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**PROPOSAL FOR THE MANAGEMENT OF  
INTERNATIONAL COOPERATION FUNDS OF  
THE EMAC-KOICA PROJECT WITH THE  
SANITARY LANDFILL OF THE GAD OF SANTA  
ANA.**

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**DEDICATED TO**

From the bottom of my heart, I want to dedicate this work to those people who inspired this journey. To Roberto Astudillo, my grandfather, who since I was a child and to these days teaches me to appreciate small but valuable things of the life.

Second, to my causing Viviana Vargas, who four years ago motivated me to start this challenge and taught me that sky is the limit.

From this limited land to the unlimited shy, a hug of gratitude.

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Among wonderful gifts that life gives to us are people. To those who are here, to who decided to leave, and to who had to do it

Thanks.

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# **Proposal for the management of international cooperation funds of the EMAC-KOICA project with the sanitary landfill of the GAD of Santa Ana.**

## **Abstract**

Nowadays, international cooperation (IC) has accomplished alliances and effective help to be channelized to global sustainable development, through projects financing to developing countries. The EMAC-KOICA cooperation project for the improvement of the Pichacay sanitary landfill located in the parish of Santa Ana, was taken as a case study. However, to fulfill this IC, the parish community must agree to the extension of the landfill. The objective is to propose an IC policy management plan for the GAD of the parish, aligned to the needs of the community within this IC. A community-case study research strategy was used, based on data triangulation to obtain primary information about the project and to define positions, interests and needs of the parties involved. The results showed that the new premises proposed by KOICA highlights the degree of involvement and level of importance of these communities in the cooperation. In conclusion, this investigation showed the necessity to solve through IC policies the urgent demands of the residents, in terms of sanitary and health problems, so that both the agreement to extend the landfill and the work with KOICA can take place.

## **Key words**

*DIC, KOICA, EMAC EP, Parish GAD of Santa Ana.*

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## 1. Introduction

The challenge that international cooperation (IC) currently presents is to migrate from a traditional model to a contemporary one, adapting to the new territorial realities and needs, where mutual benefit is achieved for the parties involved in the cooperation exercise. In a traditional model, the incipient nature of its beginnings, both actors and their relationships, limited to a basic transfer of funds.

Owing to this, the cooperation that pretends to manage nowadays is a more inclusive one by incorporating actors, modalities, and territorial problems to solve. Then, "[i]t is key to keep in mind that international cooperation for development is in continuous evolution, new mechanisms emerge and will emerge in the future with greater or lesser success". (Gutiérrez & López, 2018)

In the same way as IC has been evolving, so has the international regulation that governs it, acting as a roadmap for the cooperative process. Countries, according to their legal framework and internal territorial demands, align their internal regulations with the international ones, however, not all countries do so. In the case of "France and Ecuador, for example, have created very innovative and tailor-made legal tools to help finance Decentralized Development Cooperation" (United Cities and Local Governments, 2021, p.18).

The political-administrative decentralization of the different territorial levels in Ecuador has allowed to carry IDC management in a particular way for each level, to attend to the singular needs of the decentralized autonomous governments (GAD). A clear example of this is the innovative project aimed at improving solid waste management that the public company EMAC EP of the Municipal Government of Cuenca has developed for the city and applied to the call launched by KOICA.

The main actors involved in this process are KOICA, EMAC EP, and the Parish GAD of Santa Ana. The latter is of utmost importance, since it holds the key that opens the doors to the possibility of this cooperation. So, due the importance of their final decision, that this work with the aim of attending the main needs to the directly involved communities to the Pichacay's sanitary landfill, proposes policies management of this IC project.

This investigation used the qualitative methodology of Colin and Robson, authors of the case study type within the category of community studies, together with a triangulation data of documentary review, interviews and focus groups; to identify the needs of these communities and that together can align to the project edges. So then proceed with the management plan drawn up.

### 1.1 Objectives

#### General

To propose a management plan with respect to international cooperation policies for the GAD of Santa Ana within the EMAC and KOICA initiative for the Pichacay Sanitary Landfill.

#### Specifics

1.1.1 To Identify the immerse aspects of international financing in the EMAC-KOICA's project.

1.1.2 To Analyze experiences of previous projects of management of international cooperation funds in the parish GAD of Santa Ana.

1.1.3 To identify the benefits that the implementation of the international cooperation policy management plan based on the KOICA and EMAC EP project would bring to the Pichacay landfill, and the main communities involved

### 1.2 Theoretical Framework

International Cooperation (IC) and International Relations (IR) interface each other from the International System (IS) which Ayllón (2007, p. 26) defines as "the set of interactions among different international actors". Similarly, the author highlights the fact that within these interactions there are two primary facts: structures and processes. Within the structures there are the actors, and at the same time their

correlation generates the so-called process, which at the same time is divided into two approaches: conflict and cooperation.

Main concerns of the traditional approach of the IR are focused on nations and their interrelation, where the analysis and study options are limited to peace and war as central matter to answer the why question. That is, an observation from a perspective to what Ayllón qualifies as conflict.

As a traditional approach of the IR, the parse of analysis and study of matter in its majority has been channeled into the conflict, seeking the answer for the how and why questions from specific historical facts, to be precise, The First World War (Ayllón, 2007). Taking this as precedent, what is intended next, is to permute from a traditional approach (the conflict) of the IR, towards the International Cooperation (CI) approach.

The traditional approach has its turning point from a contemporary one from the First World War, to mutate towards an alliance and cooperation perspective with the clear idea to prevent another war scenario of such magnitude be witnessed by humanity ever again. Thus, from the perspective of liberal theory, to fulfill this purpose, Woodrow Wilson proposed the League of Nations as an initiative, stating that “[t]he idea that international institutions can promote pacific cooperation among States is a basic element of liberal thinking; its notion about the relations between liberal democracy and peace” (Jackson 2013, p.37).

While the debate is still between peace and war, to the discussion, cooperation gets already immerse as a necessity to develop a role as intermediary, including itself as one more protagonist on the international stage. Although liberalism initially led the IR, over time the ideas and theories that tried to explain its essence were modified, sometimes progressing and others seeming to retract. Realism and neorealism were the ones that illustrates in the best way these progressions and regressions, referring first to the neorealism, Toborda (2021, p. 144) affirms that “[t]his theory states a transition from the impossibility to cooperate (classic realism) to the possibility of doing so (structural realism or neorealism)”. Meanwhile, from the neoliberalism perspective, it is already stated an approached conception to what today is known as CI, where among the institutions and its high level of interdependence that they are capable of managing common problems (Jackson & Sorensen, 2013).

### **Modalities of International Cooperation**

Once already explained the precedents of the CI according to the conception of the IR, it is now pertinent to continue the timeline to locate in the present and explain from today and now the structure and form of the CI.

Despite the above, Noel F. McGinni (1999, p. 3), proposes international cooperation "as the association of countries for mutual benefit". McGinni also states that the interaction of actors as well what he calls "countries", are not only governments, subnational governments, or government entities, but he also includes in its concept international organizations or non-governmental entities and that such interaction can take place among any of them. He also highlights those actors have not only changed as stakeholders, but also their roles and goals.

On the other hand, The *Red Nacional de Agencias de Desarrollo Local de Colombia* (Red Adelco) (n, d) proposes at the CI as the “joint action to support the economic and social development of the country, through the transfer of technologies, knowledge, experiences or resources”. Red Adelco, like McGinni, also maintains its position regarding the diversity of actors involved in this interaction process, adding multilateral actors to this list. This second concept is a clear example of what previously explained about the impossibility of having a single author as a unique reference, since each author gives their own contribution to conceptualize the IC in its maximum splendor.

A clear proof of this evolution is IC’s current management. Meanwhile traditional cooperation was limited to a simple action and donation relationship is no longer handled in that sense by the actors. Rather, a deeper degree of stakeholder involvement is generated, there is an evolution towards an International Development Cooperation (IDC). Consequently, it is necessary to understand the traditional categorization of IC which is: political, financial, and technical. It is here that within this categorization a new branch



emerges -International Cooperation for Development- being this new space one with greater structuring both in terms of actors and modalities.

On the side of the actors, we can refer mainly to two: the state and the private. Corresponding to the first actor Bustos and García (2021), point to the government apparatuses, in essence to the ministries which are responsible entities for articulating cooperation, but within the public-state actors the authors also include the subjects of public international law and the different levels of decentralized government, being here, where the Decentralized International Cooperation (DIC) category falls.

According to Johanna Fernandez (2020), within Decentralized Cooperation there are three types of modalities from which other ramifications also unfold: by degree of involvement and responsibility of the actors, by type and number of actors and by type of relationship within actors.

For the modality according to the type and number of actors, Fernández (2020) postulates bilateral and multilateral cooperation. In bilateral cooperation, two actors are involved in the donor-recipient relationship, and in multilateral cooperation, international organizations are the channeling agents for the part of the resources that donors decide to cede (Bustos & García, 2021). It is also important to include in this modality two other categories, on the one hand, triangular cooperation, where three actors are involved: donor country, middle-income country and recipient country (Bustos & García, 2021) and, on the other hand, regional cooperation in which more than three actors from the same region usually participate (Gutiérrez & López, 2018).

Within the last modality (by the type of relationship between actors) are the horizontal and the vertical, where the first is characterized by the relationship of inequality between the actors, since in the donor there is the final decision and in the recipient the responsibility. In the second, there is a relationship of mutual interest between actors (Fernández, 2020).

Regarding the purpose of the cooperation (a modality that Fernández does not include in her classification), Gutiérrez and López (2018) identify four types. The technical, where there is a transfer that can be of technology or knowledge through training. There is also financial cooperation, that basically consists of the transfer of economic resources, which may or may not be reimbursable. On the other hand, there is education for development, which seeks to make developed countries aware of the problems faced by developing countries, and finally, there is humanitarian or emergency help, which is characterized by its short-term nature and its ability to meet basic needs in specific situations.

It results pertinent to add Gutiérrez and López's (2018, p. 3) statement that "[t]here is no single classification about the existing types and modalities of cooperation, but rather, that attending to different variables we can establish various typologies", allegation, that is introduced in the Figure 1. So, with this, it is possible to notice that, as there are some modalities that concur with Fernández's described above, others differ.

**Figura 1**

*Mechanisms of International Cooperation for Development*

Attending the purpose of the Cooperation	Technical Cooperation	
	Financial Cooperation	Refundable
		NON-refundable
	Humanitarian or Emergency Help	
Education for Development		
Attending the level of development of the actors	North-South Cooperation	
	South-South Cooperation	
	South-North Cooperation	
Attending to the participant actors	According budget belonging	Governmental
		Non-governmental
	According to the articulation of cooperation	Bilateral
		Triangular
		Regional
Multilateral		

**Note:** Main modalities and types of -IDC-

Fuente: Gutiérrez y López, 2018, p. 8

## 2030 AGENDA AND THE SUSTAINABLE DEVELOPMENT GOALS -SDG-

The international norms to regulate and guide international cooperation have evolved since 1948, with the Charter of the United Nations, where the first objectives were set regarding CI with the approach of promoting peace and friendship among nations (Bustos & García, 2021)). Forums and conferences have been held with the vision to improve and complement the commitment of the actors, as well the purpose and priorities to be attended. Therefore, as a product of this evolution, the United Nations General Assembly in 2015 created the 2030 Agenda for Sustainable Development as a reference guide for the work of the Member States. This agenda has 17 Sustainable Development Goals (SDGs), objectives that become planning tools towards economic, social, and environmental sustainability with the inclusion of all actors of the society (CEPAL, 2019)

**Figure 2**  
*Sustainable Development Goals*



*Note:* Sustainable Development Agenda approved in 2015.

Source: CEPAL, 2019, p. 1

## 3 STATE OF ART

### 3.1 NATIONAL NORMS AND THE AUTONOMOUS DECENTRALIZED GOVERNMENT -GAD-

Once the background of IC in general has been raised, it is time to land in the reality of its regulation in Ecuador. The IC in Ecuador is regulated by the Constitution of 2008, which in turns, count with different dispositions in terms of environmental matters, thus aligning itself with the international norms.

### 3.2 2008 ECUADORIAN CONSTITUTION

The Ecuadorian Constitution, embodied in articles 262 to 267, specifies the model of decentralized organization by levels that manages the national territory, being these: regional, provincial, metropolitan, cantonal and parish. Those mentioned have autonomy in terms of managing the IC (Bustos & García, 2021). Article 275 also falls into the matter, since it includes the principle of *Sumak Kawsay* (God Living) and how it must be aligned with the National Development Plan. So that, “[t]he State will plan the development of the country to guarantee the exercise of rights, the consecution of the objectives of the development regime and the principles enshrined in the Constitution”. (Asamblea Constituyente, 2008)

### 3.3 ORGANIC CODE OF PUBLIC PLANIFICATION AND FINANCES

Through this code it is pretended to align the National Development Plan through the regulation of processes, instruments, and institutions at the level of specific competencies corresponding to each level of government. In the sense of regulation and coordination, the Code focuses on channeling the competences of the Central State and decentralized autonomous governments (GAD), in reference to the general State budget, budgetary programming and international cooperation.

Within this code the articles that refer to international cooperation are: 26, 65, 66, 67, 68, 67. From an overview, these articles rule principles, national policies, management, approval, registration, and control with regarding to non-reimbursable CIs.

### 3.4 Resolución del Consejo Nacional de Competencias -CNC-0009-2011

As an executive decree, in 2011 resolution No. 0009-CNC-2011 were created with the aim of establishing a model with new competences concerning autonomies and territorial decentralization, aligning them with the *Sumak Kawsay* and the Territorial Development Plan (Article 3). That is, through this decree IC management is transferred to the GAD, specifying in Article 4 the criteria for the exercise of it.

### 3.5 Organic Code of Territorial Organization, Autonomy and Decentralization (COOTAD)

This regulation of organic type establishes in its first article the general principle establishing organizational political-administrative basis for each different level of territorial organization. The Code in general establishes functions, limitations, and competences that the Central Government has transferred to national territories at both the national and international levels. In the area of international competence, The GADs, have the competence to “manage international cooperation for the fulfillment of their competences” (Articles 32, 42, 55 and 65). Likewise, Article 131 states that, in terms of international management:

Decentralized Autonomous Governments will be able to manage the resources of international cooperation and technical assistance for the fulfillment of their own competences within the framework of national objectives, their development plans and the principles of equity, solidarity, interculturality, subsidiarity, timeliness, and relevance. It will keep a register in the international cooperation system. (Asamblea Nacional del Ecuador, 2010)

It is in this context that now it can reflect how and to what extent national regulations can be aligned with international regulations, as far as IC is concerned. As mentioned in previous paragraphs, national normative regulates diverse levels of organization of the Ecuadorian territory and the GAD of Santa Ana is no exception. This GAD has a Sanitary Landfill inside of its territory and it is due to its importance for the city of Cuenca that constantly are proposed development projects. The focus is to improve its performance, so through these efforts it's planned an IC project between EMAC EP and KOICA's focus, therefore, through an IC project the Municipal Public Cleaning Company (EMAC EP) and the Korea International Organization Agency (KOICA) have planned a project.

### 3.6 Santa Ana and Pichacay Sanitary Landfill

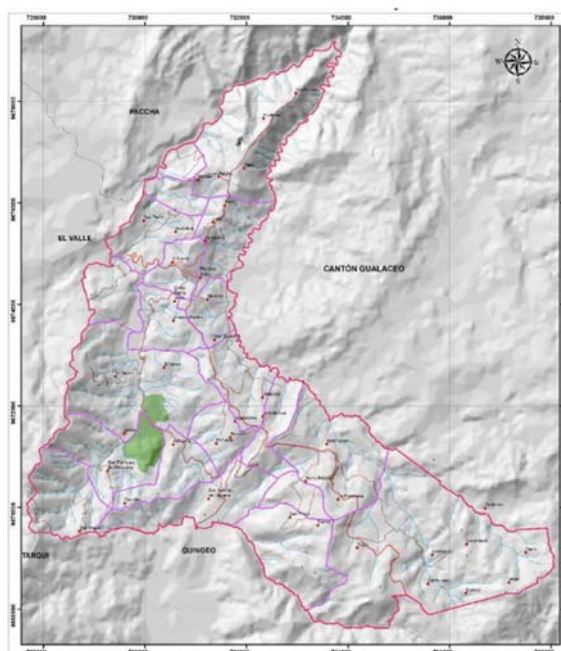
Santa Ana, according to what is known of the oral tradition, it is held that as a parish it was formed in 1970, however, legally constituted in 1906 (GAD Parroquial de Santa Ana, 2020). Territorially it is composed of 21 communities, each with its respective autonomous commission previously recognized by the decentralized autonomous government of the parish. According to the last census conducted by the Ecuadorian National Census Institute in 2010, the population projections for 2020 would be 6,761, with 53.93% female and 46.07% male (PDOT Santa Ana, 2020)

Located in the province of Azuay, 16 km away from its capital Cuenca, Santa Ana has the particularity of having a sanitary landfill in one of o its communities named El Chorro where the sanitary landfill has been operating respectively since 2001 with three phases of implementation.

According to the constitution of Ecuador, the pre-allocations in favor of the autonomous governments decentralized from the general budget of the State, 27% are allocated to the Provincial Councils, 67% to the Municipalities and Metropolitan Districts, and only 6% of the budget to the parishes (Ministerio de Economía y Finanzas, 2021). In addition to this, since the signing of the first Social Responsibility Agreement for the Co-management of the basin sanitary landfill in 2001, the parish has been receiving another income corresponding to 5% for environmental services on the part of the EMAC EP company. An extension agreement, was carried in 2016, which in its second clause establishes that “[I]EMAC EP will continue to transfer in favor of the GAD Parish of Santa Ana the economic values by concepts of environmental services, In the same way that it has done so far” (Convenio No. 022, 2016)

**Figure 3**

*Community boundaries - Santa Ana Parish*



*Note:* This map shows the 21 communities of Santa Ana and the location of the sanitary landfill.

Source: Santa Ana, 2020

The first phase of the project operated from 2001 to 2009, the second is currently in operation, despite having planned its conclusion by 2021. Arturo Loja, president of the Environmental Commission of the GAD of Santa Ana (personal communication, may, 27, 2022), comments that the postponement is due “[o]n the one side the situation of the pandemic and on the other, the estimates that are not always 100% accurate” and it is expected that the third phase will begin from 2023 to 2030 (EMAC EP, n.d.). Before Pichacay was the site of treatment of the waste of Cuenca, it was the landfill or dump of the parish of El Valle, whose operating time was 20 years, beginning its activities in 1981 and completing its functions by 2001 (Mejía & Pinos, 2011).

Before continuing, however, it is appropriate to make a distinction between a landfill and a sanitary landfill, since the citizens of Santa Ana to this day confuse the Pichacay Sanitary Landfill with a garbage dump. As Silvana Irene Torri (Torri, 2015) mentions in her writing, sanitary landfill “[s]hould be defined as a technology where garbage is confined to as narrow an area as possible, compacting it to reduce its volume and daily covering it with layers of land,” in addition, the gasses that generate waste are treated to transform them into energy.

On the contrary, an open landfill or dump, as was the case of El Valle, "[a]re lands where municipal urban waste is deposited and accumulated, without any technical, sanitary, and operational control, as well as the absence of infrastructure to minimize the negative impacts on the environment and its population" (Cruz I, 2020, p. 644). Considering this distinction, it is pertinent to highlight that the Pichacay Sanitary landfill has international certifications for its operation such as: ISO 14001: 2004, OHSAS 18001 and ISO 9001 (EMAC, sf), in addition to control and supervised by the Municipal Basin Cleaning Company (EMAC EP, n.d.).

### 3.7 KOICA within the International Cooperation exercise

The Korean International Organization Agency (KOICA) is a South Korean governmental organization that finances cooperation programs in developing countries, but that budget did not belong to them. Official Development Assistance (ODA) in South Korea began in the early 1960, as training programs for developing countries funded by the United States Agency for International Development (USAID). When the Korean government begins to finance projects with its own budget, it does so by focusing on technical cooperation programs focused on training and sending experts. However, in the 1980s there was a shift in focus towards economic development. Thus, education projects to share Korean experience and ODA training centers are managed by different government entities (KOICA, 2014).

As a result of this fragmentation, by the year 1991 the South Korean Ministry of Foreign Affairs finally decided to create KOICA, making it the official entity in charge of the management of grants for the management of ODA programs, with the aim of improving the efficiency of these programs for developing countries. Consequently, KOICA took back its initial focus, the technical one. Indeed, its current vision has expanded with changing global needs, in a way that has adapted to them and promoted sustainable development. Thus, it has strengthened relations with its developing partners, but without leaving aside key global concerns such as: environment, poverty, gender integration and more. (HisoUR, n.d.)

KOICA is based in 49 countries and one of them is located in Ecuador. The entity has been active in the country from 2001 to today (EMAC EP, n.d.). The Korean agency in Ecuador, from 2001 to 2020, from the 7 fields, the 3 in which it has invested most (from the smallest to the largest) were: public administration (18.3%), education (24.8%) and environmental technology and energy (25.5%) (KOICA, n.d.). The project that EMAC is carrying jointly with the Korean organization for environmental concepts, is a clear example of these statistics.

## 3. Methodology

This Investigation research used a qualitative case study methodology following the guidelines proposed by Robson and McCartan (2016). Considering that a case study is "A well-established research strategy where the focus is on a case, [...] in its own right, and taking its context into account" (Robson & McCartan, 2016, p. 149). The case study embodied in this research is categorized as *community studies* that focus on "[s]tudies of one or more communities. Describes and analyzes the pattern of, and relations between, main aspects of community life" (Robson & McCartan, 2016, p. 153). According to the plan structured by the authors, this investigation will proceed as follows: first, an overview represented as theoretical framework and state of art. In which, through a literary and documentary analysis the background of the IC from the theory of the IR, modalities of cooperation, actors, and SDG extract. In the same way, as state of the art, with a bibliographic and documentary analysis, national and international normative alignment in terms of decentralized cooperation and its function of the territorial levels of Ecuador, current reality of the Pichacay's sanitary landfill, and with the documentary analysis, of the signed agreement that binds the sanitary landfill with the GAD Parish of Santa Ana are analyze.

Second, the procedures to apply based on the above authors, consist of the triangulation of data with a documentary review of the EMAC-KOICA project and the agreements of EMAC and the GAD of Santa Ana. As an instrument for obtaining primary data, focus groups were implemented to the 4 currently most affected communities of Santa Ana by the landfill, highlighting the confidentiality that will be maintained, considering that all that is carried out will be for academic purposes. Finally, interviews with

the technical director of EMAC EP and president of the Environmental Commission of the GAD of Santa Ana, Arturo Loja Bueno were conducted.

To conclude, within the report, an IC policy planning based on a summary table with the information obtained from the data triangulation, describing the positions, interests and needs of the actors directly involved, was built. For the management proposal, the 6-step Policy Format of UCLG was applied. And, finally, conclusions were redacted.

#### **4. Results and Discussions**

The EMAC-KOICA's project is an initiative that still has features to be polished and improved before being introduced to citizenship. Considering that documents are not from public access yet, a focus group with people from the communities of the GAD of Santa Ana and interviews to government officials of the entities that have straight competence and relation with the project.

In consistence with the Second Agreement of Social Responsibility for Co-Management of the Pichacay's Landfill of Cuenca, signed by EMAC EP, the GAD of Cuenca and the GAD of Santa Ana, in its eighth clause agreed that:

Based on the previous agreements on the contents of this document, the inhabitants of the parish of Santa Ana, represented by their GAD, express their agreement to extend the deadline for the final disposal of solid waste in the Pichacay's landfill, until December, 31 of 2031. (Convenio No.022, 2016)

Despite the deadline already set by agreement, EMAC's intentions for a second extension of the deadline have shown with the proposal for an innovative solid waste management project for the city of Cuenca. Wilfrido Bermeo (personal communication, June, 3, 2022), Technical Director of EMAC, pointed out that for operative matters and space, a time extension is possible. Also highlights, that this phase is in a design and consulting one with the University of Cuenca, to define according to the available space, how longer EMAC can treat solid waste in Pichacay.

In turn, Arturo Loja Bueno (personal communication, May 27, 2022), who presides over the Environment Commission of the parish of Santa Ana, states that this research is committed to being an integral type of work, in which students of architecture, environmental engineering and civil engineering are involved in the study. In fact, and in preliminary form, these studies project that the extension of the landfill could be 10 years and that it would even be advisable to extend it to 20 years considering the millionaire investment in the project in any case. Once the study is completing and it is time to talk to the GAD, the extension base will be 10 years. (Bermeo, 27, May 2022).

It is in this sense, that due the vision of expansion and the need of the entity to treat solid waste for the city, the launch of the announcement for projects proposed by KOICA in the environment and climate change, will be taken advantage of by EMAC in June 2020. EMAC EP presented its proposal entitled "Improving integrated solid waste management toward the circular economy in Cuenca, Ecuador." The involved actors do not limit only to EMAC EP and KOICA, it further extends to the parish GAD of Santa Ana jointly with its community, especially the four closest to the landfill.

##### **4.1 EMAC-KOICA project with the sanitary landfill in the GAD of Santa Ana**

The concept document of the project entitled "Improving integrated solid waste management towards a circular economy in Cuenca, Ecuador" (EMAC EP, 2020), divides into five main sections from which others branch.

###### **SECTION 1. BASIC PROJECT INFORMATION**

In this section, among data that the document describes there are proposed: 72-month period (2022-2027); USD 7.2 million budget; direct and indirect beneficiaries (described in detail in section 4); and finally, the implementing organization which is EMAC EP.

###### **SECTION 2. FOUNDATION OF THE PROJECT**

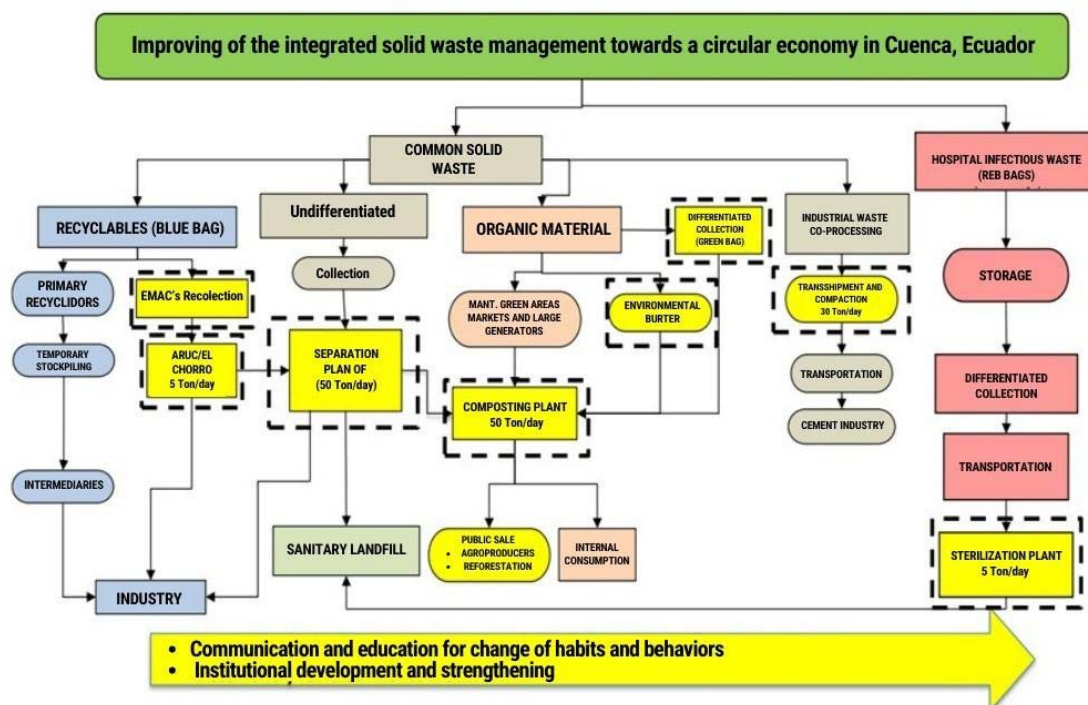


Divided into four fragments, this section starts with AN ANALYSIS OF THE SITUATION with a geographic reference of Cuenca and the national context of the autonomous responsibility of the GAD, for solid waste management. Consequently, there are 5 problems detected by the entity, which are:

1. **Linear solid waste management and low public awareness:** The process (consuming and discarding, plus not classifying waste) to which the citizens are accustomed, added to this the lack of knowledge of concepts such as sustainability and circular economy, together with the management (collecting and discarding) of EMAC, they limit the recovery of organic and inorganic residues that may be potential to a second chance life.
2. **Waste pickers (vulnerable people):** due to low employment rate and their limited academic training, there are 1200 people who work collecting recyclable materials (paper, paper board and plastic). The majority of those engaged in this work are women (77.27%) who bring their livelihoods to their homes. Instability and unfair remuneration are the consequences that are exposed to women and men recyclers by the process of buying and subduing.
3. **Fertilizers for agriculture:** the soil of the Azuay, due to the predominance of agriculture and livestock as economic activities of the province, requires constant fertilization to supply the demand for production. However, producers use chemical fertilizers and chicken feces (with chemicals harmful to health by hormones and antibiotics) since they have no organic options to turn to.
4. **Inorganic waste from the industrial sector:** this type of waste is not recyclable, but potential to an extension of its useful life, because of its physical and chemical qualities for cement manufacturing.
5. **Infectious waste sterilization plant:** The sanitary landfill has a plant to treat these wastes, extending its service to three other cantons of the province (Gualaceo, Chordeleg and Deleg). But, despite possessing one, the deterioration over the years and the growing demand of the fourth cantons (added to this COVID-19) make this plant limited to satisfy future demand.

**Figure 4**

*Improving integrated solid waste management toward the circular economy in Cuenca, Ecuador*



*Note:* This map illustrates the contemplated changes in the project to improve the solid waste management.

Source: EMAC EP, 2020, p. 7. Translated by Emilia Vargas, 2022

This map pictures the logistics behind the proposed infrastructure to build in the Pichacay Environmental Human Complex. With this mapping, it was possible to reach five results for the project, these concurred to the five problems described above.

1. **Recycling of inorganic waste**
2. **Use of organic waste**
3. **Coprocessing of industrial waste**
4. **Sanitary Waste Management**
5. **Design and implementation of a capacity building program for EMAC EP and related actors.**

To implement the trends of a circular economy in Cuenca the lessons learned were the following:

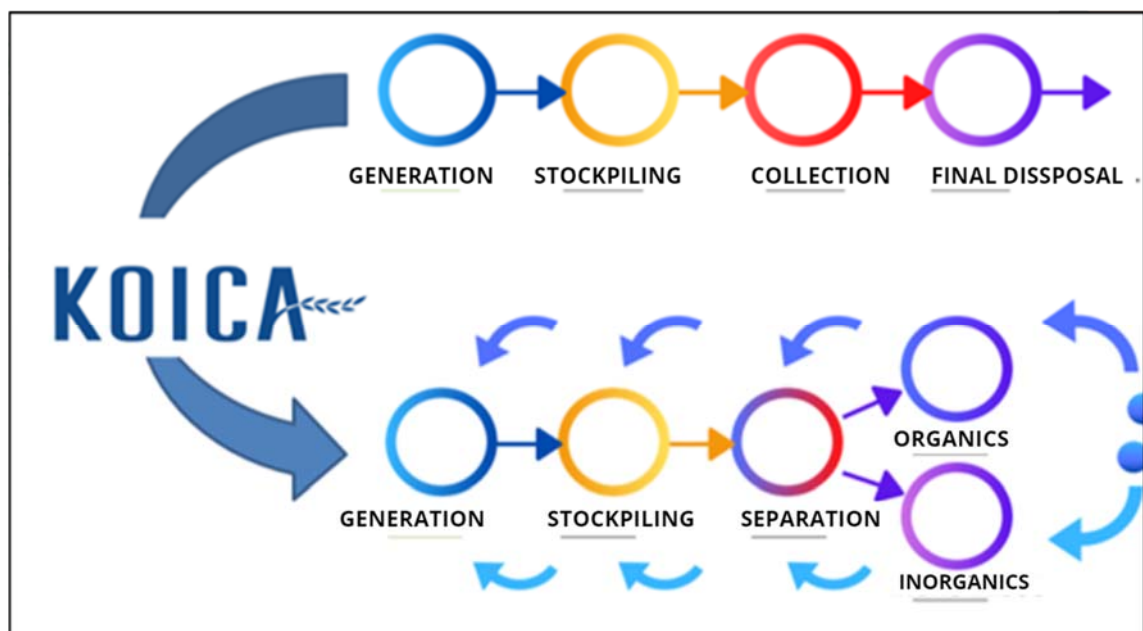
- **Recycling of inorganic waste:** two main aspects, on the one hand, the joint work between the recyclers and the entity. On the other hand, waste that is not properly separate from its origin demands semi-mechanized plants. \$
- **Use of organic waste:** first, the need for a backhoe to assist the fermentation process of organic waste underground. Second, an EMAC subsidy in the composting process, due organic fertilizers are more expensive than both chemical fertilizers and chicken feces. \$
- **Co-processing:** to co-process and recycle industrial waste collaboration with HOLCIM, the only ones at the national level with sufficient technology and environmental permits. \$
- **Management of medical/infectious waste:** by bringing municipalities of Azuay together better technologies at a lower cost for the treatment of this waste can be obtained. \$
- **Training:** raising awareness among citizens about the correct classification of garbage and compliance with environmental regulations. \$

### SECTION 3. PROJECT DESCRIPTION

With the previous described problems, it is time to arrive at the project's approach. Synthesizing, two integrate a Circular Economy for the Management of Solid Wastes of Cuenca, corresponds to a reintegration of both organic and inorganic wastes (those that have the possibility of being one) in the productive system. The following graph shows the cyclical operating system proposed to KOICA.

**Figure 5**

*Operational Cycle*



*Note:* Operative cycle which includes agroproducers and recyclers

Source: EMAC EP, 2020, p. 11. Translated by: Emilia Vargas, 2022



- **General Objective**

To Strengthen Capacity in Integrated Solid Waste Management of Azuay, Ecuador, to improve the living and working conditions of the most vulnerable waste pickers and to benefit organic agroproducers and the population of Azuay province by promoting the sustainable use of organic and inorganic waste.

**Results (5 total)**

**Improvement of the recycling of inorganic waste**

**Products:** Three proposed: an expansion of the ARUC and El Chorro processing plants, a separation plant for the recovery of organic waste, coordinated work with the community recycling plants and four vehicles for differentiated collection of recyclable materials.

**Improvement and use of organic waste**

**Products:** increase in the production capacity of the composting plant to use for the maintenance of green areas and sale.

**Strengthening Medical/Infectious Waste Management**

**Products:** Plant expansion to a capacity of 5 tons per day and renovation of sterilization equipment for this waste.

**Design and implementation of a capacity building program for EMAC E.P. and related stakeholders.**

**Products:** Awareness and education of citizens and other stakeholders on the correct distribution of waste. international technical advice and the design of regulations in accordance with the new needs. And finally, the reorganization and optimization of EMAC's administrative structure to ensure project viability.

Later, there is the schedule of activities. To have control over progress and ensure results, simultaneously, to achieve results, a EMAC's proposed budget is around \$7 973 500 budget. Where proposes to KOICA a \$7.2 million budget and EMAC's remaining is \$773,500.

**Table 1**

*Breakdown of the components of KOICA's contribution.*

<b>Construccion:</b>	\$ 2.110.000,00
<b>Team:</b>	\$ 1.730.000 ,00
<b>Maester Plam:</b>	\$ 705.000,00
<b>Training:</b>	\$ 1.000.000,00
<b>Experts:</b>	\$ 1.000.000,00
10% KOICA	\$ 655.000,00

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<b>TOTAL</b>	<b>\$ 7.200.000,00</b>
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*Note: This table does not include EMAC's budget counterpart*

**Source:** Based on EMAC EP, 2020, p. 14. Translated by: Emilia Vargas, 2022

#### SECTION 4. STAKEHOLDER ANALYSIS

This section divides beneficiaries and other stakeholders. Regarding the beneficiaries, 3 types are proposed: indirect and environmental direct.

##### **Direct beneficiaries:**

52 9,800 people (waste pickers, agroproducers and their families)\$

##### **Indirect beneficiaries:**

1. 865,000 inhabitants of the cantons Cuenca, Gualaceo, Sigsig, Chordeleg, El Pan, Seville de Oro, Guachapala, Saraguro and Deleg, projected in 2030.
2. 3,000 medical/infectious waste generators from the cantons Cuenca, Gualaceo, Deleg, Chordeleg and others in the region
3. 323 EMAC EP employees through training and organizational strengthening. Environmental benefits:

##### **Environmental benefits:**

Recovery of 20% of the total waste that reaches the Pichacay landfill

Reduction of 2074 tons of CO2 eq. per year.

**Table 2**

*Accordance to other interested parties:*

<b>Name</b>	<b>Cooperation/coordination mechanism</b>
Environment Ministry	Environmental permits and licenses
Economy and Social Inclusion Ministry	Legalization of waste picker organizations
Health Ministry	Support for the creation of the association of municipalities for the management of infectious waste
Education Ministry	Authorization for educational campaigns for schools and high schools
Livestock and Agriculture Ministry	Coordination with agroproducers from Azuay
Municipal Public Telephone, Potable Water and Sewage Company of Cuenca - STAGE Ep-	Agreement for the supply of water in the Pichacay Environmental Human Complex
Municipal Public Company for Economic Development of Cuenca -EDEC EP-	Commitment with agricultural producers for agreements
Autonomous Parish Government of the Parish of Santa Ana	Agreement to extend the permanence of the landfill in the parish of Santa Ana.

Provincial Government of Azuay	Granting of environmental licenses and permits, coordination with agricultural producers in the province and agreements for the use of compost for reforestation
National Network of Recyclers of Ecuador -RENAREC-	Coordination work with waste picker organizations
Environmental manager of infectious waste: Veolia- GADERE	Public-private partnership for the transport of
Consortium of parish councils	Coordination for source separation of organic matter

*Note: This tables specifies which are the parts and their rol*

Fuente: EMAC EP, 20, pág. 17

## SECTION 5. PROJECT MANAGEMENT AND IMPLEMENTATION.

The creation of an Executing Unit is postulated, in which the Director in charge will be responsible for coordination and communication with both KOICA and EMAC EP's Manager, in addition to foy assistant technicians with experience in specific areas. It is also proposed that the Executive Unit manage the project and be trained.

### 4.2 Adjustments with EMAC-KOICA's joint work.

As mentioned above, the project was approved with certain components that were adjusted and others removed. For example, the expansion of the sterilization plant to cover cantons adjacent to Cuenca, was withdrawn (Bermeo W. personal communication, June 3, 2022). Regarding the changes to the budget, Bermeo (2022) said that it was now expected to be 9 million by KOICA and by EMAC counterpart 1.2 million (Bermeo, 2022). Antagonistically to what EMAC proposed, it will now be KOICA that manages all that 9 million, making this collaboration non-reimbursable technical cooperation.

Regarding the budget's changes, Bermeo (2022) states that KOICA "takes for granted that the permanence of the landfill, or of this infrastructure will go beyond the year 2031, since an investment of \$9 million, would not be convenient to invest for a short period of time." In addition to this statement, the president of the Environment Commission explained that "[i]f they (KOICA) are sure and if there are signed agreements that the landfill will work until 2051, KOICA invests, otherwise, EMAC would have to find another place to treat the waste" (Loja A., personal communication, May 27, 2022).

Although the budget will be administered by KOICA, the role of the Parish of the GAD of Santa Ana within this international cooperation is fundamental. In fact, it is up to the community to define whether an extension in terms of the operation of the landfill will be implemented within their territory, therefore the opportunity of the project to be carried out. This would be beneficial not only for EMAC EP, but also for the four most affected communities by the landfill, for the GAD Parish of Santa Ana and KOICA as well.

On the one hand, the GAD will continue to receive the 5% incomes for environmental services. That will allow the GAD to finance local projects, especially for El Chorro, Barzalitos, Mosquera and San Antonio de Laureles. Thus, through the implementation of these efficient international cooperation management policies focused on this cooperation initiative, the communities mentioned above will be able to satisfy their needs and difficulties generated by the presence of the landfill with the guarantee that they will attend. Here it is where KOICA's neutrality is fundamental to the exercise of this process, as well the policies implementation.

On the other hand, EMAC would no longer have to look for another place to deposit Cuenca's solid waste, besides that when the project implements, the waste management will improve considerably and will also benefit Cuenca, its population, and the environment. Similarly, the 14 workers belonging to these communities, who represent 90% of the total number of workers of the landfill, will maintain the preference of being hired by EMAC EP in the landfill and areas of its competence. Additionally, for its

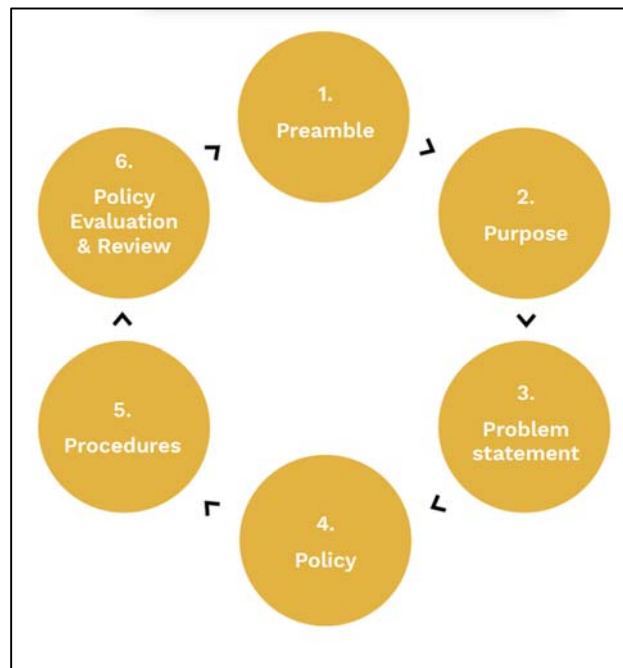
construction, the project will demand workforce therefore a greater supply of workplaces are foreseen, so priority will be given the inhabitants of the parish (Bermeo W., personal communication, 3 June 2022)

Taking as a starting point the fact that the GAD of Santa Ana has had no experience in terms of IC (Loja A., personal communication, May, 28 2022), is that with a focus on addressing the needs of the four communities most affected by the Landfill: El Chorro, San Antonio de los Laureles, Barzalitos and Mosquera (Loja, 2022), the "Proposal for the management of international cooperation funds from the EMAC-KOICA project with the Santa Ana GAD Landfill" is going to be an approach channeled towards the construction of policies adapted to the management of the EMAC-KOICA Project using the 6-step Policy Format of the UCLG Coaches Guide,

#### 4.3 Proposal for the management of international cooperation funds of the EMAC-KOICA project with the sanitary landfill of the GAD of Santa Ana.

**Figure 6**

*The 6 step's Policy Format*



*Note:* Guide used to build the policies for the GAD of Santa Ana

Source: UCLG, 2021, p. 61

##### **1 Preamble:**

In response to the new needs of the Pichacay landfill EMAC EP in response to KOICA's announcement proposals for environmental matters, EMAC submitted a project so being now in a budget approval phase at the Korean Ministry of Foreign Affairs (Bermeo, 2022). The landfill is located within the Parish GAD of Santa Ana and although the territory in which the landfill operates is not under GAD's jurisdiction, communities that border the complex are, so they have pending demands to attend and they are under the responsibility of the GAD to resolve.

Therefore, based on Article 267, numeral 7, of the 2008 Constitution of Ecuador, which establishes the competencies of the parish governments to "manage international cooperation for the fulfillment of their competencies" (Asamblea Constituyente, 2008, p. 87), of the section within the same article which

establishes that "[w]ithin the scope of their competencies and territory, and in use of their powers, they shall issue agreements and resolutions" (Asamblea Constituyente, 2008) and the second section on Environmental and Health Protection of the first clause of the SECOND SOCIAL RESPONSIBILITY AGREEMENT FOR THE CO MANAGEMENT OF THE CUENCA SANITARY FILLING PLANT, which ratifies that:

To proceed to the pertinent works and interventions, technical environmental principles to guarantee its sustainability will be implemented by protecting the environment, health and well-being of the inhabitants of Santa Ana, especially the citizens living in the communities closest to the landfill.

**ACTORS:**

KOICA: direct actor

EMAC EP: direct actor

GAD PARISH OF SANTA ANA: direct actor

**2 Purpose:**

The EMAC-KOICA project in seeking to implement and strengthen the circular management of solid waste, has based its development on three SDGs:

11. Sustainable cities and communities,
12. Responsible production and consumption, and
13. Climate action.

From EMAC's project draft, in section four of the stakeholder analysis, the GAD of Santa Ana classifies under "Other stakeholders" and the cooperation mechanism described as "Agreement to extend the permanence of the landfill in the parish of Santa Ana." (EMAC EP, 2020). However, it is because of their decision-making power that it can get involved in a more direct way, aligning itself with the SDGs set out in the project, and why not extend it to others.

**Goal:**

To get the communities of the Santa Ana parish to approve the extension of operation of the Pichacay sanitary landfill within their territory for 10 more years, after the end of the third phase term (2031), so that it will be possible to execute the EMAC-KOICA cooperation project.

**General Objective:**

To propose policies channeled to the EMAC-KOICA cooperation project to address the needs of the communities most affected by the Pichacay sanitary landfill.

**Specific objectives:**

To guide the Parish of the GAD of Ana and EMAC EP for a socialization of the EMAC-KOICA cooperation project, with the communities so that they accept the operation of the sanitary landfill for the next 10 years

To address the real needs identified by direct consultation with the residents of the communities of: El Chorro, San Antonio de los Laureles, Mosquera and Barzalitos.

**Problem Statement:**

One of the premises from which KOICA starts the cooperation is that the sanitary landfill will stay in the parish until 2041, however, the last signed one agreement ratifies its works only until 2031. Therefore, before signing a new extension, the communities of Santa Ana must agree to it.

This fact becomes a challenge for the GAD and EMAC EP, since the great level of discontent and disagreement, especially in the communities closest to the landfill, make it difficult not only to socialize the project and therefore its approval, but also to EMAC-KOICA cooperation ends even before it has started.

While there are communities that do not feel the impact of the landfill as much (due to the distance), there are other communities such as: El Chorro, San Antonio de los Laureles, Barzalitos and Mosquera, which present stronger difficulties. It is within this framework that the positions, interests and needs of those involved were identified, so that through triangulation it will be possible to establish policies that are aligned with the project and, consequently, sign an extension agreement

**Table 3**

Table of positions, interests, and necessities

	<b>Positions</b>	<b>Interests</b>	<b>Needs</b>
<b>GAD Parish of Santa Ana</b>	Sign an agreement to extend the landfill operation term	Maintain the 5% payment for the provision of environmental services.	Finance projects to meet community needs.
<b>Communities of: El Chorro; Mosquera, San Antonio de los Laureles and Barzalitos.</b>	Withdrawal of the landfill upon completion of the third phase (2031)	With the 440 tons per day that are currently deposited in the landfill, the situation of bad odors, environmental and auditory pollution, pests (rodents, mosquitoes and ticks), feral dogs that eat the animals (for self-support or sale), has been aggravated to such an extent that the people of the communities find it unbearable to endure these pests on a daily basis, which have severely affected their quality of life, so they urgently need to control these demands.	Good health
			Improve your quality of life
			To carry out and resume their economic activities (agriculture and livestock) without fear of being spoiled by feral dogs.
			Prioritize the conditions and needs of the communities that have arisen due to the presence of the landfill, so that they can be prioritized by financing them with the extra 5% income from the provision of environmental services, which enters the coffers of the parish government.
		Studies of the socio-environmental impacts of the landfill on the people of the four communities.	To know if and how the presence of the landfill has impacted their health.
		Efficient communication when landfill issues arise.	Know (in case there is) leachate spillage in the Quingeo River, or situations of similar nature that compromise the health of the inhabitants or consumption of water or pasture for their livestock, so as not to consume from contaminated sources that will compromise their health.
		A transparent policy, since in the parish it has been tainted by the economic interest in the payment of 5% of the EMAC to the GAD for garbage collection.	Efficient management of resources and that they are allocated to meet the real needs and demands of the communities.

<b>Empresa Pública Municipal de Aseo de Cuenca - EMAC EP-</b>	Extend the term of operation of the Pichacay Landfill in the parish of Santa Ana until 2041.	Cooperate with KOICA to implement the solid waste management improvement project focused on a circular economy.	Sufficient capital to cover all the fields proposed in the project.
		To benefit organic agroproducers and the and the community of Cuenca in general.	
		To benefit organic agroproducers and the and the community of Cuenca in general.	
		Promote the sustainable use of organic and inorganic waste.	
<b>Korea International Cooperation Agency -KOICA-</b>	Continued operation of the Pichacay sanitary landfill in the Santa Ana parish.	Collaborate with EMAC EP in the project focused on the circular management of solid waste.	Ensure that through the project there will be an improvement in solid waste management.
		To benefit the community of Cuenca.	
		Composting and co-processing plants located at the same site (Pichacay landfill).	Control and monitor composting and co-processing plants to ensure efficient operation.
		Strengthen relations with Ecuador.	International recognition.
Fulfill its objective of promoting the implementation of circular economies, the same objective that is aligned with the International Agenda.			

**Note:** This table summarizes in positions, interests and necessities the obtained information in the field work

## 5 Policy

Once the positions, interests and needs of the parties involved in the EMAC-KOICA project have been identified, based on SDGs 11, 12 and 13 addressed in the initiative and in accordance with Goal 16 on Peace, Justice and Strong Institutions, the following policies are proposed to be adopted by the autonomous government of the Parish of Santa Ana to align them with the project.

### **Policies to adopt by the GAD Parish of Santa Ana in alignment with the SDGs of the EMAC-KOICA international cooperation project.**

- Safeguard the well-being in terms of health and environmental impact of the communities of: El Chorro, Mosquera, San Antonio de los Laureles and Barzalitos.
- Facilitate access to information about the Pichacay landfill to the communities.
- Equitable distribution of the GAD's income from environmental services.
- Control the correct operation, monitoring and compliance with the established and parish regulations and agreements with EMAC EP.

## Procedures

Considering the organizational structure of the Parish Council and in accordance with articles 67, 68 and 70 of the COOTAD, which establish the attributions of the parish council, president and members. To guarantee compliance the following procedures states:

**Safeguard the wellbeing in terms of health and environmental impact of the communities of: El Chorro, Mosquera, San Antonio de los Laureles and Barzalitos.**

Through:

Socio-environmental impact studies to know the effects that the landfill has had on the environment, on the health of the inhabitants and on their main economic activities such as agriculture and livestock.

Follow-up records of the individual and collective health status of the communities.

**Facilitate access to information of the Pichacay sanitary landfill.**

Through:

Media and social media available to the GAD Parish of Santa Ana such as: Facebook and its official website, to be used not only to inform about works and meetings, but also to facilitate any written document, regardless of its form and origin, which directly involves the landfill, in addition to informing immediately through its media, contaminations of any kind that may compromise the health of individuals in the community.

**Control the correct functioning, monitoring, and compliance with the provisions of parish regulations and agreements with EMAC EP.** Through

Through:

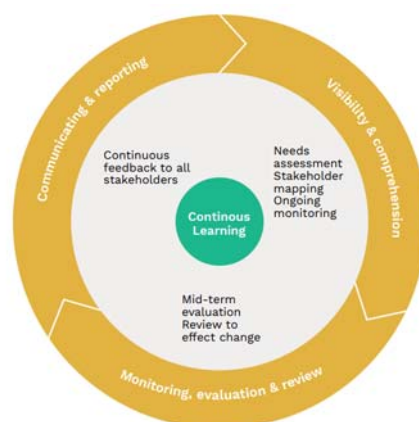
An area within the Development and Control Commission dedicated to the inspection and control of compliance with the agreements, which will be led by an environmental engineer and one representative for each of the communities of: El Chorro, Mosquera, San Antonio de los Laureles and Barzalitos and three representatives from the other 18 communities.

KOICA's commitment that, as a neutral organization, it will ensure compliance with the terms of the agreement with EMAC EP.

**6 Policy evaluation and review.**

To ensure that the proposed policies are useful, their impact on communities will be evaluated and reviewed using the CRME Framework model.

**Figure 7**  
*The CRME framework*



**Note:** The figure illustrates the methodology to evaluate the outline policies



## 6. Conclusions

International cooperation for development has evolved in recent years and it has adjusted to global needs thanks to the greater degree of involvement of the parties. In this way, it has been possible to go from a simple aid, to a true and effective cooperation. A clear example of this is the project that is intended to be carried out between EMAC EP and KOICA, in the Pichacay landfill, with a view to improving solid waste management in the city of Cuenca.

Although the project is now in a budgeted approval phase at the Korean Ministry of Foreign Affairs, aspects that are essential for it to be carried out have been left aside, since KOICA starts from the premise that the landfill will be operating in the parish until 2041. For this, the ratification of a new extension agreement is essential, which is in the hands of the parish communities. According to what was stated by the communities of El Chorro, Mosquera, San Antonio de los Laureles and Barzalitos, situations such as uncontrollable plagues of flies, rodents and feral dogs, added to this the strong odors from the leachate pools and machinery noise (personal communication, June 8, 2022), do even more challenging the signing of a new agreement.

With the motivation that this cooperation will be carried out, an approach of policies channeled to the management of the international cooperation project to be carried out between KOICA and EMAC has been reached. With the vision of extending the benefits that can be obtained as a result of this cooperation to the communities most affected by the landfill, thanks to a triangulation of data, it was possible to reach the positions and identify the interests and needs of the actors.

It was with this investigation that it was possible to visualize the complete picture and not bias the approach of the policies at the discretion of only one of the cooperating parties. It is clear that, although the conditions in which these communities find themselves today are not the best, however, it is possible through a change of approach by the GAD and based on the needs and interests of the communities, negotiate the permanence of the landfill, since there would be around 800,000 direct or indirect beneficiaries.

Finally, with an emphasis on the difficulties that the communities have been presented with the landfill, the policies proposed address their real needs while aligning themselves with the three SDGs in which the project lays the foundations for its construction and extending to objective 16 of Peace, Justice and Strong Institutions, which addresses their concerns regarding the administration of the parish budget.

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