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ADAPTATION TO CLIMATE CHANGE AND LOCAL DEVELOPMENT: A PROPOSAL FOR ADDRESSING THE URGENT NEED

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KEY POINTS

- ✓ Adaptive local development (ALD) is an effective solution to face the social, economic and environmental changes that occur in a territory. ALD comprises sustainable development, socio-ecological resilience, and adaptation to climate change.
- ✓ For effective ALD there is a need to promote links among scales, strengthen alliances, generate synergies and establish institutionalized spaces for coordination between the public and private sector, civil society, and academia.

Executive summary

Due to the urgency of promoting climate action in Latin America, while ensuring fair and sustainable development for the population, we propose, based on scientific literature and interviews with experts, a new approach to territorial development. Adaptive local development (ALD) promotes the integration of sustainable development with risk management, socio-ecological resilience and adaptation to climate change. We identify the key roles of the different actors that are part of the adaptation process from the local to the international level and enabling conditions in the interrelated phases of the policy, local development and adaptation processes. We present two case studies that exemplify the approach to some dimensions of the ALD.

Resumen ejecutivo

Debido a la urgencia de fomentar la acción climática en América Latina, y al mismo tiempo, asegurar un desarrollo justo y sostenible para la población, se propone, con base en la literatura científica y entrevistas a expertos de la región, un nuevo enfoque para abordar el desarrollo en los territorios. El Desarrollo Local Adaptativo (DLA) integra el desarrollo sostenible con la gestión de riesgos, la resiliencia socioecológica y la adaptación al cambio climático. Se señalan los roles claves de los diferentes actores que son parte del proceso de adaptación, desde el nivel local hasta el nivel internacional, y se identifican las condiciones habilitadoras en las fases interrelacionadas de los procesos de políticas, de desarrollo local y de adaptación. También se presentan dos casos de estudio que ejemplifican el abordaje de algunas dimensiones del DLA.

The urgency of adapting to climate change

For many years the disaster of climate change has been treated as a slow process, thus giving countries and communities time to adapt. However, scientific evidence and tangible and accelerated environmental devastation implies a paradigm shift, which urgently seeks **not only to focus on global and long-term processes, but also to adopt an approach that includes adaptation processes with local and short-term actions**. Climate change is having negative and significant effects on economic activities, social conditions, and ecosystems in an accelerated manner; which are more intense in emerging economies, as in Latin America, where there are barriers to development (1).

The fact is that goals and commitments to reduce greenhouse gases (GHG) will not be achieved unless drastic changes are made in the development approach. Also and most likely, populations will have to face, in the medium term, events and climate impacts of unprecedented intensity. For the public sector, the challenge of including climate change in its country agenda remains, in order to find the best mechanisms to face its effects and at the same time promote social and economic development. For the territories and their local objectives, this translates into considering climate change and its effects in interaction with other issues, such as food security, education, infrastructure and health.

Cities are the pivots of the territorial system, both as centers of demand for energy, food and water, and for the production of GHG emissions. A sector vision of urban development that does not foster reflecting on sustainability and territorial links, does not allow the coordination of appropriate short, medium and long term responses (2).

Adaptation projects with a high amount of funding, for the most part are led by the public sector, and have little participation of civil society organizations and the private sector during the implementation process (3); On the other hand, many smaller-scale adaptation projects are led by civil society that seek local agreements and promote direct links with international cooperation, without public sector intermediation, which is known as the “Boomerang Effect”(4, 5). This effect is slowly being solved, since

central governments, NGOs, the private sector, civil society and international cooperation recognize the need to collaborate and work together in order to achieve effective adaptation to climate change.

There is an urgent need to reconsider local development in the context of an increase in climate change risks, and prepare the ground for the implementation of interconnected multi-risk management strategies by involving different actors at multiple scales.

Another challenge is the need to update and / or align public policies with the current context, in relation to climate goals and the Sustainable Development Goals (SDGs). While it is true that countries are developing various policies consistent with international agreements on climate change, in practice it is common to find old regulations that make it unfeasible or hinder the process of implementing adaptation actions, where public policies play a limiting role instead of a regulatory and encouraging role for the people¹. For this reason, it is the task of decision makers to adjust and create or adapt public policies at the speed with which the effects of climate change have been occurring.

On the other hand, and due to the complexity of addressing all the implications of climate change, sub-national actors, civil sector and private sector organizations are developing a more leading and complementary role. These efforts have been recognized in the “Call to Action” carried out in the climate negotiations in Lima (2014)², where non-state and subnational actors were declared as the optimal channels to “catalyze and significantly improve” national efforts to reduce greenhouse gas emissions and vulnerability to climate change.

Local development processes take a leading role in adaptation to climate change. Local development affects GHG emissions and land used for agriculture, bioenergy and forests, with important consequences for climate change adaptation and mitigation. Many local mitigation and adaptation options are synergistic, providing co-benefits while reducing costs, which requires coordination between levels of governance and sectors of the economy. The question is how to stimulate the changes necessary to integrate a shared culture of adaptation into current governance systems from national to local.

¹ Interviews conducted for this policy brief. ² https://unfccc.int/files/meetings/lima_dec_2014/application/pdf/auv_cop20_lima_call_for_climate_action.pdf

Our proposal: Adaptive Local Development

Adaptive local development (ALD) is the equitable transformation of society and ecosystems through **climate-resilient development pathways**, with the implementation of actions that include **sustainable development (6)**, **socio-ecological resilience (7)** and **adaptation to climate change (Figure 1)**.

The concept of Adaptive Development was proposed by Agrawal and Lemos (8) based on the need to redirect both adaptation (highlighting the importance of economic growth, equity and sustainability) and development (with emphasis on risk mitigation). Based on this, other important theoretical frameworks for local development were articulated in order to define a broad concept in line with current challenges: Adaptive Local Development.

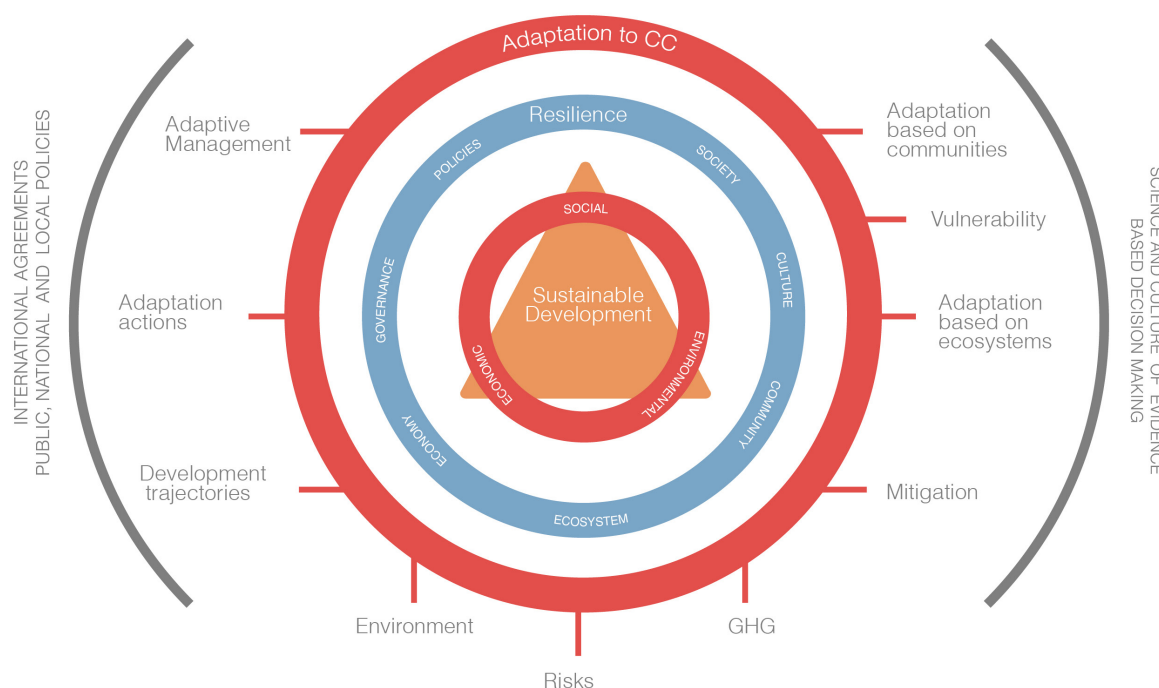


Figure 1. Conceptual framework of Adaptive local development approaches. The synergies between the dimensions of Sustainable Development, factors of socio-ecological resilience, adaptation to climate change, and the cross-cutting role of science and public policies are evident. (Source: prepared by the author).

For ALD, “local” is understood as organized subnational territories or spaces, with economic, political and social significance, with unique livelihoods, with their own identity, with their own processes, relationships and dynamics. Therefore, “local development” is a territorial construction which seeks to promote growth in all its aspects, and provide it with different attributes that can be regulatory, infrastructure, organizational, financial, and most importantly, empowered human resources.

The social, economic and environmental dimensions of ALD aim at a resilient and empowered population, capable of building climate-resilient development paths in accordance with its governance priorities and dynamics, with its culture and idiosyncrasy (9). Adaptation actions that reduce the vulnerability of human and natural systems are very synergistic with sustainable development, and an integrated scope reduces the risk of “maladaptation”, that is, implementing measures that solve a problem in one area, but at the same time cause problems in another (10).

A decision-making culture based on scientific evidence must be an essential and cross-cutting part of ALD policies, strategies and actions. The processes must be aligned with national and international political agendas and must leverage their resources; in particular in relation

to the following: 1) the Sustainable Development Goals (SDGs) set out in the 2030 Agenda which present integrated goals that cover the economic, social and environmental sphere; 2) the Sendai³ Framework, which addresses the SDG gaps in relation to disaster risk reduction and resilience; 3) the Paris Agreement, which establishes actions to reduce Greenhouse Gas (GHG) emissions, through Nationally Determined Contributions (NDC).

The actors, organizations and institutions have complementary roles in ALD (3) (Figure 2). Local governments must be proactive in finding mechanisms to break the lack of flexibility and autonomy found in many cases, in order to implement adaptive management processes and develop innovative adaptation actions (see Case 1). Civil society has the right to speak, participate, debate, deliberate, and agree on decisions and public policies; that is, that there is inclusive governance with a co-management approach (see Case 2). Likewise, the private sector contributes: experience, knowledge, equipment, technologies and investments, among other; and is a strategic partner to create, develop, improve, operate or maintain infrastructure and public services.

The Central Government, in addition to its traditional roles, must implement governance focused on the actors affected by climate change, and strive to institutionalize citizen participation platforms (e.g. the 5C Citizen Advisory Council on Climate Change, Costa Rica), which allow public policies to be adapted to local development. International cooperation and academia are opportunities for technical and financial support, and are key to sharing experiences, strengthening public institutions, and participating in international arenas.

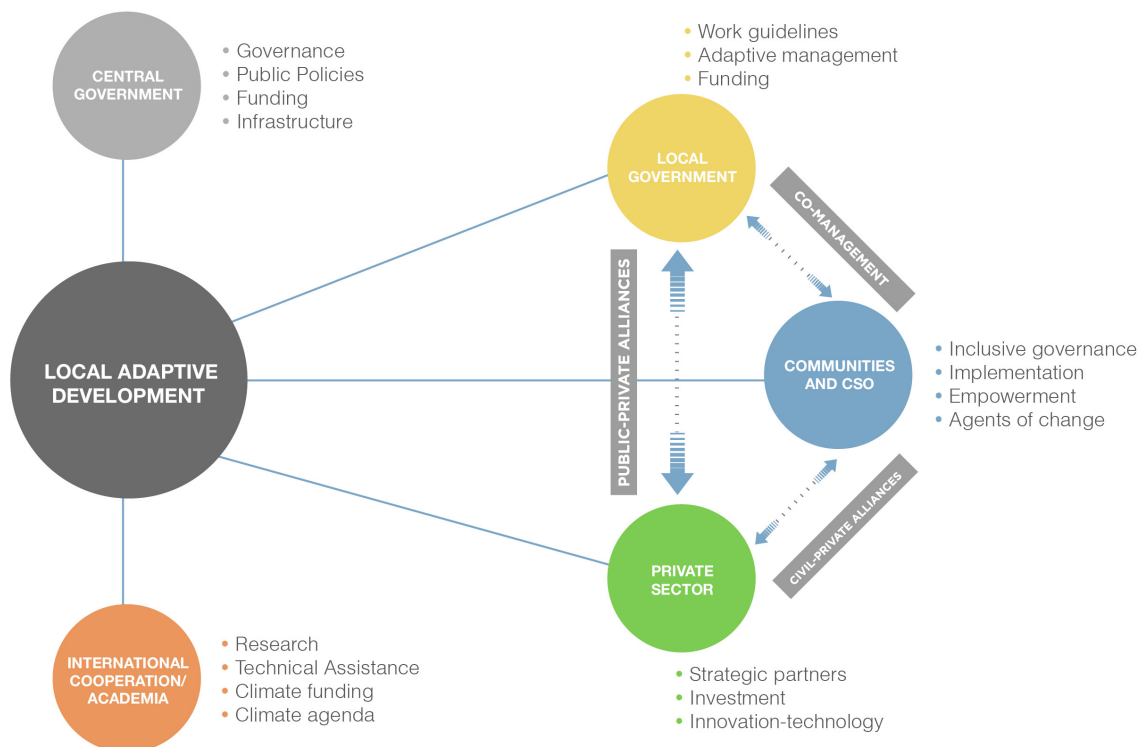


Figure 2. Types of actors that are part of an adaptive local development process. It is essential to strengthen institutions and their relationships through individual, bilateral and collective functions in order to achieve adaptation and climate resilience. Alliances between public institutions and civil society (including non-formal CSOs) can ease tensions and create win-win solutions. Citizen participation in local governance fosters adaptive co-management (3). (Source: prepared by the author).

³ Agreement signed by members of the UN (2015-2030), which establishes four priorities: 1) understand disaster risk; 2) strengthen disaster risk governance; 3) invest in risk reduction for greater resilience; 3) increase preparation for better recovery, rehabilitation and reconstruction.

Recommendations for the implementation of Adaptive Local Development

Adaptive local development promotes a paradigm of sustainable development with special focus on risk management, resilience and adaptation. The processes of local development, public policies and adaptation to climate change have phases that are compatible and related, although their scales and temporalities are different and depend on factors specific to each territory. We can link these processes through the following phases: 1) analysis 2) planning / formulation 3) development and implementation 4) monitoring and evaluation (Figure 3), and within this framework propose recommendations for an effective ALD.



Figure 3. Interaction between the processes of local development, adaptation and public policies. In ALD, the phases of Analysis, Planning and formulation, Development and implementation, Evaluation and monitoring are binding between them (11, 12). (Source: prepared by the author).

1) Cross-cutting enabling conditions: capacities

- Strengthen the capacities of local institutions and communities on sustainable development, adaptive management, and risk management.
- Highlight the **different impacts** of climate change with regards to gender and ethnic minorities, so that ALD and its interventions are efficient and equitable.
- Enhance and strengthen different **ancestral cultural traditions and development models**.
- Maintain an **active presence of local actors in bridge spaces** at regional and national levels, in order to adapt policies and align strategies to the local context, and leverage international resources.
- Foster a logic of **Science in Society**, through the development of multi-institutional platforms, for example: citizen science, climate change academies (Chile) or *Living Labs and Science Shops* (Europe).

2) Enabling conditions in the analysis phase

- Recognize the potential of a territory before focusing on identifying needs.
- Map and identify the key actors for the optimal development of adaptation.
- Identify gaps or loopholes in public policy frameworks for adaptation to climate change.
- Obtain a **solid, current and close socio-economic and environmental scientific base**: climate risks, local vulnerability, economic and human development indicators, analysis of climate scenarios, among others.
- Be **objective and realistic** in the territorial context analysis (e.g. in the face of impending and irreversible chronic or catastrophic situations, evaluate the possibility of a “controlled withdrawal”, such as displacing a coastal city threatened by the increase in the level of sea).

3) Enabling conditions in the planning and formulation phases

- Seek **mobilizing issues** (e.g. water security) and focus holistically on sustainable territorial development, instead of addressing the issue of climate change per se.
- Develop **agile adaptation plans** that are consistent with the specific context of each territory, adapt them to international climate policies, and review them regularly.
- Identify in a **multisectoral manner** (health, infrastructure, education, economy, among others) **local costs and benefits**, recognize synergies and co-benefits (such as reducing assistance) and **compensation** between different adaptation actions.
- Consider **different types of adaptation measures**: mobility, storage, diversification, resource pooling, market approaches and their combinations.
- Be **proactive and preventive** instead of being reactive to climate events: i.e. establish a culture of “anticipation” through simulations and by analysing participatory scenarios to find innovative options.
- Identify **innovative financial instruments** to reduce the territories’ vulnerability to climate change; e.g. new generation of Agricultural Insurance (Costa Rica).

4) Enabling conditions in the development and implementation phases of projects or activities

- Implement **pilot adaptation projects** as part of the trajectory of ALD, in order to be mobilizers and to foster broad ownership among local actors.
- Create mechanisms for **citizen participation in local governance**, and thus stimulate **adaptive co-management**.
- Formalize or institutionalize **local multi-institutional coordination platforms**.
- Promote **public-civil-private institutional alliances** at local, regional, national and international levels.

5) Enabling conditions in the evaluation and monitoring phases

- **Prevent and manage conflicts** in the territory through the development of contingency plans and mediation strategies.
- Develop an evidence-based strategy of **empathic communication** with the people in order to encourage a dialogue on risk and adaptation interventions.

- **Maintain continuous information channels** of the processes and lessons learned from ALD, and manage knowledge for feedback on local processes.
- Implement a system of “**adaptation tracking**” within the framework of the international commitment to transparency, in order to contribute to the progress of national climate actions.
- Share, replicate, and promote adaptive local development experiences through formal and non-formal networks.

Case 1: “Strengthening and Expansion of the Chilean Network of Municipalities in the face of Climate Change”

The objective was to empower local governments and increase the adaptive capacity of communities, ecosystems, and the economy in the face of climate change. It was funded by the European Union and executed by Adapt-Chile, with the support of the Independencia and Peñalolén Municipalities. For a period of two years, the Municipal Network for Climate Change-RedMuniCC was strengthened, comprising 33 municipalities and representing more than 39% of the national population.

“Climate Change Academies” were developed for the training and delivery of programming and communication tools. Two pilot projects were implemented: 1) a biodigester in the community demonstration center of renewable energies of Independencia, for the environmental education of the community; 2) installation of solar panels in Eco Parque Peñalolén, in alliance with the private sector. Based on these two experiences, a guide was prepared to exemplify the development of adaptation and mitigation projects: “Recommendations for preparing municipal climate projects”. Community commitment was formalized through the formulation of twenty Local Climate Change Plans in seven regions, which will allow planning and guiding municipal climate action based on the characteristics and needs of each territory.

For the RedMuniCC it is important to make visible its actions; For this, the most important platform is the Mayors Forum on Climate Change, an annual meeting to discuss the main needs and contributions of local governments towards national and international commitments to combat climate change and its impacts.

Case 2: “Indigenous family agriculture resilient to the effects of climate change-Costa Rica”

Developed within the framework of the Adapta2 + Program, and implemented by the Institute for Rural Development (INDER), together with the autonomous indigenous governments and representatives of the Bribri (ADITIBRI) and Cabécar de Talamanca (ADITICA) peoples.

The focus was on sustainable territorial development, through the enhancement of ancestral knowledge of agricultural and livestock practices. Integral production systems were implemented, and coordinated work was achieved between the different actors, through the following steps: 1) inclusive dialogue, negotiation and participation processes 2) functions performed based on the capacities and competences of each actor (public and civil) 3) identification and participation of cultural partners in the consultation and construction processes.

There were positive impacts in relation to agricultural and livestock systems. The approach of addressing the social dimension showed that ancestral practices are a tool for the resilience of family farming against the impacts of climate change; in turn, this allowed the recovery of indigenous knowledge and its recognition and assessment as an effective measure of adaptation to climate change; In other words, the ancestral cultural identity was recovered, while the ecosystem services were strengthened.

Attention was given to developing individual and collective capacities, and to the benefits of comprehensive and sustainable management of family farms, with a greater participation of women in the decision-making of Indigenous Associations. In economic terms, the project has contributed to diversification of income of the indigenous families, thanks to the comprehensive management of the farms; likewise, vulnerability was reduced by making them less dependent on the external purchase of food and by increasing their income by diversifying their production.

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Annex // Interviews conducted

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- Jordan Harris, Consultant on climate change, participatory processes, adaptation planning and climate governance, Chile.
- Kees Prins, Tropical Agronomic Center for Research and Teaching (CATIE), Costa Rica.
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