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Public-Communitary Partnership (PCP) for rural sanitation in Junín, Ecuador

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Abstract: *Sanitation is an unmet basic need in rural areas. Current institutional arrangement to cover the population without access to this human right does not respond to the reality of the segment of the users who are excluded of this service. Most of rural communities in Junín lack of any type of sanitation access. The implementation of standard model of intervention failed to increase the coverage of sanitation due to absence of governance system.*
For this reason, public-communitary partnership is positioned as an alternative for rural communities in Junín. This research paper analyze the potential of an alliance between local government and community-based associations for an improvement of sanitation services in particular conditions. CENAGRAP experience in Cañar-Ecuador reports outstanding results for widening the coverage of this service for rural communities
Keywords: *Public, communitary, partnership, sanitation, rural, Junín.*

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I. Introduction

The Municipality of Junín has been approaching alternative solutions for the treatment of excreta, to cope with the important deficit in the access to sanitation services that still exists. According to INEC data the coverage of this service in Junín roughly reaches 33% and it is estimated that it has stagnated around this value because of the hydric deficiency, thus worsening the critical water and sanitary situation.

The lowest access to sanitation is found in rural areas: where seven out of ten people without improved sanitation live. These numbers can be perfectly comparable with Sub-Saharan Africa –where the worst global situation is found in- where sanitation service coverage is as low as 30 per cent, and the increase has been lower than the global average of fourteen percent as indicated in UN-WATER&UNICEF [1] annual report in 2014.

On previous articles it was pointed out the importance to plan, design and build human settlements in an harmonic way with natural patterns and cycles. The success of these systems lies not only in establishing, through design, the maximum relation between all the elements or components of human settlements (technical aspects) but also in the appropriate management of the system considering social and institutional aspects.

Even the best-designed technical system for sanitation and wastewater management cannot be truly sustainable unless all of the responsibilities for service delivery and system management are clearly assigned, and the stakeholders are aware of their responsibilities and both able and willing to fulfil them. This has been the *bottle neck* of the sanitation services within the territory of Junín but especially in the rural areas where access to basic services is still an important constraint.

As Anderson et al states [2] the social and institutional arrangement is an even bigger issue for sanitation and wastewater management systems aiming for resource recovery, as they involve an even greater diversity of actors than conventional systems, and many of these actors have no prior experience of the sector. The additional complexity of linking in new sectors and stakeholders, while also raising the bar in terms of service quality, requires something beyond conventional organization and governance.

This article discusses governance as a challenge for a system designed, safe and efficient resource management. Unfortunally, responsibilities in sanitation are fragmented between different sectors and line ministries Carlei et al. [3]. This increases the complexity in governance and the risk of administrative struggles: the municipality of Junín is responsible for sewerage and construction aspects, the ministry of Housing and Urban Development for housing construction and related regulations, yet the ministry of Health for hygiene and sanitation promotion and ministry of Water for effluent controls.

As WGF states on its 2016 sheet [4], sanitation governance was conceived as a concept which refers to the rules, roles and relations that make sanitation systems work (or not) – at what cost and for whom. Rural and urban sanitation systems differ, as well as those in high- and low-income areas. The appropriate governance structure ensures that the selected technology and all parts of the system work sustainably in the given setting.

A solid governance scheme, with clear rules, coordinated roles and collaborative relations, is required to enhance the effectiveness of investments in the area of sanitation. Unfortunally, even when formal mechanisms are established, coordination is difficult. And even though responsibilities often overlap, the tendency has been for sanitation to fall between chairs.

At Junín, Municipal workers recognize economic resources were available last couple years, but simply investing more into sanitation does not always solve the problem. In many rural communities, sanitation systems do not work as intended, with toilets constructed but not used, or effluents not contained or collected. Normally, it summons up on insufficient capacity at the local government and lack of interest/support for the operation and maintenance process of the users.

Then, how to cope with sanitation beyond infrastructure?

Figure 1. Key sustainability dimensions in sanitation and wastewater management
Source: Stockholm Environment Institute

As figure 1 points out, the resource management should be at the heart of sustainable sanitation and wastewater management systems. In order to implement this logic, institutional arrangement should be implemented to enhance a suitable governance for sanitation services in rural Junín. Ekane et al (2014) [5], understands rural sanitation as a service usually not rolled out in a centralized manner like some other infrastructure services, but depend ultimately upon the actions of a full range of independent actors without any single institution taking the full responsibility. Here local authorities are responsible to create an enabling environment for symbiotic relationships between local government and community based organization.

II. What Is A Public Communitary Partnership (PCP)?

The limits and functions of the public sphere vary between rural and urban settings. One of the differences rely on the sanitation system allocated for rural communities: on-site or small decentralized systems. Although this service is legally considered part of the public sphere, because poor functionality can impact on public health and the environment, local government oftenly neglects to intervene on this issue. Users constantly request more attention to the functionality of sanitation and wastewater systems in rural areas. Even if the local government is willing to take responsibility it lacks of technical and social capacities, reason why an appropriate governance framework needs to be establish.

Out of insufficient public action, emerges community participation to improve water and sanitation services. Lockwood [6], communitary participation as a spontaneous response to allow collective action to fulfill basic necessities in rural areas. He also states that through collaborative management or co-management between public and local associations, the scope in the management of the resource can be extended much more due to the public intervention (central and local government) communities and civil society.

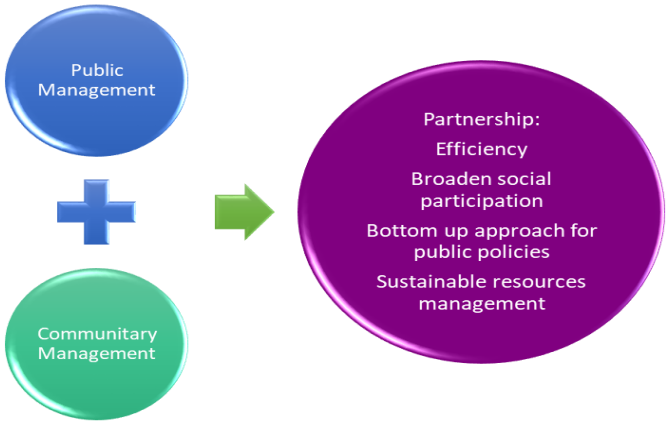

Figure 2. Public Communitary Partnership (PCP) for sanitation management.

Moreover, Anderson and Ostrom [7] express the PCP model is a broader way to manage sanitation services, since this type of management involves the collaboration of several sectors and requires participation of key actors to reach consensus. In addition, they indicate there is a contribution at the local and intermediate level of government as well as interaction of non-governmental organizations (NGOs), community organizations, which favor the strengthening of local development, through community management.

Public management and community management working together offer a unique opportunity to improve sanitation management in the rural sector of Junín. The combination of these two models, allow to place on the political agenda the immediate and particular needs of rural communities. In addition, the permanent feedback between users and decision makers enhance an appropriate design public policies, set up conditions for an efficient management of the service and a better monitoring of the process.

III. Junin: A Suitable Place For PCP

On 2013 the Municipality of Junín (Manabí) in coordination with the initiative "Governance of the water and sanitation sector in Ecuador within the framework of the Millennium Development Goals" a United Nations Development Programme made an effort to expand the coverage of this service in the rural area of this municipality. Dry toilets were designed and conceptualized for the local conditions and build up using a participatory approach among the families.

Its hilly topography made centralized waterborne systems less feasible, since wastewater needed to be pumped from one sub-catchment area to another. Similarly, rock formations close to the surface make it difficult and costly to lay sewerage pipes. Systems dependent on infiltrations, such as pit latrines or leach pits/fields, the soil type and the level of the local groundwater table are both a constraint for such options.

As follow, dry sanitation was recognized as an appropriate technology to mitigate the high incidence of health problems caused by the inadequate disposal of excreta into water streams, as targeted by investing on this alternative solution. Nevertheless, today there isn´t enough information that may give evidence of the appropriate use and acceptance of this pilot project.

Image 1. Sanitation unit built up under a PCP approach in Junín, Ecuador. Photo: Bruno Bellettini

IV. Building Up PCP For Sanitation Services

To facilitate sanitation services for rural communities, the governance system needs to create an enabling environment. The initial step was to identify the key motivations of users in constructing, and then using, a specific type of user interface. For domestic sanitation facilities, studies show that users generally desire an interaction with their system that is convenient, comfortable, clean and dignified as reported by Cairncross 2004 [8]. Additional factors can include legal requirements, improving household status, available subsidies, and protecting health and the environment.

In the rural context it is difficult to motivate users to install and correctly use a reuse-oriented system, especially if it is designed differently from the system they are used to or involves additional costs/efforts such as fees or added maintenance. Strategies and management structures need to be put in place to communicate reusing benefits to individual users and ensure that they are willing to pay and use the systems properly.

Community-based organizations are already in place, at Junín. The so called WASH committees are effectively the lowest form of local government, yet real decision-making powers are rarely conferred. Decisions about service levels, technology types, resource allocation and contracting are often not bottom-up approaches, resulting in limited ownership at the community level. Although committees are generally conferred legal recognition, institutional responsibilities are unclear and technical support is insufficient.

Multiple-levels of support are needed to build up partnership between public actor and community-based organization. There is what is known as post-construction support, provided directly to the community-based management entities (or other form of service provider) often but not always by local government staff (i.e. service authorities). It may include elements such as technical backstopping and advice, administrative and financial support, auditing of accounts, and sanitation quality monitoring.

In summary, achieving functionality in the user private sphere is one of the critical and most challenging management issues for the entire sanitation system. As IRC et al. [9] refers community-based actors generally have ownership and responsibility for maintaining both the user interface and part of the collection system within their domain, they often do not understand their role within the larger system of sanitation management.

In addition, the technical infrastructure within the private sphere is often chosen and purchased by the users themselves. The choice and use of technology in the private sphere, however, directly impacts on management in the public sphere, as only facilities that are properly used, cleaned and maintained regularly provide benefits.

Figure 3. Chain of support provided by local government in PCP
Source: IRC WASH

In order to reach a valid scheme of co-management of sanitation services, a 'support to the supporters' strategy is needed. Communities can professionalise and increase their capacity by working together in horizontal organisations with local government, based on the concept of mutual selfsupport indicated in "Fig 3". In Bolivia, the Association of Water Boards are linked to municipal WASH unit demonstrating that they can provide economies of scale and support to member organisations.

In Ecuador, CENAGRAP constitutes a successful example of PCP. Before starting this sort of partnership, sanitation systems have been built at the community level mostly by non-governmental organizations, because the municipality did not carry out such works, logically there was a low service coverage in the rural sector. The implementation of PCP (CENAGRAP) motivated a different perception of the rural sector from the GAD which assumes the commitment to build WASH systems at community level.

Since its existence, the search for solutions to different constraints has been raised jointly with instances who have the competence. In 2010, in coordination with the Ministry of Health, a water quality control campaign has been initiated, which has allowed a solution when polluted water has been detected. In 2014, thanks to their initiative, an agreement has been signed among the University of Cuenca, the AVINA

Foundation and CARE in the implementation of their own laboratory. Currently, analyzes are being carried out with the supervision of lab experts of the local government, helping to remedy the problems immediately.

V. Linking Municipality With Water Boards: Dasabar

Junín must have an institutionalized system for capacity building and accreditation with professional and technical staff in drinking water and sanitation, with inter-institutional participation (Ministry of Water, Ministry of Health) linked to the Academy, which consider aspects of quality, quantity, coverage, continuity and cost, in relation to the levels, roles and powers of each actor (Municipalities, Water Boards).

As CAF [10] reports, an improved system can promote development and the application of efficient and sustainable technologies and costs, in line with capacity of local management, for the integral and integrated water resources management and for the provision of PCP model for water and sanitation services. As well can incorporate risk management and the climate change approach into planning and management of drinking water services and sanitation.

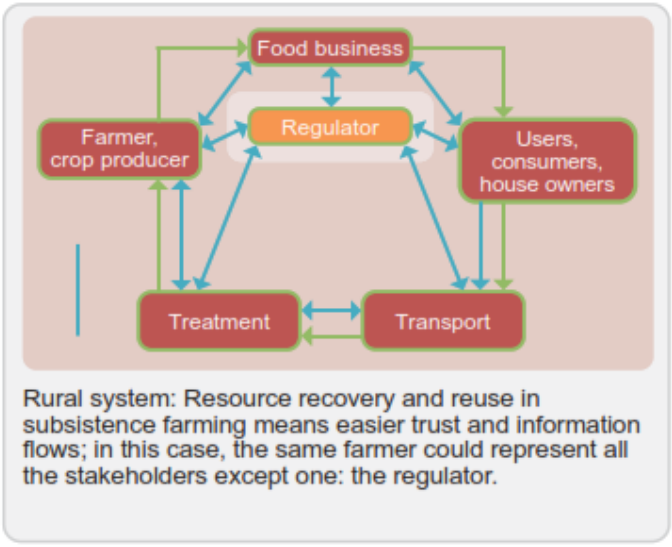

Figure 4. Scheme of PCP for sanitation services in rural Junín.
Source: Based on H. Jönsson, Swedish University of Agricultural Sciences

There is a widely acknowledged need to adapt governance and service delivery systems to local needs and conditions. Ostrom [11] mentions onesize-fits-all policies and large national or regional roll-outs of wastewater technologies, regulations and approaches have been shown to be largely ineffective, and probably not the best way to achieve improved services and resource recovery.

In contrast, a wide variety of responsible managers can reside with:
• A public utility,
• private operator(s),
• community-based organization(s), or
• combinations of the above.

The Municipal Department of Water and Sanitation for Rural Systems (DASABAR) is a link where community-based organizations share responsibilities with the local government to operate and maintain sanitary infrastructure. This partnership increase awareness and promotion at the community level good management practices, based on training in the concerning subject, through direct support of the local government in each community and continuous monitoring of the agreements established. In a participatory way are created internal regulations, establishing sustainable tariffs for the financial sustainability, operation and sanitation systems maintenance.

Through DASABAR regular inspection of system components by the service provider or an external monitoring agent can be done. Once again, if agricultural reuse is envisaged, it is important to involve the farming community in the monitoring. Proper use of the system can be monitored by the users themselves, community groups representing the users, or by the service providers. Individuals, organizations or institutions responsible for O&M are often well placed to monitor or provide information to monitors regarding the quality of services and correct use of the system.

VI. Conclusion

Rural areas represent a *bottle neck* to "close the loop" in provision and access to sanitation services. Coverage in Junin´s ruralhood is currently poor and innovation to cope with inadequate services needs to happen urgently. Sanitation without water is an evolution of the old unsustainable model. Here, the "wastes" become inputs to productive activities like agriculture, energy generation, water saving, and potentially many others.

Sanitation and wastewater management systems aiming for resource recovery require the involvement of diverse actors, many of whom are traditionally not involved in the water and sanitation sector. As a rule, involving new sectors and stakeholders while also increasing service quality will not happen organically, but will require innovative institutional arrangements and governance mechanisms.

Public-Communitary Partnership is the kind of institutional arrangement can enhance sanitation services in rural Junín. Municipality alone can cope with the demand of disperse communities for sustainable sanitation that make it possible to reuse nutrients for farmland after sanitization. This public actor must promote alliances with community-based associations to organize partnership where knowledge is transfer for a correct operation and maintenance of this new technology.

PCP are also an opportunity for startup business, since communities can add value to what is consider a waste and transform it into an agricultural input. Experiences in Bolivia and Burkina Faso, developed urine-based fertilizer and composted faeces packaged for commercial sale turning sanitation into a productive activity. In both cases community-based organizations were sponsored by local governments helping them to become entrepreneurs turning waste into a valuable resource.

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