Sustaining Community-Led Total Sanitation through Participatory GIS in Rural Madagascar

Project Proposal

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Acronyms

CLTS Community-Led Total Sanitation

DALY Deaths Adjusted Life Years

FAA Fonds d'Appui pour l'Assainissement (Sanitation Support Fund)

GIS Geographic Information System

GIT Geographic Information Technologies

GPS Global Positioning Systems

GSF Global Sanitation Fund

INGO International Non-Governmental Organization

MDG Millennium Development Goals

NGO Non-Governmental Organization

OD Open Defecation

ODF Open Defecation Free

PGIS Participatory Geographic Information System

PLA Participatory Learning and Action

RAP GIS Rapid Appraisal GIS

RWASH Rural Water, Sanitation and Hygiene

SDG Sustainable Development Goals

UNICEF United Nations Children's Fund

WASH Water, Sanitation and Hygiene

WHO World Health Organization

WSSCC Water Supply and Sanitation Collaborative Council

1. Introduction

This project proposal outlines a new phase of support to Rural Water, Sanitation and Hygiene (RWASH) sector in Madagascar for 2016-2020 (See Appendix A for a country profile of Madagascar). This new phase will build on the achievements of the existing program of the United Nations Children's Fund (UNICEF).

Since 1984, UNICEF has conducted Water, Sanitation and Hygiene (WASH) programs and coordinated national RWASH strategy with the government of Madagascar, and other national and international stakeholders, aiming to deliver water and sanitation services to communities, and promote hygiene and sanitation behavior changes. In this respect, RWASH actors have consistently committed to a community-led participatory approach, which has been included into the national water, hygiene and sanitation strategy adopted by the government in 2008 (Ministry of Energy and Mining of Madagascar, 2008; Ministry of Water of Madagascar , 2013; Government of Madagascar, 2014).

Currently, most of the WASH interventions in rural Madagascar are incorporating community participation methods to varying degrees, inspired by the Community-Led Total Sanitation (CLTS) approach. A long standing and solid body of theory and empirical evidence demonstrates the effectiveness of this approach. The key outcome that the CLTS approach strives for is triggering radical behavior change such that the entire community feels the need to immediately take collective action to end Open Defecation (OD). However, it has been demonstrated that once Open Defecation Free (ODF) status, which is the final stage of the CLTS process, has been achieved, community's members begin to fall back into their old routines and revert to open defecation over time (Movik & Mehta, 2010; Kar & Milward, 2011; Kar K. ,

2012; Wolfer, 2014). In other words, the long term durability of behavior change is often neglected by development programs.

Recognizing the success of participatory approaches in social mobilization to improve sanitation conditions and acknowledging that behavior change does not necessarily endure over time (Story & Figueroa, 2012), this project will focus on improving the permanence of ODF status by utilizing Participatory Geographic Information System (PGIS) methods. PGIS methods are computer –based map-making processes that attempt to capture, represent and analyze community driven georeferenced spatial and non-spatial information (Corbett, et al., 2006; Forrester & Cinderby, 2014). We will discuss more about PGIS methods and their applications in the third section of this project proposal.

PGIS is especially appropriate in a post-CLTS context for increasing the likelihood of ensuring permanence of ODF by harnessing the continuity of community participation. Indeed, while CLTS relies on transect walks and community mapping, the whole process of PGIS can be built upon previous community mapping experience(s). Therefore, with inputs from an entire community in an open and inclusive process of knowledge generation, PGIS provides an opportunity for rural communities to engage in an adaptive and continuous practice of representation of their knowledge, perspectives and achievements, fostering self-awareness and sense of ownership (Dunn, 2007; Delgado & Humm-Delgado, 2013). Over the course of time the use of geospatial technology has the potential to enable the production of qualitative basemaps. In turn, such spatial reference may facilitate a representation of the initial sanitation condition, its evolution and improvements achieved by an ODF community, creating a collective memory of past sanitation and hygiene conditions. The community may, eventually, draw on such a memory

to maintain commitment to appropriate practices, thus ensuring the perseverance of behavior change (Corbett, et al., 2006; Kienberger, 2008; Piccolella, 2013).

PGIS has emerged as a powerful tool for measuring change establishing a realistic comparability across time and space, which needs to start with the inputs of local resource. Hence, the whole process of PGIS is an innovative and efficient way to monitor and evaluate the perpetuation of sanitation behavior change following CLTS interventions.

This proposal will provide a rationale for continued engagement in the RWASH sector, and describe the project and how it intends to increase the likelihood of ODF permanence and sanitation sustainability in rural Madagascar. The second section of the document is dedicated to the logical framework and the rationale of the project. The following section describes the context of rural sanitation in Madagascar and provides a comprehensive background of the R-WASH approaches implemented upon which this project is built on. The fourth section, the overall project description, is divided into three subsections. The first presents the beneficiaries of the project. The second reviews the four specific issues encountered in sustaining sanitation behavior change. The third subsection defines the expected results and describing the mechanisms of behavior change as well as inter-related activities to be implemented in order to achieve the sustainability of ODF status by the end of the project. The fifth section outlines the main assumptions and assesses the key risks to the achievement of the project. A monitoring and evaluation plan will be presented in the sixth section. Finally, the last section will detail the project management and organization, illustrating project timeline, describing necessary human resources, listing the estimated project budget, and delineating the communication plan.

2. Rationale of the Project

This project will focus on facilitating ODF communities to develop, implement, and self-evaluate their own inclusive long-term sanitation strategy through participatory GIS. By building upon existing achievements and harnessing internal community dynamics, PGIS methods will facilitate sustained collaboration within the community through participatory, multi-level decision making, and contribute to long term social mobilization to maintain adequate sanitation practices (Chambers, Corbett, Keller, & Wood, 2004; Corbett, et al., 2006; Kienberger, 2008; Cross & Coombes, 2014). Finally, this project will apply an innovative and efficient way to monitor and evaluate the sustainability of CLTS and the durability of ODF status, while encouraging adaptive learning and knowledge sharing in terms of enduring impacts of integrated RWASH sanitation strategy in rural Madagascar.

2.1. Goal of the project. This project intends to support long term positive change in lives of women, men and children by contributing to achieve sanitation adequate behavior sustainability in rural Madagascar communities.

2.1.1. Objectives of the project. In order to achieve this overarching goal, this project will focus on two objectives:

O1: Rural communities maintain adequate sanitation and hygiene practices and behaviors over time

O2: Rural communities apply a locally designed framework for continued self-evaluation of their ODF status

In turn, four expected results, which depend on the successful implementation of sets of activities, will make it possible to assess the attainment of the two objectives at the end of the project. These are:

ER1: Continued external support provided to the community after ODF status declaration.

ER2: Strengthened involvement of the most vulnerable community members in collective long-term sanitation strategy formulation and implementation.

ER3: Improved measurement of sanitation behavioral change and long term community involvement.

ER4: Local sanitation condition captured and shared memories created.

2.1.2. Results framework. The cause-effect relationships among interrelated activities and expected results of the project are displayed in the following illustrative result framework, considering that each level identifies the outcomes that are necessary and sufficient to achieve the level above. The activities listed are to be implemented with five different rural communities which will be detailed in the section four of this project proposal.

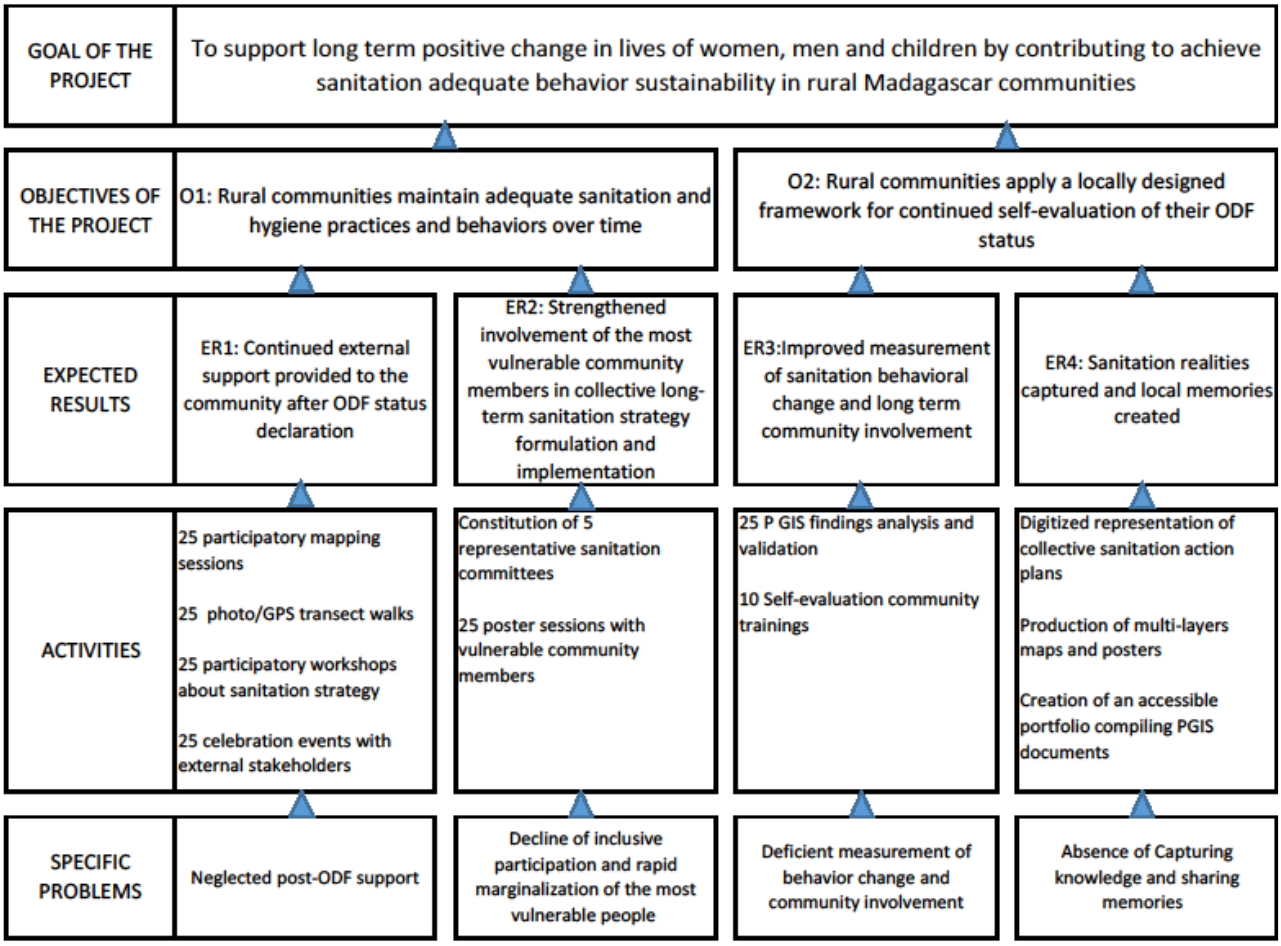

Figure 1 Illustrative result framework

3. Background

3.1. Hygiene and Sanitation Worldwide

One third of the world's population – some 2.5 billion men, women and children - do not use improved sanitation facilities; the World Health Organization (WHO) and UNICEF estimated that more than one billion people still defecated in fields, forests, bushes, plastic bags, rivers, lakes or other open spaces and were denied security and privacy of a hygienic toilet or latrine even in year 2014 (WHO/UNICEF, 2013). The majority of those one billion people who still practice open defecation are living in rural areas. It is now recognized that inadequate sanitation and hygiene have a major impact on health and are the main causes of preventable diarrheal and other diseases (i.e. cholera, dysentery, typhoid, hepatitis A, et al.), which kills 5,000 children and 1,000 adults per day (Wolfer, 2014). A recent study estimates that in 2012 in poor and developing countries, 280,000 deaths (DALY: deaths and disability-adjusted life years) are directly imputable to inadequate sanitation, representing 1.5% of the total disease burden and 58% of diarrheal diseases (Pruss-Ustun, et al., 2014).. Hence, inadequate sanitation is recognized as a cause and an effect of extreme poverty, a serious health risk for individuals, families and communities and one of the biggest challenge facing the world today (WHO/UNICEF, 2013; Wolfer, 2014). Thus, improving sanitation by sustained appropriate behavior is a target under Millennium Development Goals (MDG) (United Nations, 2015) and Sustainable Development Goals (SDG) draft (United Nations, 2015) , as well as one of the twelve essential family practices promoted by UNICEF, which aim at broader development gains for rural communities, particularly women and children (UN-Water/WHO, 2014). Moreover, adequate and maintained sanitation and hygiene practices help mitigate against extreme poverty and hunger, and increase primary education (Chambers, 2008). In addition, they improve maternal health, reduce child

mortality, promote gender equality, and lead to female empowerment and aid in ensuring rural communities' environmental and economic resilience (Chambers R. , 2008; Mehta & Movik, 2011).

It is also important to note that improved WASH-services support can have a positive effect on state-community relationships. Delivery and monitoring contribute to the improvement of state legitimacy by encouraging and reinforcing capacities of the governing institutions to respond to community's needs. This can encourage popular demand for accountability of governments, both national and local. In turn, this can lead to strengthening of inclusive links between local communities and the government. Thus, including all community members – men, women, youth, and vulnerable groups – in decision-making about sanitation management can reinforce communities' infrastructure ownership and significantly contribute to long term adequate behavior change.

3.2. Community-Led Total Sanitation Approach

CLTS is a recent and highly effective participatory approach for mobilizing rural communities to address their sanitation problems. This innovative method focuses on spontaneous hygiene and sanitation behavior change led by the entire local community themselves in order to break the focal-oral chain of transmission and stop open defecation totally. A participatory approach is used with the community to analyze their own sanitation profile and the extent of open defecation within their immediate environment through rigorous methodology involving collective commitment of the entire community and stressing the participation of vulnerable and marginalized members (Chambers R. , 2008; Kar & Chambers, 2008; Mehta & Movik, 2011).

CLTS ignites the collective sense of disgust and shame, assuming that human beings cannot stay indifferent once they have recognized that they are ingesting one another's 'shit' as long as open defecation continues (Kar & Milward, 2011; Kar K. , 2012; Wolfer, 2014). Those emotions and the realization of the extent of fecal-oral contamination among the community are called "triggering" (Kar & Chambers, 2008). It encourages the community to take responsibility and to take actions leading towards achieving the common benefit of a clean and hygienic environment that benefits everyone. The key activities of the CLTS methodology are the community mapping, the transect walk, the excreta's volume calculation and the focal-oral contamination awareness, all contributing to the triggering. Another fundamental aspect is that CLTS emphasizes dignity, self-respect and solidarity to stimulate the community's commitment and mobilization rather than incentives such as individual hardware subsidy or cash incentives. Moreover, triggering leads to social solidarity and cooperation supporting the spontaneous emergence of local innovation on low-cost toilets models using locally available materials and enabling and sustaining collective sanitation behavior change rather than prescribing technical standards of subsidized latrine models that would not be used nor maintained on long-term (Kar K. , 2012; UNICEF, 2014).

The no-subsidy community empowerment approach is now commonly used in rural sanitation projects implemented by local and International Non-Governmental Organizations (INGO) with the support of major international donors. The CLTS approach began to be adopted on the African continent in 2006, championed by UNICEF as part of an international multi-donor strategy. CLTS strategy is now widespread and applied at some level in at least 30 African countries (Kar & Milward, 2011; Engel & Susilo, 2014; Cross & Coobes, 2014) with many successes. Among those successes in Kenya, Zimbabwe, Rwanda, Benin, Zambia and so on, the

CLTS program in Mali is a significant example (Kar & Milward, 2011). The CLTS program implemented by the government of Mali along with UNICEF achieved the ODF declaration of 1.500 villages and reached 70% of the population through mass media in 2014. (Cross & Coombes, 2014)

3.3. Sanitation Conditions in Madagascar

In Madagascar, several efforts by rural communities, grassroots organizations, and national and international stakeholders, which have been led by UNICEF since 1984, have achieved significant progress in term of water access. The Ministry of Water reports in its national database that more than 9,500 water supply systems have been built or rehabilitated (Water Ministry of Madagascar, 2015), demonstrating the willingness of the government to implement the national water framework.

The national rate of access to safe drinking water in the country increased from 29 to 48 per cent between 1990 and 2011 (WHO/UNICEF, 2013). However, in another report, UNICEF has estimated that access to improved sanitation facilities increased by a meager six percentage points (from eight to fourteen percent) between 1990 and 2013, which is extremely low (UNICEF Madagascar, 2014).

Increasing access to both safe water and adequate sanitation is a foundational step, as mentioned in the WASH national framework promoted by the Malagasy government, but is not enough by itself. It is also necessary to shift focus from infrastructure construction towards service delivery and behavior change in order to foster sustained, adequate sanitation practices. Hence, UNICEF and other stakeholders are working with traditional, community-level administrative structures called Fokontany, to promote the CLTS approach in Madagascar.

Combined with construction of latrines, the inclusive CLTS approach has been implemented nationwide. As an example, since 2010, programs supported by the Global Sanitation Fund (GSF) claim to have triggered more than 10,000 rural communities, resulting in 7,000 villages being declared ODF, corresponding to an estimated 900,000 men, women, and children living in an ODF environment (WSSCC, 2013).

Although significant improvements have being made, poor sanitation and hygiene malpractices remain widespread in rural Madagascar: 43 percent of households report disposing of infant feces in the open, and 49 percent of the rural population continues to defecate in the open (UNICEF Madagascar, 2014).

Having said that, it is far more important to maintain ODF status of local communities in the long term. Two recent surveys of communities which have been recently declared ODF estimated that between 15 to 21 percent of the sample "showed evidence of having returned to open defecation" within 3 to 24 months (Ryan, 2014; MCDI, 2014). This high slippage rate estimated very shortly after declaration of ODF status, demonstrates that behavior change falls away after projects end (Wolfer, 2014). It must be noted that the mentioned surveys had a limited sample, suggesting that the scale of reversion back to old practices might be far larger. Sustainability is recognized as the main challenge in term of sanitation and hygiene practices among academic and practitioners (Movik & Mehta, 2010; Kar K. , 2012). In this, the permanence of behavior change remains a critical issue which remains under-studied and only marginally monitored (Kar K. , 2012).

3.4. Participatory GIS

Participatory GIS can be defined as is an innovative practice, which results from the union between Participatory Learning and Action (PLA) methods with Geographic Information

Technologies (GIT) (Corbett, et al., 2006). P GIS methods aim to facilitate the representation of knowledge and perceptions of local people, by engaging them in collective visioning exercises about their communities (Delgado & Humm-Delgado, 2013; Forrester & Cinderby, 2014) resulting in mapping products that provide new perspectives from which to consider social change. The mapping process and its final product intend to concurrently raise community members' awareness of their own spatial environment; to support a more active role of communities in development programs and strategies; and to facilitate decision-making processes, as well as promoting communication and community advocacy (Chambers, Corbett, Keller, & Wood, 2004; Corbett, et al., 2006; Dunn, 2007; Pfeiffer, et al., 2008; Piccolella, 2013; Forrester & Cinderby, 2014).

While maps have been, historically, developed and produced by the elites, reflecting their political and economic agenda, the demand for participation of marginalized communities has increased, especially in development sectors, representing the growing need to integrate the knowledge and experience of those affected by decisions and development projects (Fox, Suryanata, & Hershock, 2005; Pfeiffer, et al., 2008; Delgado & Humm-Delgado, 2013). Today, the use of GIS that capture, manage, analyze, store and present spatial information, Global Positioning Systems (GPS), remote sensing, and satellite imagery, are becoming increasingly available and affordable, enabling local communities to represent and communicate their own knowledge and perceptions. The fact that local communities are the primary producers and owners of data enhances the credibility and the value of information conveyed by PGIS maps. However, it also implies specific concerns and potential shortcomings that need to be acknowledged and monitored. Such concerns include, but are not limited to: data and metadata

quality, transparency and equity, complexity, and misappropriation (Fox, Suryanata, & Hershock, 2005; Delgado & Humm-Delgado, 2013; Piccolella, 2013).

Over the last decade, PGIS tools successfully fostered empowerment and social change of marginalized communities (Pfeiffer, et al., 2008; Kienberger, 2008; Piccolella, 2013). Although prominent development programs for which spatial dimension is obviously apparent, for example United Nations Program on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (also referred to as REDD+), make extensive use of PGIS, it has not yet been substantially applied to rural sanitation issues. Recently implemented initiatives, such as the Map Kibera project in Kenya supported by Plan International (Map Kibera Trust, 2011), or the Water Point Mapper developed and used by Water Aid in several East African countries (Welle, Musaazi, Slaymaker, Casey, & Zigomo, 2010), demonstrate that professionals involved in WASH programs recognize the use of PGIS as a tool for planning, visualizing and monitoring these programs. Indeed, PGIS is particularly relevant to increasing the likelihood of ODF status permanence, and improving sanitation sustainability in rural Madagascar communities as it emphasizes the fundamental spatial and participatory facets of such long-term purpose, and integrates local experiences and practical realities of communities.

4. Defining the Project

This section provides a detailed narrative of the project and the cause-effect relationships among interrelated activities and expected results. In respect with the logical framework presented in the second section of this proposal, it defines the beneficiaries of the project and reviews the four specific issues encountered in sustaining sanitation behavior change. Finally, it explores the priorities of the project, defining the expected results and describing the mechanisms of behavior change as well as activities to be implemented in order to achieve the sustainability of ODF status by the end of the project.

4.1. Beneficiaries of the Project

4.1.1. Primary beneficiaries. The project will be implemented with five rural Madagascar communities located in main UNICEF intervention regions, namely Analanjirofo, Anosy and Atsimo Andrefana where more than 80% of the population still practice OD (UNICEF Madagascar, 2014; Ryan, 2014). Since the project focuses on sustaining ODF status, the communities to be selected for the implementation of the present project will be required to have been through CLTS activities and been designated as having a near 100% free open defecation environment, recently by UNICEF or its local sub-grantees. Such communities are to be deemed, hereon, to be the primary and direct beneficiaries of this project.

Within the selected communities, vulnerable groups of beneficiaries are being identified as recipients of particular attention to ensure their participation in the project. These groups include disadvantaged members of communities, such as women, children, the elderly, low-income community members, people with disabilities, and sicknesses.

4.1.2. Secondary beneficiaries. Indirect beneficiaries of the project are local and national stakeholders, who will benefit from better understanding of factors which influence

long-term sanitation change. Thus, WASH sector actors in Madagascar, such as local and national NGOs, donors, and inline ministries (water, health, education), are the indirect beneficiaries.

4.2. Scope of the Project

The permanence and durability of ODF status is largely determined by the force and permanence of behavior change. To achieve it, individual permanent change is necessary for ensuring long term community behavior change. It is also important to note that influence goes the other way too as individuals belongs to their social group, which must be an enduring supportive environment for the permanence of behavior change (Story & Figueroa, 2012). This project is guided by a comprehensive two-steps approach of social behavior change focusing on the period after the CLTS implementation, encouraging the continuation of adequate practices by individuals and their community to achieve the sustainability of ODF status. As a continuation of CLTS implementation, the behavioral change approach of the project focuses on the "post behavioral consolidation" phase (Bandura, 1977; McGuire, 1989; Windhal, Signitzer, & Olson, 1999). Moreover, the project recognizes that individuals and their immediate social relationships are interdependent on larger environments such as power, gender, traditional, and political environments (Story & Figueroa, 2012).

Thus, it is imperative to first apprehend and then mitigate against the factors contributing to undermining behavior change over time. This project is aimed first and foremost at addressing the following specific critical, interrelated and mutually reinforcing issues, which hinder the sustainability of ODF declared communities' adequate sanitation practices. There are four main specific problems that have been identified to be addressed by the project: neglected post-ODF support, Decline of inclusive participation and marginalization of the most vulnerable people, the

deficient measurement of behavior change and community involvement, and the absence of capturing knowledge and sharing memories.

4.3. Specific Problems Identified

4.3.1. Neglected post-ODF support. Follow-up and reinforcement are critical for sustainable ODF status but are widely neglected by the organizations in charge of CLTS implementation. ODF certification is often treated as a final outcome by NGOs, which tend to neglect post-ODF sustainability and often leave to the community the responsibility of taking care of it on its own (UNICEF, 2014). This insufficient attention to post-ODF support frequently results in lack of continuity of individual and collective behavior change which had previously been achieved through CLTS activities. Indeed, a 2012-13 evaluation study of Plan International sanitation projects conducted in four African countries established that households gave lack of support as one of the most important factor motivating their decision to abandon their toilets (Tyndale-Biscoe, Bond, & Kidd, 2013). Even though social motivation to improve sanitation are successful when stimulated by CLTS approach, they happen to be short-lived especially because the change was facilitated by external agents (e.g. NGOs staffs, government officials, et al), and once the project stops, some community members soon revert to their old habits (Movik & Mehta, 2010). Adequate post-ODF support is often ignored because budgets of projects are time-limited. NGOs and governments are required to achieve immediate targets, without institutional or financial incentive for longer term objectives; this is especially true with results-based donors' funding.

In Madagascar, the critical issue of return to old habits once the external agents have withdrawn has been notably identified by the ODF verification surveys commissioned by Water

Supply and Sanitation Collaborative Council (WSSCC) in 2013 and Fonds d'Appui pour l'Assainissement (Sanitation Support Fund) (FAA) in 2014. These surveys reveal that of the villages that have been declared ODF 12% showed evidence of return to open defecation less than three months after the implementing organization withdraw (MCDI, 2014). With a larger sample of ODF declared villages, the slippage rate reached 21% in a post ODF period of 2 to 24 months (WSSCC, 2013). An even more telling figure provided by UNICEF's assessment of sustainability of sanitation and hygienic practices in 155 ODF communities in Madagascar is that only a quarter of the communities surveyed were still ODF five years after the implementers withdrew (Ryan, 2014).

These findings demonstrate how significant the decay in sanitation behavior change achieved through CLTS sensitization can be. Hence, the long term external commitment and post-ODF activities to support communities to sustain shift in attitudes; developing a sense of ownership among them; and strengthening sanitation achievements in relevant localities are critical for sustaining the ODF status.

4.3.2. Decline of inclusive participation and marginalization of the most vulnerable people. Inclusivity of CLTS process is fundamental for sustainable outcomes, the more inclusive attendance is at triggering the better is at mobilization to improve sanitation. The guidelines for CLTS, purposefully, insist on a target of at least 80 per cent of community members present during activities of the project. Thus, broad and inclusive participation in order to generate community action and behavior change for achieving better sanitation is the central element of CLTS activities. In turn, facilitators and external agents must ensure that vulnerable groups actively participate in the assessment, design, implementation and monitoring of hygiene and sanitation programs (Kar & Chambers, 2008; Movik & Mehta, 2010). Indeed, sanitation is an

especially significant issue for disadvantaged members of impoverished rural communities. Women, children, the elderly, low-income community members, people with disabilities, and sicknesses, often have particular needs for their access to sanitation and various motivations to engage with behavior change (Wolfer, 2014).

The participation of the whole community is considered a mandatory requirement for generating sanitation practices and behavior change, and thus is recognized as a good practice among implementers (UN-Water/WHO, 2014). However, once the ODF status is achieved by the whole community, this inclusion dimension is widely abandoned and conjunctly the involvement of the most vulnerable people rapidly declines. For that reason once a project ends, the first people who tend to fall back into their old habits are the extremely poor and vulnerable people (Movik & Mehta, 2010; Tyndale-Biscoe, Bond, & Kidd, 2013).

Likewise, CLTS implementation is acknowledged as having potentially ambiguous effects on women living in rural communities. Although the previously mentioned Plan International study found that women's attendance at triggering activities was more important than that of men (Tyndale-Biscoe, Bond, & Kidd, 2013), the sanitation perceptions and particular motivations of women, and their roles following CLTS implementation are often overlooked. Thus, women are often considered potential beneficiaries of improved sanitation practices rather than key agents of change.

In the above context, CLTS operations come with additional caveats. The achievement of ODF status has the potential to wring more than one change in gender roles. For example, whereas hygiene and privacy may improve for women, the additional burden of collecting extra water required for latrines and handwashing may be placed on them. It remains to be stated that a

broader gender-based review of long term sanitation practices should involve exploring particular perceptions and motivations of men as well.

Thus, even if CLTS implementation is taken to represent a radical and rapid cause of behavioral and social change, its sustainability requires continued and dedicated efforts from the community, supported by external agents, in order to enhance shifts in women's status and empowerment (UNICEF, 2014). For that reason, practitioners should not overlook evolution of local people's sentiments, incentives, practices and attitudes once ODF status is achieved at the risk of compromising initial successes and long term sustainability of adequate practices.

Behavior change is a complex process that does not occur instantly. CLTS triggering activities alone do not guarantee sustainable ODF outcome. Without continued adherence to new behavior, social achievement may be jeopardized by the dislocation of solidarity within the community (UNICEF, 2014). CLTS implementation achievements need to be internalized into communities in order to be sustained after ODF status declaration. In this manner, the agency of the entire community to take part in post-ODF follow-up activities together with the support of external agents, should be enabled. Within the communities, in order to maintain long-term sustainability, participation of marginalized people needs to be ensured. For such purpose, the internal dynamics of a community and the effects of ODF, should be taken into account in a more holistic manner.

4.3.3. Deficient measurement of behavior change and community involvement. As previously mentioned, the implementers of sanitation projects are strongly encouraged by donors to focus on short-lived outcomes in determining the success of sanitation and hygiene interventions. While adopting a results-based approach provides a meaningful measure of the effectiveness of a project, the long term impacts of sanitation and hygiene intervention are

notoriously difficult and costly to measure (Billing, Bendahmane, & Swindale, 1999). Thus, the MDGs and JMP use household survey data on access to improved sanitation infrastructures as a proxy for sanitary status estimation. Using this indicator, the latest coverage data for rural Madagascar is reported to be 11% (UNICEF and WHO, 2014). The extended use of this indicator, called "latrinisation" (Wicken, 2008; Kar K. , 2012), has resulted in almost exclusive monitoring of infrastructure building and rehabilitation, leading to oversight of sustainable behavior change. Access to sanitation is easy to assess but it is not the only outcome determining the success of a sanitation intervention as other essential aspects have to be measured. While it is important for international institutions, donors and governments to monitor access to improved sanitation infrastructures, the focus by local implementers on results can potentially lead to disregard of the factors that influence change of behavior and practices over time, especially after the ODF status declaration; overlook of the need for long term commitment by the community to maintain adequate sanitation practices; and falling attention towards inclusive participation of all community members (Kar K. , Why not Basics for All? Scopes and Challenges of Community-led Total Sanitation, 2012). In this regard, the two aforementioned studies acknowledge in their own "limitations" sections that "long term sustainability of ODF status cannot be assessed" (WSSCC, 2013), and that their study "(does) not allow conclusion to be drawn about the sustainability of ODF status following sub-grantee interventions" (MCDI, 2014).

Those two studies confirm the findings of the WASH assessments conducted in Madagascar in 2013 and 2014 (UN-Water/WHO, 2014), which depict the WASH monitoring in Madagascar as insufficient, and unsatisfactory. The key findings of this assessment are that no independent evaluations of WASH projects are carried out, implementers do not report the

results of their internal monitoring and at the same time they do not receive support to perform such activities. This explains the low quality of data and its accessibility in the WASH sector. The few on-site verifications of projects suffer from a lack of transparency and potential inaccuracy as monitoring studies happen to be conducted by individual or entities "closely associated" with the implementer or the donor (WSSCC, 2013).

Finally, WASH monitoring activities in Madagascar are merely designed to evaluate the CLTS project targets and to determine the success of an intervention, focusing on the short-term ODF achievements of the implementer. This projects and donors-centered inspection approach disregards internal community dynamics, and fails to reflect the absolute and relative progress achieved by communities to improve and maintain their sanitation conditions. Whereas inclusive participation is at the heart of CLTS approach, results and findings of on-site verifications are neither shared, nor reviewed in consultation, with the concerned communities, which are unaware of what is monitored and reported. Thus, the monitoring processes should ensure that communities are empowered and integrated into a long-term, realistic post-ODF commitment, which would, in turn, foster continued improvement of sanitation practices and behavioral sustainability.

4.3.4. Absence of capturing knowledge and sharing memories. CLTS represents an alternative to top-down approaches to sanitation in rural areas by emphasizing community participation and behavior change. Through this approach, locally appropriate solutions to sanitation issues are proposed by the community members, on the assumption that they are the best repositories of local resources and knowledge, and the most informed about how those actions to improve current situation will affect them. Thus, CLTS approach has been recognized as particularly successful in empowering communities to take actions themselves, and to design

and construct their own latrines from locally available material. The fact that CLTS projects fundamentally emphasize facilitation rather than education or training, illustrates the importance of local culture and knowledge if behavior change is to be achieved (Chambers R. , 2008; Movik & Mehta, 2010; Kar K. , 2012; UNICEF, 2014).

However, local knowledge, along with knowledge generated during facilitation steps during the CLTS process (i.e. transect walk, community mapping, discussions, et al), is de-emphasized once the ODF status is achieved. Eventually, once the implementing NGO withdraws, knowledge and information produced during CLTS participatory activities, does not stay in the community where it is needed to formulate long-term coping and adaptation strategies (Ryan, 2014). Even post-ODF monitoring, as previously mentioned, is usually not shared with the community members, who are the most directly concerned. Yet, the durability of behavior change is, to a large extent, determined by the capacity of the community to remember and to refer to its own sanitation knowledge, in order to develop dynamic and durable strategies. Indeed, the dynamics of this community will change over time, being influenced, on the one hand, by social, climatic, seasonal, demographic, political, and economic factors; and, on the other, by the adoption of new sanitation practices and behaviors (Kar K. , 2012; Piccolella, 2013). Dynamism and durability of strategies is, therefore, necessary to maintain adaptability and responsiveness to internal and external stresses and structural changes which will occur over time, and might put in jeopardy the sustainability of sanitation behavior change.

Finally, facilitating the ability of a community to refer to, and use, this information to develop effective long term adaptation strategy, is vital. External shocks such as floods or typhoons, or internal social structural change such as migration, will, in the end, have to be negotiated by the community members themselves. This is why it is essential to capture those

sanitation realities before and after ODF status is achieved. Today, local knowledge and experiences of sanitation are not captured and shared after the CLTS implementation, while effective long term sanitation sustainability requires access by the whole community to appropriate, timely and readily available information about their own conditions and behavior change (Movik & Mehta, 2010).

4.4. Establishing Project Priorities

By maintaining adequate sanitation practices and behavior over time, rural communities will contribute to increase the likelihood of permanence of ODF status, reducing exposure of community members to health risks, enhancing solidarity among them and therefore sustaining the improvement of their living conditions. Thus, in the context set herein, the present project will encourage adaptive learning and knowledge sharing, capturing and representing locally generated information and experiences which is needed for formulating long term collective sanitation plan of action. Working together on a shared issue will promote community cohesion, consolidate inclusive mobilization of men, women, and boys and girls, and strengthen a broader sense of ownership and responsibility needed to sustain sanitation behavior change.

The project applies a structured participatory approach to build upon achievements of preceding CLTS triggering activities, intending to empower community members to take as high as possible a degree of control over decision-making processes, execution and responsibility during all the different stages involved.

By combining community generated knowledge with “experts-based” representation of the evolution over time of sanitation conditions within the community, the project aims to support community communication and advocacy capacity. Furthermore, updating and sketching new maps on regular basis during the project implementation will emphasize how far

collectively agreed actions have been realized, turning the longstanding mapping process into a participatory monitoring and evaluation tool.

Recognizing that sustainability of adequate sanitation behavior is a long term objective, the activities address sanitation sustainability by giving particular attention to ensuring that the most vulnerable people are kept at the center of analysis and decision-making. This project focuses on sustaining CLTS though community mapping and participatory GIS.

4.4.1. Expected results of the project. This project aims to achieve two broad outcomes: to increase the sustainability of adequate sanitation practices and behaviors; and to improve monitoring and evaluation of ODF status permanence of identified communities in rural Madagascar. Good practices from the outcomes of this project will be analyzed with the intent of duplicating and scaling-up the actions in other rural communities. To achieve the aforementioned outcomes, four main results are needed to be attained.

4.4.1.1. Expected Result 1: Continued external support provided to the community after ODF status declaration. The current situation shows that communities lack external support after the CLTS activities, while ODF declaration is often considered as an end in itself by the implementing organization. As a consequence, the level of social motivation, enthusiasm, and commitment of the community rapidly deteriorate and some members revert to open defecation shortly after the implementing organization withdraws.

According to this situation the first expected result will put emphasis on the post-ODF long-term collaboration between community members and provide external support. Follow-up activities will be implemented over a period of five years at regular intervals in order to ensure the continued mobilization of all community members. Follow-up activities relating to this result will be led by community members and supported by external facilitation to propose five

complementary phases. Each of these phases will have expected outcomes identified by the community. Participants will be encouraged to analyze their sanitation condition in a practical manner to propose and schedule collective and individual actions constitutive of a locally generated sanitation strategy.

Regular activities, where community members gather, analyze and evaluate local sanitation issues, create a sense of excitement and motivation. These situations facilitate group dialogue and present a rare opportunity for sharing insights, experiences, and knowledge. Furthermore, recurrent participatory activities induce involvement of all groups in a community – children and elders, men and women, the marginalized and community leaders – and can be celebratory in nature. Focusing on specific locally identified objectives and their achievement becomes a medium-term project that emphasizes maximum community participation dedicated to one goal. The ultimate shared success of achieving the objectives of each phase is celebrated by the community, shared with external stakeholders, and is, most importantly, owned by the entire community, maintaining enthusiasm and motivation to reach the next goals.

By sustaining interest and mobilization, the recurring activities engage and motivate community self-reliance and ability to devise locally-adapted solutions that are sustainable. Thus, the continued involvement of community members in design, planning, and execution of their intermediate sanitation strategies, facilitates the sense of ownership and, in turn, increases the long-term likelihood of permanence of ODF status and sanitation behavior change.

Long-term external commitment in the form of periodic post-ODF participatory activities, and regular visits and celebrations, will support communities in sustaining a shift in attitudes. In this way the successive phases, facilitated by external support, address the various dimensions of sanitation sustainability.

With the achievement of this result, the community will have received continued support and encouragement, providing them with the opportunity to maintain behavior change, which had previously been achieved through CLTS activities. They would successively engage themselves in in-depth decision-making process and generate their own mature strategies to deal with past, present and future sanitation condition. Then they would be encouraged to self-evaluate their engagement into sanitation sustainability; subsequently elaborating technical sustainability schemes in order to ensure the resilience of their long term solutions against external shocks such as monsoon, typhoon or drought. Thereafter, the behavioral sustainability strategy will be established in order to ensure that inclusive adequate sanitation practices are confirmed as part of social and behavioral norms and dynamics within the community.

4.4.1.2. Expected Result 2: Strengthened involvement of the most vulnerable community members in collective long-term sanitation strategy formulation and implementation. Sanitation behavior change aimed by CLTS is achieved only when the whole community is engaged in the activities. Hence, inclusive participation of the whole community is of primary importance for post-ODF intervention. According to that principle, the second expected result aims to enhance community solidarity by engaging vulnerable community members into collective activities. The equity and inclusion dimensions will be integrated to all post-ODF activities and be continuously encouraged and monitored by specifically trained facilitators during the project. This result is achieved collectively by people with disabilities, the elderly, the chronically sick, low-income community members, and children actively participating in the assessments, design, and implementation and monitoring. Their specific concerns, experiences, and needs will be integrated into the long term process of collective changes in behavior through consistent involvement and full participation in discussions and

decision-making processes. Special consideration will be given to ensuring that community members who might be routinely excluded from community dynamics receive equitable access to information and knowledge, and that they are kept at the center of all post-ODF activities for sanitation sustainability to be achievable for the whole community. The active and necessary participation of all community members, regardless of their limitations, will enhance collective and individual commitment and reinforce solidarity among members. The activities carried out during this project will consider vulnerable people as agents of change by assuring of their ability to be a force for bringing forward relevant propositions. Thus, the general public and community leaders who might be reluctant to include vulnerable people in their decision making process will have a better capacity to understand excluded members' importance for long term sanitation sustainability. Attitudinal change and a changing outlook towards vulnerable community members will be expected as the entire community participation and commitment reinforces solidarity through the continued adherence to new behaviors.

The second expected result will support the whole community to develop mature and inclusive sanitation strategies which ensure active and sustained participation of vulnerable groups. Continued and dedicated efforts from the community, supported by external agents, will ensure that the particular experiences and propositions, as well as various motivations to engage with behavioral change, will be recognized and supported by the community. The necessary solidarity for collective achievement, and the inclusive dimension of behavioral change will be firmly embedded as social practices.

4.4.1.3. Expected result 3: Improved measurement of sanitation behavioral change and long term community involvement. The CLTS approach is recognized by academic and practitioners as particularly weak in terms of monitoring and evaluation of ODF status. The

tendency to exaggerate the success of ODF status, either due to self-declaration or subsidy and awards policies, combined with the limited funding for ongoing CLTS facilitators to assess the long term impacts of sanitation and hygiene interventions, make ODF status permanence difficult to evaluate. While the infrequent independent inspections may not consider internal dynamics of the community, such surveys tend to mainly focus on improved sanitation infrastructure coverage to estimate the decay of adequate sanitation behaviors and practices, assuming a 100% ODF community as reference. This situation is reflected by recent inspections conducted in Madagascar, as mentioned above, and indicates that more creative ways to monitor and evaluation the sustainability of ODF are necessary.

This project intends to deploy an innovative approach to assess ODF status sustainability by implementing and extending self-evaluation methods. The third expected result aims to give the community members the means to evaluate their own sanitation behavior and practices over an extended period of time, by focusing on the evolution of their sanitation conditions and their long-term and community-wide commitment.

CLTS approach is based on the participation and commitment of the whole community, relying on a strong "sense of self-awareness" (Movik & Mehta, 2010), and focusing on enabling the community to analysis their sanitation problem and to solve it with their local knowledge and resources rather than outsiders technical solution (Kar K. , Why not Basics for All? Scopes and Challenges of Community-led Total Sanitation, 2012). This well-established approach is a very successful strategy because of the importance placed on self-awareness as a vehicle for long term behavioral change. This project will build upon the strength of this approach, reinforcing long term sanitation achievements by extending community-based evaluation. Thus, this project is taking the same proven approach as CLTS, extending it to assess long term sustainability of ODF

status. This expected result will focus on measuring the factors that influence change of behavior and practices over time, transferring responsibility to lead the monitoring to those directly concerned and affected: the community itself.

Through the achievement of this result, the community members will have attended self-evaluation training sessions and received support to carry-out regular evaluations of their sanitation sustainability conditions. Community members participate in self-evaluation activities of their locally designed sanitation strategy to identify gaps to analyze and discuss during participatory workshops in order to design resolution strategies. The collective and participatory involvement is essential to generate a strong sense of ownership and to ensure the long term sustainability of the ODF status.

At the end of the project all community members will have been actively involved in participatory evaluation and resolution processes, enabling them to plan informed individual and mature collective actions. It is expected that the resolution of the long term sanitation adaptation strategy will capture internal and external dynamics, as well as local realities, to effectively evaluate sustainability of sanitation practices.

4.4.1.4. Expected result 4: Local sanitation condition captured and shared memories created. Whereas CLTS approach recognizes the fundamental aspect of local knowledge and experiences to promote sanitation behavior changes, it does not enable community members to mobilize this knowledge to generate for themselves long term sanitation strategies. Such strategies, which are sustainable in the long-term, require the ability to refer to the past and present sanitation realities, in order to facilitate adaptive and durable responses to future internal and external stresses and structural changes. Hence, ODF communities need to be granted the

ownership of local knowledge, favoring their access to information about their own conditions and behavior changes.

In this context, this project aims to capture the evolution of sanitation realities of the community through P-GIS methods. Thus, the community will document its pre-triggering condition as well as the current situation, and project its long-term vision of sanitation. Along this project, spatial and non-spatial community knowledge, perceptions and experiences related to local sanitation conditions will be digitized by local trained manpower, aggregated using GIS software, and reviewed by community members using Rapid Appraisal (RAP) GIS approach (Forrester & Cinderby, 2014).

This method not only empowers the community, but more importantly, the use of P-GIS tools ensures that the information stays in the community, where it is needed as reference to formulate long-term strategies and raise adaptive learning capacities. Through the implementation of the project, the community members will have actively participated in data collection, analysis and interpretation of outputs, and been engaged in the development of collective sanitation strategy, its evaluation, and communication and dissemination of the long-term sanitation achievements. Through the achievement of the this fourth expected result, each of the participatory activities carried out will be documented, digitized and printed as maps and posters, which would be handed-over to the community. Particular attention will be given to retrieving sketched maps produced during CLTS triggering activities. Such pre-ODF declaration outputs are fundamental to constituting a key reference with which to compare the absolute and relative long-term sanitation achievements.

At the end of the project, the community will have the whole set of data available to use and refer to, in order to maintain and plan their future sanitations schemes. For this purpose,

every map and thematic and temporal layer, generated during the project will be printed for, and kept by, the communities, creating a memory of their past, present and future sanitation realities.

4.4.2. The activities and effectiveness.

4.4.2.1. Activities related to expected result 1: Continued external support to the community after ODF status declaration.

Long-term external engagement in the form of periodic post-ODF participatory activities, and regular visits and celebrations, supports communities in designing their own sustainability sanitation strategy. Focusing on specific locally identified objectives, external support activities will be carried out through participatory mapping, workshops, and annual celebrations and working sessions with external stakeholders (See Appendix B for a detailed flow-chart of inter-related activities).

Participatory Mapping. Five ephemeral and sketch participatory mapping sessions will be carried out in each targeted community during the five years of the project. The technics applied to generate the 25 participatory maps consists in low-cost and non-technology dependent methods, in which the community members draw maps on memory, representing key community-identified sanitation features. The mapping process starts on ground mapping, conducted in an inclusive manner and involving the whole community. The representation of the sanitation features is then translated into paper sketch maps by volunteers, representative of the community population. This easy and replicable process of participatory mapping facilitates the engagement of community members in representing their sanitation realities in a permanent and detailed manner. Moreover, it stimulates and inform internal community discussions related to the spatial component of sanitation, emphasizing the relation and position of local features. The tangible and short-term outcomes are used to plan subsequent mapping and decision-making activities. This activity is particularly sensitive to the composition of the participating group,

especially in relation to gender, age and social status factors. For this reason, external facilitator will ensure that all community members can equitably participate and represent their views without feeling inhibited. Depending on the local context, it might be necessary to separate the genders and create two maps, thus providing a useful insight into differences of priorities and representations between men and women and encouraging more active participation from all members.

Photo-GPS transect walk. Photo and GPS transect walks will be carried out with various groups of community members, depicting geographic and sanitation features (e.g. infrastructures, water bodies, local markets, schools et.al.). This spatial cross-section of the community relates the participants' everyday movements and activities and helps to stimulate discussion and to analyze linkages, transitions, patterns, and interrelationship of sanitation local realities, their spatial dimension and different area along the transect. A GPS receiver is carried to position in the field to record the exact location, while a picture captures the visual reality at the same instant. This allows to capture and store in digital format geographic coordinates related to locally identified features. This activity is technologically dependent and requires training to understand the equipment (e.g. camera, GPS) as well as the cartographic specifications (e.g. scale, orientation, coordinate systems, projections, et.al.). Moreover, to ensure that GPS receiver and camera are not monopolized and potentially diverted from their primary purpose, this participatory activity will be facilitated by external agents who will, in a first instance, use the devices to record accurate geographic data.

Participatory workshops. During this project, five participatory workshops will be implemented in each community. The 25 workshops will be devoted to sharing ideas, perceptions, and experiences regarding sanitation. The participants will provide their own

perspectives and conclusions about their findings of previously mentioned participatory mapping and transect walk activities. Supported by P-GIS outcomes and updates, the community members will develop their local collective long term sanitation strategy and establish annual action plan to maintain and improve their sanitation condition. Every year, the participatory workshops will draw up the previous objectives and collective achievements to explore fundamental sanitation dimensions. Thus, in the first year of the project, the community will develop a collective sanitation strategy to maintain the ODF status. The second year, after lessons learned and identifying potential gaps, the participants will develop resolution strategies if needed and explore technical sanitation sustainability (i.e. resilience of sanitation infrastructures, good practices of construction, resistance to rainy season and typhoon, et.al). The next year, the workshop emphasis will be on behavioral sustainability. Local strategies will be proposed by community members to develop long term mechanisms that will ensure that vulnerable and potentially marginalized people remain integrated, and that newcomers play an active part in maintaining adequate sanitation practices. The fourth and five years will be the opportunity to reinforce in-depth experience about previous mentioned sanitation dimensions and to explore other related issues relevant to the community situation and chosen by the participants. Depending on the local condition, the priorities and needs of the community, environment preservation, disaster preparedness, agricultural practices are potential thematic, complementary to sanitation, to be explored. The recurrent process of participatory workshops will ensure sustainability and consolidate the activities done during the project.

Celebrations. In the same way as the workshops previously described, five annual celebrations focusing on the achievements of the sanitation objectives will be organized by each selected community in collaboration with external stakeholders, relevant government local

institutions, with the support of the project team. These 25 annual celebrations will take place on the same date than some of international sanitation days, depending on implementing schedules and progress of each selected community. The potential dates from which celebrations will be planned each year are the following: March 22, World Water Day; August 15, World Sanitation Day; November 19, World Toilet Day. The community members will set the date according to their sanitation strategy schedules. Those events will serve has platform for communication and knowledge sharing for selected communities. The celebration will be designed as a reward for achievements of the community members as well as an opportunity to exchange with external stakeholders.

Through these celebration events, all selected communities will present their sanitation visions using PGIS maps and posters. They will be encouraged and supported to invite senior officials, heads and members of other communities, politicians, journalists, et.al. It is planned that one community will alternatively host a celebration, and the next year will participate in a celebration held in another location, for example organized by a recently ODF declared neighboring community or by relevant authorities such as the ministry of water regional units. The community will receive logistical and operational support for organizing and participating in the events. Moreover, community members will be invited to make public statements about progress and commitment to sanitation sustainability, and to put up board or sign saying so. This will increase their sense of pride and serve to awaken interest among visitors to the village who may be interested in doing the same back in their communities.

4.4.2.2. Activities related to expected result 2: Strengthened involvement of the most vulnerable community members in collective long-term sanitation strategy formulation and implementation. Adequate and sustainable sanitation practices cannot only be considered as

individual goals, because if only a few individuals continue to defecate in the open it represents a health risk for the whole community. ODF status sustainability requires the acceptance and participation of all community members. Focusing on the integration of the most vulnerable community members is vital as they tend to be the first to return to old sanitation practices and to have their needs overlooked (Mehta & Movik, 2011; Ryan, 2014). Encouraging inclusivity, cooperation, and social solidarity will be done through the constitution of inclusive sanitation committees, thematic poster working sessions and collective commitment evaluations.

Constitution of sanitation committees. In all the five communities, the project will facilitate the formation of inclusive sanitation committees. These committees will be in charge of centralizing all information, knowledge, and planning related to the sanitation strategy of the community, and appropriately disseminating it to the rest of the community. The sanitation committees will consist of volunteer community members representative of all the community population. Vulnerable and potentially marginalized people, as well as youth, women, elders need to be engaged in the sanitation committees consistently with the rest of the community members. Likewise, community members who can make a significant contribution towards the community mobilization plays a crucial role in the participatory project. These can be community leaders, head of village and local authorities, local ministry services, religious leaders, teachers, among many other sorts of people or active groups within the community. The sanitation committees will certainly evolve through the duration of the project as new sanitation leaders might emerge from the implementation of participatory activities. Those "natural leaders" may be many sorts of people – poor, wealthy, women, men, youth and can significantly influence the success of the project. The sanitation committee members will act as local facilitators for the planning and implementation of the sanitation strategy. Moreover, their

members will participate to specific training sessions to gain self-evaluation skills in order to better support the long-term collective sanitation strategy follow-up.

Poster sessions with vulnerable community members. Within the five selected communities, specific groups of beneficiaries are being identified as recipients of particular attention from facilitators to ensure their full participation in the project. Through the duration of the project, five specific thematic related to sanitation needs of vulnerable community members will be addressed in all five selected communities, depending on context and local circumstances. The 25 poster sessions aim to discuss and raise awareness of specific issues faced by vulnerable groups of people as the long term sanitation strategy is implemented. The posters will outline the experiences of vulnerable people, the varied natures of the barriers they might face, and how they can be overcome. The sessions will conclude with recommendations and propositions of collective actions to be undertaken to promote linkages between vulnerable people and the community members who are better off. Such dedicated working sessions will facilitate the vulnerable community members to have the opportunity and confidence to take part in the decision process. Thus, dedicated poster sessions will enable the different phases of the sanitation sustainability strategy to be more inclusive, challenging ignorance that can lead to stigma and discrimination.

The topics addressed by the 25 poster sessions include, but are not limited to: accessibility of the sanitation infrastructures for people with disability; management and disposal of infant and child feces with parents and caregivers; menstrual hygiene with adolescent girls who might be constrained to drop school; gender based division of benefits and disadvantages of sanitation strategy implementation with women who might be granted greater privacy but may also experience a significant increase of their workload. Since some themes might be sensitive

issues which affect some community members more than others, small group sessions are more likely to encourage the willingness of the vulnerable community members to participate.

4.4.2.3. Activities related to expected result 3: Improved measurement of sanitation behavioral change and long term community involvement. As previously discussed, access to sanitation is fairly straightforward to assess by focusing on infrastructures, but it is not the only outcome determining the sustainability of sanitation behavior changes. The following activities are focusing on further essential aspects that have to be measured, by enabling the involvement of community members in self-evaluation of their sanitation condition.

P-GIS validation and finding analysis workshops. Each community will be engaged in recurrent participatory activities. As previously explained, these activities will cover various sanitation dimensions. Thus, community members will reflect on and learn from their individual and collective experiences acquired in implementing their long term sanitation strategy. For each of the 25 PGIS activities, the digitized representations (e.g. maps, posters, temporal and thematic layers) will be discussed with the whole community in order to evaluate and verify the completeness, the quality, the accuracy and the relevance of the data represented. Following the Rapid Appraisal GIS approach, the results of P-GIS activities will be presented to a wide audience of community members. They will be encouraged to add comments, make suggestions, and participate to the open discussion about the topic. The in-depth discussion will facilitate the group to reach agreement and validate the updated sanitation representation. This method enables the whole community to share and discuss the findings of previous activities, to take responsibility for their opinions, and to make informed decisions on the collective approval of the P-GIS findings. The validated representations will be used to support discussions on the sustainability sanitation strategy and will be handed-over the community members.

Self-evaluation community trainings. In all the five selected communities, members will receive two self-evaluation trainings. The ten self-evaluation trainings will ensure that the community members take full responsibility for developing and implementing sanitation evaluation activities. To do so it requires that community members have the ability to design the evaluation process, to use the data gathering tools, to analyze the findings, and finally to develop lessons learned and update their sanitation resolution strategy. Those ten training sessions will provide the participants sufficient information and adapted tools to lead the process of identifying sanitation local priorities, and to evaluate their collective implementation. To build sanitation evaluation capacity in the selected communities, the training sessions will be designed to provide volunteer participants and sanitation committee members with adapted support and tools. The training material and methodology used in this activity will be based on documents and tools already developed during the project (e.g. participatory mapping, transect walk et.al.) as well as on the development of indicators, follow-up documents and evaluation methods adapted to the local context.

4.4.2.4. Activities related to expected result 4: Sanitation realities captured and local memories created. Through the use of PGIS methods, the evolution of sanitation realities of all five selected communities will be represented, supporting community-driven participatory activities, stimulating and informing decisions process regarding long-term sanitation strategy. In order to build an open-ended process that can adapt to changing circumstances, the whole set of data will be made available to the community to use and refer to, in order to maintain and plan their future sanitation sustainability action plans.

Digitized representation of collective sanitation action plans. The only activity of the project that will be carried out outside of the community by external agents is the digitization of

the data gathered during the participatory activity. The spatial and non-spatial data generated by the community during the participatory activities (e.g. p-mapping, transect-GPS walk, validation and sustainability strategy workshops et.al.) will be converted into a digital maps. The process of digitization will allow to aggregate, manage, analyze, store and display the georeferenced locally generated data into points, lines, and areas through GIS software. The compilation of the results of achieved participatory field works will be a digital representation compiling features. Even though the digitization process relies on experts and computer based technology, the legend and the selection of the features to display, as well as the way they are characterized, defined and classified, will be determined and approved by the community.

Moreover, georeferenced pictures of characteristic community features collected during the GPS transect walk, will be added at the end of digitization process. The maps and posters thus produced will represent as accurately and precisely as possible the sanitation views and knowledge of community members.

Production of multi-layers maps and posters. At each stage of the project for all five communities, the digitized maps will be complemented with thematic and temporal layers. These layers will be overlaid in order to display precise information that can be analyzed and interrogated by community members. For example, some transparent thematic layers will be summarizing the major natural characteristics of a community (i.e. rivers, mountains, forests, land uses, et.al.) and the community infrastructures (i.e. houses, streets, church, water point, school, et.al.). Those information can be overlaid with thematic layers outlining sanitation specific features such as latrines of different characteristics (i.e. shared, improved, rehabilitated et.al.), water sources, or previous open defecation areas used by community members. Some more abstract features such as gender dimension of sanitation or, individual and collective goals

identified by community members during participatory workshops, will overlay the thematic features layers. In the same manner, self-evaluations carried out by community members will generate spatial and non-spatial information, which when digitized, will be also overlaid. Thus, new relevant information overlay will spawn temporal layers, one displaying the current sanitation situation and one with the community's long-term vision. The production of temporal and thematic layers through the project will help community members to envision sanitation condition changes, plan their strategies and evaluate achievements over time.

Likewise, thematic posters dedicated to intended use can be produced using GIS methods. Specific sanitation issues or topics might require more detailed review. For example, school teachers and students might have a great use of dedicated posters documenting their own view and distinct knowledge about sanitation.

As owners of the data, the community members will control and decide which information, themes, features are the most relevant to be mentioned, classified, and displayed on layers and posters. Moreover, symbology, color coding, and scale will be discussed and agreed on in order to be as simple and understandable as possible by all community members.

The key advantage of transferring digitized information into layers and posters is that the community members can re-visualize the data in a clearer and more detailed way. They can combine by transparency different groups of maps, either thematic or temporal, and finally examine linkages and perform analysis that would have otherwise impossible.

Methodologies and tools of such multi-layers community maps, comprising different methods have been developed and implemented at community scale in other areas of interest (Pfeiffer, et al., 2008). A particularly relevant example is the work of Kienberger (2008) who

developed a methodology to map community vulnerability in Mozambique. The following map is displayed as a visual example of participatory GIS mapping results:

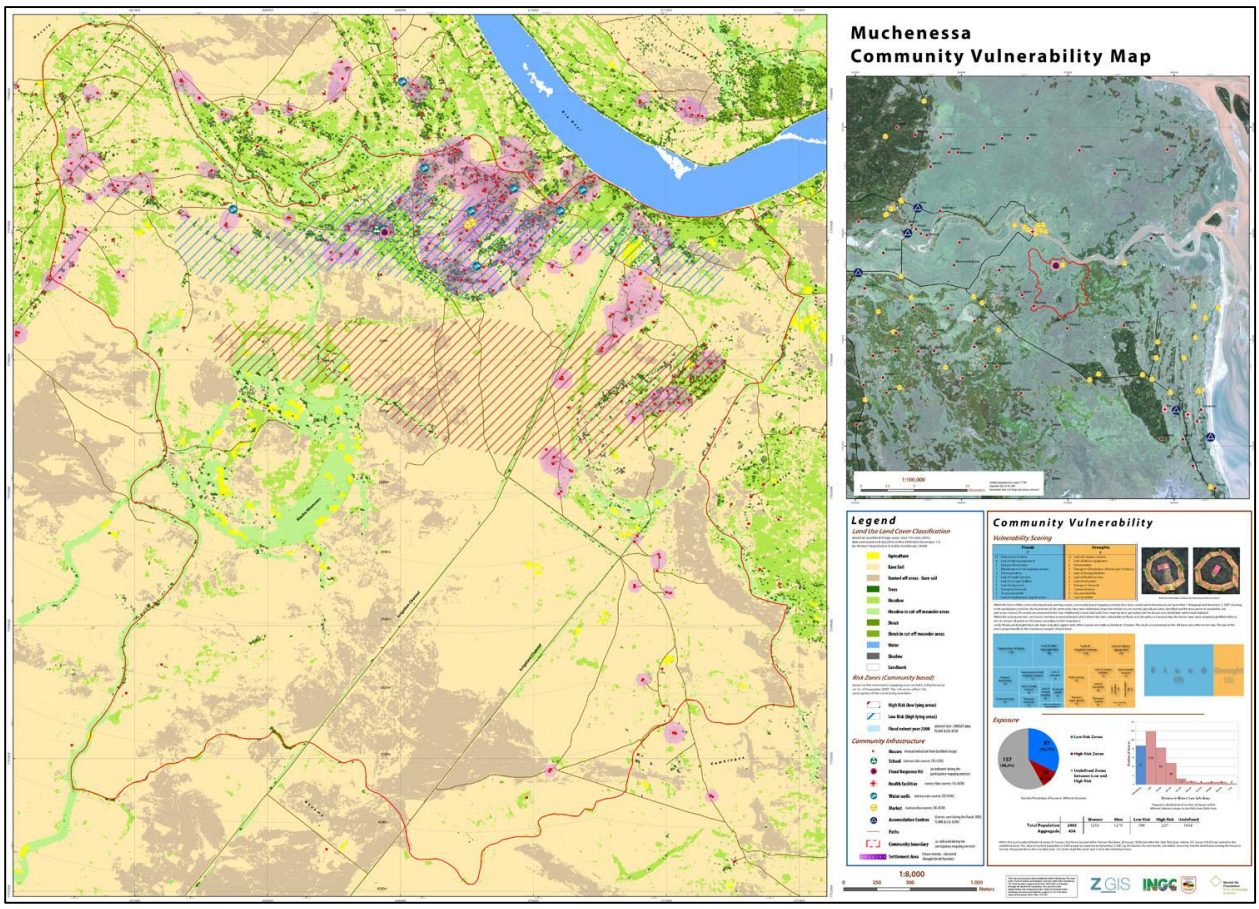

Figure 2 Example of multi-layers community vulnerability map (Kienberger, 2008)

This approach will be adapted to the project and its specific context in order to achieve the activities related to the expected result four.

Creation of accessible portfolios compiling P GIS documents. All maps, layers and posters generated through P GIS methods will be printed for, and compiled together within a unique portfolio kept by the community members. Thus, creating this physical memory within the selected communities will empower members to use and refer to their past, present and future sanitation conditions, helping them to maintain and plan sustainable sanitation strategies. Over the time, new potential uses for maps and posters might be developed, as new circumstances

arise, to which maps would be a useful support. Although maps by themselves are unlikely to solve inadequate sanitation issues, when they are locally owned, incorporated, and used as part of a participatory designed strategy, it will be more likely to help reinforce behavior changes and sustain adequate sanitation practices.

The maps will be officially handed over to the community representatives. The modalities of transfer will be agreed on at the beginning of the project, deciding together where the maps will be kept and how to ensure long-term equitable access. Once the map have been printed and handed-over to the communities, the shared ownership of the documents and the knowledge represented, must be facilitated and reinforced among community members. Indeed, facilitators will call attention to the fact that maps and posters represent knowledge, perceptions and dedicated achievements of all community members. Likewise, it will be emphasized that once a map is put on a public area, it changes local knowledge displayed on it into public knowledge. In this context, the community will decide who will use the final maps, and develop a simple regulation mechanism to consider how the use of the participatory maps and posters should be authorized and under what circumstances (e.g. communication, advocacy, sanitation condition self-evaluation, community meetings, visitors et. al.).

5. Assumptions and risk assessment

5.1. Assumptions

The assumptions identified herein are the external conditions necessary for the achievement of the objectives of the project. Although the project methodology has little control over them, they will be closely assessed and monitored through the implementation of the activities.

The main assumption is that all five selected communities have been recently declared ODF, presuming a 100% open defecation free environment and a high rate of latrine coverage. Such adequate sanitation condition as well as the previous inclusive engagement of the communities in triggering activities, will be confirmed by reviewing the reporting and evaluations of the organization which implemented the CLTS activities. Moreover, sanitation status will be assessed during the inception phase of the project.

It is acknowledged that the whole process of sustaining behavior change needs to be given sufficient time, and the communities given the appropriate support as they face external and internal stresses and challenges. Hence, it is assumed that a five year implementation duration is a long enough period to observe evidences of social and behavioral change.

Finally, the accessibility to adequate resources is assumed as it conditions the success of the project implementation. Such necessary resources include but are not limited to: funds, facilitating skills, and technical GIS knowledge.

5.2. Risks Assessment

Risks discussed below are contextual factors to the project that may impact its implementation. The intended mitigation measures related to external and internal factors are also outlined.

The essential participatory dimension of the project and the use of PGIS tools might result in potential unintended uses, misappropriation by a group of beneficiaries, or contribution to exacerbate existing tensions within the selected communities. Such risks need to be communicated to the community members at the earlier stage of the collaboration, as they might influence them to engage in the project. It is the responsibility of the facilitators to fully inform the community members of all risks and expected impacts before the implementation of the

project. A transparent methodology will be developed for all phases of the project, including preparatory visits, to explain the objectives and the importance of the participatory approach, and to discuss the organization of the activities, in order to build trustful relationships between various groups, individuals, and external facilitators. Particular attention will be given to enabling as much as possible community members to contribute and to take ownership of the project on an equal footing.

The no-direct subsidy principle of the project might have to compete with other subsidized programs implemented in the area. If the community members or people from neighboring communities have been recently exposed to subsidized approaches from the government or other development organizations, the beneficiaries might expect rewards or incentives in return of active participation to the project. In such an eventuality, trained facilitators will have the core responsibility during the preparatory work in the field, to examine with community members how the two approaches can coexist, aiming to foster the acceptance of the no-direct subsidy principle of the project by beneficiaries.

Political unrest and instability, which have been prevailing since 2009, and growing insecurity, in Madagascar have negatively affected economic, social and institutional development. However, rural areas where the project is to be implemented are more likely to be unaffected by the same.

The main environmental risk is strongly related to the fact that the three selected intervention regions are disaster prone areas (e.g. cyclones, floods, droughts, locust invasions, et.al.). Communities where the project is to be implemented could be affected by natural disasters, shifting the priority of community members from sustaining behavior change to emergency and survival strategies. This environmental risk might affect the coordination and

implementation of the project's activities. Madagascar has a large and active Disaster Risk Management (DRM) structure, consisting of the government, donors and NGOs (Madagascar National Disaster Risk Management Office, 2014). Likewise, UNICEF has already a national and regional disaster risk reduction and relief strategy in place, which this project will join and actively participate in.

6. Monitoring and evaluation

During and after the completion of the project, mechanisms for continued monitoring and internal and external evaluation will be implemented to ensure the effective execution of the activities, guaranteeing the achievement of expected results and objectives as well as sustaining the impact of the project.

6.1. Monitoring and evaluation strategy

A robust monitoring system will be established in all five selected communities which have been assumed to have near 100% open defecation free environment, to ensure that all activities are properly monitored and relevant data are collected.

During the inception phase of the project, an in-depth assessment of the sanitation condition will be conducted in each selected community. This assessment will aim to retrieve the data of CLTS activities remaining in the community and to evaluate the reality of sanitation conditions there at the beginning of the project. This assessment will provide a robust and realistic basis for the monitoring and evaluation strategy of the project.

For the duration of the project, activities will be monitored through a quarterly updated annual action plan. This tool will ensure a significant level of monitoring and will enable

resolution flexibility. Thus, results of periodic monitoring will be used to inform and revise the action plan of the project as necessary.

At the end of the project, a final evaluation will be carried out by an independent evaluation team. This evaluation will examine as systematically and objectively as possible the effectiveness, the efficiency and the sustainability of the impact of the project. In this respect, the final evaluation will focus on linking achieved results with the inputs put into, and activities conducted through the duration of the project, and its overall performance, and, thereby, determining any changes needed in the prospect of the development of an evidence-based scaling-up strategy.

Finally, steady post-project monitoring phase will be planned as project outputs become institutionalized, including adequate sanitation practices becoming firmly embedded as standards, and selected communities sustain their ODF status.

6.2. Progress performance and indicators

The progress of the implementation will be measured by the use of specific indicators related to each objective and relevant expected results, with respect to the framework of the project. The essential indicators are being listed below:

Objective 1: Rural communities maintain adequate sanitation and hygiene practices and behaviors over time

- Percentage of households in the project area practicing open defecation
- Percentage of households in the project area returning to open defecation
- Number of latrines in use that have been replaced, rehabilitated and improved in the project area
- Percentage of households in the project area with an individual latrine

- Percentage of community members in the project area with access to an individual or shared latrine

Objective 2: Rural communities apply a locally designed framework for continued self-evaluation of their ODF status

- Percentage of the community members in the project area aware of the sanitation strategy
- Frequency of self-evaluation of ODF status carried out by community members
- Availability of the self-evaluation reports to the community

The measuring criteria for the performance and the achievement of the expected results at the end of the project will be evaluated through the following indicators:

ER1: Continued external support to the community after ODF status declaration

- Frequency of activities carried out with community members through the duration of the project
- Number of sanitation events in which community members have taken part through the duration of the project

ER2: Strengthened involvement of the most vulnerable community members in collective long-term sanitation strategy formulation and implementation

- Participation of identified vulnerable groups in information sessions, participatory activities and workshops
- Participation of identified vulnerable groups in the sanitation strategy decision process
- Inclusion of identified vulnerable groups in sanitation committees

ER3: Improved measurement of sanitation behavioral change and long term community involvement

- Percentage of community members participating in information sessions, participatory activities and workshops
- Percentage of community members in the project area trained to carry out self-evaluation of ODF status
- Percentage of yearly achievement of collective objectives set by the communities' sanitation strategy
- Percentage of community members in the project area recognizing adequate sanitation as a social norm

ER4: Local sanitation condition captured and shared memories created

- Regularity and promptness of the handover of PGIS maps and posters to the community members
- Accessibility of PGIS maps and posters to all community members
- Extent of use of maps and posters in community sanitation meetings
- Percentage of community members who can describe and explain the evolution of the project area sanitation conditions

7. Project management and organization

7.1. Timeline of the project

The duration of the project is five years. Participatory activities carried out with community members require a substantial input of time from participants. During the inception phase of the project, the community members will decide a time of the year that is best suited for them. Thus, busy periods such as harvesting season, or inaccessible periods such as during rainy season, will not be selected for the implementation of participatory activities. With those factors in mind, the timeline for implementation of the main phases of this project in one selected community can be presented as follow:

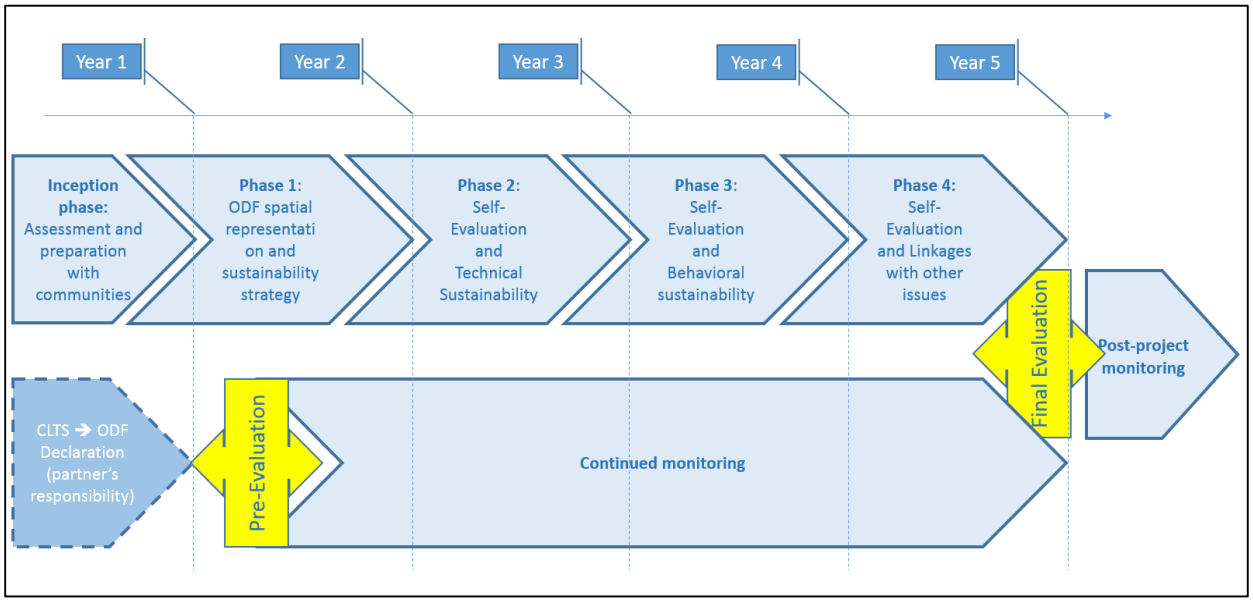

Figure 3 Project timeline

7.2. Human resources

The activities of the project will be implemented by a dedicated team, supported by a part-time coordination unit cofounded by various interventions, as represented by the following organigram:

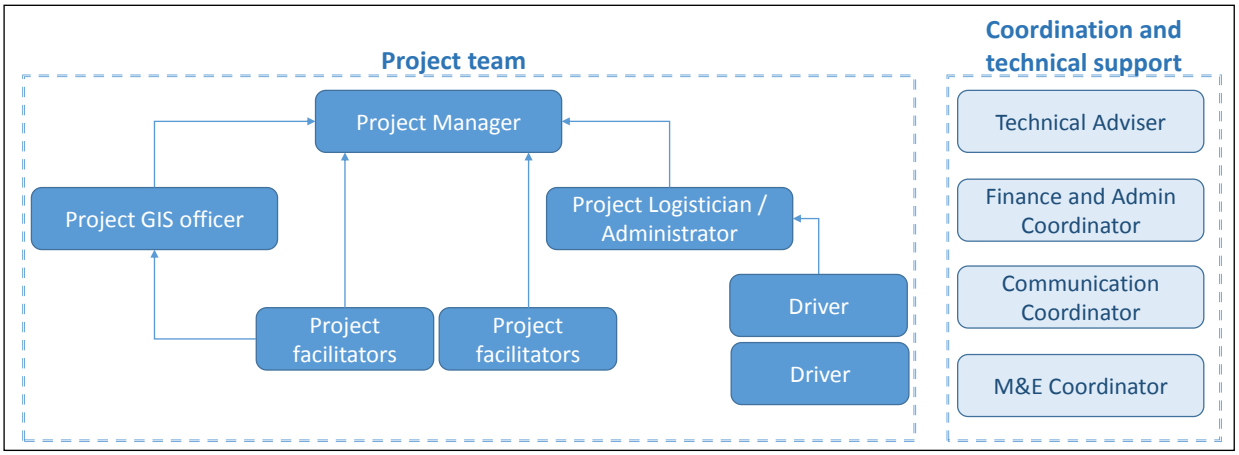

Figure 4 Project organigram

Operating budget

The operating budget required for the project is estimated at $200,000 USD over sixty months of implementation (See Appendix C for detailed operating budget):

	1 Year		5 Years	
Costs	**Costs (USD)**	**Costs (Ariary)**	**Costs (USD)**	**Costs (Ariary)**
1. Human Resources				
Subtotal Human Resources	30,860	102,790,031	116,500	388,044,025
2. Travel				
Subtotal Travel	4,800	15,988,080	9,600	31,976,160
3. Equipment and supplies				
Subtotal Equipment and supplies	14,500	48,297,325	19,000	63,286,150
4. Local office				
Subtotal Local office	3,120	10,392,252	6,240	20,784,504
5. Other costs, services				
Subtotal Other costs, services	5,100	16,987,335	12,000	39,970,200
6. Other				
Subtotal Other	10,500	34,973,925	20,850	69,448,223
7. Subtotal direct eligible costs of the Action	68,880	229,428,948	184,190	613,509,262

Figure 5 Operating budget

7.3. Communication plan

The project aims to develop a holistic approach with a high level of participation from all five communities throughout the project cycle. As such, all activities implemented during the project will be rigorously documented by the external facilitators and the community members in order to build a substantial knowledge and provide a compelling tool for understanding sanitation behavior sustainability over time.

The use of PGIS methods will enable the community to collect, analyze, and disseminate knowledge and information in support of their long term sanitation strategy. In this way, the project is designed to provide a better understanding of the mechanisms at work in the diffusion of adequate and sustainable sanitation practices of beneficiaries. It will encourage adaptive learning and knowledge sharing in term of long-term sanitation behavior change.

A large set of documents, maps, posters and reports produced and owned by the community will be made widely available so that, even after the project is finished, its end products remain easily accessible by the entire group of stakeholders.

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Appendix A: Madagascar country profile

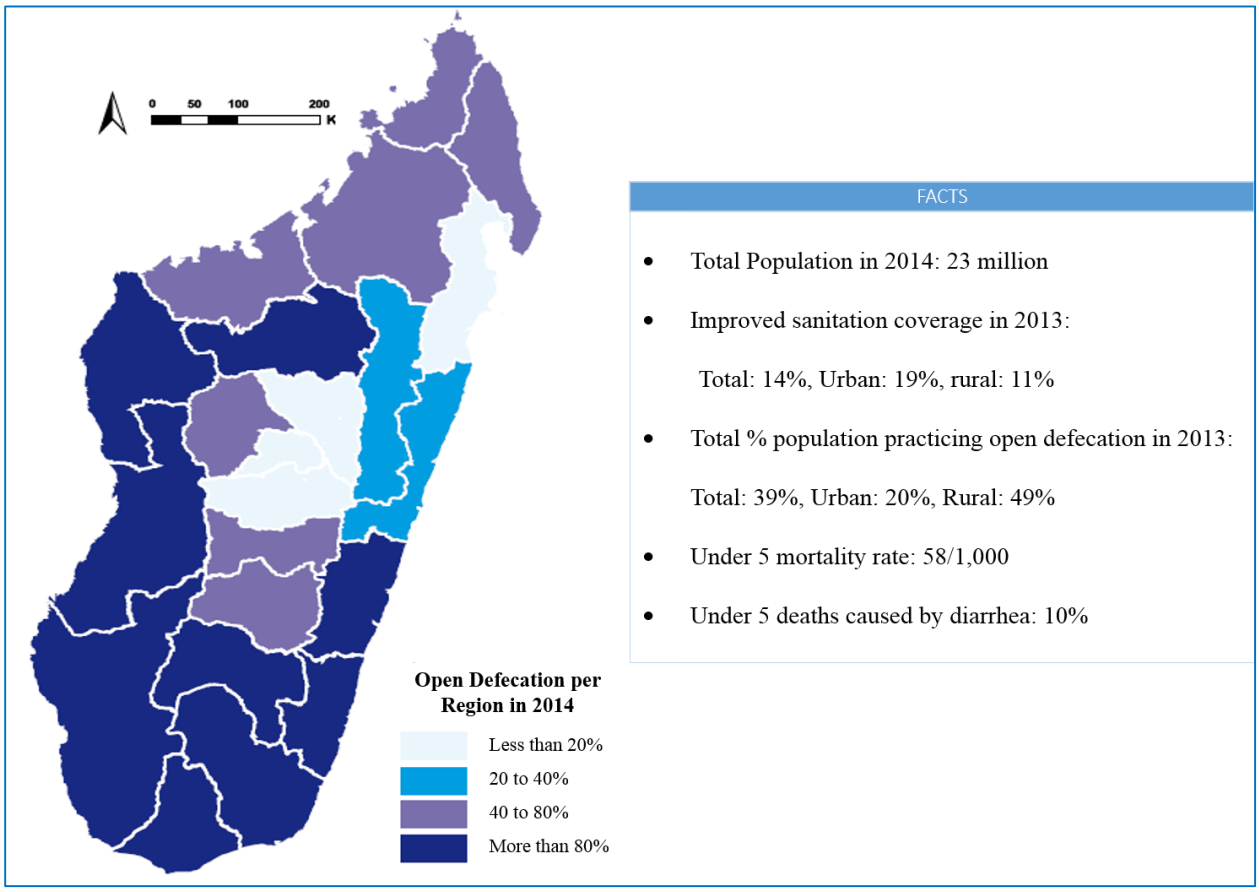


Figure A. Madagascar facts sheet: (UNICEF Madagascar, 2014; UN-Water/WHO, 2014; Water Ministry of Madagascar, 2015; World Bank, 2015)

Madagascar, located in the Indian Ocean, is the fourth largest island in the world. While the overall rainfall variation is low, meaning that drought rarely happens except in the southern regions, prominent natural disasters such as cyclones and storms regularly cross the island (Pryor, 1990; Madagascar National Disaster Risk Management Office, 2014). The island is also very vulnerable to other natural disasters, such as locust invasion or epidemics as cholera or plague, considered as endemic by World Health Organization (WHO/UNICEF, 2013). On a national scale, disasters are threatening approximately one quarter of the population who live in

zones at risks according to Madagascar National Disaster Risk Management Office (Madagascar National Disaster Risk Management Office, 2014).

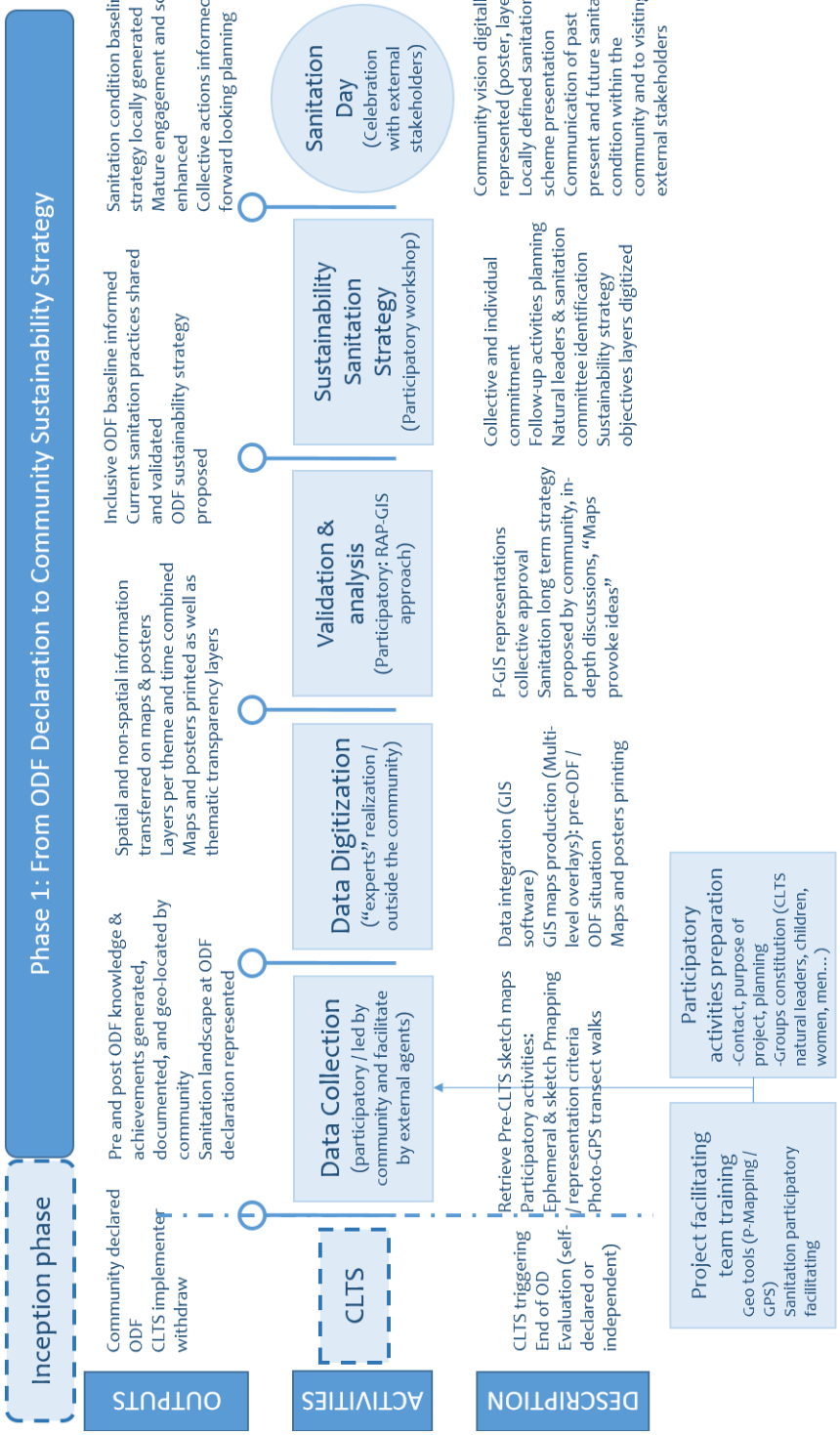
Madagascar is one of the poorest countries in the world, the island country is part of the Low Income countries group, with 2013 Gross National Income (GNI) per capita reaching 440 US dollars, evaluating Madagascar's economy at the 207th rank worldwide (World Bank, 2015). Poverty is a great concern in Madagascar as in 2010, with 95% of the population facing extreme poverty and considered living with less than 2 dollars a day (and 87% living with less than 1.25 dollar a day (Francken, Minten, & Swinnen, 2012). Since the last national census was done in 1993, Madagascar population is estimated at 23 million people (World Bank, 2015). Malagasy population is still in demographic transition, growing of 2.8% annually since 2000, with 64 years life expectancy at birth and a high fertility rate of 4.5 births per women in 2012 (UNICEF Madagascar, 2014; World Bank, 2015). As many other developing African countries, Madagascar demographic profile can be considered very young as under 25 years old people represent 60% of the population impacting the development condition of the country in terms of institutions, public service, such as infrastructures (only 16% of the 37.476 km of road were paved in 2014), education, health facilities and employment capacity of the economy.

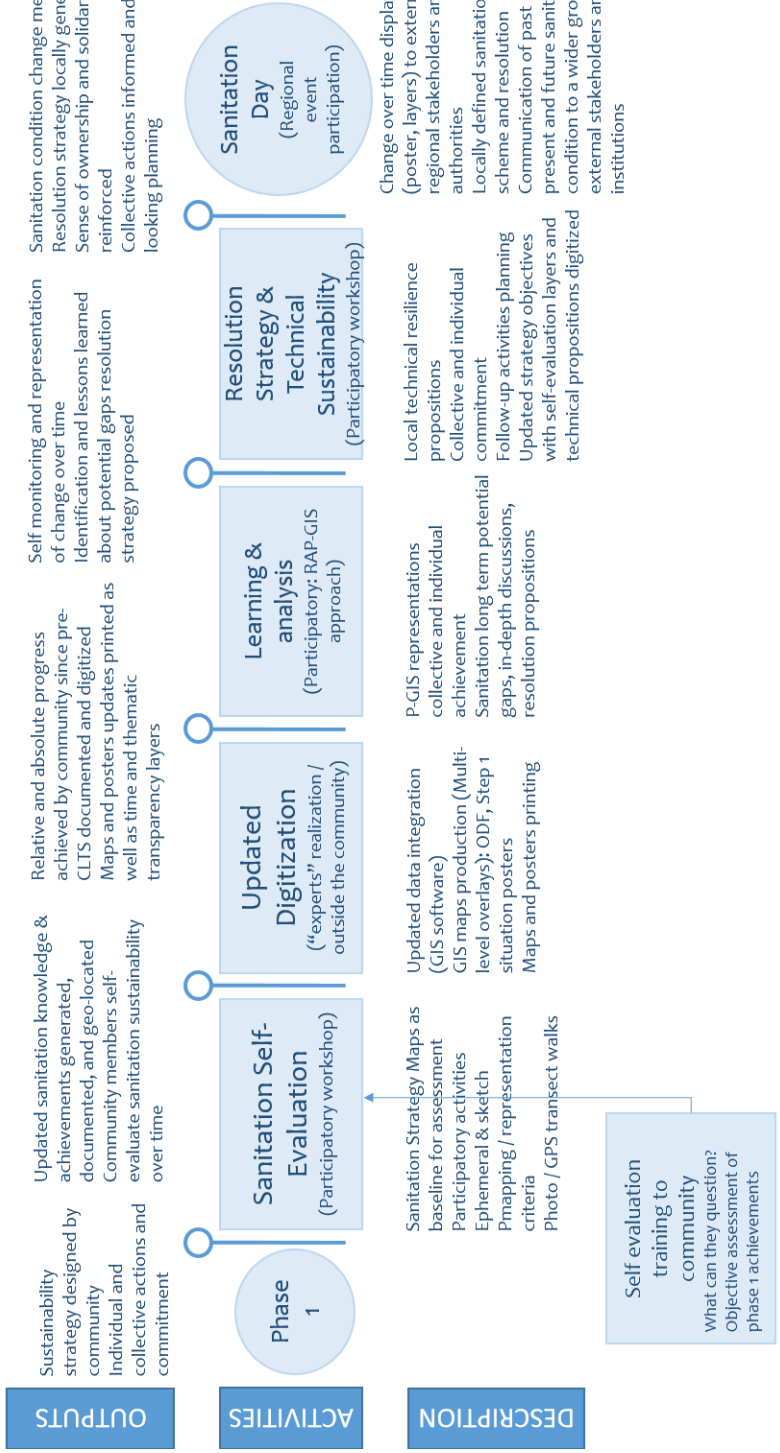
The recent political and economic history of Madagascar shows a consistent trend of economic growth, following the implementation of new development strategy, creating hope and optimism from international donors, each time interrupted by a social turmoil and political crisis (Marcus, 2004; Horning, 2008; Moser, 2008; International Crisis Group, 2010; UNICEF Madagascar, 2014).

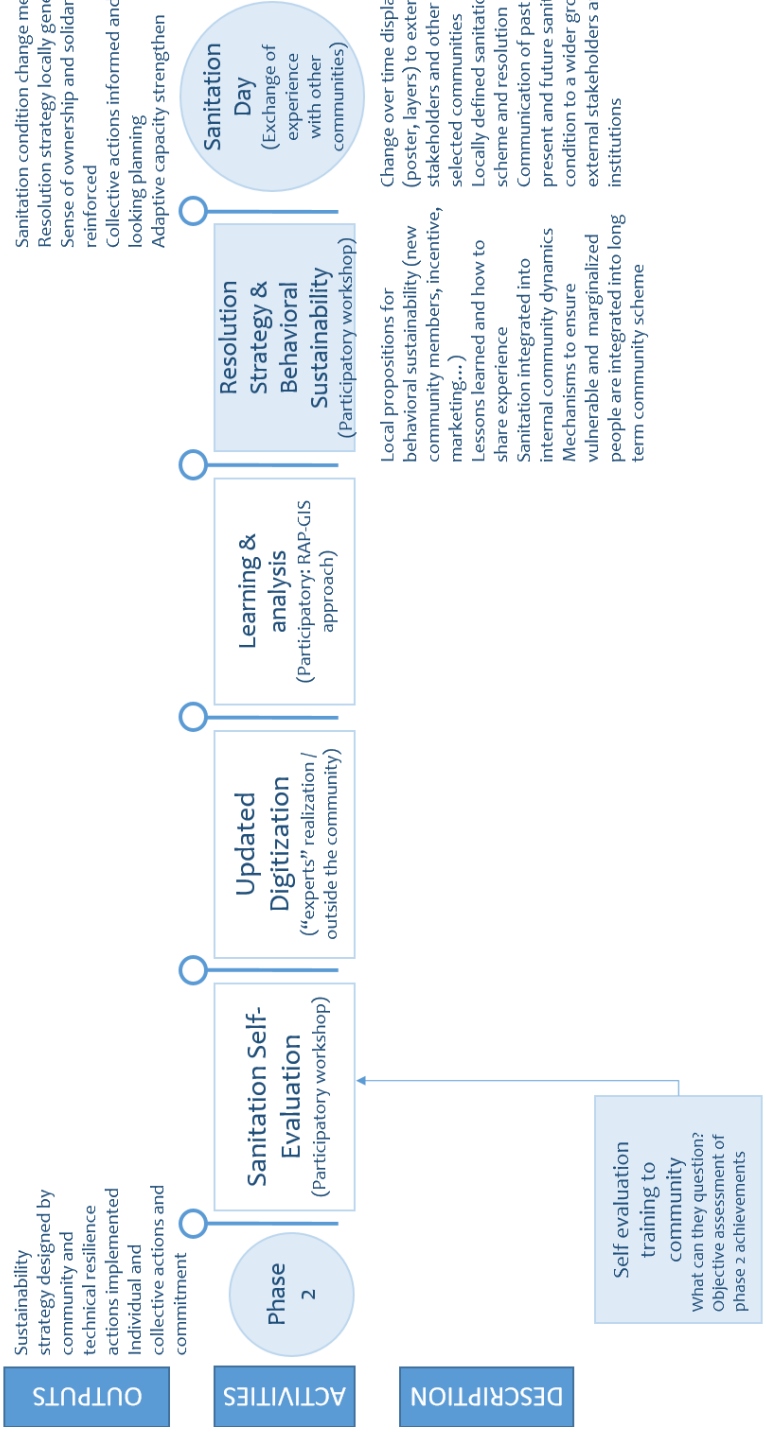
Madagascar experiences regular social movements and uprisings since the 1970s, shifting power and radically changing political directions and leaders (Marcus, 2004). Since 2009,

political crisis, Madagascar government revenues have been severely reduced as the international assistance has been largely frozen (International Crisis Group, 2010; UNICEF Madagascar, 2014). In turn, the Malagasy government has reduces budget of all the basic sectors such as education, health, and infrastructures. The major reduction in government finance for the WASH sector, added to the reticence of international donors to engage in the country in the period following the 2009 coup has exacerbated the already weak sanitation condition of the country, leaving the rural communities on their own to manage water supplies infrastructures and sanitation facilities (Ryan, 2014; UNICEF Madagascar, 2014; UN-Water/WHO, 2014).

Appendix B: Detailed Flow Chart of the Activities




Phase 2: Self-Evaluation and Technical Sustainability
OUTPUTS
ACTIVITIES
DESCRIPTION
Phase 1
Sustainability strategy designed by community
Individual and collective actions and commitment
Sanitation Self-Evaluation (Participatory workshop)
Updated sanitation knowledge & achievements generated, documented, and geo-located
Community members self-evaluate sanitation sustainability over time
Sanitation Strategy Maps as baseline for assessment
Participatory activities
Ephemeral & sketch
Pmapping / representation criteria
Photo / GPS transect walks
Updated Digitization ("experts" realization / outside the community)
Relative and absolute progress achieved by community since pre-CLTS documented and digitized
Maps and posters updates printed as well as time and thematic transparency layers
Updated data integration (GIS software)
GIS maps production (Multi-level overlays): ODF, Step 1 situation posters
Maps and posters printing
Learning & analysis (Participatory: RAP-GIS approach)
Self monitoring and representation of change over time
Identification and lessons learned about potential gaps resolution strategy proposed
P-GIS representations collective and individual achievement
Sanitation long term potential gaps, in-depth discussions, resolution propositions
Resolution Strategy & Technical Sustainability (Participatory workshop)
Sanitation condition change measured
Resolution strategy locally generated
Sense of ownership and solidarity reinforced
Collective actions informed and forward looking planning
Local technical resilience propositions
Collective and individual commitment
Follow-up activities planning
Updated strategy objectives with self-evaluation layers and technical propositions digitized
Sanitation Day (Regional event participation)
Change over time displayed (poster, layers) to external regional stakeholders and authorities
Locally defined sanitation scheme and resolution
Communication of past present and future sanitation condition to a wider group of external stakeholders and institutions
Self evaluation training to community
What can they question?
Objective assessment of phase 1 achievements


Phase 3: Self-Evaluation and Behavioral Sustainability
OUTPUTS
ACTIVITIES
DESCRIPTION
Sustainability strategy designed by community and technical resilience actions implemented
Individual and collective actions and commitment
Phase 2
Sanitation Self-Evaluation
(Participatory workshop)
Updated Digitization
("experts" realization / outside the community)
Learning & analysis
(Participatory: RAP-GIS approach)
Resolution Strategy & Behavioral Sustainability
(Participatory workshop)
Sanitation Day
(Exchange of experience with other communities)
Sanitation condition change measured
Resolution strategy locally generated
Sense of ownership and solidarity reinforced
Collective actions informed and forward looking planning
Adaptive capacity strengthen
Local propositions for behavioral sustainability (new community members, incentive, marketing…)
Lessons learned and how to share experience
Sanitation integrated into internal community dynamics
Mechanisms to ensure vulnerable and marginalized people are integrated into long term community scheme
Change over time displayed (poster, layers) to external stakeholders and other selected communities
Locally defined sanitation scheme and resolution
Communication of past present and future sanitation condition to a wider group of external stakeholders and institutions
Self evaluation training to community
What can they question?
Objective assessment of phase 2 achievements


Phase 4: Technical and Behavioral Sustainability to other development issues
OUTPUTS
Sustainability strategy designed by community and technical resilience actions implemented Individual and collective actions and commitment
ACTIVITIES
Phase 3
Sanitation Self-Evaluation (Participatory workshop)
Updated Digitization ("experts" realization / outside the community)
Learning & analysis (Participatory: RAP-GIS approach)
Resolution Strategy & Behavioral Sustainability (Participatory workshop)
Specific event (Exchange of experience with other communities)
DESCRIPTION
The selection of the related issue depends on the community situation, interests of the members as well as their needs and potential partners involvements: Preservation, agriculture practices, education are potential thematic to be explored in collaboration with community members and partners.

Appendix C: Detailed operational budget

Costs	5 Years					Year 1			
	Unit	# of units	Unit rate	Unit rate (Ariary)	Costs (USD)	Costs (Ariary)	Unit	# of units	Unit rate	Unit rate (Ariary)
1. Human Resources										
1.1 Local Salaries (gross salaries including social security charges and other related costs, local staff)										
1.1.1 Technical										
1 Project Manager	`	60	750	2498138	45000	149,888,250	Month	12	750	24981375
2 Project GIS Officers	Month	60	400	1332340	24000	79,940,400	Month	12	400	1332340
1.1.2 Administrative / support staff										
1 Log/Admin	Month	60	400	1332340	24000	79,940,400	Month	12	400	1332340
1 Driver	Month	60	180	599553	10800	35,973,180	Month	12	180	599553
1.2 Expatriate Salaries (gross salaries)										
Expatriate technical support flight ticket (Cofunding)	Flight	1	1,500	4996275	1500	4,996,275	Flight	1	1,500	4996275
Expatriate technical support-salary (Cofunding)	Month	2	3,000	9992550	6000	19,985,100	Month	2	3,000	9992550
1.3 Per diems for missions/travel										
1.3.1 Abroad (staff assigned to the Action)	Month	2	200	666170	400	1,332,340	Month	1	200	666170
1.3.2 Local (staff assigned to the Action)	Month	120	40	133234	4800	15,988,080	Month	60	40	133234
Subtotal Human Resources					116,500	388,044,025				
2. Travel										
2.2 Local transportation	Per month	24	400	1332340	9600	31,976,160	Month	12	400	1332340
Subtotal Travel					9,600	31,976,160				
3. Equipment and supplies										
3.1 Purchase or rent of vehicles	car	1	10,000	33308500	10000	33,308,500	car	1	10,000	33308500
3.2 Furniture, computer equipment	items	6	1500	4996275	9000	29,977,650	items	3	1500	4996275
Subtotal Equipment and supplies					19,000	63,286,150				
4. Local office										
4.1 Vehicle costs	Per month	24	60	199851	1440	4,796,424	Month	12	60	199851
4.2 Office rent (hosted by donor)	Per month	6	0	0			Month	0	0	0
4.3 Consumables - office supplies	Per month	24	50	166542.5	1200	3,997,020	Month	12	50	166542.5
4.4 Other services (telephone, electricity...)	Per month	24	150	4996275	3600	11,991,060	Month	12	150	4996275
Subtotal Local office					6,240	20,784,504				
5. Other costs, services										
5.1 Publications										
Reproduction / impression	Publication	200	20	66617	4000	13,323,400	impression	150	20	66617
5.4 Evaluation costs	Evaluation	2	2000	6661700	4000	13,323,400	Evaluation	1	2000	6661700
5.5 Translation, interpreters										
5.8. Visibility actions	tools	200	20	66617	4000	13,323,400	tools	5	20	66617
Subtotal Other costs, services					12,000	39,970,200				
6. Other										
6.1 Assessment	Assessment	4	1,400	4663190	5600	18,652,760	Assessment	5	1,400	4663190
6.2 Training sessions	Training sessions	10	150	4996275	1500	4,996,275	Training sessions	5	150	4996275
6.3 Events / celebrations	Event	25	300	999255	7500	24,981,375	Event	5	300	999255
6.4 Support to beneficiaries	Activities	250	25	83271.25	6250	20,817,813	Activities	50	25	83271.25
Subtotal Other					20,850	69,448,223				
7. Subtotal direct eligible costs of the Action					184,190	613,509,262				
10. Administrative costs (maximum 10% of total direct eligible costs of the Action)					18,419	61,350,926				
11. Total eligible costs (direct + administrative)					202,609	674,860,188				