Sanitation and hygiene in developing countries: identifying and responding to barriers

A case study from Madagascar

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This report will also be available in French, via the Tearfund website: http://tilz.tearfund.org/Research/Water+and+Sanitation

This case study is part of a project investigating barriers to sanitation and hygiene promotion in three francophone countries in sub-Saharan Africa: Madagascar, Burkina Faso and the Democratic Republic of Congo. A description of the project is set out in Section 1.3 of this document.

As well as country case study reports, see also the Briefing Paper synthesising and commenting on the results of the studies in the three countries – on the ODI website www.odi.org.uk/wpp/Publications.html

A Tearfund synthesis paper is also available: http://tilz.tearfund.org/Research/Water+and+Sanitation

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Acknowledgements

Tearfund is an evangelical Christian relief and development agency working with local partners to bring help and hope to communities in over 70 countries around the world. Many of its partners work on water, sanitation and hygiene promotion projects. Through its advocacy work, Tearfund hopes to raise awareness of the current global water and sanitation crisis among its supporters and policy-makers; it also hopes to build the capacity of its partners to advocate on water issues on behalf of poor communities.

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The 'Malagasy Biblical Baptist Churches Association' is an association of about 65 independent 'Bible Baptist' churches in Madagascar. HVM is a hospital, *Hôpital Vaovao Mahafaly* (the 'Good News Hospital'), run by FFBBM.

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Abbreviations

ADB	African Development Bank
ARI	Acute respiratory infection
BPD	Building Partnerships for Development
CLTS	Community-led total sanitation
DEA	Directorate of Water and Sanitation, Ministry of Energy and Mines – *Département de l'Eau et l'Assainissement*
DFID	Department for International Development (of the UK government)
DRC	Democratic Republic of Congo
FFBBM	The Malagasy Biblical Baptist Churches Association – *Fivondronan'ny Fiangonana Batista Biblika Eto Madagasikara*
HVM	'Good News Hospital' – *Hôpital Vaovao Mahafaly*
IEC	Information, education and communication activities
KAP	Knowledge, aptitude, practices – in French, *comportements, attitudes, pratiques*
MDG	Millennium Development Goal
MICS	Multiple Indicator Cluster Survey
NGO	Non-governmental organisation
PCD	Commune development plan – *Plan communal de développement*
PRD	Regional development plan – *Plan regional de développement*
PRSP	Poverty Reduction Strategy Paper – *Document de Stratégie pour la Réduction de la Pauvreté*
PVD	Village development plan – *Plan villageois de développement*
S&H	Sanitation and hygiene
WASH	Water, sanitation and hygiene
WSP	Water and sanitation programme
WSS	Water supply and sanitation
WSSCC	Water Supply and Sanitation Collaborative Council

1 Introduction

1.1 Rationale

Many people believe that simply providing a fresh, clean water supply will substantially reduce water-borne illnesses. What most people do not know is that safe hygiene practices and access to sanitation are crucial for combating the main health threats to children under five, in particular diarrhoea. Approximately 88 per cent of all diarrhoea infections worldwide are attributed to unsafe water supply, the lack of safe hygiene practices and basic sanitation infrastructure (Evans 2005). And the scale of the problem is immense: today, nearly twice as many people lack access to sanitation compared with water supply (UN 2005).

In recent years, sanitation has risen up the international policy agenda. In 2002, sanitation was included in the Millennium Development Goals (MDGs), and specifically within MDG 7, Target 10, which sets the aim of halving *'by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation'*. Yet, at national level in most developing countries, hygiene and sanitation do not yet receive much attention, despite important health implications. The aim of this report is to explore the underlying reasons for this apparent paradox.

1.2 Defining sanitation and hygiene

The first thing that comes to mind when talking about sanitation is a latrine. The term 'sanitation', however, commonly covers a much broader area of activities. Box 1 lists the broad elements that most professionals would classify as sanitation, according to Evans (2005). Elements particularly studied in this project are shown in *italics*.

Box 1
Broad elements encompassing sanitation, hygiene and water management

Source: Evans (2005)

Sanitation	• *Safe collection, storage, treatment and disposal/re-use/recycling of human excreta (faeces and urine)* • Management/re-use/recycling of solid waste (rubbish) • Collection and management of industrial waste products • Management of hazardous wastes (including hospital wastes, chemical/ radio-active and other dangerous substances)
Hygiene	• *Safe water storage* • *Safe hand-washing practices* • Safe treatment of foodstuffs
Water management	• Drainage and disposal/re-use/recycling of household waste water (also referred to as 'grey water') • Drainage of storm water • Treatment and disposal/re-use/recycling of sewage effluents

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The range of activities in Box 1 is wide. The result is that a typical view of the 'sanitation and hygiene sector' extends from investment in large and costly items of infrastructure such as trunk sewers, via simple 'on-site' latrines for individual households, to provision of 'soft' items, e.g. support for women's groups seeking to change defecation practices in their community.

In Box 1 the usual order of presentation for 'WASH' as promoted by the Water Supply and Sanitation Collaborative Council (WSSCC) – water, sanitation and hygiene – has been adjusted. The key feature of the WASH approach is that it promotes the three components in combination, in policies and practice.

Not all elements in Box 1 have the same impact on reducing under-five child mortality. This Madagascar case study has paid particular attention to safe disposal of human excreta and safe hygiene practices, which are elements of basic sanitation and hygiene lacking in many poor areas in Africa and other developing countries (listed in *italics*).

'Solid waste disposal' (of rubbish/garbage, not faeces) is also included in Box 1, as is disposal of waste from hospitals/clinics. Less attention is, however, paid to both those aspects during this project.

Improved hygiene is also a factor in reducing acute respiratory infections (ARIs). Studies tracing the routes of faecal-oral contamination in households suggests that hands are the microbe 'superhighway'. They carry faecal germs from toilets or defecation sites to utensils, water and food. While washing hands at critical times is accepted as an effective intervention against diarrhoeal disease, evidence is also now growing for its effectiveness against respiratory infections (Cairncross 2003) such as tuberculosis (including transmission of germs from mouth to hand to mouth, e.g. via sneezing).

Improving sanitation in line with Millennium Development Goal (MDG) Target 10, alongside improved water supply, may directly contribute to progress towards MDG Targets 4 and 6 shown in Box 2. Improving sanitation will also contribute, indirectly, to other MDGs such as Target 3 on education and Target 8 on maternal health, also shown in Box 2.

Box 2
Sanitation and hygiene-related targets under the MDGs

MDGs	Targets
7 Environmental sustainability	**Target 10** Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.
4 Reduced child mortality	**Target 4** Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate.
6 Combating disease	**Target 8** Have halted, by 2015, and begun to reverse, the incidence of malaria and other major diseases.
3 Achieving universal primary education	**Target 3** Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.
5 Improving maternal health	**Target 8** Reduce by three-quarters the maternal mortality ratio.

Diarrhoeal diseases and parasites reduce attendance and attention at school in a number of ways: girls often stay away from school unless there are female-only latrines; time spent collecting water may take precedence over school attendance and this burden falls on girls, as does looking after sick family members. Teachers may be unwilling to live in areas without adequate water and sanitation. Women bear the brunt of poor health and the security risks from lack of private sanitation or washing facilities, and the burden of carrying water. A hygienic environment will be more conducive to maternal health: a healthy pregnancy and hygienic labour practices reduce the risk of maternal illness.

1.3 Objectives, methodology and scope

This report is based on a project commissioned by Tearfund with two objectives.

- First, this project is designed to contribute to better understanding of factors which hinder or, conversely, support:
  - the development of policies on sanitation and hygiene at national level
  - the effective implementation of sanitation and hygiene programmes (delivery to those who need it).
- Secondly, Tearfund aims to build the capacity of its local partner organisations in carrying out evidence-based advocacy on sanitation issues in their respective countries. The starting point for choosing which countries to study was therefore individual Tearfund partners' interest in sanitation and hygiene policy. From among those interested, Tearfund selected three Francophone countries which were therefore less well-known to UK-based organisations, namely Madagascar, Burkina Faso and the Democratic Republic of Congo (DRC).

The research methodology is informed by the objectives above. Rapid research methodologies with a strong capacity building element have been used to allow Tearfund's local partners to participate in carrying out the study. This report therefore presents the findings from 'scoping' rather than in-depth analysis.

In Madagascar, the research was carried out jointly between ODI, which took the lead at national level, and FFBBM/HVM, Tearfund's local partner which implemented the local-level research. The research is based on a desk study of relevant policy and materials in-country and on semi-structured interviews at national level with representatives of government, non-governmental organisations (NGOs) and donors, both sanitation and hygiene specialists and other development practitioners. This was complemented by a questionnaire to households in seven rural villages, a focus group in an urban context and some further interviews to collect the views of actors at sub-national level (in a 'region' and 'district' in Madagascar, for convenience referred to as the 'local' study). Further input came from a discussion between FFBBM, ODI and invited sector actors at a seminar held in Antananarivo in October 2006, to identify and agree the findings of the Madagascar country study.

This report offers a snapshot of the sector as it is perceived by key decision-makers and experts at national level and by users and practitioners in one locality.

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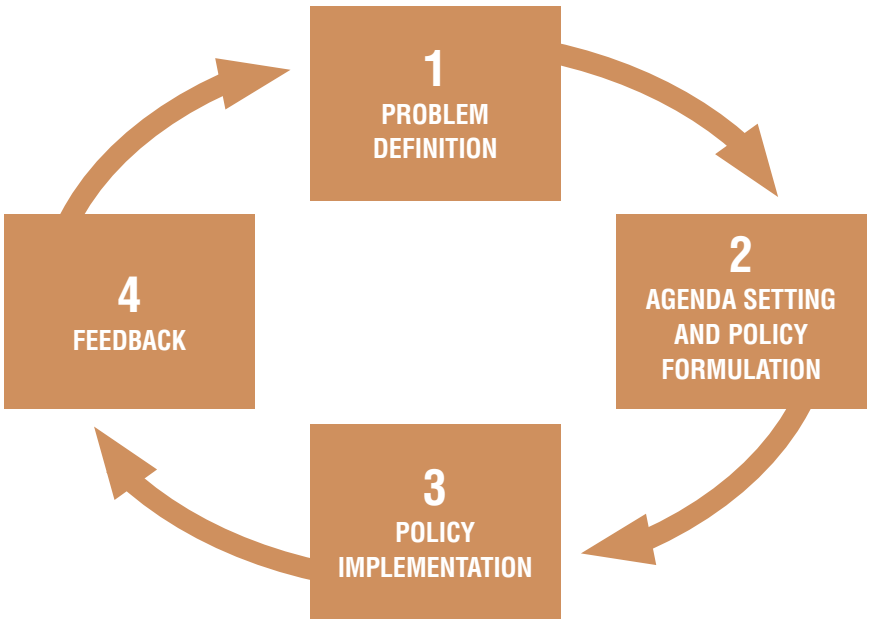
1.4 Approach to identifying barriers and supportive factors

There are a number of potential barriers to developing and implementing sanitation and hygiene policies – and some factors which are supportive of them.

A typical policy process broadly encompasses the four essential stages of 1 – **Problem definition**, 2 – **Agenda setting and policy formulation**, 3 – **Policy implementation** and 4 – **Feedback**, as shown in Figure 1.

Figure 1
The policy process: stages in the development and implementation of public policy



As will be seen, barriers to development and implementation of sanitation and hygiene policies may occur during each of the first three stages. The fourth 'Feedback' stage was not covered by this study, although clearly monitoring and evaluation of how programmes are being implemented is an important element of the policy cycle, to feedback lessons learnt.

The studies in the three countries suggest that, once agendas have been set and policies on sanitation and hygiene formulated (stage 2), the challenges of achieving policy implementation (stage 3) are substantial. In Madagascar, as in many African countries, decentralisation is recent and ongoing – a process which in many locations exists, as yet, more on paper than in practice.

1.5 Structure of the report

The report is organised in the following way:

SECTION 2 is a summary of factors which international commentators consider to impede investment in sanitation and hygiene programmes in developing countries. Perceived 'barriers' applying at each of the first three stages in the policy process above are listed (and numbered) under the above headings: 'Problem definition', 'Agenda setting and policy formulation', and 'Policy implementation'.

SECTION 3 contains an introductory description of the country context in Madagascar and a survey of the sanitation and hygiene sector.

SECTION 4 reviews the scope and results of the 'local' study carried out by FFBBM/HVM in the selected district in Madagascar, described below.

SECTION 5 considers whether the potential barriers identified in Section 2 are present in Madagascar, and whether other barriers to improving sanitation and hygiene services are operative. It also considers whether there are supportive factors to promote them.

SECTION 6 concludes the report with a summary of the barriers, and supporting factors, which are currently operating in Madagascar, together with recommended steps to be taken to improve sanitation and hygiene programmes in the future.

The three case studies reveal that each country is at a different stage in the policy development process. They provide insights into how the barriers and responses suggested in the international literature manifest themselves (or not) in these three sample countries – as reported to the researchers by key actors in each nation.

Differences between sanitation challenges in urban and rural contexts are exemplified by the principal focus in Madagascar and Burkina on rural settlements, and the focus of the local study in DRC on two urban localities.

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2 Perceived barriers

Why then is sanitation proving *'such a hard nut to crack'*? (Evans 2005, page 16.) In this section, we set out the factors which international commentators perceive as being the principal impediments to investment in sanitation and hygiene in developing countries. Each of the fifteen barriers listed below is described in relation to one of the first three stages of the policy development process: 1 – 'Problem definition', 2 – 'Agenda setting and policy formulation', and 3 – 'Policy implementation'.

2.1 Problem definition

The first challenge in developing sanitation and hygiene policies is to define terminology – an integral part of the first stage of the policy process.

Box 1 showed the three components of WASH and activities commonly included under each.[1] But interpretations vary and it cannot just be assumed that stakeholders are using the terms 'sanitation' and 'hygiene' in the same way. Differences of interpretation which remain unnoticed and unexplored will undermine efforts to identify and agree the problems which future policies and programmes must resolve.

Jenkins and Sugden (2006) note that use of the term 'sanitation' is in danger of blurring the important distinction between 'on-site' methods of handling human waste on the one hand, and connections to sewer systems on the other.[2] Experience shows that a decision relating to an on-site pit latrine for an individual household involves issues which are substantially different from those surrounding a network of sewers and household connections to them. In French, a distinction is made between *assainissement autonome* (autonomous sanitation) and *assainissement collectif* (collective sanitation). In Madagascar, for example, *assainissement collectif* is used in a recent, key official document (see Section 3), although in the Malagasy context that term is distinguished from *assainissement de base* (basic sanitation, including household facilities).

2.2 Agenda setting and policy formulation

The second stage of the typical policy cycle is agenda setting and policy formulation. There are five key barriers which can hinder development of policy during this stage:

2.2.1 Lack of information

Problems may be caused in many developing countries by lack of recent, reliable information on the condition of existing sanitation and hygiene infrastructure, including whether or

1 Vector (i.e. insect and rodent) control is not included in Box 1: it was little referred to by the persons interviewed.

2 While household connections to sewers are, Jenkins and Sugden (2006, page 8) note, a technical option, *'it is unrealistic to believe that anything but a small percentage of the world's urban poor will be served by sewered systems in the next 20 years'*.

not it is actually functioning. Official statistics on sanitation coverage are often inconsistent or even hopelessly inflated. Needs and demands, particularly in more remote rural areas, are frequently unknown, making the task of setting a coherent and balanced agenda more difficult.

2.2.2 Tensions between mindsets

Mutual incomprehension between different mindsets is frequently a barrier to improving sanitation and hygiene provision. Some policy-makers argue, for example, that sanitation as a household amenity is a household responsibility, so that public agencies should concentrate their energies on public aspects of sanitation, e.g. on public networks for storm water drainage, sewerage etc, i.e. large public works projects. Health experts advise, however, that removing excreta from living spaces has major health benefits, not just for individual families, but also for their neighbours; and that many health benefits stemming from improved sanitation are shared by the community at large, rather than accruing principally to individual households. According to this view, such externalities justify the use of public funds for latrine promotion.[3] So public institutions, both central and decentralised, have an interest in – and an obligation towards – allocating public resources for household and small community-level sanitation improvements.

The UN Task Force (UN 2005) explains the danger of transferring to developing countries a utility model current in developed countries which focuses on piped networks, sewers and other large public works, with much less interest in and attention to sanitation at the household level. A 'utility mindset' inclines naturally to the conclusion that sanitation is best institutionally 'housed' within the same (national) ministry and (regional and municipal) agency responsible for public water supply networks. Most water supply and sanitation agencies in industrial nations have very little direct interaction with the hygiene behaviour of households at all. Yet, in countries dependent on external aid, national policy-makers and practitioners who favour a household hygiene focus may encounter pressure to divert from that approach and keep in line with the utility vision of international consultants.

Another example of possible tensions between mindsets is between those who accord priority to public education campaigns designed to promote behaviour change, and those who favour a more (private) market-oriented approach. Research[4] has suggested that low uptake of household sanitation facilities may be explained by sanitation programmes which do not sufficiently understand users and their needs, as compared with those which treat users as having a say in which products (e.g. latrines) they buy to meet their needs. The distinction lies in seeing people not as passive beneficiaries of gifts, but as active citizens and consumers.[5] There are some indications that the latter kind of 'social marketing' increases demand and uptake of sanitation. Jenkins and Sugden (2006) make a case for this (page 16ff), although, as observed elsewhere, health professionals in public agencies (Newborne and Caplan 2006)

3 Cairncross and Curtis (undated).

4 *Social Marketing for Urban Sanitation: review of evidence and inception report*, WEDC, Loughborough University, UK. Research carried out by WEDC, UK, in conjunction with the London School of Hygiene and Tropical Medicine, TREND Group, Kumasi and WaterAid Tanzania: www.lboro.ac.uk/wedc/projects/sm

5 Uptake of latrines could increase if they were designed to meet more of people's demands: if they offered the opportunity to sit while using it, no smell and good ventilation, and easy access for desludging (emptying); and if they were cheap to install, less dependent on water and safe for children.

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may be instinctively sceptical of marketing techniques, at least those practised by private sector companies. This is despite the proven success of, for example, private soap producers in promoting sales of soap.[6] A recent report for Building Partnerships for Development (BPD) highlights potential barriers for social marketing: where, for example, potential 'consumers' of sanitation products (e.g. latrines) are tenants of low-grade rented dwellings/ sites, landlords have little interest or incentive to invest their own resources in sanitation, due the perceived interim nature of their accommodation (Schaub-Jones et al 2006).

Jenkins and Sugden (2006) point out that, as regards sanitation services, there is evidence to challenge the views of those who instinctively favour public sector solutions to all 'water sector' problems. In developing countries the contribution of public-sponsored construction of sanitation infrastructure has been very small to date, compared with action by private households and providers to households.

2.2.3 Lack of coordination

Other commentators point to the lack of clarity in some developing countries over who – or **which** institution(s) – is responsible for which of the functions referred to in Box 1.

The most commonly adopted arrangement is that the institutional 'home' of sanitation is located within ministries of water. A second option can be to place sanitation within the remit of the ministry of health: a number of activities in Box 1 have a public health element, and there is a natural link therefore between hygiene and health (particularly preventative health – see further below). Another possibility might conceivably be a separate ministry for sanitation.

Since, however, the range of water, sanitation and hygiene-related activities is so wide, searching for 'the right institutional home' may not be fruitful. Arguably more important is establishing links between institutions, e.g. via planning processes which bring together departments from several responsible ministries. The above BPD report calls for tasks to be shared, *'rather than agreeing that one agency should always "lead" the process'* (Schaub-Jones et al 2006, page 26). Creating and linking **budget** lines across several responsible agencies may be an effective way of achieving coordinated policies. National WASH platforms, placed alongside but kept distinct from government, can help support joint planning by several agencies responsible for sanitation and hygiene, without joint **implementation** being necessary or appropriate, due to e.g. differing time-scales and skills requirements.

2.2.4 Lack of political and budgetary priority, lack of demand

A limiting factor commonly evoked is lack of funds for investment. Both water and sanitation have been losing out to other sectoral interests in the competition for scarce public funds. For example, in a 2003–2004 survey of Poverty Reduction Strategy Papers (PRSPs) and budget allocations in three countries in sub-Saharan Africa (ODI 2002; ODI 2004a), other 'social' sectors, such as education and health, attracted much larger budgetary allocations than water, and sanitation was especially under-funded. It prompts the question as to whether the political will exists to increase budget priority of sanitation.

6 The objection is that soap sales do not reach the poorest groups.

Advocates of increased support for sanitation need to address the fact that, in many instances, household and community expressed demand for sanitation facilities is lower than for other forms of support, including drinking water supply. Sanitation and hygiene specialists note that, for example, *'toilet acquisition may not be a priority item of expenditure, especially for the poor'* (Cairncross and Curtis, undated, page 1). Allocation of public funds to sanitation facilities in households which have not made them a priority may run the risk that, after installation, those facilities will not be used.

2.2.5 Donors' agendas

In aid-dependent developing countries, donor priorities will tend to be influential in setting sectoral agendas, and if pursued individually they will undermine efforts to promote collaborative planning.

2.3 Policy implementation

The third stage of the typical policy process is policy implementation. International commentators point to the following barriers which commonly need to be overcome in developing countries.

2.3.1 Lack of human and technical capacity

In many developing countries a lack of capacity in terms of human resources inhibits development, particularly at a decentralised level. The multi-faceted nature of WASH means that a wide range of different disciplines and skills is required to improve sanitation and hygiene provision. While the water sector has tended to be *'dominated by engineers who feel comfortable with technical problems and tend to lean towards technical solutions'* (Jenkins and Sugden 2006, page 7), household sanitation *'requires softer, people-based skills and takes engineers into areas where they feel uncomfortable and unfamiliar'* (page 8). Promoting behaviour change at household level is an area *'where most countries have few skills… and limited capacity. Most public agencies are unfamiliar with or ill-suited for this role'* (Evans 2005, page 25).

2.3.2 Low capacity to absorb funds

In a sector where spending has historically been low, a question arises about the rate at which flows of finance may be increased, at least funds channelled through state (public) bodies. It cannot simply be assumed that more resources will rapidly translate into improved outcomes. All development interventions need to be designed taking into account constraints in *'absorptive capacity'* (ODI 2005). As well as funds being available, it is important that they *'be used in the right way'* (Tearfund 2005, page 23).

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2.3.3 Lack of service providers

The reality in many locations in Africa is that there is limited choice of sanitation and hygiene providers, whether agencies of local government, community associations, NGOs or private suppliers.

In cities in some developing countries, empirical studies have highlighted the activities of small **private** suppliers (e.g. Collingnon and Vézina, undated; WSP 2005). In relation to sanitation, these include, for example, bricklayers (or 'masons') for latrine construction and people to empty pits manually. There are still some doubts as to slum populations' willingness to pay, but the significance of the role of small private providers in meeting the needs of poor populations is now more widely recognised, where they are able to offer the right product for the right price.[7]

What is 'affordable' is very context-specific, and among poor communities affordability may be a persuasive limiting factor on uptake of new sanitation facilities, such as latrines. *'The decision to install home sanitation for the first time can be a big one and often involves changing [other] household-related infrastructure'* (Jenkins and Sugden 2006, page 13).

2.3.4 Methods/technology ill-suited to context

Suitable sanitation services/facilities will vary according to context: there will be differences between urban and rural contexts, large and small towns, planned and unplanned settlements – as well as between different ethnic and social settings (e.g. communities with more or less collective organisation and identity).[8] Since different products embody different technology choices, technology options which prove inappropriate will constitute practical barriers. There is broad consensus in the literature that the right choice of technology is an important determinant of take-up and use of sanitation facilities.

2.3.5 Lack of access to credit

Access to credit is also noted as something which is commonly lacking in sub-Saharan African countries,[9] particularly micro-credit for small service providers, whether community-based or private (WSP 2003). Loans available are often only for income-generating activities, rather than for improving community and household infrastructure (both sanitation and water facilities). And credit such as is available may not be at affordable interest rates or offer repayment periods long enough for poor borrowers.

2.3.6 Lack of strong messages

Promoting sanitation and hygiene presents a substantial communication challenge. As one Indian specialist explains: *'Statistics make no impact on people, so that it is not enough to state to villagers that diarrhoea kills x thousands of children in their country every year … The real challenge is to make clear the links between common illness and the practice of*

7 Recognising that, for very poor populations, availability of a public subsidy (in whatever form) may be essential.

8 See for example Jenkins and Sugden (2006) for a summary of differences in urban and rural excreta management (page 22).

9 There are a few exceptions where the microfinance sector is reported as being more developed, e.g. Benin and Kenya (WSP 2003, page 14).

e.g. open defecation' (WSSCC, undated, page 26).[10] *'If the campaign is focused only on the building of latrines … there will always be people who are not reached, people who defecate in the open and who continue to pollute the water sources and spread disease. High levels of latrine coverage, therefore, are simply not good enough. At the very least … this movement should be marching under the banner "No Open Defecation"'* (page 8).

The above types of approach have been brought together in a concept called Community-Led Total Sanitation (CLTS) which has been pioneered in South Asia. It uses *'peer pressure, shame, disgust and pride to create dissatisfaction'* with existing practices (Jenkins and Sugden 2006, page 15) and aims to create behaviour change that leads not only to the use of latrines, but also to a range of other activities: *'the washing of hands, the cutting of nails, the safe preparation of food, the refusal to spit in public places and the vigilant protection of local water bodies from all sources of contamination'* (page 6). It is this *'attitude of mind, not building toilets',* argues the WSSCC, which *'will lead to the really dramatic improvement of public health'* (WSSCC, undated). In parts of South Asia, CLTS seems to have been successful in mobilising whole communities. In other regions, it has been less tried and tested. It remains to be seen how CLTS might be adapted into the cultural context of Madagascar.

2.3.7 Lack of arrangements for cleaning and maintenance

A key aspect of the financial viability of shared and communal sanitation facilities is payment for maintenance – cleaning and pit-emptying. Sustained demand for use of latrines will depend on their being clean and without smell. If the rota or other system for cleaning breaks down, the facility will become unpleasant to use. The BPD report (Schaub-Jones et al 2006, page 7) suggests for communal facilities that *'engaging a caretaker is strongly recommended, preferably a local person paid from usage receipts, rather than a public employee. To cover this expense, as well as [other] maintenance and emptying costs, a fee for use is charged.'*

2.3.8 Complexities of behaviour change

However compelling the 'societal' reasons may be for investing in sanitation – reduced disease burden, reduced public health costs, increased school attendance for girls, greater economic productivity etc – the 'private' motivations of individuals for better sanitation at home may be different. As commentators have pointed out, an individual is likely to be prompted to improve his/her sanitation facilities by a mix of motives, including some which are **not** linked to a concern for health – see Box 3 overleaf.

'…Old-fashioned didactic approaches based on education about germ theory and threat of disease have been the norm,' states one commentator (WSP 2002). But, although discouraging poor hygiene practices and encouraging good hygiene practices is important, it will not be enough: just because people know about disease and the cause of disease it does not necessarily follow that they will do something about it. The regular daily conduct of individuals and their habits will be based, at least in part, on reasoned decisions as to how

10 WSSCC is here citing the words of Surjya Kanta Mishra, Minister for Health and Family Development in West Bengal, India, a former doctor and local government leader, who apparently helped launch a well-known pilot project in Medinipur and thereafter promoted a 'total sanitation' campaign in West Bengal.

Box 3
Why might an individual/household choose to use a latrine, instead of opting for open defecation?

Source: WSP and WaterAid, 2000

- **PRIVACY** Lack of privacy during open defecation is a major issue for women. A household latrine means that women do not have to wait for certain times of day, e.g. dawn or dusk, to relieve themselves.
- **CONVENIENCE** Latrines can be constructed next to the house, which is closer than traditional open defecation areas. Latrines can also be built with bath extension, increasing their utility for women.
- **SAFETY** Encounters with snakes, insects, vehicles and vegetation are common. Examples include the death of a 12-year-old girl from snakebite and a 48-year-old man killed by a bus while defecating by the roadside.
- **STATUS/PRESTIGE** A household latrine is a symbol of progress and material wealth. WaterAid-India has anecdotal evidence from its project areas to show that if the poorest households can be motivated to construct household latrines, the more affluent households follow suit.
- **COST SAVINGS** The recurring cost to treat consistent poor health is a considerable drain on household resources. A latrine is a one-off cost that is offset, in the longer term, by the cost savings on health bills.
- **INCOME GENERATION** A latrine can be built with a bath extension and the waste water from bathing can be used to generate income from kitchen gardens. In one village, several women used the extra income to pay off the latrine construction loan to the village self-help group.

they organise their daily lives, within the limits of time or resources. Where open defecation offers people adequate privacy, convenience and safety, they may not wish to change their 'bad' habits ('bad' when viewed from a broader public health perspective).

Predicting when one or more of the above motivations might become persuasive or compelling for an individual, household or community, is a matter of considerable complexity and subtlety. Lessons from projects in Burkina Faso and Zimbabwe suggest (WSP 2002) that: *'The key to changing behaviour is first to understand what drives and motivates it. This issue is far more complex than was once thought. Behaviour change is difficult to achieve and requires considerable resources'* (WSP 2002). Different cultural contexts will require different solutions.

2.3.9 'Cultural' factors

Indeed, beyond individual motivations, further potential barriers referred to in the international literature are cultural factors which make the intended beneficiaries of sanitation and hygiene promotion projects reticent or resistant to new facilities. Cultural difference arises from gender: variations in the perspectives of women and men on sanitation facilities are noted by many commentators. The views of adults and children vary too. Household circumstances are also diverse. Different ethnic groups may have varying beliefs and customs, while attitudes to sanitation and hygiene may vary substantially between urban and rural contexts.

3 Madagascar survey – national level

In this section, the country context in Madagascar is described, and an overview given of the sanitation and hygiene sector. The sector overview is based on interviews conducted by ODI in the capital, Antananarivo.

3.1 Republic of Madagascar

Madagascar is the fourth largest island in the world, measuring 1,600 km long from north to south and 580 km wide, with a surface area of 587,040 km^2 (a little larger than France). It is situated in the south-west of the Indian Ocean, separated from Africa by the Mozambique Channel – see Map 1.

Map 1
Location of Madagascar

The Tropic of Capricorn crosses the south of the island, which has two seasons – cold and dry, warm and wet. These seasons are particularly distinct in the highlands, whereas the coast is warm throughout most of the year. The east side of the country receives heavy annual rainfall, compared with moderate precipitation in the central plateau. One consequence of Madagascar's geographical location is that it is frequently affected by tropical cyclones and depressions, often causing major damage to crops, forests and roads/infrastructure. The south of the country suffers periods of drought.

The Malagasy people comprises some 18 ethnic groups, together with other social groups originating from India, China, the African continent and Europe. The country was colonised by France in 1896 and regained its independence in 1960.

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The population according to the 2004 census was 17.5 million. It is unevenly distributed, with the central highlands and south-east being most heavily populated and the west sparsely populated (<15 people/km^2 – Réseau Eau 2002). The population is mostly rural: 77 per cent rural and 23 per cent urban (in 1993), even though a large rural exodus has occurred in recent years, with towns facing saturation and proliferation of unplanned slums.

Administratively, Madagascar is divided into six provinces whose capitals are Antananarivo (the national capital), Antsiranana in the north, Mahajanga in the west, Toamasina in the east, Fianarantsoa in the centre and Toliary in the south. Box 4a shows the full political-administrative hierarchy in Madagascar, and 4b the structure of the health administration.

Box 4a
Political-administrative hierarchy

National administration
Provinces
Regions
Districts
Territories
Local authorities (*communes*)
Localities (*quartiers*)
Households

Box 4b
Health hierarchy

Ministry of Health
Provincial Directorate of Health
Regional Directorate of Health
District Health Services
Health Centres – level 2
Health Centres – level 1

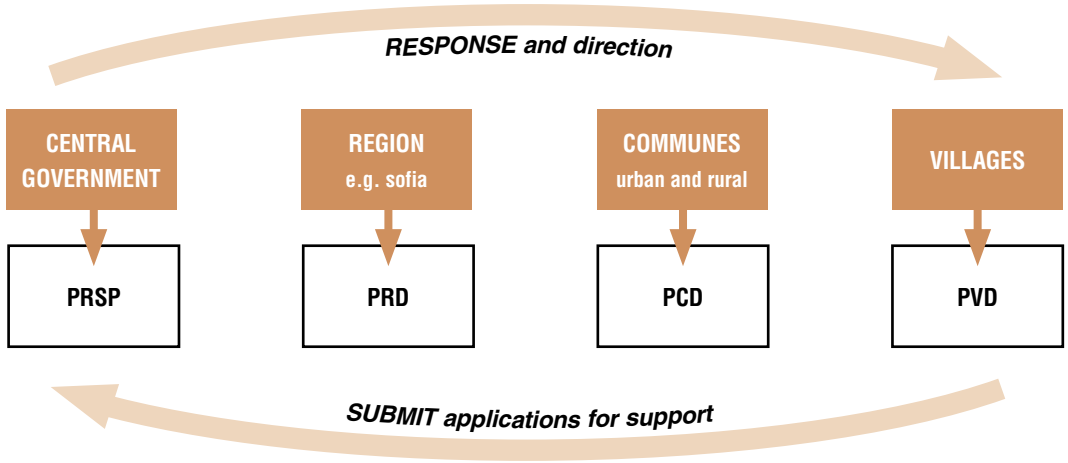
Source: FFBBM

Figure 2 is an outline of the development planning system in Madagascar. Key documents studied during the local part of this study included the relevant Regional Development Plan, *Plan Régional de Développement* (PRD) drawn up, according to the planning system and hierarchy, on the basis of the Communal Development Plans, *Plans Communaux de Développement* (PCDs).

Village Development Plans, *Plan Villageois de Développement* (PVD), are drawn up by the chief of the locality, after canvassing of villagers' needs and requests (with help from the mayor's staff), in a process which includes a general assembly of villagers. The provincial and district administration then carry out the role of intermediaries between communal/village level and central government.

The lower arrow, pointing from right to left, traces the path which is, according at least to the design of the system, taken by applications for support (programmes and funding) emanating from village level. It passes via the communes, to the regions and to central government, with plans at one level being absorbed and interpreted (supplemented) by plans at the next level up in the hierarchy. The upper arrow, pointing from left to right, represents the path of decisions made by government at its different levels in response to proposals in the plans, including allocation of funds to approved development programmes.

Figure 2
Outline of development planning system



KEY PRSP – Poverty Reduction Strategy Papers setting out national development policy, a key national planning document
PRD – Regional Development Plan (*Plan Régional de Développement*)
PCD – Communal Development Plans (each being a *Plan Communal de Développement*)
PVD – Village Development Plans (each being a *Plan Villageois de Développement*)

3.2 Poverty in Madagascar

The UNDP Human Development Report 2006 ranked Madagascar 143 out of 177 in the world.[11] The human development index 2005 cites life expectancy at birth in Madagascar at 55.4 years (UNDP 2006, page 221). The average age of the Malagasy population was 21.1 years in 2001. The World Development Indicators of the World Bank[12] refer to an annual population growth rate of 2.7 per cent in 2004 and cite the infant and under-five mortality rates per 1,000 live births at 76 and 123 respectively at that time.

The overall objective of the Madagascar Poverty Reduction Strategy Paper (PRSP) of July 2003[13] is stated as being to reduce the poverty rate by half over ten years, by 2013 (shorter than the MDG timeframe).

The analysis of poverty in the PRSP is quite extensive, presenting its different aspects (over nearly 30 pages, pages 17–45). There is a general description (page 2) of 'Poverty Experiences' including account of loss or breakdown of social values and systems, whereby Malagasy people, particularly poor people, have the impression they are losing *'part of their souls'* as well as *'solidarity, mutual aid, humility and dialogue'*, so that people enter into a *'drifting life'*. Poverty is noted to be substantially a rural phenomenon: figures showing per capita consumption by socio-economic group confirm the vulnerability of farmers, especially small farmers, which has worsened over the period 1993–1999 (page 21).

11 http://hdr.undp.org/hdr2006/pdfs/report/HDR06-complete.pdf

12 http://devdata.worldbank.org

13 *Document de Stratégie pour la Réduction de Pauvreté*, July 2003, approved by IMF/World Bank in October 2003.

'The poverty situation' (page xi of the PRSP) *'reveals weaknesses in governance which affect the entire system and all its actors: the state, civil society, the private sector, households etc.'* Improvement of the budgetary cycle is also referred to, as well as the process of decentralisation designed to *'create a context favourable to economic and social development of the communes'* (page iv) – but, as seen below, the decentralisation process is ongoing and incomplete.

The focus of intended efforts in relation to sanitation is identified on page 39 of the PRSP: *'Concerning sanitation, several aspects of services have to be taken into account. But in the fight against poverty, the essential basic service to be considered is the access to infrastructure for evacuating excreta.'* **Such, at least, is the statement on paper in the PRSP, but it begs the question: how far has this intention been borne out in practice?**

The figures on levels of access to sanitation in Madagascar vary substantially. The PRSP (Republic of Madagascar, July 2003, page 39) cites access rates to sanitation for households at 87 per cent in urban contexts in 2000 and 52 per cent in rural contexts, with an overall coverage rate of 58 per cent. WaterAid, however, cautions against the unreliability of official figures (WaterAid 2006); it estimates that 7.5 per cent of the rural population and 27 per cent of the urban population have access to adequate sanitation (which is 17.25 per cent on average[14] or 33 per cent on aggregate[15]). Pronounced differences in coverage apparently exist between provinces.

The Department of Water and Sanitation (DEA, undated) cites as *'direct consequences'* of these very low coverage rates a range of water-related illnesses: diarrhoea, dysentery, cholera, bilharzia. Diarrhoea is the second most prevalent cause of morbidity amongst children in Madagascar (UNICEF 2001). Meanwhile, 2.5 million persons in the country suffer from bilharzia, with an estimated 4.5 million exposed to the risk of contracting the disease. In relation to the lack of sanitation, 60 per cent of child deaths are thought to be caused by either poor sanitation or poor water quality (Republic of Madagascar, undated). The same document (entitled *Sanitation: The Challenge*, page 1) reports that 1999 saw a major outbreak of cholera: the Ministry of Health recorded 35,000 cases of cholera in the period from March 1999 to June 2001, including more than 2,300 deaths. It also reports that two-and-a-half million Malagasy are affected by schistosomiasis and 4.5 million are exposed to risk of the disease. According to a further study, an estimated 3.5 million days of school attendance per year are lost due to children being affected by illnesses related to poor quality water and inadequate hygiene, with an equivalent figure proposed of 6 million workdays lost (DEA, undated).

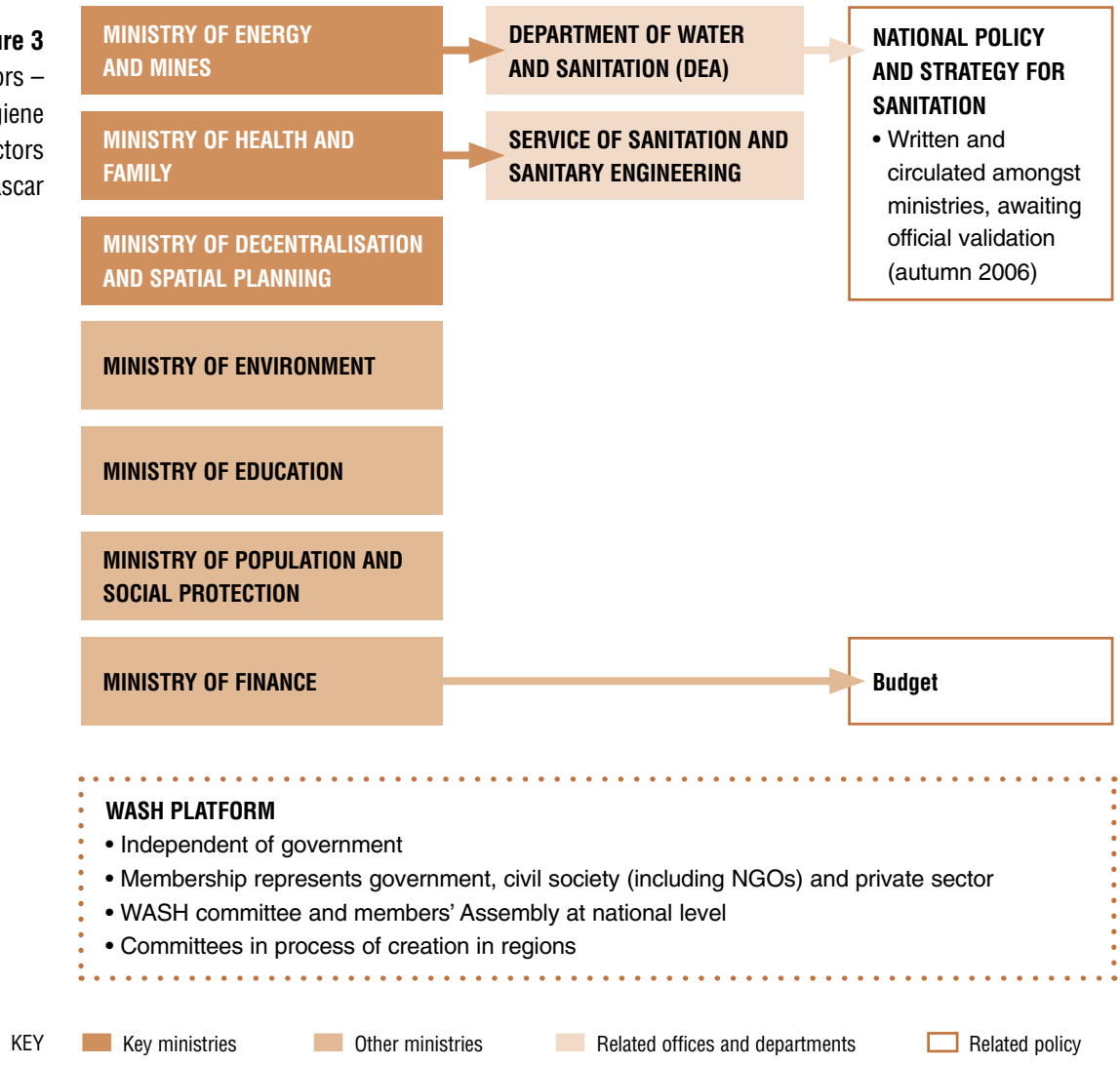
14 Although the aggregate figure of 33 per cent is then cited by the same WaterAid document.

15 www.wateraid.org.uk/uk/what_we_do/where_we_work/madagascar

3.3 Key sector actors

A schematic representation of the key actors in the sanitation, hygiene and water sectors in Madagascar is shown in Figure 3.

Figure 3
Key actors – sanitation, hygiene and water sectors in Madagascar



In relation to the different aspects of sanitation shown in Box 1, until recently responsibilities have been held by those ministries without clear definition of their respective mandates. The **National Policy and Strategy for Sanitation**[16] prepared by the Department of Water and Sanitation (DEA in French) which is still in draft form – yet to be approved after comments from different ministries have been taken into account – aims to clarify institutional roles and define the direction of policy as *orientations stratégiques* (see further below).

There are three key ministries with responsibilities relating to sanitation and hygiene, namely **Energy and Mines**, **Health and Family Planning**, and **Decentralisation and Spatial Planning**. The ministry primarily responsible for sanitation is the Ministry of Energy

16 *Politique et Stratégie Nationale de l'Assainissement*

and Mines. Interviewees explained this, historically, in terms of the prevalence of hydro-geologists working for the Ministry of Energy and Mines, because of the predominant use of groundwater in the country. Sanitation was, more recently, added to the functional responsibilities of that ministry and the title of the relevant department became DEA.

The Water and Sanitation Regulatory Agency (ORSEA) is responsible mainly for compliance with quality standards and tariff provisions of the Water Code (ADB 2005, page 3).

The role or actions of the national water and sanitation authority, whose acronym is ANDEA, was not discussed by people interviewed. In the draft sanitation policy (page 25), ANDEA is only referred to in relation to environmental protection (in the text, as opposed to a note to Figure 1 on page 10).

For implementation, a new sanitation policy, once approved, must be set out in a national plan – as noted by a document of the Environmental Health Programme (EHP 2002).[17] Attached to the draft National Policy and Strategy for Sanitation are Action Sheets (*Fiches d'Action*) and a table, called *Plan d'Action*. The status of these as national plans was considered at the project seminar.

3.4 WASH initiative in Madagascar

As an institutional[18] response to sanitation challenges, the WASH initiative in Madagascar was, the PRSP notes (page 122), officially launched one day after the World Summit on Sustainable Development (WSSD) in Johannesburg in August 2002. According to one source (ADB 2005), the WASH strategy in Madagascar has three objectives: *'(i) bring about a positive behavioural change in the population as regards hygiene; (ii) stimulate recognition at national level of the importance of hygiene and sanitation and the correlation between them and disease and poverty; and (iii) envisage the integration of hygiene and sanitation in drinking water supply projects'*.

3.5 Communes – intended role

At **sub-national** level, responsibility for sanitation policy will rest with the regions (of which there are 22, since a recent administrative restructuring) and the communes (page 8 of the PRSP). The communes, equivalent to 'municipalities', are designated as the bodies responsible (*maîtres d'ouvrage*) for managing the financing and contracting of sanitation (and water) providers at local level. In accordance with the aims of decentralisation, a key objective is for communes to take on this responsibility (page 8 again). The draft policy document notes (page 10) that the regions themselves still have to be *'operationalised over a period of two to five years'*, thereby reflecting the reality that Madagascar remains, at present, a highly centralised country wherein responsibilities and powers are not yet delegated to sub-national bodies.

17 On page 7, where a distinction is made between sanitation facilities intended on the one hand for households, and facilities designed on the other hand for communities.

18 WASH is not an institution in the same way as a ministry, but a 'platform' for links between ministries and other institutions.

4 Madagascar survey – local study

In addition to the 'scoping' by ODI of the sanitation and hygiene 'sector' at national level, FFBBM/HVM, Tearfund's partner in Madagascar, carried out a study at district and local level. In this section the context and scope of that 'local' study are described, and the findings from it summarised.

4.1 Context of local study

The province in which the 'local' part of the study was carried out is Mahajanga and the region Sofia, in the north of the country where FFBBM carries out its work, in the district of **Mandritsara** (one of seven districts in the region).

FFBBM grew out of work initiated by a Welshman, Brynlee Evans, in Antananarivo in 1932. HVM, *Hôpital Vaovao Mahafaly* (the 'Good News Hospital'), is a medical initiative begun by FFBBM in partnership with an international missionary society, African Evangelical Friendship in 1995. It began in the town of Mandritsara, with the encouragement and support of the Malagasy Regional Department of Health. The HVM hospital serves Mandritsara and surrounding districts, providing medical, surgical and opthalmic services and a wide-ranging community-based village health programme. It also runs a primary school in Mandritsara. This is all done in the context of Christian service.

Map 2
Location of Mandritsara district within the region of Sofia

FFBBM runs HVM as a private hospital for public benefit, in collaboration with the public health authorities. FFBBM's presence fills gaps in public health capacity, in the absence of sufficient state capacity. As shown on Map 2, Mandritsara town is located some 200 km to the south-east of the principal city in the Sofia region called Antsohihy. Mandritsara district comprises an area of 10,400 km^2, divided into 28 local authorities (*communes*) – 27 rural and one urban *commune*, the town of Mandritsara itself (Republic of Madagascar 2005).

Mandritsara is the most densely populated district in the region (and the province) with, according to the 2004 census (cited in Republic of Madagascar 2005), 232,588 inhabitants, accounting for 24 per cent of the regional population, and an average population density in the district of 23 persons per square kilometre (Republic of Madagascar 2003). The climate of the region is semi-humid, with very distinct dry and wet seasons, from May to October, and November to April respectively. Mandritsara is located on uplands (*zone de hautes terres*), of 1,000 to 1,300 metres above sea level, and is the district in the region with the lowest rainfall, between 1,100 and 1,200mm per year, concentrated in four months from December to March.

Despite the number of dry months, the climate allows cultivation of rice (by far the most significant agricultural activity, occupying some 80 per cent of cultivated land) and arable crops such as maize and manioc. Together they occupy some 14 per cent of cultivated land in the district. Over 85 per cent of the active population rely on agriculture for their livelihood – in what is mostly subsistence farming. In fact it is barely subsistence agriculture in many locations, leaving families in extreme poverty (FFBBM). The district has few communications or other infrastructure (e.g. roads and electricity supply), and the local rural economy is in general weakly integrated in markets. Health facilities are few in number, with an estimated 10,800 inhabitants per qualified doctor (according to Republic of Madagascar 2003), so that access to medical centres for rural people typically involves substantial journeys on foot (FFBBM cites a typical distance of 100 km). Education levels are low among adults and children: the rate of primary school attendance is 16 per cent in the region (RPGH 1993, *Recensement Général de la Population*, cited in Republic of Madagascar 2003).

The population's access to water supply and sanitation (combined) for Mahajanga province is estimated at 36 per cent, compared with 87 per cent in the province of Antananarivo where the capital is located (WaterAid 2005). According to the African Development Bank, an estimated 3.5 million school days are lost every year as a result of water-borne diseases and poor hygiene (ADB 2005, page 10).

Official figures (Republic of Madagascar 2003) estimate access to drinking water supply at 5.5 per cent in the Sofia region (within Mahajanga province). No equivalent official estimate is given for levels of access to adequate sanitation, perhaps a symptom of the relative lack of attention to sanitation, which is commented upon in the WASH/Diorano Strategy (July 2003 version). According to the African Development Bank (ADB), sanitation coverage in the province of Mahajanga is estimated at 6.19 per cent (drinking water supply: 13.54 per cent). No official figures are available, but in the communes in which it works, FFBBM reported very low, almost non-existent, levels of sanitation and hygiene before it began its support to the villages.

The three principal causes of morbidity in the region are malaria, acute respiratory infections (ARIs) and diarrhoea (according to Republic of Madagascar 2003). Other illnesses which are present are bilharzia, leprosy and sexually transmissible diseases. The rate of infant and juvenile mortality was recorded as being 67 per cent in 1997 (Republic of Madagascar 2003).

The doctors of FFBBM/HVM in the Community Health Department of HVM have recorded the number of consultations they have made in rural villages and noted the benefits. FFBBM's operational activities are carried out in five *communes*: Ambalarirajy, Antsoha, Ambaripairy, Ambohisoa and Kalandy. At the project seminar in Antananarivo, FFBBM/HVM produced an example of how its community heath activities have brought positive benefits: from 2002, when the doctors' consultations began, to 2005, Maetsamena village saw a reduction in incidences of diarrhoea and malaria from 235 to 25, and 185 to 131 respectively.

4.2 Scope of local study

For the local study, FFBBM applied a questionnaire to representatives of a total of 138 households in seven rural villages in the district of Mandritsara. FFBBM and Dr Ranaivoarisoa also conducted a focus group in the town of Mandritsara, in the urban commune of Mandritsara. (A full list of the communes of the District of Mandritsara is included in Annex 2.) FFBBM carried out further interviews with six people at regional level in Sofia (see also in Annex 2 for further information on the scope and approach of the local study).

The questionnaire of rural villages comprised questions under the three following headings:

- Water
  - (i) knowledge of water-related illnesses, including diarrhoea
  - (ii) water storage and use
- Latrines
  - (i) knowledge of illnesses, including diarrhoea, related to lack of management of human excreta
  - (ii) use and maintenance of latrines
- Soap
  - (i) knowledge of illnesses, including diarrhoea, which can be reduced by washing of hands
  - (ii) use of soap for handwashing.

The questionnaire was based on that used by earlier studies carried out by the Hygiene Improvement Programme (HIP) in early 2006 in the regions of Analamanga and Amoron'ny Mania, and by the national statistics agency INSTAT in 2004 in the provinces of Antananarivo and Toliary.

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Box 5
Names and geographical locations of villages included in the questionnaire

Source: FFBBM/HVM Département de santé communautaire (FFBBM/HVM 2004)

Village name	Location in relation to Mandritsara town	Type of road connection
Ambaky*	80 km to the west	Untarmacked road, fit for 4x4s only
Antsarika*	70 km to the west	Untarmacked road, fit for 4x4s only
Antsomika*	65 km to the west	Untarmacked road, fit for 4x4s only
Maetsamena	35 km to the west	Tarmacked road – RN32
Ankisaka	35 km to the south-east	Untarmacked road, fit for 4x4s only
Ambodilengo	11 km to the south-east	Untarmacked road, fit for 4x4s only
Andilana	8 km to the west	Tarmacked road – RN32

KEY RN = *route nationale*, tarmacked road
*asterisks indicate villages impassable for motor vehicles during rainy season

The villages which participated in the questionnaire, together with their geographical locations and the road types connecting them to Mandritsara town, are shown in Box 5.

During the rainy season, the untarmacked roads to and from the three villages asterisked in Box 5 are impassable for motor vehicles, including, at the height of the rains, 4x4s. So, for several months of the year, the only access and egress is (for most) by foot or by carts pulled by (two) oxen, where households possess them.

Key questions in Malagasy from the questionnaire are reproduced in English and some further information (on its scope, the sample of households questioned etc) is set out in Annex 2.

In the case of four out of the seven villages, FFBBM/HVM has helped in the construction of improved water access (*adductions d'eau*) running to new water points.

4.3 Findings from the local study

The findings from replies to the questionnaire may be summarised as follows:

Water storage

The percentage of respondents per village saying that they were aware that their children could contract diarrhoea when water vessels, for storage, were not regularly washed varied very widely, between 27 per cent and 100 per cent. For the inhabitants of the villages, the traditional and common type of vessel for storing water is a 20-litre earthenware jug,[19] in which the water may then be covered by a woven straw cover. These jugs are bought in town and it seems **distance and ease/difficulty of access to Mandritsara town** is a key factor in the practice or non-practice of careful storage: the two highest scores in terms of declared good water management and storage relate to the villages best connected by road (Andilana and Maetsamena), which scored 100 per cent and 91 per cent. The three lowest

19 Some respondents also mentioned a modern plastic receptacle supplied with a cover (*fut en plastique menu de couvercle*).

percentages – 50, 44 and 27 per cent – are found in the villages furthest from Mandritsara (and by untarmacked road). The responses suggest that this geographical/access barrier to acquiring and using receptacles for improved water storage is more relevant than the level of knowledge: the villages of Andilana and Antsomika which declare the highest and lowest level of usage respectively had both received hygiene education (*sensibilisation*). Overall, except in the case of one village (Andilana), levels of knowledge and awareness are lower than levels of good water management.

Latrines

Owning slabs for latrines (supplied with the assistance of FFBBM) seems to be a positive factor in relation to the use and cleaning of latrines – see Box 6. One village (only), Antsomika, has no hygienic latrines and no slabs and, despite five years of involvement by FFBBM, it retains its traditional practice of defecation in the bush (see further below). The relative weight of affirmative replies by households in that village to Question 7.1 in part II of Annex 2[20] (compared to other villages) suggests the strong influence of beliefs and taboos persisting in that community. In all seven villages, the level of use and maintenance of latrines lags behind the declared levels of knowledge, as occurs with water storage.

Box 6
Possession of latrine slabs: use and maintenance of latrines

Village	PS	KL	UL	ML
Andilana	32%	83%	12.5%	75%
Maetsamena	22%	94%	47%	59%
Ankisaka	20%	85%	53%	70%
Antsarika	11%	92%	23%	77%
Ambodilengo	10%	73%	27%	65%
Ambaky	10%	100%	58%	50%
Antsomika	0	92%	0	0

KEY
PS – percentage possessing latrine slabs
KL – percentage of knowledge on the risk of diarrhoea because of lack of use of a hygienic latrine
UL – percentage of use of a hygienic latrine
ML – percentage of willingness to maintain latrine and keep latrine clean after use

Handwashing with soap

The FFBBM researchers observe that the practice of washing hands with water only is common in all seven villages. This is reflected in relatively low levels of declared handwashing with soap, ranging from 12 per cent to 56 per cent of households. The two villages rating highest in this respect were Andilana and Maetsamena, which are located on the route nationale. A possible inference is that greater accessibility makes for easier purchase and better usage of soap. Alternatively or additionally, affordability is a factor: in the villages where the rate of use of soap for handwashing is less than 30 per cent, the most consistent reply to Question 5.4 in part III of Annex 2, 'Do you in your household regularly buy soap?' was 'No – not enough money'.

20 'Are there any taboos or beliefs which prevent use of latrines/pits?'

Box 7
Summary of practices relating to hygiene

Villages	S	UL	ML	US	Average
Andilana	100%	58%	50%	56.25%	66%
Maetsamena	91%	23%	77%	55%	61.5%
Ankisaka	79%	27%	65%	26%	49%
Antsarika	44%	53%	70%	25%	48%
Ambodilengo	60%	47%	59%	15%	45.25%
Ambaky	50%	12.5%	75%	12%	37%
Antsomika	27%	0	0	27%	13.5%
Average	64.4%	31.5%	56.6%	30.9%	

KEY S – percentage of protected storage practices
UL – percentage of use of a hygienic latrine
ML – percentage of willingness to maintain latrine and keep latrine clean after use
US – percentage of use of soap for handwashing

Summary of hygiene practices

Box 7 places the seven villages in a hierarchy of attention to hygiene practices based on four key aspects above: water storage practices, latrine use and maintenance, and use of soap for handwashing.

Five out of the seven villages score less than 50 per cent in Box 7, signifying that, at the time of this study, there occurred more cases of non-hygienic practice than of hygienic practice.[21] Levels in relation to the use of soap for handwashing are noticeably low (30.9 per cent). Similarly, members of these rural communities show, currently, little inclination to adopt usage of latrines (31.5 per cent).

In Box 7, the three villages located furthest from Mandritsara town and the *route nationale* (Antsarika, Ambaky and Antsomika) are positioned lowest in terms of overall hygienic practice, namely fourth, sixth and seventh (based on average percentages). An explanation is needed for why Ambodilengo village came fifth lowest while being located much nearer to Mandritsara (though on untarmacked road). This is possibly because 15 per cent of respondents there (a comparatively larger percentage than in other villages) held the belief that divine will is often responsible for incidence of diarrhoea, whether in adults or children (in answer to Question 7.1 in part Ia of Annex 3). The PRSP commented on a *'relatively close correlation'* between the poverty index and available road infrastructure in the six provinces of Madagascar. Among the roughly 30 indicators for monitoring progress under the PRSP are included 'kilometres of road improved/renovated' and degree of 'isolation' (*enclavement*).

21 FFBBM notes that this is nevertheless a change from the levels observed when it first began its dialogue with the villages in question: at that time, some five years ago, hygienic practice was virtually zero.

Maintenance/ cleaning of latrines

It is interesting to note from Box 7 that the declared levels of maintenance/cleaning of latrines are, in five out of seven cases, higher than levels of latrine usage. It begs the question how one should interpret this. It is perhaps unlikely that the figures reflect exceptional diligence in maintenance. More plausible is that this is a sign of ambivalence or confusion over cleaning latrines and over who is responsible for it (see further below).

4.4 Urban focus group

The composition of the urban focus group was mixed, with participants from a peri-urban area of Mandritsara town as well as an area in the town centre. FFBBM describes the urban population as 'semi-traditional'. The focus group was also mixed in the sense that its members included a combination of NGO members, religious leaders, students, a teacher, a parent, a female head of household, plus the chief of a *quartier*, and two mayoral assistants. The following points emerged from the discussion in the focus group:

- generally, the concept of hygiene is perceived to be vague, as is understanding of what it means in practice; people considered that the practices of people in peri-urban areas tended to be quite similar to those in rural ones
- there exist few improved water sources in the three *quartiers* of the town centre; in the other ten *quartiers* the only sources available are traditional wells or the river, with quality in those cases often being poor/very poor
- the lack of community organisation around water sources was commented upon: there was little collaboration between users of the same source
- the cost of vessels for water storage which have covers for protection is apparently a key factor: for most, the open plastic bucket (10–15 litres) is the only affordable water collection and storage receptacle, and few apparently put a cover on a vessel unless it is bought with one
- most people in their *quartiers* prefer to defecate in bushes near their dwellings rather than endure the smell and blue flies in and around the non-hygienic latrines
- the number of latrines is currently inadequate and they are over-used and ill-maintained; the group members said they would use latrines if built (and presumably cleaned), but space constraints are noted as one reason why communal latrines have not been constructed; meanwhile, lack of resources are noted as an impediment to building household latrines
- most people are unaware of the health benefits of handwashing with soap and few practise it; when soap is bought, it is for washing clothes and the body (as opposed to handwashing with soap at critical times).

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5 Barriers to sanitation and hygiene

This section reviews how far Madagascar is experiencing the barriers to sanitation and hygiene policy development referred to in Section 2.[22] It uses the same structure as Section 2, based around the stages of the typical policy cycle, to assess which barriers are present in Madagascar

5.1 Problem definition

The process of preparing the draft National Policy and Strategy for Sanitation provides important definitions which should mean, once it is finalised, that the first hurdle in defining key terms has been crossed. At the project seminar, reference was made to the need to develop more detailed technical definitions (e.g. of concepts such as 'improved'), but it was suggested that this would not delay stages 2 and 3 of the policy process.

5.2 Agenda setting and policy formulation

A number of barriers to agenda setting and formulation of sanitation and hygiene policy in Madagascar are revealed by this study, as set out below.

5.2.1 Lack of information

As Section 3 suggests, there is a lack of up-to-date information on sanitation and hygiene needs. On the basis of such data as is available, the gap in sanitation coverage is clearly substantial. The empirical studies available point to great needs in terms of improvement of sanitary/hygiene conditions in large sectors of the population. As noted in Section 3, the figures (or best estimates) of levels of access to sanitation are low in Madagascar, even against typical coverage levels in sub-Saharan Africa. In the Mandritsara district, decisive action to help improve sanitation and hygiene dates back only a few years, and the sanitation gap in the Sofia region is reported to be substantial.

5.2.2 Tensions between mindsets

The interviews conducted during this study pointed to a lack of understanding between those who work in the public and private sectors in Madagascar, including some scepticism about the role of private providers which are profit-making (see below).

22 The extent of comments on each of the potential 'barriers' varies according to the degree of information and insight provided by the interviews, focus group discussion and questionnaire in this study. As foreseen in Section 1, some gaps in information collection have resulted from the relatively rapid methodologies employed for this study.

In the Action Plan annexed to the PRSP, there is mention of sanitation under urban infrastructure, but no reference to water and sanitation in the actions listed under Health. This is possibly a sign of the kind of 'utility vision' referred to in Section 2 and the interviews for this report suggested some dominance of an engineering perspective in the sector. Interviewees expressed the view that sanitation programmes still tend to prioritise major infrastructure projects, concentrating for example on urban drainage, to respond to visible problems of storm water in cities and towns, while ignoring domestic sanitation. At the University of Antananarivo,[23] out of 50 subjects taught to students for a training diploma in 'hydraulic engineering', none are designed to broaden students' perspectives on aspects like education/awareness-raising and community engagement. This contrasts with engineering aspects of sanitation infrastructure which are very amply taught, alongside many aspects of water management and related issues such as environmental impact assessment.

5.2.3 Lack of coordination

The National Coordinator of WASH lamented that, in the past, there had been very *'scattered responsibilities'* which had constituted *'a key stumbling block, hindering strategic solutions and problem-solving'* (Republic of Madagascar, undated, page 13).

The National Policy and Strategy for Sanitation, if and when it is approved, will clarify institutional roles.

On the basis of the draft text,[24] after a substantial process of gestation (nearly two years):

- the Department of Water and Sanitation (DEA) is to be in charge of basic sanitation (*assainissement de base*), by which is meant household sanitation facilities and sanitation infrastructure in all rural communes and small towns, including programmes of 'latrinisation', awareness-raising (*sensibilisation*) in relation to hygiene, and 'management of conditions of cleanliness around water points'
- the Ministry of Decentralisation and Spatial Planning (*aménagement du territoire*) is responsible for sanitation works in medium/large towns, called 'collective sanitation' (*assainissement collectif*); there is uncertainty over the scope of what is meant by 'collective', since apparently the ministry interprets its role as applying to large-scale public works, and not therefore sanitation at a community level
- the Ministry of Health and Family Planning is to oversee health and hygiene policy, comprising measures for prevention of health problems as well as response to crises, according to the draft document; it also includes awareness-raising (*sensibilisation*).

The Ministries of Environment and of Industry are responsible for pollution control and industrial waste disposal respectively – which are the subject of separate national policies (as this draft policy notes, page 2).

So compared with previous uncertainty over which ministry was accountable for which functions, the draft policy document represents some advance: while the above allocation

23 Judged from the subject headings listed in a document supplied by the University.

24 As at the date of interviewing the DEA, in July 2006.

of roles does not materially alter existing functions,[25] it will, if and when approved, confirm the division of responsibilities (subject to the resolution of points of detail).

In line with the WASH concept, the draft policy includes a hygiene promotion component. The DEA's annual targets for construction of latrines are to be supported with *sensibilisation* or awareness-raising.

In the text of the draft policy, it is stated (on page 4) that sanitation should be treated as a sector in itself in studies for urban planning and programmes, i.e. as opposed to a sub-sector of water. Some interviewees still question whether sanitation is appropriately placed as part of the DEA, especially since the DEA is rather unusually housed within the Ministry of Energy and Mines. Interviewees referred to some reluctance among health officials to see sanitation coming under the remit of the Ministry of Health. This study offers a possible explanation for why hygiene promotion has not, at least to date, secured an institutional place within health: several people consulted observed that health policies and programmes in Madagascar focus on cure, rather than prevention. The predominant mode of intervention seems to be treating the symptoms of illness, in response to demand for medicines, rather than addressing the underlying cause of illness, which may often be low standards of hygiene. As one person put it, sanitation is to some extent an *'orphan with reluctant foster parents'*.

Whether or not sanitation has found its best institutional position in the DEA, it seems the DEA is showing leadership. It has, within its institutional targets (set on an annual basis) included a sanitation target, in terms of the number of latrines (like the indicator in the PRSP). And it reported that the target is being met: in the current year, apparently the goal to construct 4,000 latrines was reached by the end of June.[26]

A key issue is the role of **local** government. In the face of institutional responsibilities which are divided between different sectoral ministries at central government level, interviewees spoke of the potential role of communes in coordinating and combining different types of intervention. The Action Plan attached to the National Policy and Strategy (on page 26) refers to pilot projects for *'viabilisation des quartiers'* (rendering urban areas viable) which 'integrate' a range of basic services. **It may be that the key question is not how sanitation needs to be differentiated and institutionally separated from water, but how both sanitation and hygiene, and water supply, fit into urban – or rural – development strategies.**

The WASH Committee is formally chaired by the Minister of Energy and Mines as principal minister responsible, and coordinated by a former senior civil servant. The Ministries of Health and Education are also represented, although apparently the closure of a relevant department in Education has cast doubt on the extent of its participation. A clear gap in the committee is the non-attendance of the Ministry of Decentralisation and Spatial Planning which, it seems, does not consider WASH to be relevant to its own responsibilities – which, as noted above, are larger public works.

25 Page 8: *'…la confirmation de chaque Ministère dans ses attributions historiques'*.

26 It remains to be seen how installation of latrines will be followed up by maintenance.

WaterAid acts as Executive Secretary to the committee, and committee members include CARE, the Catholic Relief Service, the NGO network called Réseau Eau and individual Malagasy NGOs. Meanwhile, the National Assembly of WASH is open to all who wish to join and participate; it has currently some 100 members.

The clear consensus amongst interviewees, including representatives of government, was that WASH is an important **concept** for presenting the three elements – water, sanitation and hygiene – and does not give particular priority to any one element. According to people interviewed during this study, the WASH **process** overall is a positive factor in policy development in the sector in Madagascar.

The draft National Policy and Strategy for Sanitation explicitly confirms, from an official government perspective (page 5), the status of WASH for the purposes of sector coordination (*platforme privilégiée de concertation*). (In Malagasy, it is referred to as Diorano/WASH – *diorano* being an invented word meaning 'water-cleanliness'.) Among people consulted, there was broad recognition of the importance of coordination for a sector which is (as one person put it) 'cross-cutting' (*transversal*), though not, to his mind, a *secteur porteur* or 'lead sector'). Another person commented that WASH is all about joint reflection and exchange of experiences, a process which will occur through its committees on e.g. monitoring and evaluation, partnership, behaviour change etc.

The WASH National Committee is perceived as being a key national platform for the sector. There is doubt, however, as to whether WASH can, and should try to, replace **inter-ministerial** dialogue. Several interviewees thought there should also be inter-ministerial coordination, to match within government what is being achieved by the WASH platform outside the government's remit. The draft National Policy refers (on page 10) to the creation of an inter-ministerial committee, to ensure cooperation between the respective institutional mandates. Some sector actors expressed scepticism because of the poor past record of inter-ministerial coordination. One existing cross-government committee was, however, cited as a positive example, namely the national council responsible for emergency relief/disaster risk management.

5.2.4 Lack of political and budgetary priority, lack of demand

The PRSP gave a positive first signal towards investment in sanitation and hygiene. 'Water and sanitation' is included in the PRSP as one of five social 'programmes', alongside Education, Health, Social Welfare and Social Exclusion Reduction. There follows later in the PRSP (pages 121 and 122) a brief note about the focus of the water and sanitation programmes – where sanitation is itemised separately from water supply. As well as access to drinking water, the (long) list of 'priority' measures in the PRSP includes an *'improved rate of access to excreta disposal facilities'*, as well as *'implementation of a new legal and institutional framework for water and sanitation'*.

In the Madagascar Action Plan annexed to the PRSP, among 31 indicators for monitoring progress in PRSP implementation, the sanitation indicator is 'number of latrines' (page 147).[27] *'Positive change in behaviour as regards hygiene'* is also noted (page 122) as an

27 The water indicator is percentage access, page 148.

element of the sanitation programme, as is *'close collaboration [of the government] with communes, NGOs and private sector'*. Whilst there is some gender disaggregation in the poverty analysis, there is none under water or sanitation.

The link between lack of access to drinking water and low health indicators, especially infant mortality, is also mentioned in the PRSP (page 32); objectives under the Health programme in the PRSP include reduction of infant and infant-to-juvenile mortality rates.[28] The diseases most affecting the population, notably children, are noted as acute respiratory infections, malaria and diarrhoeal diseases (page 33).

In other words, in Madagascar, the PRSP, as a 'manifesto' of policy for combating poverty, demonstrated some political will toward improving sanitation. That prioritisation needs, however, to be seen in the context of a total of 15 priority programmes listed in the PRSP. And it was not clear from the interviews what priority is given to the PRSP itself.

A clearer signal more recently has been speeches by made by prime minister highlighting improved hygiene as a national priority. These declarations had clearly given interviewees the impression there was high-level political interest in the sector.

The progress towards formulating the National Policy and Strategy is another positive sign. As discussed above, if and when the policy is approved, it will clarify ministerial mandates and institutional responsibilities. Although the policy retains the existing division of responsibilities, it is a step forward as compared with previous great uncertainty.

Measured in **budgetary** terms as regards the allocation of public funding, sanitation still has to work its way up the political agenda, from a very low base. As reported by the DEA, sanitation currently attracts a very small fraction of the budget allocation (from public funds): the budget share to support water was 0.3 per cent of the total allocation to WSS, which is itself 3 per cent of the national budget. While the latter figure equates to that in some other countries in sub-Saharan Africa (ODI 2004a), the figure of 0.3 per cent is very low.

The interviews at national level in Antananarivo suggested that **demand** for access to drinking water, as expressed by households and communities, is higher than for sanitation, that latrines are a lower level of priority, especially in rural contexts. For this, evidence on the ground in Madagascar has been a study conducted by Cornell University with the national statistics institute INSTAT (Cornell 2001) in selected communes (cited by the PRSP). According to this study, focus groups rated water as a sixth priority for development (after, in descending order, agriculture, transportation, security, health and education); no reference was made to sanitation.

Sanitation and water supply do feature in the 2006 regional and communal plans (PRD and PCDs). Nineteen rural communes (out of 27, i.e. 70 per cent), including three of the five participating in this study (namely Kalandy, Ambaripaika and Ambohisoa), had submitted their PCD to the office of the region in Sofia by July 2006. Those PCDs enumerated the combined sanitation needs in those communes at 848 latrines (and 533 water points). The PRD then transmitted these requests to the Ministry of Energy and Mines. With the support of external financial sources (e.g. African Development Bank)

28 From 96 to 72 per 1,000 live births and from 156 to 111 respectively.

for the communes of the Sofia region (108 in all), 800 latrines and 480 sanitary blocks (latrines, showers and washing facilities) are planned, as well as 300 water points.

In the Mandritara district, communal and regional development plans (PCDs and PRDs) are beginning to articulate demand for sanitation and hygiene.

5.2.5 Donors' agendas

As public funds are scarce and sanitation/hygiene starts from a very small share of the national budget, external funds are important to 'oil the wheels' of the WASH initiative and the new sanitation policy, as one person put it. Interviewees clearly felt there was a lack of external funding for the sector.

Several donors are, however, supporting the sanitation and hygiene sector financially, and certain international NGOs are also bringing external funds (e.g. WaterAid).

Funding programmes supporting the sector (multi-lateral and bilateral)[29] are noted in Box 8 overleaf.

The impression is that these donors are supportive of the WASH concept.

Interviewees gave the following as possible explanations for why **more** external funds are **not** being made available for sanitation:

- as described above, sanitation has not been subject to a national policy until recently; the expectation will presumably be that the National Policy and Strategy for Sanitation will improve the case the sector can make to donors for external funds (and perhaps already has done in its draft form)
- sanitation has something of an image problem (but not one that would deter all donors)
- another possible reason, referred to by interviewees, is difficulties of measurement: it may, for example, be hard to estimate the number of latrines in sustained use, the sheer logistics of monitoring latrinisation. *'Sanitation projects remain ad hoc and scattered throughout the territory: this has the immediate effect of dispersing efforts and incurring irrational expenses without having any real impact'* (Republic of Madagascar *Sanitation: The Challenge*, undated, page 1).

Realistically, **some** donors will wish to fund other sectors, for example those directly producing benefits in terms of social and economic development, as compared with the indirect benefits afforded by improved sanitation and hygiene. For example, the World Bank country assistance strategy had opted to fund the transport sector.

While donors are participating in the WASH initiative, no donor coordination committee currently exists for WSS which could harmonise, and at the same time focus, donor support.

29 A recent study of the water, sanitation and hygiene sector in Sierra Leone (Tearfund 2005, page 9) noted that *'…it is multi-lateral rather than bi-lateral donors who actively support sanitation and hygiene'* in that country.

Box 8
Donor funding programmes for sanitation and hygiene

THE AFRICAN DEVELOPMENT BANK (ADB) is committed to several phases of funding for WSS. It has already been funding the PAEPAR project for WSS in the rural south of Madagascar, from 2003 to 2007. This was a relatively small financing of US $11.5 million for the construction of new water points, 5,000 latrines and some hygiene education activities. The next phase of funding was approved in May 2006 for WSS in eight regions (over three provinces), including the region of Sofia, where Mandritsara is located. According to the ADB, its loan of about US $74 million is at a very low rate, almost equivalent to a grant. It will run for three years (ADB 2005). It is intended to support construction and rehabilitation of water and sanitation facilities in rural areas, e.g. 3,700 latrine/shower blocks and 6,460 latrines, as well as information, education and communication (IEC) activities. The lead agency for the Malagasy government is the DEA. The funding includes an 'institutional support' and training component for government and non-government organisations. The 'main beneficiaries' are to be: 'households, schools, basic health centres and public markets where drinking water and sanitation facilities will be built' (page 22). This funding (ADB 2005) includes more emphasis on IEC activities, including engagement of NGOs experienced in studies of behavioural aspects to carry out KAP studies (knowledge, aptitude practices),[30] as well as collaboration with UNICEF for use of local radio to disseminate hygiene promotion messages. In other words, this funding corresponds with a WASH approach, according to the ADB.

UNDP AND UNICEF have financed a project to build 150 productive boreholes in the rural south. A key focus of UNICEF's effort is on more effective education of children on hygiene practices.

The **INTERCOOPÉRATION SUISSE** has also been supporting the sector since 2003 with a programme covering six regions. Its approach combines the three elements of WASH.

As for the **WORLD BANK**, the Pilot Project for Rural Drinking Water Supply (PDWSSR) was a World Bank-financed project which began in 1998 and was completed in 2005. There is no current World Bank support to a WSS implementation project.[31] Instead, it has sent expert consultants to work with the Ministry of Energy and Mines on a budget support exercise, focusing on how to increase the targeting of budgetary allocation to sanitation and hygiene (and avoid what has apparently happened in the past: absorbing all available funds in administrative salaries and costs).

There is doubt over the sustainability of sanitation facilities once constructed. It was not clear from the interviews in Antananarivo how donor programmes are proposing to monitor **sustained** use of latrines after construction.

Further, it would be interesting to know how far the World Bank study will look at aspects of financing sanitation and hygiene at local government level.

30 In French, CAP studies: *comportements, attitudes, pratiques.*

31 There is no WSP office in Madagascar. It is noted that WB and WSP are different entities in the sense that WSP is not directly involved in carrying out WB projects.

5.3 Policy implementation

The barriers to policy implementation present in Madagascar, as revealed by this study, are as follows.

5.3.1 Lack of human and technical capacity

Madagascar lacks capacity in terms of human resources. The range of skills, including 'softer' people-based skills, required for the sanitation and hygiene sector are not sufficiently represented, with engineers outweighing other disciplines.

One actor highlighted the need for a technical centre providing training and acting as a resource for information on sanitation and hygiene. Another commented that decentralised agencies do not know what to do to implement WASH. Institutional roles need to be translated into guidelines. The government has apparently produced a simple-to-use manual but has not disseminated it. Non-governmental stakeholders commented on the lack of government officials to whom needs/complaints could be referred.

The lack of teaching manuals on sanitation and hygiene for school teachers means that sanitation and hygiene are still little or inadequately taught at (primary) schools.

There are also substantial doubts over capacity at the level of communes, which the national planning process and national sanitation policy identify as holding key responsibility. Several interviewees commented on the current gaps in capacity – technical, administrative and financial – at commune level, which means that they are not equipped to carry out their roles as *maîtres d'ouvrage* of services. As alluded above, many of the interviewees specifically pointed to what they saw as the potential for bringing together at communal level the different aspects of sanitation, which are currently tending to be compartmentalised and fragmented at national and regional levels. The draft National Policy, however, explicitly recognises (page 3) that *'the communes currently have, for the most part, neither the technical capacity nor the means, material and financial, to take on their leading role'*; the assumption of that responsibility by most communes will therefore require *'strengthening of their technical, financial and human capacities'* (page 11).[32]

The intention is that the WASH process will help build capacity at communal level, by creating support committees. There is some technical expertise available through members of WASH.

5.3.2 Low capacity to absorb funds

Donors' reticence to fund sanitation and hygiene programmes in Madagascar may reflect the country's low capacity to absorb funds.

The planning system for development is slow – from communal level, via district and regional levels, to central government. Decentralisation of functions to regions and communes (equivalent to municipalities) is only really beginning and, despite the objectives

32 During the interim when decentralisation is taking effect, the regions are to assume responsibility.

of decentralisation and devolution highlighted in the PRSP, major gaps in local government capacity are reported. Each commune is supposed to have its own development plan, but it seems many of them currently lack both the funding and the staff to produce such plans (WaterAid 2005). According to the people interviewed, in practice the development planning system operates slowly, with long periods of waiting before development proposals are translated into programmes and there appears to be a tendency for each level in the bureaucracy to blame the level immediately above or below for delays.

ADB notes in its Appraisal document for PAEPAR (ADB 2005) that the communes are the *'works supervision agencies'* but *'lack the human and financial capacity to carry out these responsibilities'* (page 4). The Summary Document of the PAEPAR project for rural WSS (PAEPAR 2004, introduction) comments that *'in parallel to the unblocking of funds, improvement of the public sector's capacity to manage infrastructure projects'* is needed.

The Annual Progress Report (September 2004) of the PRSP (IDA/IMF 2004) also referred to wider issues of budgetary management and noted some progress in implementing public expenditure management reform – adding that *'sustaining this momentum is crucial'*.

WaterAid additionally pointed to the need to ensure sustainability of sanitation investments, in terms of continued use of new facilities, which means that projects/programmes cannot go too fast.

The above factors suggest that the issue of how funds are to be channelled through state agencies and municipalities is a significant one. It should not just be assumed that there is capacity to absorb aid within the sector. The four key ministries with responsibilities relating to sanitation and hygiene need to assess how funds can be managed and delivered most effectively, including via local government.

5.3.3 Lack of service providers

The impression is that in past years NGOs in Madagascar, whether international or national, have provided much of the innovation relating to sanitation and hygiene projects, in the absence of any dynamism on the part of public institutions in past years. They have been piloting new approaches, in both urban and rural contexts.[33]

Pilot projects of NGOs (such as WaterAid, and local Malagasy associations) have signalled how local communities may be successfully engaged in sanitation and hygiene activities, e.g. via the entry point of water supply and through programmes educating children.

ADB says the private sector is present in the urban centres, but hardly at all in rural areas (ADB 2005). As regards private operators, the draft policy states: *'Although it is difficult to provide a complete picture of the private sector in relation to sanitation and hygiene in Madagascar, it is clear that there are few (commercial) private actors – for construction and operation of sanitation and hygiene facilities – and those that do exist are concentrated in Antananarivo and the area around it, with an almost exclusive focus on urban contexts. The weak presence is explained in part by the lack of financial products with which to fund their corporate funds and investment in projects'* (PAEPAR 2004).

33 Meanwhile, at national level, they are active in the WASH national platform and committees.

In the Mandritsara district, few NGOs or private suppliers of sanitation services are active. FFBBM and HVM have helped install 240 latrines in 20 villages in the Mandritsara district. The activities of FFBBM/HVM are an example of the contribution to rural hygiene which a (private) organisation with specific expertise in health/hygiene can make.

5.3.4 Methods/technology ill-suited to context

Several actors echoed the recommendations of international commentators on the need to understand the way people in different settings do things, e.g. in different regions and under different socio-economic conditions. In a community context, WaterAid reported that its policy is to carry out Behaviour, Attitudes and Practices studies before all new projects, through its local partners (who are the implementers of all WaterAid-supported initiatives). One NGO leader pointed to the importance of training community facilitators drawn from the communities with which the given sanitation/hygiene project is intending to work. Another said that messages could be conveyed using drama, with trained 'animators'.

5.3.5 Lack of access to credit

WaterAid reported that it is commissioning a study to look at the demand for and availability of micro-credit for sanitation services.

The replies of some persons questioned by FFBBM/HVM in the rural villages (see Section 4) suggest that affordability, or lack of it, is one of the factors in households not acquiring water storage vessels with covers and not buying soap for handwashing.

This cost barrier may, however, be part of the broader issue of people living away from the town and having poor access to its markets (*enclavement*), which replies to the questionnaire suggest is also a factor impeding purchase of materials for improved hygiene practices – be it bags of cement with which to construct latrine slabs, or vessels for water or soap. Many of the rural poor in Africa are to be found in areas *'weakly integrated into markets'* so that the location of poverty matters (Farrington and Gill 2002).

As seen in Section 4, the urban focus group also mentioned that lack of resources is one impediment to building household latrines.

5.3.6 Lack of strong messages

Several interviewees commented that latrines have an 'image problem'. On that basis, a clear targeted message[34] is needed for effective promotion of sanitation and hygiene. Despite the importance of promoting behaviour change, there was broad recognition of the difficulties it can present in practice. For example, encouraging adults to adopt hygiene practices with which they are unfamiliar is, one interviewee said, *un travail de géant* ('a task befitting a hero').

34 As an example of successful communication, one interviewee reported that for some years the sensitive 'nettle' of family planning had been grasped with some success. Family sizes are reducing in Madagascar, although this is not through telling people to limit the number of children because in Malagasy culture children are seen as a blessing. Instead the key message used to promote changed behaviour in family planning is the benefits of greater intervals between births.

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In the course of the interviews carried out during the national-level study, no key feedback on communicating WASH was given, other than that WASH is a package and general statements about the merits of handwashing, for example. One person noted that WASH is both an approach and a message. That seems a valid observation and a useful starting point, but it raises a question: what exactly is that message?

Differences were noted in the degree to which the three components of WASH were hard to communicate. As regards water supply, one donor representative noted that it was not necessary to convince people of the importance of water or of the greater convenience of carrying water from water points which are closer to the household, except perhaps the very poor who took water from the river. Behaviour change in relation to the other two WASH activities poses greater communication challenges. Handwashing with soap is not consistent with current practices, and there are habits which run contrary to the use of latrines, making their adoption most difficult of all. It may remain more convenient to practise open defecation.

That said, levels of awareness can be changed. For example, in seven rural villages studied by FFBBM/HVM, high declared levels of knowledge of the risk of diarrhoea arising from the lack of use of hygienic latrines were found following several years of their interventions – 73% and upwards (as per Box 6 above).

Several interviewees said that working with children is easier and more productive. The practical experience of UNICEF and representatives of the NGOs consulted was authoritative that educating children in schools provides an effective method of working, and there was broad recognition of this among other people consulted. FFBBM/HVM notes that there are 385 primary schools (public and private) in, for example, the district of Mandritsara, each of which is potentially a channel for communication.

However, while hygiene is part of the school curriculum in Madagascar, it is not included as a separate discipline. One interviewee felt that in practice, despite the enthusiasm of many individual teachers, 'big subjects' took precedence. Furthermore, the Ministry of Education has produced materials to support classroom learning on hygiene, but resources to distribute those materials have as yet been lacking.

Alongside teaching about hygiene, providing latrines in schools is seen as an important issue. It is difficult to 'preach' improved hygiene habits to children without them being able to practise them. That means including latrines as an integral part of newly constructed class-rooms. One interviewee, however, stated that this is not as yet framed as a requirement by law. One donor confirmed this, saying that schools are still being built without latrines. It seems there is currently a lack of information on the number of schools that have, and do not have, sanitation facilities and a sample study is to be commissioned by UNICEF. Maintenance (including cleaning) of school latrines is a related issue which needs to be addressed – e.g. by WASH school committees of teachers, parents and school children (see below).

Several interviewees pointed to water supply as an entry point for engaging with communities on sanitation issues. To promote the whole WASH package, WaterAid's approach is, for example, to start with discussion and action to help a community improve its water sources, followed by awareness-raising on how improved hygiene practices are

necessary to maintain the potability of the water from the new (improved) source. For example, they are taught that water needs to be appropriately stored and handled in the home and failure, for example, to wash buckets reduces water quality. This entry-point into the area of household hygiene may then lead on to the issue of handwashing with soap, and from there to the most challenging aspect (as perceived by several people consulted during this study), namely latrines.

5.3.7 Lack of arrangements for cleaning and maintenance

As noted in Section 4, the replies to the questionnaire in rural villages are interesting on the issue of maintaining latrines. It appears that more research is needed on the issue of cleaning latrines in view of the unconvincing answers given during this study. Who is responsible for cleaning latrines and how are duties apportioned? Are those who are given responsibility clear about their duties and do they accept them? What exactly is it about latrine-cleaning which seems to make people evasive in their replies? Several interviewees at national level, for example, commented that historically there has been a common culture in Madagascar of making badly behaved schoolchildren clean the school lavatories. Accordingly, it is possible that this has contributed, at least in some locations, to creating a culture where the cleanliness of latrines is not a priority.

As noted above, the **urban** focus group suggested that most people in their *quartiers* prefer to defecate in bushes near their dwellings rather than endure the smell and blue flies in and around the non-hygienic latrines. The number of latrines, they said, is currently inadequate and they are over-used and ill-maintained; they would use latrines if they were built (and presumably cleaned).

5.3.8 Complexities of behaviour change

As noted in Section 4, the level at which hygienic practices are adopted in rural villages lags behind the level of knowledge about such issues in all seven cases, especially regarding the use of latrines and soap for handwashing; in only two villages, declared use of vessels with covers for water storage is as high or higher than awareness of the benefits of such a practice. This underlines the fact that awareness does not translate immediately into action.

As one interviewee pointed out, in circumstances of severe poverty, survival may naturally take precedence over prevention: preventative steps may not be immediate enough for attention beyond pressing needs, e.g. the need for food and the means to produce it. What allows poor people to break out of this vicious circle of poverty and poor hygiene is an issue for further research.

Meanwhile, among the answers of people questioned in the rural villages, it was said that as 'peasants' (*paysans*) worked in the fields for many hours a day, it was necessary and natural for those fieldworkers to practise open defecation so they could relieve themselves near their place of work, rather than walk back to the village (which might mean a return journey of several kilometres).[35]

35 The issue then becomes whether faeces are covered or left open to e.g. flies.

5.3.9 'Cultural' factors

The Sanitation Challenge (Republic of Madagascar, undated) refers to *'a problem of culture, education and social relations. People have to be persuaded that hygiene is necessary for health, not forced by cruel words or threats… to build latrines. A well thought-out and good informative method of educating is far more likely to win genuine support'* (page 14).

Cultural factors which act as a brake on behaviour change are, interviewees reported, more pronounced among adults and rural communities. One person expressed the view that urban populations tend to be more open to change of hygiene habits than rural communities, where traditional practices may be more entrenched. In one rural community, Antsomika, reluctance to adopt new practices seems to be associated with resistance to FFBBM/HVM promoting religious beliefs.

Interviewees in the capital ventured the following other cultural explanations for lack of interest and attention to sanitation and hygiene issues:

- one donor representative referred to taboos over men and women using the same sanitation facilities, or simply resistance to change among community leaders
- latrines were perceived as luxury items (in basic rustic dwellings)
- soap was frequently not seen as necessary, at least for handwashing. Clean hands may be seen as shameful, a sign of laziness in rural communities used to working the land.

An example of local customs is one that prohibits the consumption of, for example, pork, prawns, crabs and eels. This adds to nutritional problems facing the population, which may combine with poor WASH access and practices to exacerbate health problems.[36]

36 A wider poverty perspective – including nutritional and food security aspects, as well as WASH – is considered in the Briefing Paper which accompanies this report.

6 Conclusions and responses

6.1 Conclusions

In Madagascar, positive factors relating to sanitation and hygiene noted in this study are:

- the sanitation and hygiene policy which has been drawn up and is likely to be approved soon
- the stakeholder dialogue in Madagascar, led by the national WASH platform
- the leadership shown by certain individuals and organisations.

Barriers to further progress in developing and implementing sanitation and hygiene policies include:

- low budgetary priority accorded to sanitation and hygiene relative to other development areas, including water supply
- the education ministry is a secondary player in sanitation and hygiene policy-making, with the result that sanitation and hygiene has been inadequately taken into account in education policy and programmes (e.g. in curricula). It appears that schools are still being built without sanitation and hygiene facilities
- major capacity gaps exist at local level: the national campaign of Diorano-WASH has the **potential** to help create more coordinated and effective action on sanitation and hygiene at decentralised levels, but lack of capacity at the level of communes remains a substantial challenge
- the slow take-up of improved sanitation and hygiene practices seems to be associated with communities' remoteness from town and markets (*enclavement*), raising the issue of **choice** and **sequencing** of different types of development intervention. It is not always the case that all three elements of WASH, the standard package, will be priorities; for example, improving hygiene conditions, in conjunction with improving nutrition, may in some circumstances take precedence over building latrines.

Of the barriers highlighted by international commentators (noted in Section 2), those present in Madagascar are shown in Box 9.

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Box 9
Barriers to sanitation and hygiene (S&H) policy development and implementation

Process stage	Barrier	Present?	Notes
1 Problem definition			National Policy and Strategy for Sanitation, once approved, will provide broad definitions
2 Agenda-setting and policy formulation	Lack of information	X	
	Tensions between mindsets	X	
	Lack of coordination	X	National Policy and Strategy for Sanitation outlines key roles and responsibilities; meanwhile, the national WASH platform is promoting dialogue between stakeholders. S&H still to be mainstreamed in education policy: schools without sanitation facilities.
	Lack of political and budgetary priority, lack of demand	X	Some positive political signals – yet (as of autumn 2006) to be converted into budget allocations.
	Donors' agendas	–	Some funding is available to support S&H; no donor coordinating committee.
3 Policy implementation	Lack of human and technical capacity	X	
	Low capacity to absorb funds	X	Limited
	Lack of service providers	X	
	Methods/technology ill-suited to context	–	
	Lack of access to credit	–	Varies from place to place
	Lack of strong messages	X	
	Lack of arrangements for cleaning and maintenance	X	
	Complexities of behaviour change	X	
	'Cultural' factors	X	

6.2 Responses

By way of response, the following list of steps to be taken was discussed and refined at the project seminar in Antananarivo.

Steps to be taken (S&H – sanitation and hygiene)

- Final approval of the National Policy and Strategy for Sanitation.
- Put into effect the Action Sheets (*Fiches d'actions*) which are attached to the National Policy, further developing them as necessary into an action plan for implementing the National Policy.
- Use existing regulations, under the recently passed Water Law (*Code de l'Eau*), as a vehicle for enforcing the National Policy, as an interim measure (so as not to have to delay action until new regulations are drafted and passed).
- Promote coordination between the three principal ministries responsible, through an inter-ministerial committee.
- Promote coordination between donors, e.g. via a donor committee on S&H (or a sector review body which includes national agencies and donors).
- Create budget lines within the three principal ministries responsible to increase coordination of public funds entering the S&H sector
- Progressively extend WASH committees to all the regions (and eventually the communes).
- Formulate strong message(s) with which to communicate WASH, including a means of promoting latrines.
- Attract other finance (how can the case for S&H be better made?)
- Progressively strengthen capacity (human and technical) at communal level, but also support non-governmental providers operating in communes where public provision is absent.
- Translate 'on-paper' demands expressed in development plans (in PCDs and PRDs) into real programmes which will progressively fill the gaps in S&H.
- Strengthen education and awareness-raising ('*sensibilisation*') programmes.
- Sector actors contribute to building up and maintaining the information in the database at the office of the national coordinator of WASH, e.g. on progress in latrinisation.
- Work with teachers to promote more and better teaching of S&H at school.
- Other development programmes are pursued to connect remote rural areas by road and telephone, with electricity to reduce isolation.

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Questions for further research

- Behaviour in rural communities: a very complex area which is still little understood.
- Cleaning of latrines: the responses to the questionnaire used by FFBBM point to this as an important area for further investigation; it is not clear how latrines, once installed, are being kept clean, or odour- and fly-free.
- One suggestion at the seminar in Antananarivo was that communication messages will only work if they are derived from discussion with the communities for which they are destined.
- The FFBBM questionnaire pointed to weak purchasing power as one important factor in e.g. uptake of latrines, and regular acquisition of soap.
- What exactly are the capacities, human and technical, of non-state providers, including NGOs?
- How far can WASH lead coordination between public agencies, e.g. ministries? What kind of Sector Review process could be designed, bringing together ministries, donors and other WASH members? Are examples from other countries instructive?

Annex 1

List of people consulted at national level

Peter Newborne of ODI carried out interviews in the capital, Antananarivo, with the support of Dr Alfred Ranaivoarisoa, Maître de Conférences, Head of the Laboratory of Hydrogeology, Dept. of Sciences de la Terre, University of Antananarivo – with the individuals listed below.

- **Ms Rakotomaharo Razanamihaja**
  Director of Water and Sanitation, Ministry of Energy and Mines
- **Mr Luc Belleville**
  Adviser on Heath and Environment
- **Mr Victor Mafilaza**
  Assistant in Higher Education and Research, Service of Sanitation and Sanitary Engineering, Ministry of Health
- **Ms Christiane Randrianarisoa**
  Senior Programme Manager
- **Ms Léa Razafinolrazeka**
  Sanitation specialist, WaterAid
- **Mr Jean Herivelo Rakotondrainibe**
  Coordinator (formerly Director of Water and Sanitation, Ministry of Energy and Mines) WASH platform
- **Ms Yveline Randriamiarina**
  Responsible for WASH in Schools, Direction of Secondary Education, Ministry of Education and Scientific Research
- **Ms Dina Rakotoharifetra**
  Administrator, Water and Sanitation Project, UNICEF
- **Ms Louisette Razazatiana**
  Chief of Service relating to NGOs and Social Protection, Inter-regional Direction, Ministry of Population and Social Protection
- **Mr Ramanarivo Solofomampionona**
  Lecturer and Head of Department, Hydraulic Department, Ecole Supérieure Polytechnique, University of Antananarivo
- **Mr Patrice Joachim Nirina Rakotoniana**
  Municipal Engineer, World Bank
- **Mr Simon Randriatsiferana**
  Expert in Infrastructure, African Development Bank
- **Ms Gabriella Rakotomanga**
  Head of Programming, Catholic Relief Service

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- **Ms Haingo Lalaina Ralaison**
  Adviser on Health and Drinking Water, Rural Development Programme, Swiss Inter-Cooperation
- **Mr Gerald Razafinjato**
  Company Director (and Hydraulic Engineer), Sandandrano (a private enterprise working to provide community-level water services)
- **Ms Bernadette Andriansanaka and Mr William Randriamiarina**
  Project leaders (and co-founders), Association Miarintsoa (local NGO working on WASH in schools and communities)
- **Mr Ratefy Tovoherisoa Adriantahiana**
  Programme Director, Association Famonjena (local NGO working to rehouse slum dwellers)

Annex 2

Additional information on the local study

The seven rural villages where the questionnaire was used are among a total of 20 villages where FFBBM has worked in the district. These villages were chosen for the purposes of the questionnaire to investigate the sanitation and hygiene status in different geographical locations relative to Mandritsara town.

In four of the villages, FFBBM has been supporting activities to install improved water points, and providing medical care to all seven (e.g. a medical clinic). Those activities were either preceded, within the last five years, or followed by hygiene education and/or awareness-raising (*sensibilisation*) activities carried out by FFBBM/HVM. The function of this questionnaire has, therefore, been to discover what hygiene practices exist after such *sensibilisation*.

Box 10 shows the communes in the District of Mandritsara. The five communes in **bold** in the box are those in which this study has been carried out, in the seven villages already listed in Section 4.

Box 10
The communes of the District of Mandritsara

Source: Republic of Madagasacar (2005)

Urban commune *(Commune urbaine)*	Mandritsara town
Rural communes *(Communes rurales)*	**Kalandy**, Ankiabe-Salohy, Ankiakabe-Fonoko, Ambondiamotana-Kianga, **Ambalakirajy**, Anjiabe, **Ambohisoa**, Andohajango, Amboaboa, Ambilombe
Total	**28 communes** – 1 urban and 27 rural

The number of households per village who were questioned and the total number of households in each village is set out in Box 11.

As shown by Box 11, the percentage of households questioned in each village ranged between 8.9 per cent and 15 per cent, averaging 11.69 per cent (i.e. about one in eight).

Each village was given one week's advance notice of the forthcoming visit of the researchers. The households questioned were those where a woman of the household (between 17 and 60 years) was present and declared herself available to answer questions. (Some women declined on the basis that they were too busy, or for other reasons, including, probably in some cases, timidity). Women were chosen by preference, because of their principal household role in relation to water collection and storage, as well as care of children including health/hygiene. Men/husbands were in most cases absent, e.g. working in the fields, but where the/a male household member was present, he expressed his opinion.

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Box 11
Scope of questionnaire and village type

Source: FFBBM/HVM Département santé communautaire (Base de Données HVM/FFBBM)

Rural commune	Villages	HH	TH	IPV	HC	NC
Ambalakirajy	Andilana	26	290	1780	25	91%
Ambohisoa	Maetsamena	24	200	1200	20	90%
Ambaripaika	Ankisaka	26	180	1100	20	89%
Antsoha	Antsarika	16	150	951	10	93%
Ambalakirajy	Ambodilengo	20	150	850	15	90%
Kalandy	Ambaky	14	130	800	5	96%
Antsoha	Antsomika	12	80	450	15	81%
	Average	138	1180	7131	110	91%

KEY
HH – Number of households surveyed per village
TH – Total number of households per village
IPV – Number of inhabitants per village
HC – Number of households which raise cattle
NC– Percentage of households which do not raise cattle

Where no adult female or male was present, young people aged between 14 and 21 years, female or male, were questioned.

FFBBM characterises over 90 per cent of the population in these seven villages as living in conditions of extreme poverty. One key indicator used is the percentage of households which do not possess oxen or cattle, ranging from 89 per cent to 96 per cent, i.e. only one in 10 does possess oxen/cattle (see the columns IV and V in Box 11).

The six people from four agencies interviewed at **regional** and **district** level, were:

- the Secretary General and the Director General of Development of the Sofia region
- the Assistant to the Chief of Mandritsara District
- the First Assistant to the Mayor of the Urban Commune of Mandritsara
- the Chief of the Support Division and the Chief of Personnel of the Education Area of Mandritsara.

At the Seminar in Antananarivo, the **President of FFBBM, Pastor David Ratovo**, cited a passage from the Bible (Deuteronomy 23:10-14) which sets out guidance on sanitation to help a large group of people (such as an army in a camp) maintain better hygiene.

Questionnaire of rural households

The list below includes 31 questions as examples of those in the questionnaire. In all, there were 83 – 32 on water, 29 on latrines and 22 on handwashing with soap.

Ia WATER Knowledge of water-related illnesses including diarrhoea

1.1 Is the water in your village sufficiently clean for drinking?

1.2 Do you think that your child could have contracted diarrhoea or other illnesses by drinking water which is dirty or polluted?

2.1 Are illnesses caused by dirty water serious?

4.1 Do people in your village purify water by boiling, or other means?

7.1 Is it often divine will which causes a person to have diarrhoea ?

Ib WATER Water storage and use

1.3 Do you think your child could contract diarrhoea or other illnesses when you touch water with your hands or fingers?

1.4 Do you think that your child could contract diarrhoea or other illnesses when you use kitchen utensils which are not clean in the bucket of drinking water?

1.5a What type of vessels do you use for storing water in your house?

1.5b Do you think your child could contract diarrhoea or other illnesses when you do not wash frequently the water storage bucket or other vessel?

3.3 Do you think illness from diarrhoea can be avoided when a person washes regularly her/his water storage bucket or other vessel?

5.6 Is there something which makes it difficult to protect water stored in a bucket?

6.4 When you use a bucket of water, is it easy for you to remember the things to do to be sure that the water is and remains drinkable?

2 LATRINES Knowledge of illnesses including diarrahoea related to lack of management of human excreta; use and maintenance of latrines

1.2 Do you think your child could have contracted diarrhoea or other illnesses when excreta is not placed in latrines or pits?

1.3 Do you think your child could have contracted diarrhoea or other illnesses when latrines or pits are not maintained and cleaned?

2.1 Does one contract serious illnesses when excreta is scattered in the yard?

2.2 Do you think that children can die of diarrhoea or other illnesses caused when excreta is not placed in latrines/pits?

3.2 When latrines/pits are regularly maintained, is a family less vulnerable to diarrhoea and other illnesses?

5.2 Do you think you are capable of maintaining your latrine/pit in a hygienic state?

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5.6 Is there something which makes it difficult to maintain latrines/pits in a hygienic state?

6.2 Do you remember easily the need to maintain latrines/pits clean so that they stay hygienic?

7.1 Are there any taboos or beliefs which prevent use of latrines/pits?

8.1 Do you find there are any advantage(s) in maintaining latrines/pits in a hygienic state?

8.2 Do you find there are any disadvantage(s) in maintaining latrines/pits in a hygienic state?

3 SOAP Knowledge of illnesses including diarrhoea which can be reduced by washing of hands; use of soap for handwashing

3.4a On what occasions do you use soap?

3.4b When you use soap, does that help prevention of diarrhoea?

1.2 Do you think something will happen to you if you do not wash your hands before meals, when you are preparing meals and after helping a child go to the toilet?

5.2 Where do you buy soap?

5.4 Do you, in your household, buy soap regularly?

7.1 Is there something in your customs, usages and beliefs which prevents you from washing your hands with soap?

8.3 Do you find there are any advantages in not washing your hands with soap?

8.4 Do you find there are any disadvantages in not washing your hands with soap?

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