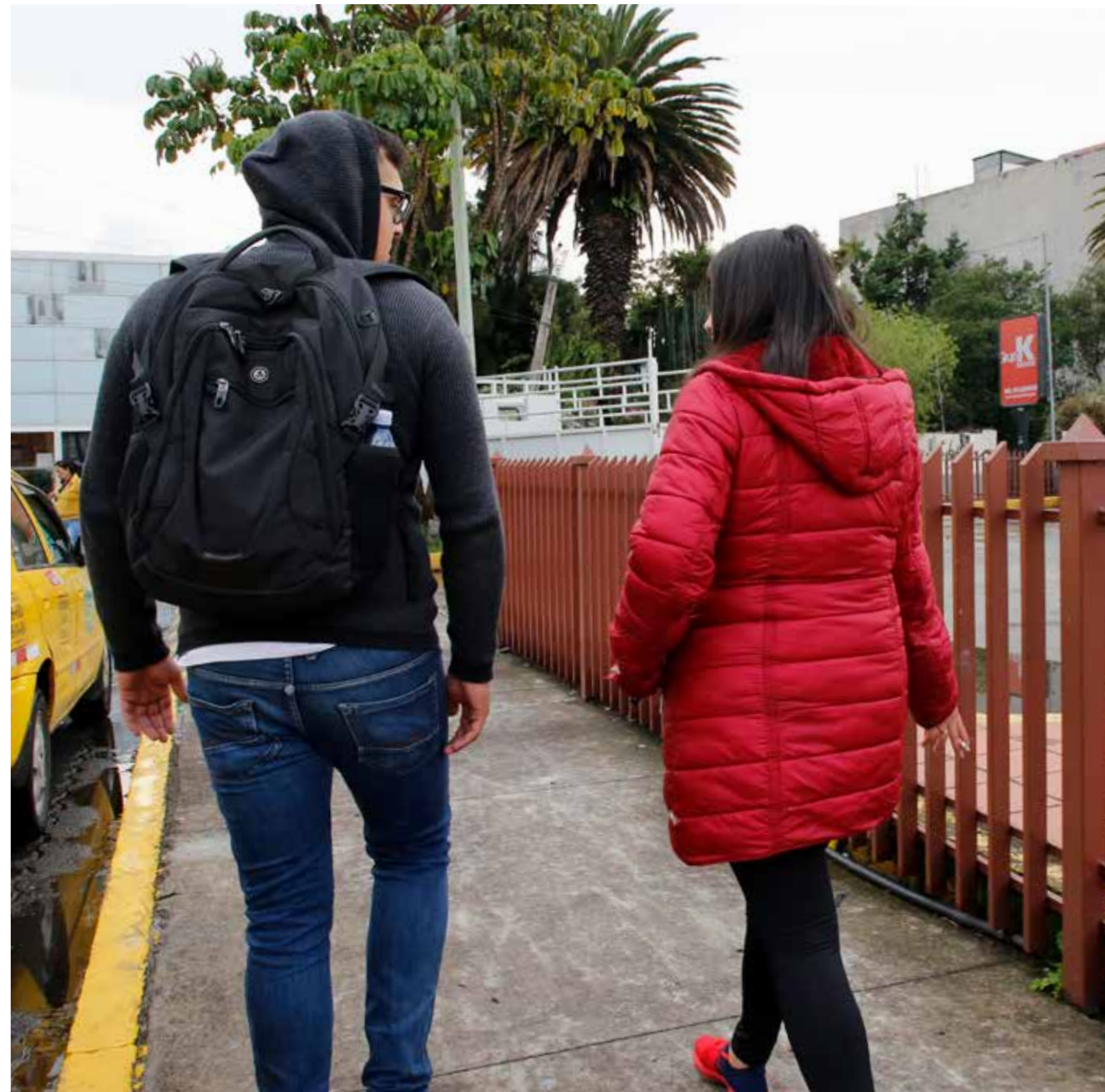
Within the analyzed climate threats, although currently the amount of consecutive days with very high temperatures has not represent a threat of consideration in the last 35 years (it had barely increased from 1 to 3 the amount of days); indeed, it shall start being significant in the next years, since the trend over the country is having from 3 to 30 days more with very high temperatures towards 2040. This shall affect both the agriculture and cattle breeder sector (damages to crops and stress in animals) and population in general; for instance, it can be stronger due to insolation and an increase



on greenhouse gas emissions when augmenting the use of air conditioning systems.

On the other hand, days with frost in the Mountain Range (minimum inferior temperatures or equal to 3°C) present a reduction in terms of amount per year, even reaching a significant reduction in areas where such events appear, especially in Azuay, Cañar, Chimborazo and Cotopaxi provinces. The

number reduction of frost per year can maybe mean a release to farmer in this area since they shall be less affected a year in their crops at these events. Nevertheless, for glaciers and high mountain ecosystems, this reduction represents a severe problem since recovery optimal natural conditions would take them even more time, and even suffering irreversible damages when such events shall present with less frequency.



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Vulnerability of women should be worked in territories

The change of development model that prioritizes the generation of monetary resources is critical for the maintenance of species. Encouraging the participation of women in decision making forums has to be a priority.



Photos: Pavel Calahorrano

The struggle for reducing and eliminating gender inequities in the world has been historical and at all levels. For this reason, it is hardly surprising that this effort of women is also focused on many fields in which the existence of gaps was not apparent. One of them is climate change and its alarming threat, mainly over women.

Nidya Pesántez is a specialist in the UN Women Program in Ecuador. She acknowledges with

exactitude the feminine vulnerability in regard to this phenomenon that, even though it has an equal impact on human beings, is different among genders due to social, economic, and even biological factors. In order to contextualize the existing relation between climate change and gender, the specialist believes it is necessary to specify these factors.

In the economic field, those people who have more possibilities could continue fulfilling their



needs with much more ease compared to people who are in poverty or in a situation with more economic vulnerability. In this situation, women suffer disadvantages. In Ecuador, the wage gap among genders is 20%. In several parts of the world, that difference reaches even 40%. Women earn less, even when working at the same position as a man. This becomes more acute in rural areas.

Similarly, in the social level, informed people have more possibilities to respond to climate change effects and adapt to the process. In this scenario, lot remains to be done despite of the advances on access to education for a larger number of them. The reason is that those women have not yet reached decision making spaces in a considerable number, they are still on a low-income level in such factors as operational, administrative, or support service areas. The problem increases in rural and marginal

urban areas where they have less possibilities to learn more, and they are exposed to more acute social issues such as violence. This way, a woman suffering violence has less capacities of resilience and, therefore, becomes more vulnerable.

“So, where is the relation between gender and climate change? In that we are not going to deal with climate change consequences in an effective, efficient and assertive manner if we continue handling this biased vision towards the masculine world. The overall development model on the planet is directed to the masculine. The transformative productive work to generate money income has been and is in the hands of men, and they primarily are the ones making decisions. Whilst all the reproductive work, the one without any money income, but the one that produces life, maintains it and holds it, is held by women; and they have been a minority in



In Ecuador, the wage gap between both genders is 20%. Women earn less money despite of having the same work as men, especially in rural areas.

decision making spaces. Therefore, it is mandatory to turn the model around to stop placing money in the middle of everything. Humanity cannot place patches any more, we either change the model, our behavior, approaches, visions, and we start seeing ourselves as a sole species, living with other species, or we are halfway to disappear”, explains Pesántez.

Woman and territories

There is an increasing demand of better multilevel coordination coming from government structures, from the smallest element to the largest. And on this point, women participation in decision making spaces, specifically in politics, national institutions, province governments, municipalities, parish boards, mancomunitats, is crucial. Hence, two ways are needed as minimum: the first one is to have clear regulations in all governance spaces in which women are included; and the second one, to encourage women so that they can get involved into technical areas because we are always saying that “the technical” is related to a purely masculine action. So, it is acute to mobilize and open spaces so that women also participate on technical studies.

Regarding participation, in Ecuador is within margins of law to determine the numeric parity between men and women in candidacies for positions in popular elections (congress, councils, town halls, prefectures). Nevertheless, this is



not complied due to the way candidate lists are organized, because, when having odd-numbered territory districts, many of the aforementioned lists are spearheaded by men, leaving women under numeric disadvantage. Encouraging and controlling towards a major feminine participation is a task that comes from the national scenario. “The mass of candidates is often composed of men. Hardly between 12 and 13% is women. The difference is abysmal. Thus, it is necessary to have regulations in municipalities and councils in order to ensure a greater feminine participation.

Meanwhile, from the local, according to Pesántez, territories should be constructed with dialogues and cohabitation agreements between men and women, equality agreements to deal with climate change. “Because not only decisions of men have worth,

but also the ones of women. The most important global progress in this regard is that in the COP23 the Gender Action Plan was approved in Berlin to ensure that women are included in decision making areas, as recipients of the formative processes of knowledge, of the adaptation measures, and of the recognition of the ancestral wisdom, in equality of conditions with men”.

For resilience

Since 2012, in Ecuador, a project to guard against healthy and nutritional food availability was developed within a context of climate change. The gender approach considers the roles (productive, reproductive and communal) that should socially comply women; indeed, one of them is to be



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With this precedent, if earth temperature increases, some plagues and insects from warm zones, transmitters of diseases, shall populate these new places, directly impacting women's life. As an effect, they shall devote long hours to take care of their girls, boys, teenagers and family in general, affecting their quality of life compared to the duty to comply with this social mandate.

The project execution, in charge of the Ministry of Environment, was in the basin of the river Jubones (Azuay, El Oro, and Loja) and in Pichincha; together with the Ministry of Agriculture and Livestock, the World Food Program of the United Nations, and 50 local governments. The project

named Enhancement of resilience in communities in the face of adverse effects of climate change, with emphasis in food security and gender considerations in the basin of the river Jubones and the province of Pichincha (Foreccsa), incorporated the gender component, addressing the environmental impact in a differentiated manner. Thus, it aimed at ensuring a real women inclusion as an active part of a renovation and adaptation towards climate change.

After several years of work, the project accomplished transformations among territories. "It was important to implant the gender-chip in our heads. Wherever we go, in whatever project we work, we have always in mind that women participate, talk and be trained", states Milton Pacheco, Foreccsa Jubones technician.



Handling water resources, critical for territorial system sustenance

Within climate change effects, the impact on water sources is one of the most alarming. For the future, social conflicts are expected for this resource. The position of intermediate governments can make the difference.



Territorial planning contributes to managing correctly resources

Photos: Pavel Calahorrano

Access to water is one of the most important factors that connects actors around the world, but it still has a long journey ahead in order to be adopted as a crucial topic for human beings' survival towards climate change. You may know by a handful the whole sack: some studies, as one conducted by the economist Miguel Ángel Boggiano in the Chicago University, reflect that only 2.5% of 1 400 million of water cubic kilometers existing on earth corresponds to drinking water. From this percent, 69.7% (24 million of km³) are glaciers and ice on the Antarctic and Arctic; 30% on ground water tables, and only 0.3% on surface water.

The future scenario is not expected with lot of optimism. In fact, in Ecuador, the Ministry of Environment manages a scenario difficult to project and advices over the possible severe impacts in populations. "Climate change has a clear incidence within water demand affecting ecosystems and agriculture. With the passage of time, changes on the river water quality are observed and even more intensely in lakes, wetlands and coastal ecosystems. As water is the life driver, it is expected that changes in the hydrologic cycle produce considerable alterations on ecosystems and health of human beings", as said by Cabinet Ministry on its web page.

Diana Ulloa, technical subsecretary of water resources at the National Secretary of Water (Senagua, by its Spanish acronym), confirms the predictions, specially all those related to her work. Users perception is focused on scarcity issues and the change of seasons that obstruct the access to the resource as before.

Nevertheless, the Subsecretary highlights the interest of populations to seek solutions. When referring to water in a community, people are so interested as a town hall or a province government. Indeed, due to that citizen ambition, there are several topics in which intermediate governments can lead processes starting by creating awareness for developing irrigation and sewerage plans within the province. A successful example of the work that had an intermediate government regarding water management is Tungurahua, where there is the so-called Moorland Fund Tungurahua and Fight Against

Intermediate governments need to create awareness, to know the water source and the affectations, and to determine if deem necessary to reforest or to renovate water sources.

Poverty that bring together people interested on having water and using it. "The Province GAD in Tungurahua has played a main function, not only as one financing the Fund, but also as coordinator. Then, when participating in a regional policy, it becomes an actor with similar opportunities to all the ones concerned about the same topic. Thus, water allows breaking certain barriers at level of government, so then they can start working for a common interest. Coordinating water topics within province governments agenda is an opportunity. GADs have a great work and action potential in this field".

Other recommended action line for intermediate governments is to develop a cadaster and information in regard to the place where water comes from and which affectations could be present in order to protect these sources and to determine if deemed necessary to reforest and renovate them. Hence, in a long-term, they shall ensure that these areas shall have water available, even though one of climate change issues is that is unknow the amount of water and the period of its availability.

A third aspect that local governments need to consider is water security; for instance, using reservoirs to store water for a certain amount of time, especially during likely drought seasons. Unfortunately, this topic has not been studied in-depth and certainly not within the context of climate change. "Besides, intermediate governments should determine how to work within their drought competencies. Obviously, province GADs have an additional skill established by the Cootad regarding the basin management. Under this umbrella, they can propose and promote profitable measures not



only to confront climate change, but also for many topics such as pollution, deforestation, among others”, Ulloa explains.

And she adds that, within basin management, working on a sustainable productive support is profitable for everybody, it diminishes pollutions risks, it decreases deforestation problems and, in basins, it can help minimizing possible inconvenient connected to water access in relation to climate change. One of the advantages the province GADs have, is that its incidence can be even greater and with a higher impact, because of the level of intermediate government, the province keeps an eye on it, and so it can coordinate territory actors. In this context, province governments have an interesting position on managing and protecting water resources to ensure the hybrid resource both for town halls and people with irrigation rights.

Finally, it is necessary to distinguish the differences between populations. Big cities could face smaller problems because from some decades they have protected their water sources; whereas small cities would be the ones suffering for pollution and shortage. In addition, within this access to

water, the most affected areas are the agricultural (representing 84% of water used in Ecuador), and human consumption. “Always rural areas are going to be more vulnerable to climate change, at least in regard to hybrid resources matter; even now, according to the National Strategy of Drinking Water and Sanitation, population with less than 200 families are the ones that have less access to water. Then, even at a national level, the access to water is almost 83% in rural areas with population of less than 200 families, the access is 50% or 60%. There, we can notice that, as it is, without climate change, so to say, these populations are vulnerable; and with climate change there are going to be even more vulnerable”, Ulloa points out.

Flooding in Guayas

Hydraulic demarcation of Guayas river has been historically a territory that had to deal with flooding, especially on the low basin. Climate change could increase the flood intensity and cause major problems, even though this area has always flooded. Some years ago, in this region, there was a dike constructed by the Province Government, in one

side, and in the other by the Central Government. Surprisingly, one of them was higher than the other, so when it rained, the river flooded only in one side. Then, we decided to change the vision. Articulation between several levels of government was created and the flooding control improved. All the actors involved had discussion to decide, support and work in this basin. “People didn’t say any more ‘this is my dike, my space, this belongs to me’; their vision expanded. Thus, we could work on infrastructure, and we could construct multipurpose projects, as Daule-Peripa. Not only flooding was controlled, but power supply was produced”, Ulloa recalls.

The success of this process was the incorporation of all the actors, the consensus achieves along the basin and, of course, the articulation between the levels of government. Ulloa highlights that this allowed controlling population growth in the flooded areas, avoiding wetlands devastation, since they allow controlling flooding as well. Therefore, we can identify in a better way if there is anything that adds interest. “I think that basin management has a lot of potential, from province governments, if seen this coordinating element and the use of water. As this is one of the most affected factors

by climate change, so it can help to include these interests. In the case of Guayas basin, now it is managed by the Public Company of Water, which is a national agency, but whose actions are discussed and are for the benefit of all the actors among this area. Today, the work of province governments is focus on fostering a growth in agriculture without damaging flooding plains. We need to consider that there are areas that always will flood, and so then we need to work on getting adapted and to come up with solutions” mentions the Subsecretary.

Scarcity in Cotopaxi

Cotopaxi is one of the provinces that nowadays has water scarcity issues, and where several conflicts are observed due to the presence of many users and few resources. These issues shall become worse during time, within a climate change context, if any measure is not established. In this scenario, the Province Government in Cotopaxi proposes to create a water quality laboratory to try to recycle water. Besides, there is a suggestion to create

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locations to protect water sources, in alliance with the owners of moorlands. “Working closely with water and irrigation boards since this social basis will always be positive. And despite the importance of a dialogue with the mayor, it is also important to discuss with those people living in moorlands and that use water all the time. Therefore, the province GAD works on articulating with them is acute. What they need to strength is the pollution control”.

Nowadays, there is a project named Chalupas, which incorporated diversion tunnels in rivers, from Chalupas, in the river Napo, up to Cutuchi,

in Cotopaxi. This project can be connected only if the Central Government and the multiple level of Governments, together with the water users themselves are involved. Likewise, the Province GAD in Cotopaxi leads the composition of a mancomunitat for sowing and protecting the hybrid resource in moorlands of the Inter-Andean corridor. “The contribution of governments will be important in order to ensure people use water to irrigate and give it an appropriate maintenance and conduction. The work which is the responsibility of province governments is the key in this infrastructure needed to be constructed in a long-term”, Ulloa states.



Santa Elena
PREFECTURA

TAIWAN **ICDF**
財團法人國際合作發展基金會
International Cooperation and Development Fund

CULTIVO DE OSTRAS

EN SANTA ELENA

Más de 250 pescadores distribuidos en 10 asociaciones de El Real, Palmar, Ayangué, San Pedro, Valdivia, Anconcito y La Entrada se benefician del proyecto 'Reproducción y Cultivo de la Ostra en el Ecuador' cuyas instalaciones se encuentran en óptimas condiciones para desempeñar esta labor, obra efectuada por la Prefectura de Santa Elena en convenio con la Oficina Comercial del Gobierno de China-Taiwán.

El precio de la ostra en el mercado va desde: \$0,35 la unidad.

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ÁREA DE LA PISCINA UTILIZADA PARA EL CULTIVO DE OSTRAS QUE CUENTA CON UN RESERVORIO DE AGUA DE 90 M3

La reproducción y cultivo de las ostras se basa en un proceso de siembra que comprenderá varias etapas que incluyen el armado e instalación de líneas de cultivo, la diseminación de las semillas, engorde y mantenimiento de estos moluscos muy apetecidos en la gastronomía ecuatoriana.

El proyecto ubicado en la comuna El Real (parroquia Chanduy) que tiene una inversión de USD 2'600.000 y una duración de 3 años promoviendo el desarrollo a nivel comercial de los cultivos de ostras entre los pescadores artesanales de nuestra provincia, actividad que genera ingresos adicionales a la pesca que tradicionalmente se constituye en el sostén económico del sector.

PARROQUIA CHANDUY
COMUNA EL REAL

Los puertos de la comunas El Real y Palmar son los que lideran la producción de ostras en cautiverio en Santa Elena

2013	20.000 SEMILLAS
2014	43.000 SEMILLAS
2015	100.000 SEMILLAS
2016	400.000 SEMILLAS

*Datos del proyecto ejecutado por la Subsecretaría de Acuicultura y Pesca

OSTRAS DEL PACÍFICO
(*Crassostrea gigas*)

Esta especie necesita un tiempo aproximado de 6 a 8 meses para alcanzar el tamaño adecuado para su comercialización (8 cm de largo)



Population clusters deal with major challenges at the moment of designing a territory development that considers climate change. Public policies should prioritize the care for the planet with consensual regulations that require a strong compliance.

The picture is devastating: “Cities are the main contributors to climate change even though they represent less than 2% of the Earth surface, they consume 78% of world energy, and they produce more than 60% of the total carbon dioxide, as well as a significant amount of greenhouse gas emissions, mainly through power generation, vehicles, industry and biomass usage. Hundreds of millions of people at urban zones in the world shall be affected by the rise of sea levels, an increase in rainfalls, floods, cyclones, and stronger and more frequent storms, as well as periods with higher heat and extreme cold. Climate change will probably have a negative impact on infrastructure, in the access to basic urban services, in life quality”.

bad because, if planned and organized, problems can be diminished. This is not the case when it is completely disordered and unorganized, when cities grow without control, when people eliminate areas that were before environmentally or agriculturally protected to construct buildings, among other aspects. “When analyzing climate change as a threat in urban contexts we can observe which is the impact on population, and which measures we should take in order to reduce them, to mitigate them, to have the resilience capacity, and to control future urban expansions. Global warming is latent, it is already here, we should have more innovative measures”.

Such is the complexity of the situation that the United Nations (UN) Organization describes in a report on the climate change impact in big population clusters. Urbanization processes has determined city development, and the reason why they grow so much both in population and territory expansion. This involves visible and tangible impact on environment, more houses, more buildings, more heat islands. When there are a lot of buildings, and the green wooded area is eliminated, a new ecological surrounding is produced, one completely different to the original in nature.

Starting from this context, we need to include one more variable: scalability. Big cities shall not face climate change in the same way, with an institutional background of years, as small and medium cities, without any institutional background and without the capacity to respond with opportunity. This applies for both populations living on them and their authorities. Thus, urban studies should be carried out depending on differentiate geographies, in order to know for sure what shall happen, or which are the scenarios to be faced in the context of climate change and, above all, cities. “It does not mean that neither Quito nor Guayaquil shall not be affected, but maybe they shall have a different preparation. Whilst in small and intermediate cities there is no institutional or social capital providing those answers. The challenge is to construct leaderships to confront climate change effects on intermediate cities in order to propose truer and more adequate responses at that territory scale”, explains Novillo.

Nevertheless, as Nathalia Novillo explained, the anthropologist and coordinator in the Center for Public Policy and Territory Research (CITE, by its Spanish acronym) in the Latin American School of Social Sciences (Flacso), urban growth per se is not

Intermediate cities should reduce their vulnerabilities

Photos: Xvier Caivinagua



Photo: Pavel Calahorrano



Photo: Xavier Caivinagua

Differences between cities

In 2050, all the projections aim at stating that in Latin America 75% of population shall be urban; therefore, challenges are giant. Cities emit the highest amount of greenhouse gas emissions to the atmosphere, here is where traditional and nontraditional transport means concentrate, industries, big nodes and big productive process. Even then, there is a need to distinguish cities in territories.

According to a study conducted by CITE, intermediate cities (between 100 000 and 1 000 000 inhabitants) are more vulnerable to climate change effects. In the case of Ecuador: Machala, Esmeraldas, Santo Domingo de los Colorados, Ambato, Riobamba, etc. The reasons reside in their lower institutional backgrounds, and their higher growth in population rates, which is reflected on an accumulation of inequities. For instance, Santo Domingo was colonized at the beginning of the XX Century, it has a short institutional background because it was only until 1967 when it became a

canton; its population originally comes from several provinces of the country, it is very precarious. Thus, population sensibility and the existing differences place this city in a point of higher vulnerability compared to other cities.

This degree of vulnerability or sensitivity towards climate change, as Novillo explains, depends on how much prepared are intermediate cities. Within the most complex point, and in the one that requires more attention, there are those with incipient integral handling of water resources. In general, in those places, the possibility of sustainability is none, the problem with employment is dormant, and mobility is a chaos.

Cities that have achieved working or handling appropriately their water supply, waste sorting, environmental sanitation, and sustainable nobility systems, have a better capacity to face risks. And finally, those population centers that have better governance skills should be even more ready, in the sense that they could count with a regulation on how construct with certain transparency degrees and information access, with a better management of finance and accounts, etc.

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Photo: Pavel Calahorrano

Public politics actions

For Novillo, in terms of public politics management, the first to be done is understanding the existence of a problem, in other terms, that those practicing politics understand that climate change is not novelty. This is a real problem that humanity is dealing with, and there is a risk of becoming extinct, that is the dimension of the problem.

Once the gravity of the problem is dimensioned, public agendas in different levels of government should include this topic, not as a simply statement, but as determined concrete actions in the agenda. "These agendas shall include real regulations in which there should be a very strict control upon its compliance, together with a pedagogy, not only for authorities, but also for all the citizens. Society needs to understand that the problem should be

solved among everybody. Facing the real problem is to take seriously that a regulation can do even more than anything else. It is good not using straws any more, but we shall be more prepared if we control, with regulations, for instance, the number of vehicles entering the city per year. If everybody goes nuts, it is a shame, but I am contributing because I am a responsible authority".

In this sense, intermediate governments must have a crucial position, since they manage territory of several urban zones, such as parishes and rural elements, becoming an orchestra director to tune the joint action. Plans and programs that the province or intermediate governments implement, shall aim at correcting misunderstandings on controversial topics. Novillo concludes by mentioning that "concurrent planning, comprehensive understanding of territory with its potential and threats, and management and articulation between the urban and rural, are key aspects to help actors and territory systems to deal with climate change".



PROYECTO
GEOPARQUE
IMBABURA

Enamórate de IMBABURA

NATURALEZA, GASTRONOMÍA,
CULTURA Y MUCHO MÁS



SOMOS IMBABURA
somos turismo

Less greenhouse gases by means of climate-smart farms



Photos: Pavel Calahorra

Province governments have a main role when planning production in territories. Improving people adaptation to local conditions, improving productivity and reducing emissions shall be their goal

Some years ago, Food and Agriculture Organization (FAO) of the United Nations has developed around the world a couple of concepts called Climate-Smart Agriculture and Climate-Smart Livestock which seek establishing measures to confront climate change and increase productivity of agriculture and livestock systems.

They main focus is to work both in a national and a territorial scale, but the major challenge is in countries where vulnerability is even higher due to the existing landscape diversity. According to Juan Calles, coordinator of the GEF project portfolio in FAO Ecuador, the addressing method is much more complex in megadiverse countries and with less geographic expansion, such as Ecuador, than wider areas such as the Brazilian Amazon, African savanna or the big American prairies that possess more homogenous systems.

“In Ecuador, we have complex climate systems: northern areas in Esmeraldas where it can rain 5 000 millimeters, in contrast to the south of Santa Elena where the rain reaches 300 millimeters. In the country, it is complex to determine vulnerability because there are countless microclimates; even in Quito itself, where it rains in different ways in the north or the south of the city. All these factors that force the productive processes to be developed mandatorily are subject to these particular features”, Calles mentions.

Then, the expert states, the starting point is an assessment with producers, authorities, and people in the area to understand their local dynamic. From this understanding of local schema, skill reinforcement

Confronting vulnerability of territories to climate change is a challenge for province governments, since they are responsible of productive development.

process, climate risk and vulnerabilities assessment are promoted, as a whole, in order to make available a package of measures to be implemented in each area. For this reason, the project is innovative, because it allows adapting strategies to reality in each place, with the consequent receptive attitude of communities. Inhabitants recognize how their productivity is subject of a long-term improvement, and this is being imitated little by little in other fields.

Calles highlights that the effective application of specific Climate-Smart Agriculture and Livestock focuses on three main lines: improving adaptation of people to the local conditions, increasing productivity and reducing emissions. “For this reason, its name is climate-smart because it performs these activities under climate considerations in the case of livestock, people increase productivity in their farms, not only by changing their grass and improving races, in the case of livestock (factors or emissions with high environmental costs), but also by combining these three lines, considering greenhouse gas emissions and adaptation to climate change in a long term”.



Reconciling visions

Confronting vulnerability of territories in front of climate change is a major challenge for intermediate governments, since they are responsible of the productive development and also because they are the closest to inhabitants. This allows them access to firsthand information, they know really well how its territory works because they have more proximity; therefore, they also know the needs and even how their inhabitant's idiosyncrasy works. Each population has its own culture, and that proximity is an advantage to local governments as stated by Calles.

Now, not every government has constituted capacities or the technical team to address these topics due to budget constraints, lack of information,

etc. Then, as the expert points out, even though this is a major challenge for local governments, it also becomes an opportunity to them because this force them to create a plan in a long-term, and that's what is required for climate change, to have more territorial approach, more incorporation, etc. Seen like this, local governments position is crucial to address topics of climate change adaptation in all the productive areas.

“When planning, we need to consider that province, canton and parish are one in a territorial sense; the three of them should match. Reconciling visions is the major challenge at a territory scale, and in different level of government because from this will emerge which interventions will be performed in the field. Otherwise, one will reforest for commercial purposes, while the other for preservation source purposes. Then, run-ins will start, there will be lack

of articulation, and after will arise typical problems in the field”, Calles mentions.

For grass improvement

In several areas of Imbabura, there is of very small tendency to possess lands, that varies between half and a hectare; with farms located within very fractured areas with lot of slopes, and grass that has not been renovated with production within a very small scale (three or four cows per family). They are very small livestock owners.

The Climate-Smart Livestock project started in 2016 in seven provinces, and it shall last until 2020. It is financed by the World Fund for the environment,

and the national counterpart is the Ministry of Environment, the Ministry of Agriculture, and the FAO, as an implementation and execution agency. In national scale, local governments work in coordination with different levels, specially parishes and provinces, because of their competences.

The FAO project has been adapted to local conditions in Urcuquí, Ibarra, Pimampiro and Otavalo, working on some parishes, which has allowed implementing, developing and improving, step by step, effective actions such as the construction of site for milking, small structures of 5x3 meters, where it has been achieved a less contaminated milk. With practices so simple as this one, we have accomplished that milk price improves, and also that the product has not that much contamination.

As Calles explains, the project also helped to improve

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grass quality, which results in a better digestion of animals, and, therefore, emissions are reduced. “At the beginning, the producer did not care that much about climate change in terms of emissions, he only worried about his production. Hence, we work on improving his processes, not only production for production itself, but also with these environment considerations”.

In Napo province, for its part, the project has focused on Baeza, Quijos and Cosanga areas. There, lands have between 10 and 15 hectares. For this reason, milk livestock has a major volume than in Imbabura.

Since this is a region with heavy rains, cattle trampling damages grass very fast, thus we decided to work on agroforestry with living fences, rotation and renovation of paddocks with electric fences, among other measures.

“Animals constantly ruminate and burp, and so they issue methane during their continuous digestion. For this reason, it is important to manage their food; the harder their food is, the harder to digest to them, and then more gases will be emitted. We try to reduce that emission level by handling appropriately their food” Calles concludes.



Trabajando por el medio ambiente!

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En la Prefectura de El Oro conscientes del cambio climático, desarrollamos herramientas que nos permitan a todos conocer la fragilidad que posee la provincia ante los efectos de la variabilidad climática y puso a disposición la información sobre los territorios que se encuentran social y ambientalmente más vulnerables.

Juntos podremos hacerle frente al cambio climático.

• ESTUDIO DE VULNERABILIDAD FRENTE AL CAMBIO CLIMÁTICO Y REFORESTACIÓN DE LAS CUENCAS HÍDRICAS DE LA PROVINCIA DE EL ORO.

Climate change policies as a key element to accomplish regional development

By Jessica López

One of the greatest challenges that territories face nowadays is climate change. It is there where the impact of this phenomenon is materialized, along with the response measures created to address such effects.

Although people tend to relate constantly climate change to a clearly environmental issue, this is not only closely related to ecosystem conservation and its services, but also to production, access, and water availability, infrastructure and means of support; in essence, to human rights. Thus, the Intergovernmental Panel on Climate Change (IPCC) on its Fifth Report states: “Sustainable development and equity provide a basis for assessing climate policies. Limiting the effects of climate change is necessary to achieve sustainable development and equity, including poverty eradication”.

Despite the fact that climate change impacts could

be more evident on the biophysical environment, behind them, there are consequences for economy, society, and political-institutional environment. This prompts us to have a systematic perspective when determining measures and actions which contribute to face this phenomenon; in other words, to see all these elements, their connections and interactions, from territory. Such interrelations and interdependencies among elements in the territory systems are very dynamic and complex, so that what affects one of them has unavoidable impacts on the others. Hence, there is the need to mainstream climate change in all of the action areas.

Mainstreaming climate change could be a mechanism to enable the effective generation of a public policy for reducing territorial systems vulnerability and to promote activities with low emissions. Nevertheless, this exercise could dissolve the importance of this issue and lead us to inaction.

In this sense, when assuming climate change as a prioritized criterion, it fosters the decision making when defining action priorities on territories, the best intervention mechanisms through programs and projects, and the appropriate distribution of public investment.

Let us start from the assumption that climate change is a global phenomenon that has manifestations at a local range. This means that each territory shall have its own interpretation towards this issue due to, on the one hand, its own capacities, features and systems; and, on the other hand, to different expressions of climate variables in each one of them. This is evidenced by the Climate Change Province Diagnosis, which currently the Congope is developing. For instance, on a national range, the trend is the rainfall increase, whereas consecutive dry days remain or are reduced in most of provinces. However, in Manabí province, future scenarios show a trend on rainfall increase, as well as a mild increase on the amount of consecutive dry days, suggesting that, even though it rains more, drought shall be an inconvenient within this area.

If, we add to the aforementioned that Manabí has around 40% of its territory covered by agricultural

systems, they shall have to strengthen even more their production mechanisms towards drought conditions facing the increment of consecutive dry days.

In this context, the development of public policy from local levels is a critical element when establishing effective strategies to confront climate change. In particular DAGs, as intermediate governments, have the chance to put the pieces together of all the puzzling actors, elements and interactions found within territories; therefore, they have the ability to identify more robust and systematic measures since this phenomenon goes far beyond territory and government limits.

Then, each territory shall analyze both impacts and opportunities that climate change entails and, with that information, know where to settle the efforts. The exercise does not only consist of incorporating climate change in each one of the areas and/or the actions undertaken on the territory, but also that climate change shall ease the identification of the most critical issue(s) in need of a local public policy; and, within this framework, to direct the interventions, the places where an action is required, the actors involved, among others. In other words, climate change is an additional factor conducting

Climate change is a global phenomenon that has manifestations at a local range. In other words, each territory shall have its own interpretation of this issue.

the priority of actions in order to promote the development of territories.

For this reason, intermediate governments shall rely on tools such as regional planning, citizen, and new governance mechanisms to achieve the welfare of its population; they should also include climate information and studies on future scenarios, such as supplies analysis to determine preventive action strategies enabling a better planning.

An example of this is the recurring heat waves in the country. Up to the date, the inventory for losses, damages or effects caused by disasters, based on the database called Desinventar and handled by the Risks Management Secretary, has not registered it as a threat, and the historical data have not shown greater

evidence thereon. Nevertheless, when analyzing future scenarios, it should be noted that the increase of consecutive days with extreme temperatures, in certain provinces, gives the chance to increase from 1 day each 1 and 2 years, which means that in a period of 10 years, there is the possibility to enhance from 5 to 10 consecutive days with extreme temperatures; which is already considered a heatwave. This applies to the Esmeraldas and Orellana provinces which shows that, in the future, climate change shall bring new conditions to which is needed to be prepared.

From these assumptions, then the response level of these human settlements, and agricultural and livestock areas to heat waves and likely impacts of this threat should be analyzed. Therefore, it would be important to identify where are the most vulnerable elements, which features do they have, and thus, which measures promote the reduction of impact in this threat.

However, for making decision in this context of climate change, there are two big challenges: 1) complexity; and 2) uncertainty. Complexity seen as the interconnection of systems and how impacts the climate crisis passed on them, and uncertainty given by this phenomenon nature itself. Which brings up considering the need to address these issues from

the academy with a strong support of policies, since, even though climate change is usually an inconvenient described mainly by experts, they are not those people who establish measures to deal with them. Thereby, we can contribute and respond to huge queries that, such as climate change, suggest to our development and regional planning model.

Nevertheless, GADs are responsible to promote the sustainable development in the territory; therefore, the opportunity to define and direct the territory responses towards the challenge to propose the climate crisis becomes undeniable. This should not be understood as an isolated action of national politics, since local policies should contribute to huge national approaches and goals established, as the particular case of the Nationally Determined Contributions (NDC) which are commitment acquired by the country, with regard to adaptation and mitigation, when the country ratifies the Paris Agreement. These could only be implemented with the GAD support and the territory actors. In this context, subnational level of government contributes to achieve national priorities for climate change management, starting in reflection from territory, which provokes a double effect action (national measures that include local actions, and local strategies which contribute to the country). Thereby, coordinating national and local policies is not optional, but mandatory.

Given this, the Congope acts according to the Province Action project facing the Climate Change, supporting 23 prefectures in the country for construction and/or update the Climate Change Province Strategies. In this process, territory priorities are identified, and from those could be defined action lines which are translated as meaningful measures to face climate change in order to promote the territory development from several levels. From local, when highlighting implications and relevant opportunities for every province; and from national, when defining from the look on territory over what should the country aim at, in terms of climate change.

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Territorial organization is crucial to confront climate change

Province governments are called upon articulating actions from local governments and so they mitigate climate change damages according to their own reality.

From top to bottom, but also, from bottom to top. Public policies that confront climate change effects involve all the levels of government. From global decisions because is a civilizing crisis -even the main roles that territory actors play. From top to bottom, there are commitments on a world scale, such as the Paris Agreement, which provides guidelines to direct countries how to confront climate change in two ways: the first, mitigation, i.e., greenhouse gas emission reduction, and the second, adaptation, i.e. what to do to confront the problem when is already installed. With this roadmap, the work from bottom to top, i.e. from territories is crucial.

Why? The biologist and former minister of Environment, Tarsicio Granizo explains it: “the fight advances to what is specifically environmental. Today, when referring to climate change, it is necessary to include productivity, food security and

health. There are many actions that can be performed in territory and that influence top in decisions from the State. Articulation among local, intermediate governments, the Central Government, and the international ones is fundamental. Ecuador relies on a tool: Intergovernmental Committee on Climate Change (CICC, by its Spanish acronym), where GADs are included and even have a representative of the Congope. This Committee is the so called to be the coordinator body between different levels of government”.

Nevertheless, this articulation must be synchronized with the deep work on territorial organization, where it is important that GADs define policies to be implemented among their territories, because, in sum, they have the competency to do it. “This is very important to Ecuador; nevertheless, many GADs have not even realized the significance of this tool”.



Then in Ecuador, for example, transport and deforestation activities are the ones with the greatest impact on greenhouse gas emissions. The territorial organization is a big instrument to reduce and stop deforestation of at least 80 000 hectares of forest per year. How? Planning and organizing productive activities so that they are more resilient to climate change. “I mean, where before certain products were grown, now we cannot any more, and vice versa. For instance, due to the hydrologic cycle alteration, now potatoes are grown even at higher altitudes, to 3 500 to 4 000 meters of height. And before we could not do it since the tuber could not handle cold, frost, winds, etc. Then, we can help reorganizing crops by reorganizing territory”.

Something similar occurs with health topics. Climate change produces hydrologic alterations, or it rains more, or there is more drought, there are more mosquitos or more respiratory infections, there is more possibility to lose crops, agriculture, livestock. “We need to start thinking on agriculture and livestock as climate-smart; i.e., that they are resilient to climate change. National policies have to lead us to local adaptation policies. In turn, taking advantage of local policies that are more focused and are in territory. There is where the crop, sowing and farmers are, where is the person that provides us food is, the person that is at the same time more vulnerable to climate change. Therefore, it is important to understand the problem, not only

from the environmental approach, but as a whole, as something that has to deal mainly with food sovereignty, health and production”.

Which is the development model that GADs wants, one organized, planned, in a long term, permanent, beyond authorities on duty? How many food tones shall need the territory population? Where these products shall be grown? In which places are they going to take care of forests, areas of hybrid load to ensure water access for the population growth? How is it going to get prepare when it rains more or rains less, or it starts finding more mosquitos, or more respiratory problems? These are only some questions territorial organization should answer,

and the intermediate government role is crucial.

To be effective, GAD has to recognize which are the competencies that the Constitution provides, and it must execute them with authority. “Now, it is not only to govern a province only by means of decrees, but through social agreements. Therefore, it is acute dialogues and consensus because then a GAD organizes a territory, what it is going to tell its population is ‘from now on, you will not be able to grow further way’; and the owner of the farm shall say ‘why? And where is my liberty to grow?’”. And that is not the method to do it. There is a collective interest, a public interest, a social agreement that forces ‘everybody to foster to a territorial organization’”, as Granizo concludes.

Ambitious climate policies emerging from local governments in territories

Transport systems with reduced emissions or zero emissions, sustainable consumption models and circular economy, changes on the use of earth, and agricultural practices to reduce emissions, among others, are actions that can be developed from local bodies.

Climate change is a global challenge in which society and international actors should intervene in a complementary, coordinated and coherent way. In this scenario, the role of intermediate governments is critical thru its jurisdiction. Particularly in decentralized states, where the subnational level creates and implements laws, policies, strategies, programs, and legal mechanisms among areas that affect directly to greenhouse gas emissions, for instance energy, environment, transportation, industry, agriculture, soil usage, and civil security.

“Indeed, as per these competencies, as expected, around 50% and 80% of these adaptation and mitigation actions required to battle against climate change are being or shall be implemented by the subnational level. Furthermore, these competencies shall become key factors in order to preserve the contributions for emissions reduction, established by states signing the Paris Agreement, as concrete

Local governments are architects of ambitious and innovative climate policies, that frequently overpass the level of ambition in their own states.

measures. Therefore, regional governments shall have a critical role as catalysts within their implementation process”, as stated by Natalia Vera, general secretary and spokeswoman of the nrg4SD organization. This network groups together regional governments worldwide working for the benefit of sustainable development.



Photos: cortesía nrg4SD

Local governments are architects, in many occasions, of ambitious and innovative climate policies –sometimes– overcoming the level of ambition of their own states or the rhythm of international society. One of those cases is São Paulo (founder member of nrg4SD), Brazil, which approved the Emissions Reduction Law in 2009. Those decisions allowed the State to register currently zero industrial emissions. That proved how an effective leadership in a subnational level can be reversed into positive effects, and it also supposed a stimulation to other Brazilian states, and for the Federal State itself.

Moreover, local governments closer to citizens than the ones been held by the State, benefit from direct connections with civil expectation, and they are able to develop important awareness campaigns aiming at involving citizens and other parties interested on climate change adaptation. In this same line of ideas, regional governments, given their flexibility on procedures and decisions, are able to create alliances with the private sector, NGOs and

financial institutions, resulting in the establishment of technologies, financing systems, and training processes. Finally, due to their strategic position among state and local levels, they promote vertical coordination and inclusion in policies, which is critical for a coherent and efficient approach directed to long-term results.

The importance of articulation

Vera goes beyond the role of central, intermediate, and local levels should have, where it is critical to work coordinately when implementing global agendas. “When understanding transposition of international commitment towards domestic level by the State, and implementation, according to competencies distribution, by the central, intermediate and local levels, we need to be aware that all the levels of government have a responsibility and a role to play in order to succeed achieving global goals”, she states.



And she adds that permanent cooperation areas and the appropriate ones for coordinating and cooperating among all the levels should be established in the role awareness, that is naturally complementary. Therefore, coordination mechanisms are important, since they allow the contribution on a subnational level to the reports and positions that the States lead to international debates. In this sense, information from bottom upwards provided by subnational levels is crucial for making global decisions; hence, the role of implementers overpasses itself in order to become strategic actors for decisions making.

Besides, regional governments have an acute role in the challenge of multilevel articulation since they are located as a required and key component in the chain, and, therefore, as guardians of that

vertical integration of policies. Besides, regional governments are important observers of territory conception as a continuous factor. Hence, needed links between urban and rural areas are ensure, given that they are important to provide a flow of resources and working ecosystem services, among others in the territory.

Two successful examples

Local governments can develop many adaptation actions within their own legal areas, for instance: strategies for transport systems with reduced emissions or zero emissions, sustainable consumption models, and circular economy,



Natalia Vera, general secretary and spokeswoman of the nrg4SD organization



Foundations to confront climate change are made at the Chongón Colonche mountain range

The Consortium to Confront Climate Change in the Coastal Range (Cecccoco, by its Spanish acronym), composed of Guayas, Santa Elena and Manabí Provinces, seeks sustainable development within the limits of preservation of natural resources. For several years, Santa Elena has already been working in joint action with communities and at different levels of GADs in order to reinforce the basis that allows confronting climate change and becoming an example to imitate in other provinces.



Photos: Jeffre Flores

changes on earth usage and agricultural practices to reduce greenhouse gas emissions, among others. Vera describes two successful examples supported by nrg4SD.

The first one implemented a tool designed by the Basque Center for Climate Change, that assesses adaptation policies based on 17 indicators and 53 metrics covering general aspects. This allows identifying members of the network, in which phase they are from the technical point of view in terms of climate adaptation, and so then it assesses its progress and identifies possible improvement areas for their plans. Specifically, this tool is very useful to those regional governments that do not have an adaptation plan yet, or for those that have already one under a very early stage. “From nrg4SD, we invite local governments to use this tool, and we advise them about how to use it with the support of researchers, who provide us with a guide to use it,

and further information analysis. Therefore, this is a very successful cooperation in which are involved both the academic world and the investigation one, decentralized cooperation (nrg4SD network) and the local experience (intermediate governments).

Another case of success is the “Visiting Experts” program, an effort to promote practical learning among the network members. Indeed, nrg4SD subsidizes the residence of a representative in underdeveloped countries at the head office of a more developed country. “Many expert residences have been developed, the most recent is the one from Mamadou Ndong Touré, Projects responsible for Climate and Development of the Departmental Council of Gossas (Senegal), who enjoyed his stay for a month in the Government of Quebec, where he had the chance to learn experiences from this Government in the context of climate change in general, carbon market, and especially green economy”.



The concern for climate change remains as a main agenda of local governments; nevertheless, making this situation to become the driving force that encourages and promotes communities to work together towards conservation is only possible if we combine lots of effort and the commitment of both actors. For several years, the Santa Helena Province Government works on the articulation of joint actions with community in order to improve conditions that allow confronting climate change in the coastal range. It had worked in parallel with the Consortium to Confront Climate Change in the Coastal Range (Cecccco) whose creation process lasted six years, and just the last June 5th, 2018, it signed the agreement upon its formalization by incorporating Manabí, Santa Elena and Guayas provinces.

The Cecccco has as main focus the sustainable development within the limits of preservation of

According to the Perfect of Santa Elena, the country contributes just with 0.15% to the global warming. We have to work with special care in measures of adaptation.

natural resources. It aims at confronting climate change variations.

For Patricio Cisneros, prefect in Santa Elena Province, “even though Ecuador only contributes with 0.15% to the global warming, we need to work



with special care on adaptation measures because we are suffering the consequences of this world phenomenon”.

For instance, he explains: the Chongón Colonche mountain range stretches from Guayaquil (Guayas) to Ayampe (Santa Elena) and its best-preserved part is in Santa Elena province. This is because the work of organizations and institutions such as Fundación Natura and the Ministry of Environment has been promoted. “This mountain range is extremely crucial because it regulates climate during summer months due to its notorious proclivity for capturing drizzle; it captures enough water to irrigate groundwater tables, where an intense productive activity occurs”, he mentions.

In this context, since 2015, its administration

encourages the project Trading the non-timber product in the Dry North Forest, the sustainable link between production and preservation (also known as Dry North Forest Project). It arises as a joint proposal between Province Government and Heifer Foundation, and it benefits 1.500 people.

We worked in two approaches: agroecology (Heifer Foundation) and preservation, under the responsibility of the Province GAD of Santa Elena. In 2016, the Agroecology School was born from this effort, and it trained 21 farmers, so that they can teach their communities the best practices on cultivation.

In 2017, a bioentrepreneurship was encouraged with the support of the MAGAP for the biological control of insect plagues. From this experience,



300 hectares benefited from short-cycle crops. “This agroecology technique is deeply related to conservation because it works on the preservation of soil and water sources”, Rafael Chiadó-Caponet points out, chief of the Natural Resources Preservation Unit of the Province GAD.

In a preservation related impulse, the Prefecture encouraged a subproject named Project for the climate change resilience in communities by means of forest management of palo santo (holy stick or *bursera graveolens*) in the popular and solidary economy of Santa Elena province.

The idea was to understand the request of several co-owners in Aguadita and San Marcos villages located in the Colonche parish, in order to develop a productive activity using as resource of palo santo, which was traded as incense. By then, the Natural Resources Preservation Unit of the Prefecture already had enough information gathered since 2013 regarding this species, which allowed starting the pilot project financed by the Province Government and the Heifer Foundation.

Chiadó-Caponet recalls that they started with a

According to Chiadó-Caponet, the philosophy that farmers preserve their forest only if they value what it can produce, has emerged since 2016.

philosophy in 2016: farmers preserve their forest only if they value what it can produce. And the dry forest preservation helps them to confront climate change in this area.

The idea is to take advantage of resources, and to manufacture other products, such as oil extract, and that it can also become an option of income for population. The plan of handling was executed over the basis of 249 hectares of forest.

The first step was to constitute the Palo Santo Agroforestry Association to provide technical advice and training for the appropriate fruit harvesting.

Heifer Foundation donated USD 3 000 to buy a mill, an alembic and to start producing.

In 2016, they had the first production of 43 liters of dry fruit essential oil, dry fruit and semi dehydrated fruit. “After that, we continue with timber oil studies. With these results, the Prefecture financed the project with approximately USD 120 000”, Chiadó-Caponet adds. It also merged to the Forest Partner project in the communities of San Miguel and Saya.

On his side, prefect Cisneros adds that, in the productive aspect, it has been achieved an activity that now employs 300 people during the harvesting season, and other 20 people work all year long producing secondary articles out of palo santo (candles, ointments). The plan is to extend this project to 30 000 hectares of forest in the province. “We are reaching agreements with exporters in order to access international markets”, he states.

Additionally, a harvesting protocol was established in order not to modify the balance of forests, and to ensure natural regeneration of species. In fact, the area shall be reforested with 20 000 plants of palo santo by 2019.

Bertha Carpio, director of the Environment Prefecture, adds that the Dry North Forest Project shall become a program in order to have an annual budget within the Province Government, and we are looking for international contribution “with a speculated period of 10 years in order to include the overall coastal range. This is already within the Consortium of Climate Change”.

Specifically, with the Cecccco creation, which was born as an option to confront climate change, it is also intended to give impetus to new options for preservation by involving different actors and creating other entrepreneurship that benefit farmer families. A total of 17 parish governments, 4 municipal governments and 3 province governments are part of Cecccco. “We were as busy as bees for many years. We started in 2010 with an agreement



Photo: archivo CONGOPE

between Manabí, Santa Elena and Guayas, and we have not stopped until the constitution of the Consortium”, Carpio adds.

Indeed, the Prefecture of Santa Elena promotes an ordinance in order to give continuity to those actions that have been performed up to the date between actors; nowadays, it is under discussion, and province rural parish GADs are involved.

Cisneros also points out that, within the Cecccco, programs shall be promoted in order to establish, for instance, a water fund which shall allow financing some of the required measures in order to achieve the preservation goals of water sources. Besides, working on a program that strengthen the institutional capacities and organizations existing in the area of impact to improve governability and governance in the territory.

“A plan for interchanging experiences is required, in which it is possible to demonstrate what is being done and the decision of people to imitate it. Like Santa Elena province, we have successful cases of bioentrepreneurship that can be imitated in other places”, Prefect Cisneros concludes.

Citizen participation is the basis for protecting forests in Pastaza

The GAD in this Amazonian province has seen results when it involved population in to the creation of regulations for preserving forests and confronting climate change. This strategy allowed it to be included in the body that groups together intermediate governments all over the world.



Photos: Pavel Calahorrano

More than two million and a half hectares are protected in Pastaza. Indigenous people, farmers and cattle breeders are guardians of this extended area that covers 95% of the Amazonian province surface. This means that Pastaza is an area of nature preservation. As established in Ordinance 092, which limits and determines actions to be executed in the Ecological Area of Sustainable Development in Pastaza Province, in force from March 2017. The goal is to ensure the protection and the sustainable usage of

goods and ecosystem services.

According to the Food and Agriculture Organization (FAO) of the United Nations, ecosystems, when they are subject to sustainable management, can perform a critical function to mitigate climate change and the adaptation of it. “In a larger context of sustainable development, sustainable forest management also contributes to food security, poverty reduction, economic development and rational usage of land. An



appropriate forest management ensures the subsistence of forest ecosystems, and improves its environmental, sociocultural and economical functions. It can also increase to the maximum the contribution of forests to climate change mitigation, as well as to get adapted to new conditions caused by climate change”, the agency states.

Within this dynamic, the Decentralized Autonomous Province Government in Pastaza works so that the province development, protection, preservation of land and people living in the area have the same weight and importance than economic development in its work plan.

In order to comply with this proposal, Ordinance 092 establishes the preservation of ecosystems,

biodiversity, the prevention of environmental damage, and recovery of degraded natural spaces; it classifies them as a matter of public interest. Besides, it delimits the ecological area covered by 2’541.836 hectares.

Citizen Participation

The challenge is to implement Ordinance 092. The governor Antonio Kubes is convinced that they shall achieve it because population has actively participated on the creation of this law. “People assumed responsibility when developing the ordinance. We hold difficult meetings, some with lot



of opposition, but we talked with people and, little by little, they got involved. This regulation includes their vision, their concerns, and their answers”, he states.

There were more than 200 meetings, citizen encounters, working tables and forums for discussion. In each one of them, we gathered and included the presented proposal. Even though everybody wanted the same: protecting rivers, forests and lands. Working sessions were carried out in neighborhoods, parishes and cantons. During this process, we addressed concerns of citizens, the most frequent ones were related to land tenure and its delimitation. “People thought that we were going to delimit property or even to expropriate. But, that was not our purpose, and so we could communicate with citizens”.

Article 8 in this Law recognizes rights resulted

in property titles of natural and legal people; and Article 9 ensured collective rights of ancestral nationalities, towns and communities by respecting occupancy, administration and management in relation to the appliance of their ancestral knowledge and practices, in order to conserve and preserve environment. The regulation development extended to more than two years until it was published and came into effect. The majority of population and the seven indigenous nationalities in Pastaza are committed.

There are still certain fears and some complains that come from Sarayacu town. “We discuss permanently in order to explain them that lands are of their ownership, and species living on them shall continue being under their care and protection”, stated Kubes. Now, we are working on setting up a Nationality Consortium, Boards, Parish Governments and Municipalities, as established by



ordinance. Its function is to manage, handle and operate together the ecologic area of sustainable development with local representatives.

By example

Working to implement ordinance was going to be complicated, but the Province Government promoted another project that served as leveraging of this regulation. The idea was to demonstrate how economic development and environmental protection could be combined harmoniously without affecting private property. That is how arose Chacra project. The proposal is to improve the quality of life for inhabitants in rural areas of Pastaza by respecting nature, that is, implementing a productive schema on lands without damaging the environment, and by setting up bio knowledge to encourage profitable projects, which are studied

at the scientific station Pindo Mirador.

The Chacra project consists of intervening a land hectare for each family. In that space, we work on a vegetable garden with 100% organic products, technical advice, an appropriate management of soil; at the same time, water sources are identified in the farm, and farmers and cattle breeders are mentored on how to protect them. For instance, the grass does not get up to the tidelands because a protection stripe is placed and so cattle does not approach to that area, and it does not contaminate it. The idea is to produce without damaging nature.

For this process, the Decentralized Autonomous Province Government in Pastaza have technicians trained in a school sponsored by this institution. We also work on reforestation, specially of native and timber-yielding species, such as guadua. In this way, it is captured carbon, a greenhouse gas

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that has a direct impact on global warming. In other words, “we improve feeding on families, they become independent, and learn to manage land by taking care of nature”, Kubes states.

The environment protection proposal mainstreamed the Chacra project, which started with 45 families, and currently works with more than 500 families. People voluntarily joined after seeing results of the project in which there are some spaces for trading exceeding products obtained from vegetable gardens. Next months, a similar project shall be implemented with Puyo neighborhoods in order to work with urban areas where organic gardens shall be created.

International presence

The environmental preservation project opened doors to international, regional and local forums

to Pastaza. Currently, it is part of the Governors Group for Climate and Forests (GCF, by its Spanish acronym), a coalition of intermediate level governments from Brazil, Indonesia, Peru, Spain, United States, Mexico and Nigeria, working together in order to connect programs with new compliance systems on greenhouse gases. This space made possible to participate on international meetings during which commitments were signed for protecting forests, and it eased the access to resources: 400 000 USD for the ordinance structure, that starts with the limiting of agricultural, cattle breeder and productive border, and water preservation, recharge and protection area.

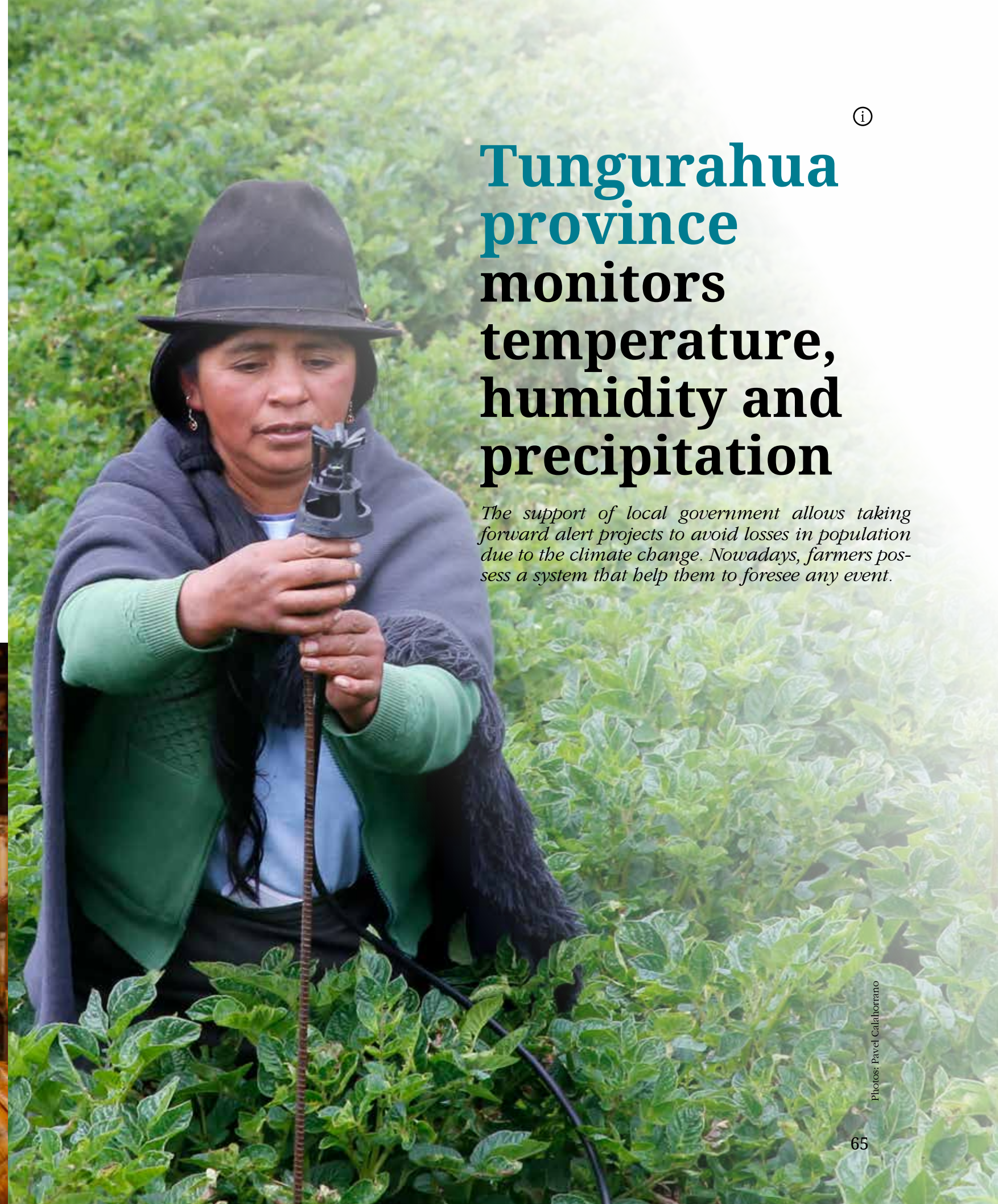
At this moment, Ordinance 092 is the best tool the Province Government of Pastaza has to confront oil exploitation and the indiscriminate havoc of trees. After creating and implementing the regulation, population wants to know projects for impact reduction and how they shall directly benefit from the exploitation of natural resources such as crude oil.



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Tungurahua province monitors temperature, humidity and precipitation

The support of local government allows taking forward alert projects to avoid losses in population due to the climate change. Nowadays, farmers possess a system that help them to foresee any event.





Tungurahua authorities and inhabitants are concerned about climate change and its effects. In order to determine which are the consequences of this global phenomenon, the Decentralized Autonomous Province Government of Tungurahua installed 20 weather stations.

The stations measure environmental temperature, humidity and the amount of rain in the area. These data allow knowing if there are climate and precipitation changes to prevent negative consequences of climate alterations, explained Carlos Sánchez, general director of Hydraulic Resources; even though it is necessary to have validated data of 30 consecutive years to determine if there are variations and affectations caused by climate change.

The stations, allocated all over the province, were installed six years ago. Beside them, other four stations belonging to the National Institute of Meteorology and Hydrology (Inamhi, by its Spanish acronym) and one more located at the

airport in Ambato also provide data. For next year, it is expected to install 20 more, and to work on 10 stations of the Electrical Corporation in Ecuador.

In Tamboloma, heading southeast of the province, one of the stations is installed. In the school of the area, specifically at the highest part of the village, a place was identified to install temperature, humidity and rain gauges. In short-term, some devices shall be placed to measure soil moisture and temperature, solar radiation and wind direction.

This information is essential for supporting agricultural, hydraulic civil works, climate change and irrigation studies. Thus, a student of the National Polytechnic conducted a study named Atmosphere as a thermal machine, regarding greenhouse effects in the province, and which analyzed impacts of this issue in Tungurahua.

David Mantilla, person in charge of the

Meteorology Network in the Tungurahua Province GAD, explained that, after gathering data for six years, time that we have been working, we confirmed the presence of a weather variation. “Winter arrives late, summer is a bit hotter, and rains are either stronger or weaker”.

“Ten years ago, we knew that frost was coming from June to August; therefore, we sowed on December, and we harvested on June. But now, no. It arrives any day of the year, and thus we lose our sowing”, Mariela Punina mentions, she lives in Yatzaputzan, a community in Tungurahua, and she is member of the Farmer Corporation Organization in Pilahuín (Cocap, by its Spanish acronym).

Information from stations is used in projects that benefit farmers. The Tungurahua Province GAD started a pilot project together with GIZ in Germany to avoid these frosts impact sowings; Mariela and 10 other partners joined this project.

The first step was to measure temperature; this

information guided technicians as well as farmers. “When temperature drops in a sustained manner, we warn farmers, so they can irrigate their sowings”. The project consists in activating the irrigation system as soon as sensors register a temperature of two degrees; in this way, frost effects are avoided, as explained Carlos Sánchez.

Data from Tamboloma station are used to move forward with the frost project. We already have results. Mrs. Mariela took the risk, and she planted potatoes on September. Since then, four frosts have passed, and she managed to rescue her sowing. Plants are green. “We have faith in this project. If it works, we will earn an additional economic income”.

Hydrologic stations

Provided that the proposal is comprehensive, the province GAD also promoted a project to measure the water flow, and installed 28 hydraulic stations. There, the water height is measured, and



The province with 338 600 hectares keeps 42 000 hectares under preservation, in which is forbidden to cut down and burn trees, or to breed animals

that parameter determines water flow in rivers, irrigation ditches and channels.

Four years ago, we started with this plan which provides information for the project in order to protect water sources. “In the Province Government, we are worried about water scarcity, and so are communities”, stated Carlos Sánchez. This was an effect of climate change.

The aim was to promote a comprehensive plan that shall allow protecting and preserving moorlands and water sources; from this arose a province project to confront climate change, in which are included meteorological and hydrologic stations.

Through this project, the province with 338 600 hectares keeps 42 000 hectares under preservation, in which is forbidden to cut down and burn trees, or to breed animals. And the other reconditioned 3 200 hectares are fenced areas, and are reforested with species from the region.

In 2000, with the management model promoted by the prefect Fernando Naranjo, three management axes were determined: water, people and work. Each one has a parliament where people outline the work, scope and commitment, even the agreement upon assigning the space required to assemble the meteorological station.

At the beginning, the province GAD supported three moorland management plans conducted by communities at their own initiative. Nowadays, 24 environmental management plans are carried out.

The general director of Hybrid Resources in the Tungurahua province GAD recognizes that work was hard, people had no trust, and it was difficult to talk, even though they started already with the protection process. “We needed to execute some actions to win credibility, to address some requirements to create trust, and to support them on their own initiatives”.



The environmental management plans are in hands of community. Hipatia Hinojosa, technician at the Hydraulic Resources Direction, explains that community holds participative meetings, and states activities to be performed in order to determine the damping area; they point out needs, prioritize actions, and execute projects that need to be aligned to the Moorland Management Plan. The next step is to defend the proposal, to approve it, to sign the agreement, to follow it up, and finally to assess it. The proposal is renovated and updated each year.

Each plan is financed by the Province GAD as well as by the Moorland Fund and Fight Against Poverty comprised of the Province Government, Indigenous and Farmer Movement in Tungurahua, Evangelic Indigenous Association in Tungurahua, Municipal Company of Drinking Water and Sewerage in Ambato, Celec and the Ambato Electric Company. This agency co-financed proposals for water sources protection, preservation, maintenance and recovery.

Results are visible. Then, Llangahua, a community of 8 000 hectares, supported the process carried out by the population. Oswaldo

Sánchez, technician of the Ecology and Andean Community Development Institute, mentions that he delimited the indigenous border, and projects were created to reward population with a better quality of life.

The work to confront climate change consequences goes hand in hand with actions that promote the productive development in rural areas. For instance, projects are promoted so population can have an automated irrigation that nowadays reaches 7 000 hectares of productive lands; we worked on the primary, secondary and tertiary channels, grasslands, and we improved cattle with artificial insemination.

Furthermore, these proposals are created in order to achieve a socioeconomic development: a project of community ecotourism, a milk collection center, trout fishing pools, and a bakery that is located in town.

But what stands out the most is the increase of water flow. In 2005, the average was 36 liters; by 2014, it increased to 56 liters. In 2009, the decision made by inhabitants to protect 6 213 moorland hectares achieved results.

The European Union supports territorialization of the world climate agenda

The European Union holds its EUROCLIMA+ program in Latin American countries to promote sustainable development and resilience for the most vulnerable communities. In Ecuador, there are several ongoing projects that are having positive effects.

Photos: <https://www.flickr.com/photos/ueenecuador/>



Climate is one of the main cooperation areas for the European Union (EU) in Latin America. On one hand, because countries are highly vulnerable to climate change effects; and, on the other, because the region is characterized by an unusually high biodiversity. Specifically, the EU supports policies, strategies, programs and projects based on global politics of the EU regarding climate change.

The European program called EUROCLIMA+ is in its second year of execution and goes forward promoting sustainable development and reliance towards climate in 18 countries in Latin America. Considering the most vulnerable population in particular, the program is supporting Latin American countries on implementing important and needed climate policies in order to achieve the settled goals upon the Paris Agreement. Five European Union agencies and two United Nations agencies

implement the program components, according to the work report from this year. With a participative approach and focusing on the demand basis, EUROCLIMA+ provides technical and financing support for developing and implementing national policies of mitigation and adaptation, as well as the easiness of regional discussions for climate action. Up to September 2018, the European Union assigned 88 million Euros to EUROCLIMA+.

“The measures leading to positive results in a short-term, always contribute to credibility of organizations and people implementing them. In the same way, a participative process of identification, design and planning of measures creates credibility and legitimacy. The climate change topic affects everybody, and, many people have seen it as a new issue. In this sense, it has achieved the incorporation of actors around the same table, even those that in previous discussions were not able to share the



same space. In the agricultural sector, for instance, livestock and forestry companies now take a seat in the same table with environmentalists. In certain cities, authorities have given voice and votes in the vulnerability assessment process and adaptation system design to inhabitants of neighborhoods that never had before”1.

In Ecuador, for more than 15 years ago, the EU delegation has worked together with all the subnational governments. “The Decentralized Autonomous Governments (GADs) have demonstrated to possess a very important dynamic among territory because they are close to the needs of population and can provide fast and articulated solutions to problems”, Pedro Ponce mentions, Environment Projects Manager for the EU in Ecuador

Regarding mitigation and climate change adaptation topics, province governments have functions in some cases, and exclusive competencies, in other ones. This has been determined in the Organic Code of Territorial, Autonomy and Decentralization Organization (Cootad, by its Spanish acronym), in terms of province planning,

productive activities, road safety, environment management, and agricultural development. When having these functions and competencies established in Law, the Province GADs lead construction -and the subsequent implementation- of climate change strategies.

Climate governance

One of the EU mainstay program is related to the five main aspects as follows:

1. Coordination
2. Support and easiness of regional dialogue
3. Knowledge management and sharing
4. Capacities reinforcement
5. Learning promotion and awareness creation



Delegation of the EU in Ecuador

All of this from a regional, multi-country and national perspective regarding climate change. “In different countries, the program has supported people responsible of the decision making within their process to interpret commitment agreed in Paris into concrete politics and legal measures. In Andean countries, for instance, the development of legal, regulatory, and public policies frames that promote adaptation based on mountain ecosystems. In a regional scale, workshops have been conducted for sharing experiences and advances on monitoring and climate policies assessment”2.

Regarding articulation, a new dialogue line between pairs has been developed focusing on sector and multilevel articulation. A community of practice was created with representatives

Up to September 2018, the European Union assigned 88 million Euros to EUROCLIMA+.

of both private and public sector in order to involve the private sector. Moreover, trainings are conducted for multilevel governance and regarding methodological tools for implementing climate projects, specifically among public sector (national and subnational), private sector, civil society and the academy.



Working in Ecuador

The depth of the EU program action has been of special importance in the country. The EUROCLIMA+ program is implementing several projects in Ecuador by means of its different components. One of the actions, where its huge cooperation was received, was in the creation of the Environmental Organic Code, which governs those topics needed for an appropriate environmental management. It addressed topics such as climate change, protected areas, wildlife, forest heritage, environmental quality, waste management, environmental stimulus, coastal-marine zone, mangrove forests, access to genetic resources, biosecurity, bio-trade, etc.

Besides, a series of other projects is implemented, in which the articulation of governance levels has been a key element for a successful appliance.

In Ecuador, the Urban Mobility National Plans (NUMP), supported by EUROCLIMA+, seeks to enable an equal access to a transport low on carbon emissions, including technical guides so that Decentralized Autonomous Governments (GADs) could implement them in a local level.

Finally, Ponce states that, the EU has full confidence that the CONGOPE develops a participative process with province actors, which shall allow strategies to be useful tools for the GADs and for other organizations in the territory; this shall be done by means of the project Support to the Generation and Implementation of Local Public Policies for Mitigation and Adaptation to Climate Change. When having a tool developed in a technical and participative manner, the GADs could lead effectively to the implementation of mitigation and adaptation actions towards dealing with climate change in every province.

Up to September 2018, the European Union assigned 88 million Euros to EUROCLIMA+.

1. Good adaptation and mitigation practices with extra benefits in Latin America and the European Union. Series of thematic studios. Euroclima 6. Compendium. Page. 8. <https://goo.gl/zLcKrs>

2. EUROCLIMA+ in action document. Advances and achievements, january- september 2018. Page 4. <https://goo.gl/K6GfSp>

The 23 GADs shall define their own recipe to confront climate phenomena

There is not a unique method to apply strategies and policies that reduce impact of climate change. Each territory has its own features, so the message needs to get in such a way that is accessible by all the actors.

From November, two years ago, the Province Autonomous Government Consortium in Ecuador (Congope, by its Spanish acronym) and the European Union sustain Province Actions towards Climate Change (Aprocc, by its Spanish acronym) project that benefits the 23 province GADs in Ecuador. Its execution implies the development of three action axes:

1. Developing or updating province strategies for climate change.
2. Co-financing adaptation and/or mitigation measures or actions for climate change in territory
3. Strengthening GADs capacities, experience sharing and dissemination of good project practices in a local, national and international level

The specialist on territorial development within the Aprocc project of Congope, Diana Calero, states that the main focus in the initiative is to support the development and implementation of a local public policy, so that province governments can establish clear actions for managing climate change in territory.

“For some GADs, it has not been something new, whilst for others, it has been really well welcomed despite how innovating this topic is. We have not told them “here it is the recipe”, but, from their reality, they could apply instruments in which we have worked within the project. Speaking of climate change could be so scientific that nobody would understand, assimilate or assume. Then, we have made it understandable to their experience by analyzing how it affects them and how not. With this introduction, we reached a huge phase which is the preparation of diagnosis, i.e., a territory radiography, from the lens of climate change.

Diagnoses understood the focus on adaptation and mitigation, each one with its own methodological approach. In the case of adaptation, climate risk assumptions were developed by assuming and adjusting six adapting sectors of the Climate Change National Strategy as parameters that supported climate threats identification, exposed elements and conditions that turn them more/less sensitive or better/worst adapted to climate variability and extreme climate events at a province scale. With regards to the mitigation focus, activities, which are performed in each province, were emphasized and systematized according to their relation with five mitigation sectors within the Climate Change National Strategy. Furthermore, as per the productive vocation in territory and the hierarchy of



Photo: Pavel Calahorrano

its urban systems, opportunities were identified, the ones that each province shall have either to promote its emissions reduction and/or to capture GEI from existing sumps.

Work with provinces is supported by the signature of interinstitutional cooperation agreement, by means of each province GAD installed a technical panel commonly led by delegates from environmental management units, or planning bureaus. In these panels, process progress was exposed. So, little by little, within these two years, an instrument has been created in order to direct climate change, not in general terms, but from features of each territory. Within this diagnosis, it is important to highlight that there are some GADs, such as Guayas, El Oro and Esmeraldas, that they already have implemented some studies to incorporate policies on climate change to their territories. Other case worthy of drawing attention is Azuay, that designed directly a province strategy on climate change. “The

third year, the idea is to define actions from diagnosis and strategy identification. There are lot of factors that can be characterized, studied, enhanced in order to apply adaptation and mitigation measure afterwards. That is the horizon”. As detailed by Calero.

The role of local governments

The province GADs have a crucial work in climate change effect reduction, as Guillermo Armenta mentions, an expert on climate who is member of the advice team developing diagnoses. Its first assignment is to be “trainers”, in such a way that authorities can understand and convey population what involves climate change and its consequences. The second is to be “managers” in order to pursue actions addressing territory features towards weather change that they

shall eventually confront. Finally, local governments shall ensure major efforts on “tracking, improvement and continuity” of engaged actions, since many of them, once they are completed, and even though they have some favorable results regarding input acquisition or capacity strengthening on the involved communities, they immediately stop when not having an entity leading their permanence within time. So then, province GADs shall be available to support the most fundamental measures and actions for its development.

Responding to the high potential that province GADs detected to interact with other levels of government, as an intermediate role, their actions become a key element within climate change topic. “Impacts on climate change go beyond jurisdictional limits. Therefore, it is necessary to map all the dynamic possibilities beyond province government by involving their town halls, communities and private actors”, as per Calero. The province vision aims at comprehensive management of

territory from articulation and coordination with all the actors. Therefore, the attention to the issue linked to climate change can be seen, even as an opportunity to create a concrete mechanism of multilevel intervention.

Short-term challenges

The development of Province Strategies on Climate Change aims at promoting a deep and critical analysis combining the most relevant findings on province diagnoses with priority on territory from actors’ point of view. Several steps have been determined in order to carry out construction and/or update of these instruments, and among them, it is the identification of adaptation and mitigation measures already implemented in province territories which, as added value, shall be analyzed and issued their relevance



Photo: Pavel Calahorrano

according to the diagnoses results on province climate change that are detected on the implementation site.

When assuming climate change as a constraint for territory development, once we understand that even though this is a global issue, it has some local expressions having impact on multiple actors, and that its nature deepens inequity conditions; it is likely to identify Province Strategies of Climate Change as supporting instruments for the territory planning. Thus, from the project, people shall have these instruments that shall constitute a key input to update development plans and territory regulation of all the levels of government, and that shall favor climate change inclusion from direct incidence in territory development.

Finally, Province Strategies on Climate Change shall have measure portfolios (project banks), and a structured set of adaptation and/or mitigation actions that shall make viable the implementation of province strategic goals established for the local management of climate change. On the one hand, such portfolios shall constitute the input for the reprehensible fund that foresees the project on its second component, with which its co-financing shall be supported; and, on the other hand, they shall be the roadmap to identify likely climate financing sources. In this sense, it is worth to mention that together with the Ministry of Environment and Fundación AVINA, a strengthening process of province GADs capacities shall start managing and accessing to climate financing with the support of the Green Climate Fund in 2019.



Photo: Pavel Calahorrano

Climate change, a new opportunity for capitalism?

By EDWIN MIÑO ARCOS

Facing the vision of the inevitable in environment has taken us to a fatal denialism. Let me explain. In this point, where damages are evident and actions we undertake shall not change the scenario, it is better to keep our life style and deal with circumstances as they come forward.

Ignorance and uncertainty that persist around global warming have prompted many people to dramatize data, thinking that such effects shall not be as tragic as the “conservationism fans say it is”. This has given other people the opportunity to question the real presence of this issue.

While we reach upon an agreement on causes and effects in a shortened and schematic form, we can, indeed, develop the first hypothesis to work today.

We cannot continue consuming at the same

percent as now. And I say to consume because, when using economic criteria in terms of demand creating offer, as soon as we stop consuming, people shall stop producing and distributing products that contaminate.

By degradation, we shall reach the conclusion that if capitalist system is defined according to production and consumption (refers to the economic cycle), what shall be changed is the system. This is the paradigm that had governed us over the last 400 years, that way of seen the world is what we need to change.

I based this article on the rereading of a very modern book: “This Changes Everything: Capitalism

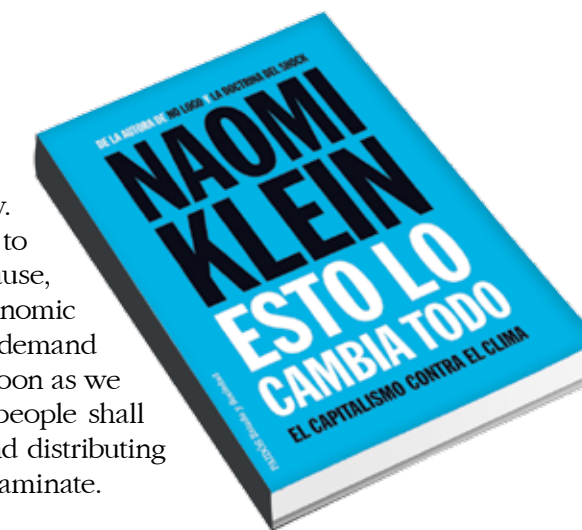




Photo: Pavel Calahorrano

vs. The Climate” by Naomi Klein. I shall sum the issue as: “Let’s change the production method because this method is depreddating the planet, and there is not choice neither to change it, nor to improve environment within this model”.

It’s the economy, stupid¹

While I am writing this article, in Ecuador, the topic under discussion is about reducing the restriction levels of plastic usage. Apparently, a video showing how scientists removed a plastic straw from a turtle’s nose was the straw that broke the camel’s back. Anyways, it shows us the different visions on the environmental crisis. Meanwhile in Galapagos, the National Government completely forbids the use of these plastic materials. In Guayaquil a local government –with a neo-liberal nature– moderate their use with deadlines, and this measure was more a publicity stunt than an effective one. In Quito, other local government –of the Right– analyzed the role of plastic industry on job generation. Hence, it seemed

unlikely to reach the limitation of the “Enchanted Islands”.

What does it mean? All the environment actions have to deal with the ideological and strategic vision of development we have.² The suppression of plastic bags is advertisement for big supermarkets, plastic producers shall already know that their market shall be reduced; I mean, they shall change their life style –of course, depending on the use of this material–. In Guayaquil, nothing shall occur, and Quito shall continue in limbo.

The capitalism system has been always characterized for creating winners and losers. In short, neither everybody wins in times of prosperity, nor everybody losses in times of crisis.³ However, people involved within this system, we know that this Russian roulette keeps us trapped on a system that, if you win one day, you shall always keep on playing. Then, why changing the paradigm? This is what



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we know how to do. This is what we have learned over the last 400 years, and the only referent change we had –socialism– just failed. In other words, the question is “Why changing?” The answer is simple: in order to reach this sequential win and lose game, you need to exploit nature, and it has a vendor limit; and, if you think that technological development shall find solutions to this issue, I do not share your faith. As a counterproposal, there is another question that arises favoring technology. Today, we talk about “Why is the ozone layer recovering?”, “did not the dramatic calls on climate apocalypses comply?”⁴ For now, I leave them as questions.

I think that this lack of vision on paradigm change made initiatives to fail such as, for instance, the 2009 Climate Change Conference in Copenhagen or the Ecuadorian thesis regarding the Yasuní preservation.⁵ I do not know if that was naivety or criteria that capitalism would be either humanist, popular or solidary.

Then, if we confront the issue from a system change, we shall just have patch solutions, without binding commitments, without real resources to solve the problem; and, today, we have wedged the worst of strategies: “adaptation to climate change”.⁶ To say, we adapt to the wrong way we are doing it.

While to the most vulnerable countries we exhort to adapt to climate change, industrialized countries and the responsible of this world problem do not take effective and severe measures to reduce emissions. Hence, while “we support” the adaptation of other ones, they can keep their production and consumption model; therefore, they deepen even more the problem, and so we do not achieve any real solution. Pretty much as if an alcoholic person instead of forbidding him to drive, we are going to change laws so that he tries not to be condemned for killing someone after driving drunk.



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Changing the paradigm

Thomas Donohue, president of the United States Chamber of Commerce, mentioned: “There is no way this can be done without fundamentally changing the American way of life, choking off economic development, and putting the larger segments of our economy out of business”⁷.

In other terms, without thinking too much on it, the system, as we know it, cannot contribute any more. That is the condition driving the axis, it shall be necessary to change styles of life, remove one target of capitalism, which is the economic grow as a development and welfare synonym, the GDP shall stop being the world reference marker, many sectors if economy shall close; for instance, Ecuadorian oil production and all its productive capacity, job generation, etc. And “they” know it.

In the same book, it says: “He introduces himself as Richard Rothschild. He tells the crowd that he ran for county commissioner in Maryland’s Carroll County because he had come the conclusion that policies to combat global warming were actually ‘an attack on middle-class American capitalism’”.

It is true, we have reached the point that trying to say that changing the life model shall not affect the system as a whole, is a lie. If we do not want plastic materials in our beaches, we shall stop producing it, and that implies closing manufacturers, and stop generating jobs. In case someone tells you that new alternative industries shall be immediately created, is lying. Sustainable development does not generate as much job as the ones generated by contaminant industries. Is its necessary to change the system, we do not need to change neither forms, nor instruments. Let stop lying to ourselves. Paraphrasing Marx: a new phantom traverses the world. Ecologists all over the world, unite!

1. Famous statement from Bill Clinton’s campaign against Bush father.
2. “After a rare decline in 2009 due to financial crisis, global emissions surged by a whopping 5.9 percent in 2010 –the largest absolute increase since the Industrial Revolution”. Page 33. KLEIN, Naomi. This Changes Everything: Capitalism vs. The Climate. Paidós Editors. 2015. Spain.
3. For instance, in terms of environment, not everybody contaminates equally. Ecuador contributes with 0,15% of greenhouse gas emissions, while developed countries contribute even more. If we use a capitalist scenario, we are “environmental creditors”. Aforementioned book. Page 18
4. “In 2017, it shall be closed for ever. In the end, we have arrived at the cero decade, as some activists call it. From climate crisis: or we change now, or we lose our opportunity”. Page 40, aforementioned book. If we do not change, should not that “denial fatalism” be right?
5. We can blame now president Correa for failure, but the truth is that the concept did not work, leaving oil without being exploited, and not get paid for that. There was not any serious intention in the world to collect those funds.
6. The major goal of the World Bank, avoiding the increase to 4% of temperature on planet ensures us that the world can “adapt itself” to temperature even lower. Aforementioned book. Page 27
7. Aforementioned book. Page 49.



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