



Implementing the GOSSA
(Governance and Sustainable
Sanitation) Approach

A validated experience of

Water Governance and Infrastructure Development for Headwater Territories in Latin America

July 2017

Les Ailes de L'Espérance
Wings of Hope
Alas de Esperanza



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Les Ailes de l'espérance – Alas de Esperanza

Swiss Agency for Development and Cooperation SDC

In Partnership with :

La Comunidad de Cuchoquesera

La Gran Comunidad Inca de Quispillacta

SER – Servicios Educativos Rurales

AGUA-C Asociación para la Gestión Social del
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Municipalidad Distrital de Chuschi

Municipalidad Provincial de Huamanga

Gobierno Regional de Ayacucho

Ministerio de Vivienda, Construcción y Saneamiento

La Universidad San Cristóbal de Huamanga

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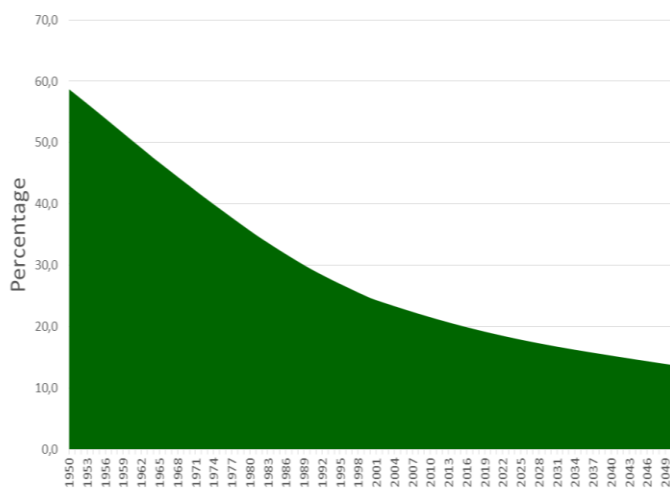
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Why to work on headwater territories ?

Latin America is the region where mainly Spanish and Portuguese, Latin languages, are spoken. It comprises the countries from the Southern tip of South America to the Northern border of Mexico, including the Caribbean, usually called Latin America and the Caribbean (LAC). This region has around 650 million inhabitants from which 17% are between 15 and 24 years old (DESA, 2017). At the present time, around 80% of the population lives in urban areas and it is expected that they will be 86% by 2050 (DESA, 2014).



Latin America : Rural Population Trends 1950-2050
Source: DESA, 2015

What Are River Headwaters?

Headwaters are simply the initial source of the water in a river, opposite of either its emptying point or confluence with another water body.

People are systematically abandoning rural areas in Latin America and specially quitting headwater territories, which are generally at the farthest place in the basin, where the access to educational and economic opportunities are distant too. At the present time just 20% of the Latin American population lives in rural areas and they will be around 13% by 2050. This remaining rural population will choose the most accessible areas, with more comparative advantages, so, they will progressively quit headwater territories.

Water resources availability in Latin America has an enviable situation in comparison with other regions of the world. Only South America has more than 30% of the renewable resources of the planet: the Amazon Basin, the Guaraní Aquifer System, the Titicaca lake basin, among others.

The Region also generates around the 33% of the world's runoff and this provides global eco-systemic services like carbon sequestration, biodiversity production and conservation, water quality, etc. Latin America hosts a bit less than the 10% of the world's population and this explains the per capita water availability of about 28.000 m³/per inhabitant/year which is above the world's average. However, international cooperation agendas focus more in Africa and Asia, disregarding Latin American water resources conservation (PCES, 2010).

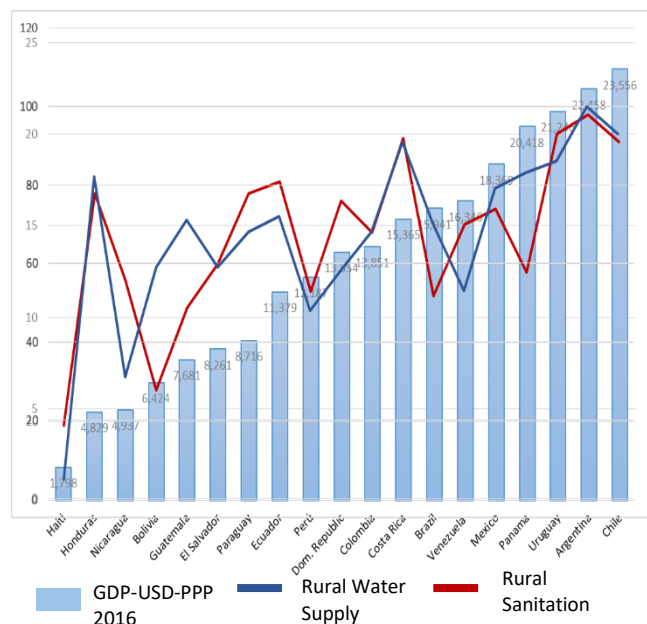
Latin America will see their water resources, in quantity and quality, affected by climate change that will create scarcity in some countries and natural disasters in others. In addition the increment of temperature may have an impact on reducing the per capita GDP and the per capita water availability. Latin American water stocks tend to disappear. Especially in the Andes Ecoregion and this will affect the whole productivity dynamic and life support conditions of the region. Water stock, water towers or glaciers, are

Headwater territories are being degraded

In general Latin American headwater territories are losing the biophysical conditions that help maintain the headwaters functions to accumulate water and deliver it through the basin. Climate change is also affecting the water stocks, melting them and either infiltrating it in the underground currents or flooding many inhabited and productive areas.

disappearing at a speedy rate and this loss will be irreversible (Arana, 2016).

As an average Latin America has 82% of adequate water supply and 79% of sanitation. However, the rural areas average is 68% for adequate water supply and 67% for sanitation. However, there are still countries in the region with rural areas with less than 5% of water supply (WHO-UNICEF, 2015).



Latin America 2015: Countries GDP and Rural Water Supply and Sanitation

Sources: IMF, 2015; WHO-UNICEF, 2015

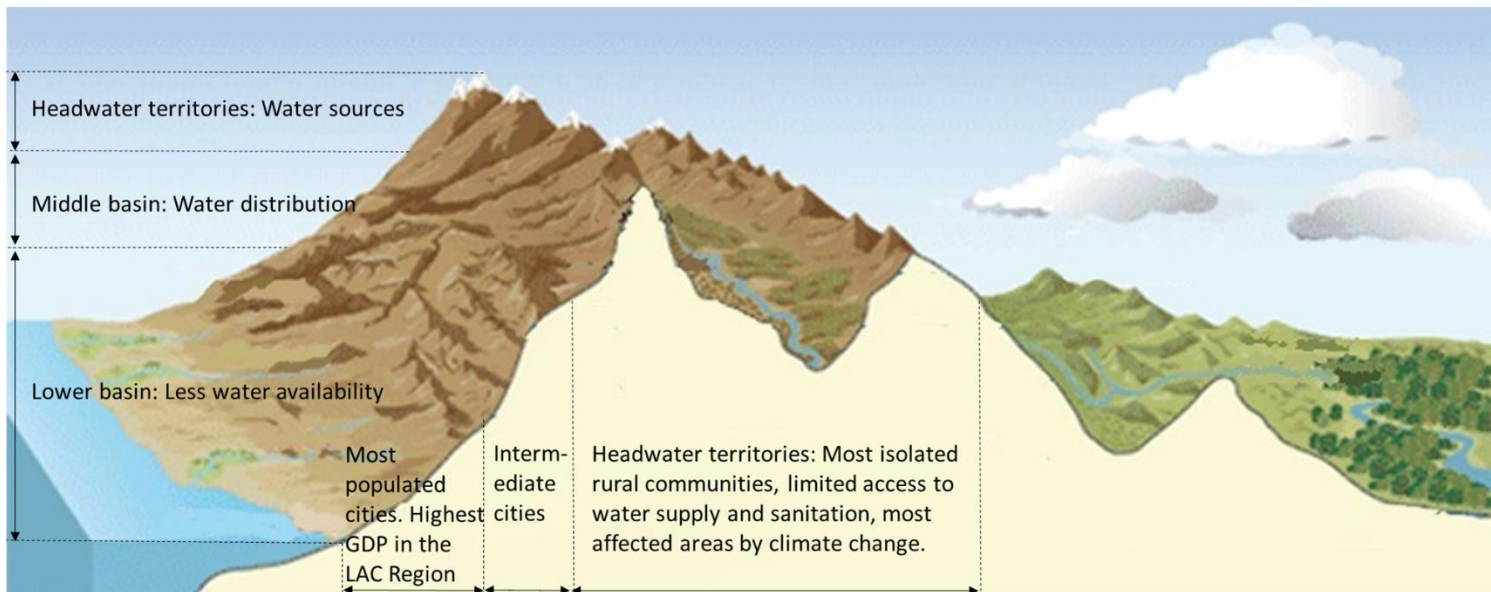
The High rate of population dispersion is a determinant factor to provide infrastructure like water supply and sanitation, these distances increase transaction costs, not only in the construction of these systems, but also during maintenance stages. This rural population dispersion discourages local or national contractors to build these systems in rural areas.

Latin America faces, therefore, three big dysfunctional situations: i) There is a continued impoverishing process in rural areas, especially in headwater territories, which is shown in the strong water supply and sanitation needs; ii) Water resources are getting scarce due to climate change, and headwater areas are losing water sources and glaciers; and, iii) Population is abandoning rural areas, and mainly headwater areas. In this context, what new approach to integrate natural resources and land governance with infrastructure can help us to decode these situations? This question was one of the reasons to develop an experience that could lead us to validate our approach GOSSA that combines Water Governance and Infrastructure to reach a stronger and better impact in meeting the basic needs of poor communities and at the same time conserving water resources.

Rural communities located in headwater territories are the less attended

Since rural communities are dispersed and far away, the access to public services is more difficult. Rural areas in the Region have less access to water supply and sanitation infrastructure and it takes too long to access public services. This creates migration to intermediate centers and the progressive abandonment of headwater territories. In many rural areas in Latin America poor families are in critical conditions. The lack of water supply and sanitation accentuates the difficulties that rural families have to face daily.

For us, water governance is not only water use and management. It implies also natural resources and land governance with appropriate, participatory and legitimate decision-making processes.



Headwater territories have important difficulties that affect the whole Latin America

Our approaches

The International Secretariat for Water (ISW) has several approaches that are applied when projects are elaborated.

Citizen's participation is key.- The ISW believes that citizen's participation strengthens water management and people's capacity to maintain their services. In addition, citizen's participation is important to enhance people's respect in themselves so they can engage in protecting water resources and transferring this water conservation culture into future generations.

The poorest need to be prioritize in the Rights to Water and Sanitation action.- The ISW has been since 1990 a defender of the *Rights to Water and Sanitation* as a Universal Right and it is within this approach that the priority should be

given to the most vulnerable people. This solidarity and accountability spirit should be present in all country's interventions.

Intergenerational management is rewarding.- In a urbanizing world less favorable rural areas could soon be abandoned while water sources may lack surveillance and protection. In the rural world this task was transferred from generation to generation. At the present time, responsibility and leadership for water resources use and management is weak and very little is made to strengthen this intergenerational management knowledge and responsibility transfer. For this reason, the ISW works with new generations, and specially with the youth, to strengthen this leadership and care for water.

Governance and Sustainable Sanitation (GOSSA) Approach.- This approach states that Water and Sanitation Infrastructure can no longer be an isolated intervention around sensitive water sources. This infrastructure implementation needs to go hand in hand with water and territory governance to be sustainable. Water is not a resource that can be used and managed independently, and sanitation has to be addressed in a responsible way, without polluting fragile water sources that will be used by other communities downstream. Sanitation Infrastructure and governance are more than related and there is an important need to strengthen their links where the responsibility to conserve it be shared.

Lessons learned for Latin America

The ISW and its partners identified measures to counter the social and environmental vulnerability of the Cuchoquesera community by developing a project and a process that could be scaled up in the rest of the Latin American region. This new set of interventions, in order to combine the governance and infrastructure development in a single process, was called the GOSSA – Governance and Sustainable Sanitation- approach. So we decided to implemented this GOSSA approach through a first project in the Cuchoquesera community at 5.000 of altitude in the Ayacucho Region, in Peru.

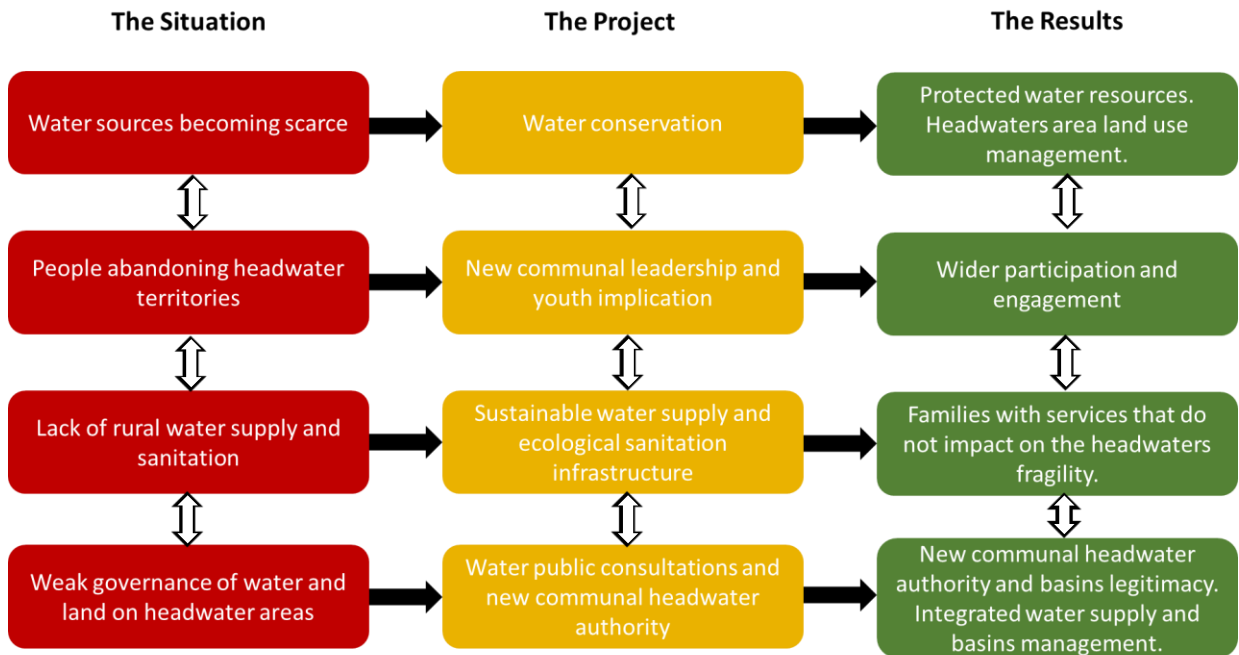


Checklists used to prevent environmental impacts of water supply and sanitation infrastructure

Cuchoquesera, a community as any other one in Latin America in a headwater area

Cuchoquesera is a community located on the headwater area of the Cachi River basin between 4.500 to 5.000 meters of altitude in the Ayacucho region in Peru. Before the project arrived, its 116 families were struggling without safe drinking water and lack of appropriate sanitation. 20 years ago the community was forced to give its land for the construction of a 80 million cubic meters reservoir in exchange of basic services that never arrived. Highly socially vulnerable, this community is located in the district where the Shining Path terrorist group activities begun in the country. Highly environmentally vulnerable, Cuchoquesera is losing their glaciers and water resources due to climate change.

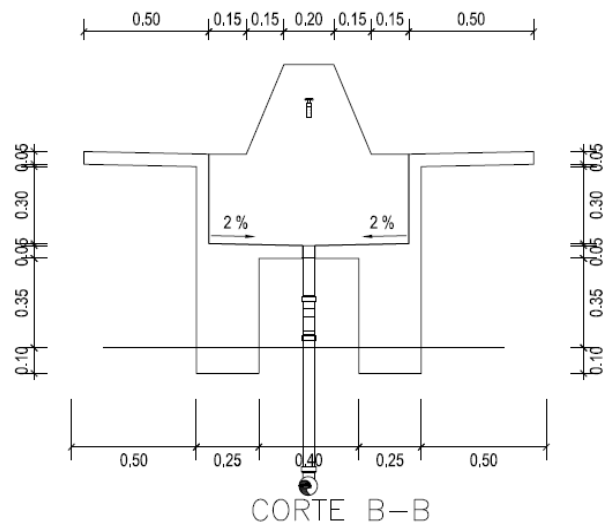
Environmental prevention measures helped us save money and avoid environmental damage.- Preventing environmental measures were considered to avoid negative environmental impacts of the infrastructure design, construction and operation phases. The use of a checklist



The GOSSA approach implemented through the Cuchoquesera project was easy to understand –during the training sessions with the community– and easy to use on the field. These measures helped the project save money and to avoid environmental damages.

These techniques date from the Inca’s times, when communities were taught to select specific plants to attract water. This traditional knowledge is still known

Sustainable Water Supply and Ecological Sanitation are the best solution for headwater areas.– Since headwater territories are very fragile, from the water catchment to the water distribution, the use of water is monitored and transported through pipes. This is very important to ensure water use sustainability. The water system is planned for 20 years and to support an increment of three times the current community population. Water sources were selected without affecting other neighbouring communities to access their own water sources, and water sowing and harvesting techniques were introduced in the community.



Washbasins for each family (in meters)

in many parts in the Andes and partially known in the Cuchoquesera community. There were built water connections and concrete washbasin cabinets for each house.

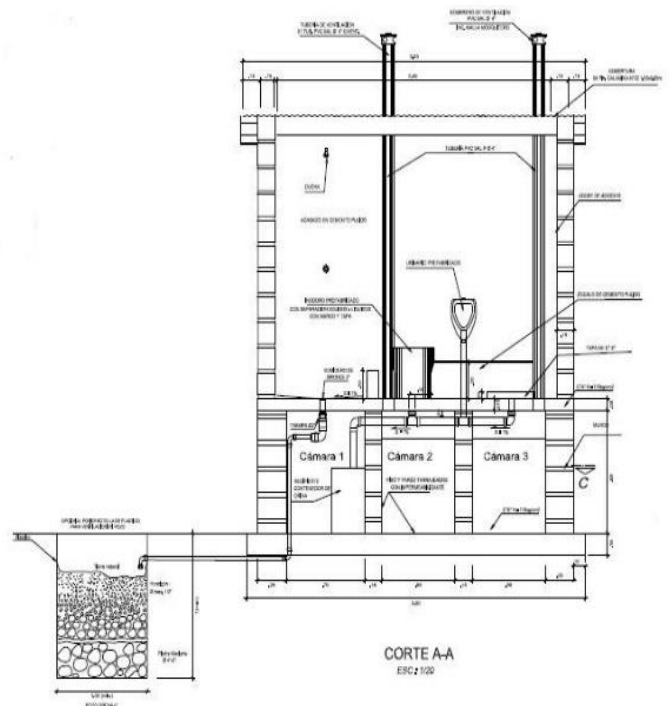
This would allow families to develop many activities (cooking, washing clothes, irrigated the family garden) from their individual families' water supply connection. Also Ecological toilets were built for each family. These toilets included three chambers: two to deal with faeces and one for the urine. In this way, families could reuse these compost and treated urine for their gardens or crops. Ecological toilets are the best technical solution for headwater territories since not a single drop of urine touches the soil and the hundred percent of sewage can be reused.



Built Ecological toilets in the Community



Sewage and urine treatment chambers



Ecological toilet section

A Water consultation at the basin's level gave legitimacy to communal decisions.- Making decisions to organize water supply, sanitation and water management in the basin requests legitimacy. For this reason, the ISW and its partners organized a Basin's Consultation for Water to obtain the social support to enhance the participation of rural communities -



located in the headwater area- into water governance aspects. The water consultation was also key to integrate water supply and water resources management and the headwater area of influence. With this legitimacy, workshops with the community and the municipality were organized to elaborate a headwater land use management plan and to presented to the municipality. In the Andean, and in most of the rural communities of the region, decisions are first consulted to the indigenous authorities, that sometimes are not the same elected political-administrative authorities. It is very important in Latin America to comply with this governance duality, which is not a negative thing, since indigenous authorities also want wealth for their communities.



People voting for the destiny of their basin

To carry on this consultation the ISW used an instrument called the Blue Passport, an identity document that is giving to inhabitants of the basin –or basiners- once they commit to conserve their water resources. The Water Consultation had official observers from the Regional Government, the Municipality and the University San



An assembly took place after the consultation

Cristobal de Huamanga, who also endorsed the results of this consultation.

Around 1,300 basiners participated and they approved the creation of a communal authority that oversees the headwater territory conservation. They, too, approved that the benefits from the Payment for Ecosystems Services be oriented to finance rural water supply and sanitation projects in the basin.

Headwater land management allowed the protection of this territory.- The headwater land management plan was prepared by the community with the participation of municipal officers. This land management plan identified fragile areas that are important to preserve the water sources on the headwater territory and also the areas where agricultural, forestry and residential activities could be developed.



Presenting the land uses for the headwater area

After several workshops and consultations the Headwater land use

management plan was prepared. This is very important because with an approved planning instrument the areas that surround the headwater territory could be properly protected, and fragile areas could be preserved to ensure the biophysical conditions of this River headwater.

A combined infrastructure and governance project is the best approach for headwater territories.- Governance and water supply and sanitation infrastructure have been combined to generate a process that would not have been created independently. Headwater territories and their rural communities in Latin America need a combination of water governance and infrastructure, since the water cycle begins in these areas, and because most of the



Presentation of the Blue Book with the participation of the leaders of the Cuchoquesera community, national authorities, cooperation agencies and civil society organizations. (October 2016)

governments in the region have not yet incorporated headwater territories management in their legislations. The results of the combination of these

aspects are very positive. Not only at the families satisfaction level but also with the commitment that the community has shown to participate in water conservation and governance. It is demonstrated that in a headwater area, a water supply and sanitation project works much better when it is combined with a water governance component in a single process.



Community leader explains the transformation from JASS to JASSGAA

A headwaters communal authority protected water resources and infrastructure.- The Community discussed and approved, with the facilitation of the ISW and its partners, the transformation of the Rural Water Supply and Sanitation Committee (JASS, by the acronym in Spanish) into a Water, Environmental and Sanitation Management Committee (JASSGAA), which meant the incorporation of the water conservation and environmental management tasks in the organization of this communal authority. They are at the present time working to maintain the water supply and the sanitation service and also protecting the headwater area

from polluting activities. They, too, organize communal works to harvest water.

Integrating the GOSSA approach into national synergic advocacy was very positive.- Facilitating organizational reforms and advocacy at the community level is very important. However, they will always have more acceptance if they are also accepted at the national level. For this reason, the GOSSA –Governance and Sustainable Sanitation- approach was incorporated in the Blue Book, a civil-society and governmental agenda to create synergy and to implement actions together. Some authorities, from the national, the regional and the local level have agreed on the need of communal authorities on headwater territories. While the advocacy at the national level continues, the community is already working to conserve the headwater area and that benefits all the inhabitants of the basin.



The community validated the decision to protect water and the environment

Conclusions

This experience has proven that it can be easily scaled up in other rural headwater territories in Latin America. These territories share the same problems and have the same social and environmental vulnerabilities. The GOSSA approach is perfectly applicable on these areas. We strongly suggest Latin American governments to adopt this approach in headwater areas.

We also recommend that the technologies used in this experience be used in other headwater areas in the Latin American Region. The water supply system -in the project- has considered water conservation principles, it was been chlorinated right after was obtained from the source and it has been totally transported through pipes. The lavabos, considered two wings, because rural families use them to cook and to wash clothes, so these two wings are very practical. The project also considered Ecological toilets, because they do not filtrate anything into the underground water, and the 100% of wastes are collected and treated.

Governance and sustainable sanitation cannot go separately in headwater territories, especially in Latin America, because these areas are usually lacking basic services and they are highly vulnerable. So they need a strong governance component, as integrated land, water, sanitation and conservation management.

Headwater areas need governance and a permanent presence of a conservation group or authority to ensure that the biophysical conditions, on which the water of the basin depends on, be maintained. Local and regional authorities have seen very positive the creation of a delegated communal authority that could protect this headwater territory.

ISW and its partners have begun a new project in the same basin, in the Waripercca community, also with the GOSSA approach. ISW is totally open to share this approach in detail to implement it in other latitudes of the Latin American region.

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