

Title: Inclusive Stakeholder Participation for Sustaining Dry Sanitation Solution in Peri-Urban Areas: A Madimba Community Experience, Zambia.

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ABSTRACT:

Stakeholder engagement and/or participatory practice is increasingly becoming a part of mainstream business practice and central to public policy decision-making and delivery. It is being used as a solution to improve communications, obtain wider community support or buy-in for projects, gather useful data and ideas, enhance public sector or corporate reputation, and provide for more sustainable decision-making. Therefore, stakeholder engagement should be at the heart of any “sustainable development” agenda. Without engaging stakeholders, there can be no common enduring agreement, ownership or support for a particular project. A venture is more likely to succeed, especially in the long-term, if it takes into consideration the environment in which it operates and endeavours to meet the needs of the stakeholders affected by it. Stakeholder engagement could also be viewed as a form of risk management. Many projects, but not necessarily all, will need to engage with a wide range of stakeholder groups, each with their own concerns, needs, conflicts of interest and levels of influence. In order for the pieces of the project plan to be effective, planners and project managers need to understand who the stakeholder groups are, what their issues are, and what motivates them. Global Dry Toilet Association of Finland embarked on the second project in Zambia in 2008 in Lusaka’s Madimba community. Madimba has an area of 1.2 km² accommodating approximately 6000 habitants. The local cooperating partner working in the area is Network for Environmental Concerns and Solutions (NECOS), whose members are also living in the same community and have been working to improve the living environment of the community. Lack of appropriate infrastructure and sewerage systems, rain water drains, roads and waste management etc. has caused a lot of health and social problems in Madimba. A particular challenge in the area has been the high level of ground water table which causes flooding especially during the rainy season. Challenging environmental conditions connected with poor sanitation and water supply, which have been mainly based on pit latrines and shallow unprotected wells, have resulted into health risks to the residents. The paper discusses practical experiences of inclusive engagement of all stakeholders and creating an enabling environment to address the socio-economic, cultural and gender related aspects in implementing Dry Toilet Sanitation in Madimba Community. It points out best approaches and initiatives that have been tried and tested for the project sustainability. Challenges of stakeholder participation at community level has been highlighted in this paper. This paper further discusses and recommends key principles and process guidelines that can help city stakeholders to develop appropriate and affordable solutions to sanitation problems, taking into account technological issues, management arrangements, institutional challenges and demands for improvement from different stakeholders. It is hoped that presenting this project experience would motivate more open and constructive debate as regards limitations and obstacles for inclusive stakeholder participation on what needs to be learnt to scale up best options in dry sanitation sustainable solutions.

Key Words: Inclusive, Sanitation, Stakeholder, Participation, Solution.

INTRODUCTION AND BACKGROUND

Over the past several years, issues of “Inclusive Stakeholder Participation”, (ISP) have become increasingly important in Zambia. Like other locally driven institutions, NECOS has recognized that inclusive stakeholder participation is essential to the achievement of its overarching objectives of community health enhancement and improving the living environment through a robust sustainable development pathway. Participatory approaches have been used to enhance project quality, ownership and sustainability at the same time empowering targeted beneficiaries particularly, women children, elderly people and other disadvantaged individuals in order to contribute to long-term capacity-building and self-sufficiency. Advocates of participatory development argue that development initiatives which lack active involvement of local people have lamentably failed, essentially because they lack local leadership and are externally driven (Mutamba et al.2008). Stakeholder engagement and/or participatory practice is increasingly becoming a part of mainstream business practice and central to public policy decision-making and delivery. It is being used as a means to improve communications, obtain wider community support or buy-in for projects development, gather useful data and ideas, enhance public sector or corporate reputation, and provide for more sustainable decision-making(Gray et al.2006). Stakeholder engagement, like many aspects of policy or project work, can be complex and present varying levels of risk (State of Victoria, 2011).Many projects, but not necessarily all, will need to engage with a wide range of stakeholder groups, each with their own concerns, needs, conflicts of interest and levels of influence. In order for the pieces of the project plan to be effective, planners and project managers need to understand who the stakeholder groups are, what their issues are, and indeed what motivates them. Conventional wisdom is that, without community participation, there is little likelihood of sustainability being realized and that the key to sustainability is involving all stakeholders in the consumption/use, maintenance, cost recovery and continuing support, perceive it in their best interest to deliver good and high quality services (Narayan, 1995; Oyesiku, 1998). Through local experience it has been understood that development practitioners need to be always committed in seeking out and facilitating involvement of those potentially interested or affected by the project work, including those that are harder to reach for reasons such as language, gender, technology ,culture, age, religion and/or mobility(State of Victoria, 2011). In view of the current situation, stakeholder participation at every stage of planning process to facilitate for inclusive engagement of all players becomes paramount if the real benefits can be sustained (Minutes Zambia World Water Day preparatory meeting, 2015).

On 30th March 2005, the first International presentation of community EcoSan project initiative was designed in Madimba Eco-Village through a participatory approach. Then followed by solid waste management project initiative strategy through integrated local and indigenous knowledge. The significance was that, the projects which were designed for Madimba community had international professional support. Moreover the projects were initiated with the focus to enhance ecological, socio-economic and sustainable up-grading of Madimba peri-urban settlement so as to improve the general living environment of the people, their livelihoods and living conditions as well as to create a culture of self environmental regulation. It has been understood that sustainable development can be achieved through promoting sustainable technologies such as the ecosan toilets and household organic waste composting that can subsequently lead to enhanced food security and household economic empowerment among the Madimba peri-urban poor(Kawanga, 2010).In 2008 ,Global Dry Toilet Association of Finland embarked on the second project in Madimba peri-urban area of Zambia’s Lusaka city. Madimba has an area of 1.2 km² accommodating approximately 6000 habitants. The local cooperating partner working in the area is Network for Environmental Concerns and Solutions (NECOS), whose members are also living in the same community and have been working to improve the living environment of the community. Lack of appropriate infrastructure and sewerage systems, rain water drains, roads and waste management etc. has caused a lot of health and social problems in Madimba. A particular challenge in the area has been the high level of ground water table which

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causes flooding especially during the rainy season. Challenging environmental conditions connected with poor sanitation and water supply, which have been mainly based on pit latrines and shallow unprotected wells, have resulted into health risks to the residents (Akatama, 2008).

The concept of dry sanitation in Madimba community has gradually gained popularity in the area. There are many good practices that exist at community level, showing that a more sustainable approach to dry sanitation is not only technically and financially feasible but also socially acceptable and the huge amount of human excreta produced daily can be turned into a productive resource without polluting the environment. While the general idea and the need for a more reuse-oriented, safe sanitation system is becoming to be understood and appreciated by the community and the local authority.

METHODS

Madimba Baseline Survey:

Participation in development can be defined as the process through which people with an interest (stakeholders) influence and share control over development initiatives and the decisions and resources that affect them. In practice this involves employing measures to identify relevant stakeholders, share information with them, listen to their views, involve them in processes of development planning and decision-making, contribute to their capacity-building and, ultimately, empower them to initiate, manage and control their own self-development (ADB Handbook on Stakeholder Consultation and Participation, 2001). The Baseline survey was conducted in April 2004, quantitative and qualitative approaches as well as literature review were employed to capture primary and secondary data. Direct Observation of the ecology of the pilot area (Madimba) was carried out and pictures taken. A simple Social Compatibility Analysis (SCA) was carried out to determine the social aspects on the acceptance of dry toilets (ecosan) in Madimba community (Kawanga, O. 2006). Major concerns in the Madimba baseline survey are shown in table 1 below;

Major Concern	Percentage Distribution of Community Concerns
No Bus Stop	5
Poor Sewerage System	5
Lack of Drains	9
Lack of Clinic	9
Lots of Mosquitoes	4
Lack of Toilets	2
Safe Water	25
Parks/Plaza	0
Poor Roads	18
Other	1
Total	100

Table 1: Major Madimba Community Concerns, Source: NECOS Field Baseline Survey data, 2004.

Participatory Stakeholder Analysis:

Stakeholder analysis is a methodology for identifying and analyzing the key stakeholders in a project and planning for their participation (Handbook on Stakeholder Consultation and Participation, 2001).



Initially, NECOS and its project team committed itself in participatory processes which provided the foundation for the design of subsequent stakeholder activities throughout the project cycle. Participatory stakeholder analysis drew on secondary data (desk study) and this helped to accurately identify interests for planning subsequent participation. The entire project team involved itself in direct collaboration with key stakeholder groups. Workshop-based and/or field-based methods were used to

Figure 1: Community SWOT Analysis

gather primary data, brainstorm with stakeholders regarding their interests and expectations and to jointly plan for stakeholder participation.

Participatory Research/Data Collection:

Participatory research and data collection methods have been used throughout project preparation and implementation for needs assessments, feasibility studies, identifying priorities for development of dry sanitation projects, and collecting base-line and subsequent data for monitoring and evaluation purposes. The objective of this method is to enable all stakeholders to learn and evaluate together.

RESULTS AND DISCUSSIONS

Stakeholder Engagement in Madimba:

Community engagement in water and sanitation service delivery is key for ensuring project sustainability and accountability (WSUP, 2013). For multistakeholder groups, establishing constructive working relationships takes time and cannot be rushed. If a group is addressing an emotive issue or one where views are polarised, building mutual respect and trust may take many months, depending on the frequency of its meetings. The time invested in building strong relationships is worthwhile because without building solid foundations, maintaining momentum and the continued commitment of working group members will be difficult (Hilary, C.2006). Providing effective safe dry sanitation services in Madimba for some time has been a challenge because it has not been easy to establish institutional arrangements that will ensure that dry sanitation facilities are provided, maintained, and managed in an efficient, equitable, and sustainable way. Like many other communities, NECOS has adopted a community-based approach to meet this challenge. Community-based Enterprises and sanitation committees are being technically supported to be in charge of managing water and sanitation facilities at the local level.

Issues in the Enabling Environment:

The need to establish an enabling environment for progress in urban sanitation is widely recognized, but there is little consensus on what this means in specific contexts, and how to make such an environment effective. At a global level, conceptual frameworks and approaches for the planning and design of poor-inclusive urban sanitation improvements include the Strategic Sanitation Approach, developed in Ghana in the 1990s, IWA's Sanitation



Figure 2: Madimba Community Latrine constructed in proximity with shallow water well.

21 and SANDEC's Community-Led Urban Environmental Sanitation.

Generally, these frameworks encourage a holistic, poor-inclusive view of urban sanitation that goes beyond infrastructure, placing greater emphasis on the needs of users, and on the functionality of sanitation service delivery systems at local and city levels (Hawkins and Blackett, 2013).

Best Tested Approaches and Initiatives for Project Sustainability:

NECOS set out to reinforce the capacity of dry sanitation service provision to respond to community and other stakeholder needs appropriately. Efforts have been made so far at different levels to embed better engagement practices with different stakeholder groups (see Table 1. below for specific approaches). Though the table outlines the approaches used, it is not an exhaustive list of activities undertaken by the project, but rather reflects what NECOS has been doing with different stakeholders in order to increase accountability and influence practices across the sanitation system throughout the sanitation service chain. Reconstruction of Madimba Settlement; an Ecological, Socio-economic and Sustainable up-grading of the Living Environment is a practical product of Integrated Environmental Sanitation (IES) with the intentions to develop the Madimba Eco-model through best practices initiatives in Social Services, Environmental Management and Water and Sanitation. The project marks an improvement in Ecological, Socio-economic and Sustainable Up-grading of the Living Environment (Kawanga O, 2010).

S/N	Approach/initiative	Impact/Result
1	Indigenous Knowledge Integration	Integrated indigenous knowledge on sanitary options creates easy acceptance of dry sanitary technologies.
2	Artisanal Capacity Building	Technical skills developed for effective Operations and Maintenance activities and project up-scaling.
3	Entrepreneurship Support	Job creation, Income generation and Poverty reduction.
4	School Out- Reach Program	Schools have offered the best possible environment for teaching pupils about Dry sanitation. This has resulted in Eco Clubs.
5	Urban Greening and Re-use	Direct links being made to the field of agriculture, where the use of toilet compost can enhance the quality of the soil and where the use of urine can produce spectacular increases in the yield of valuable crops and plants. Installation of Madimba community Greenhouse.

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6	Learning Alliances	NECOS is an active member of the NGO WASH Forum, a learning alliance of interlinked stakeholders. NECOS Website has been launched (www.necoszambia.org).
7	Public Awareness & Sanitation Marketing	Achieved business opportunities in installation, O&M, Collection & Safe disposal, Training & education, Nutrient Re-use, Promotion & Marketing resulting in job creation.
8	Partnership Creation	NECOS has partnered with Local Authority, CBEs, Academia and Private Institutions (Solid waste collection, Installation, Emptying, ITC etc.).
9	GPS data base creation	Easy access and location of dry toilets for purposes of Operation and Maintenance and sustainability.
10	Equity and Inclusion	More than 50 women capacity built in dry toilet construction. Youths are involve in drama and cultural activities.
11	Living With the Marginalized	NECOS Staff living in the same project location together with the beneficiary community which has resulted in stakeholder strong linkage and trust.

Table 2: Madimba Dry Sanitation Project Sustainability Approaches and Initiatives

Challenges of Stakeholder Participation at Community Level



Figure 3: CBE Facilitator explains a point to community members (Source: NECOS Field data collection 2012)

The foregoing discussion shows that enabling legal, political, or institutional conditions are important factors in making service delivery work, but some technical challenges remain (Hawkins and Blackett, 2013). Developing a local dry toilet (ecosan) implementation model, should incorporate all the limiting factors such as cultural backgrounds, norms, gender perspectives and the socio-economic issues that may be perceived as limiting factors to effective implementation of dry toilets programmes at local level especially in African societies. Although it is observed

that a number of small scale urban farmers in Madimba community have engaged in raw sewage without realizing the dangers. These people earn a living to sustain their livelihood. This people use raw sewage in their gardens. Ecosan implementation in Zambia has a number of constraints such as lack of skilled knowledge on ecosan principles, effective collaboration and networking on issues of ecological sanitation, absence of financial support (donors), are some of the hindrances to ecosan implementation. Though gender perspective has its own negative aspects on implementation of ecosan people in many parts of peri-urban communities are generally conservative by their nature and are often sceptical about new ideas (Mutamba, 2008). It is hence critical that project facilitators exercise patience and flexibility to allow community members understand new concepts.

Stakeholder engagement at community level has had important implications for implementation and scaling-up service coverage in other peri-urban context. Issues that come into play such as the political economy, institutional complexity/ fragmentation and urban socio-cultural diversity all make for a daunting policy environment to achieve progress (SuSana, 2008b). Some of the key challenges that make the peri-urban areas are:

- **Heterogeneous Populations:** people from different origins, ethnic backgrounds, and social norms make for heterogeneous nature of these settlements. Communities are not homogenous: they may lack social structures and can be transient due to frequent migration (WSUP, 2013).
- **Land Tenureship:** is a key issue that needs to be addressed as it is much more difficult to achieve sustainable infrastructural solutions with tenants or absentee landlords in a commoditized urban land market.
- **Sanitation Service Chain:** sanitation presents great challenges in the development of integrated solutions for managing a variety of waste streams (e.g. proper disposal of household wastewater; faecal sludge management) (Tilley *et al.*, 2008);
- **Technology Choice:** dense peri-urban settlements limit the feasible technology options available (Mara and Alabaster 2008);
- **Institutional Fragmentation:** institutional responsibilities in peri-urban set-up tend to be weak and not harmonised for relevant stakeholders to interact for the provision of dry sanitation.
- **Local Governance-Local representation and civic participation:** The capacity of local governments to accommodate different needs of diverse groups is critical, if civic participation and civic engagement are to occur. There is widespread belief among local authorities that engagement is their mandate (WSUP, 2013).
- **Community-Based Enterprises (CBEs):** Community-Based Enterprises have shown Lack of communication resources and messages to deliver to communities and other stakeholders in the sanitation service chain. The enterprises also lack asset base and that can help them to engage in diverse entrepreneurial activities.

Limitations and Obstacles for Inclusive Stakeholder Participation

Engagement processes vary across places and stakeholders but common barriers can be identified. Depending on the issue at hand, the stakeholders involved and the level of intervention, hindrances to inclusive decision-making and implementation can take several forms (OECD, 2014). Identifying these obstacles and categories of stakeholders facing similar challenges can help to mediate their effect and learn from other stakeholders' experiences when developing sanitation solutions to overcome them. The Madimba experience provides insights and examples of such obstacles to pave the way for more in-depth analysis of mechanisms that can address them in sustaining and scaling up the project. The lack of political will and the shift of power, coupled with political discontinuity and leadership change has been observed over the project life cycle. For nearly 90% of the civic leaders involved in the project, the lack of political will and leadership is the primary obstacle to effective stakeholder engagement in the water and sanitation sector. Political will broadly refers to the sustained commitment of politicians and local administrators to invest the necessary resources to achieve specific objectives and their willingness to make and implement policy despite opposition. The determination of political and civic actors to adopt and enforce engagement principles is an important factor to introduce the concept of stakeholder engagement in dry sanitation related decision-making and implementation. Leaders can help create incentives to persuade other actors, political or not, to pursue stakeholder engagement, even if they do not always share the same willingness. However, elected officials may perceive that they have been mandated to do what they feel is appropriate, as they were elected by the people, and thus there might not be a need for consultation with other actors.

On the other hand, Institutional fragmentation across levels of the local government is also a challenge to implementing the concept of inclusive stakeholder engagement. Institutional fragmentation

precludes the efficiencies and synergies that can be obtained through co-operation across authorities, community, water and sanitation -related sectors and scales (OECD, 2013d). Moreover, the absence of sound legal framework hampers inclusive stakeholder engagement in dry sanitation. Weak legal frameworks are exhibited by local regulators who seem not to have a mandate to service the peri-urban areas including Madimba Eco-village. The lack of sound regulation for inclusive stakeholder engagement has been pointed out as a brake to the regulatory agencies' capacity to apply ecological sanitation standards in peri-urban areas like Madimba. While stakeholders seek the legitimate right to take part in decision-making on water and sanitation issues, they are not always willing to assume joint responsibility for the resulting action (Tortajada, C., 2007). The lack of clarity on the use of stakeholders' inputs has also proved to be another obstacle hindering effective engagement. If those with interest or influence do not understand how their input will contribute to the decision-making and the implementation of policies and projects, and in the absence of a clear strategy, the process may lack a reference point and stakeholders will not know what there are getting into. Often, stakeholders are noticed to participate without knowing how the views they are expressing or the information they are providing will be pragmatically included in shaping the dry sanitation project.

Key Principles and Process Guidelines

In addition to identifying common procedures and steps within the strategic planning frameworks, the literature review looked at the principles behind the frameworks (McConville, 2008). Through synthesizing recommendations from international development literature and planning frameworks (Wright, 1997; GHK, 2002; IWA, 2006; Norström, 2007), it was possible to categorize common criteria or approaches necessary for achieving sustainable sanitation projects. This process lead to the identification of five key principles behind successful planning and implementation: (1) participation, (2) capacity development, (3) economic efficiency, (4) technical flexibility, and (5) feedback (Figure 5). These principles are not logical steps such as those found in the reviews of planning frameworks, but rather ideology that will influence the format of the steps and the decision- making process itself.

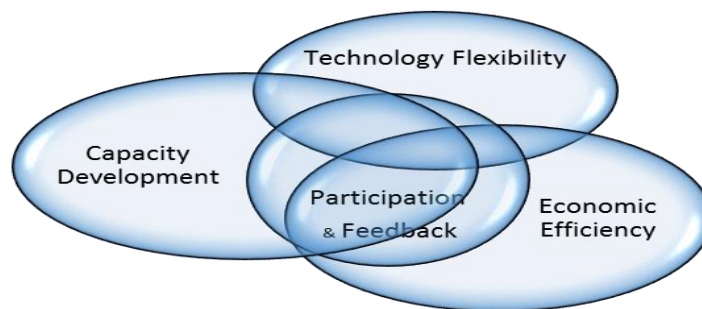


Figure 4: Diagram showing the interrelationship among participatory planning principles guiding participation (Adapted from McConville, 2008).

Inclusive stakeholder Community participation has been championed as a way to develop ownership, community empowerment, and promote demand driven economic models for sanitation promotion through efforts of sanitation marketing initiatives. For example, community women have been engaged in construction of dry toilets in all the project sites. The Madimba experience has shown how women are a vital beneficiary target vulnerable group who were involved in capacity building ,intended to help them in dry sanitaion solutions .The women



Figure 5: Capacity building of Madimba women in dry sanitation (Source: NECOS verification

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were trained in many aspects of dry sanitation ranging from decision making processes, and through all the sanitation service chain. This intervention has proved that Participatory planning requires recognition of different groups of stakeholders, each with their unique set of priorities and drivers for sanitation improvements (Sharp, 1999; IWA, 2006).

One of the lessons learned in the Madimba project is that the feedback loop is an essential component for guiding the planning process and ensuring that the other principles are being met. The entire planning process should be linked in an iterative and participatory way, so that technical and socio-economic issues are assessed together throughout the process (Norström, 2007). One of the main impediments to improving dry sanitation conditions in Madimba is noticed to be lack of maintenance on existing systems. Capacity development both for users and project managers of dry sanitation systems can address both of these problems through educational measures for awareness-raising and social marketing. Health education, social marketing and sanitation promotion efforts will increase awareness of the need for improved sanitation as well as the demand for it (McConville, 2008). However, it is also necessary to develop the technical and organizational capacity of communities to participate in planning, management and maintenance of dry sanitation systems once they are in place. This type of capacity development includes the training of politicians, civic leaders, architects, real estate agencies, managers, technicians, masons, and entrepreneurs in the formal and informal sector who will stimulate the dry sanitation market. NECOS has embarked on another dry sanitation project and this time around has since the inception of the project engaged a contact focal person from Lusaka City Council who is mandated to provide a link to the local authority and the community. The project has engaged on various stakeholder participation (see below pictures in figures 7, 8, 9, 10, 11 and 12) in the service chain who are the key factors in the project sustainability.



Figure 6: Madimba Block Making CBE



Figure 7: Pest Control CBE



Figure 8: Madimba Greenhouse



Figure 9: Engagement of Children



Figure 10: Building CBE



Figure 11: Engaging Civic Leaders

CONCLUSIONS

Inclusive stakeholder engagement in dry sanitation service delivery is key for ensuring project sustainability and accountability. In all of its programmes, NECOS works with local service providers, community groups and local authorities to enhance stakeholder participation. NECOS has involved with different stakeholders in order to increase accountability and influence practices across the sanitation system throughout the dry sanitation service chain in the Reconstruction of Madimba Settlement. However the project has suffered several challenges among them include but not limited to lack of land tenure and community willingness to pay in delivering the dry sanitation service delivery. The Madimba experience provides insights and examples of obstacles to pave the way for more in-depth analysis of mechanisms that can address them in sustaining and scaling up the project in other peri-urban and rural areas of Zambia. Through participatory planning principles, inclusive stakeholder Community participation has been championed as a way to develop ownership, community empowerment, and promote demand driven economic models for dry sanitation promotion.

RECOMMENDATIONS

- **Community Engagement:** in water and sanitation service delivery is key for ensuring project sustainability and accountability.
- **Build on Assets:** Initial engagement efforts should be focused on where there is some existing interest and community goodwill. By engaging with existing local community structures (such as community water groups, steering committees, platforms, etc.) different stakeholders can be brought together in a more systematic way, and the capacity of these existing groups can be enhanced.
- **Understand the local socio-cultural and political context:** Proactive mapping of stakeholders and contextual analyses help identify what can be done, where and with whom. Using a variety of media-based and non-traditional methods of communication (e.g. SMS, radio, theatre, etc.) can be effective for getting messages out to communities. Small scale farmers using raw sewerage can be targeted for integration in dry sanitation re-use activities.
- **Monitor Progress:** To embed engagement as a process (and not as one-off activities) and to encourage sustainable changes to the system, different approaches can be taken to monitor the progress of all stakeholders.
- **Enabling Environment:** To be effective, dry sanitation services require an enabling environment that provides policy guidance, rules, and incentives to motivate stakeholders to prioritize sanitation, ensure accountability, and promote the development of adequate capacity to deliver the necessary services sustainably and affordably(Hawkins, Blackett, and Heymans,2013).
- **Land Tenureship:** specific research should be directed towards addressing the following pertinent issues: Investigation on the harmonization of urban and rural land tenure policies and legal frameworks; and Investigation on the capacity gaps and limitations of the land administration institutions (Adam, 2014).
- **Empowerment:** More efforts are needed in empowering community members to take ownership of their dry sanitation facilities and become responsible for them rather than waiting for the commercial utilities and NGOs to provide them with the operation and maintenance services.
- **Operation and Maintenance:** The most essential aspect of sustaining operation and maintenance of dry toilets is to make people understand the importance of good health and benefit of urine and faeces as agricultural fertilizer that will motivate them to keep their toilets up to date(Upadhaya,2012).
- **Financing Strategies and Partnerships:** To ensure sustainability, initiatives implemented at the local level, require the project consortium to operate in an integrated manner including all key local actors in the sector (EcoSan Club, 2010).
- **Participatory Tools:** Tools such as Participatory Analysis for Community Action (PACA) serve to identify community problems and suitable solutions in collaboration with the community thereby, improving integration within the project (NATSSAF, 2008).

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