Suggestions for Change to Facilitate the Use of Productive Sanitation in the Niger Context – Learning from the Aguié Experience and a Starting Point for a Policy Dialogue

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Acronyms

AEP	Approvisionnement en Eau Potable
CLTS	Community Led Total Sanitation
CNEA	Comité National d'Eau et Assainissement
CREA	Comité Régional de l'Eau et de l'Assainissement
CREPA	Centre Régional pour l'Approvisionnement en Eau Potable et Assainissement
DRA	Direction Régionale de l'Agriculture
DRH	Direction Régionale de l'Hydraulique
DRSP	Direction Régionale de la Santé Publique
IFAD	International Fund for Agricultural Development
PNAEPA	Programme National de l'Approvisionnement en Eau Potable et Assainissement

Executive summary

This study was carried out within the framework of the project "Testing a nutrient recycling system (Productive Sanitation Systems) in Niger with a view to measuring its potential for improving agricultural productivity".

This one year pilot project is being carried out in the department of Aguié, Maradi region, in southern Niger. The project aims to support 300 households, across 5 villages, to recycle the nutrients and organic matter from human excreta using simple urinals and composting toilets. IFAD is the main donor of the project. CREPA is implementing the project in collaboration with PPILDA (a local development programme financed by IFAD) and SEI's EcoSanRes program.

The project objectives are:

1. PSS (Productive Sanitation Systems) are accepted and have a measurable effect on food production in the pilot communities (comparative analysis with other fertilizers or non fertilizers)

2. Other actors in the field of sanitation/agriculture integrate the concepts of PSS in their work and policies

The vision is that positive results from the Niger project will stimulate interest and enable uptake of the productive sanitation approach by other IFAD programs as well as by other organizations in the field of sanitation, agriculture, food security and poverty alleviation.

One segment of the project is concerned with the policy situation in Niger in relation to productive sanitation, both from an agricultural and a sanitation perspective. The current mission is concerned with the policy segment of this project.

The study found that:

- On a country level: Niger has an exploding population and an economy that is extremely dependent on agricultural production. The available statistics for access to improved sanitation are among the lowest in the as is fertiliser use per unit surface areas in agriculture.
- On a regulatory ad policy level: Existing regulations and policy do not pose significant obstacles to the wider uptake of PSS. Indeed national programmes and strategies clearly support the objectives of PS systems.
- On an institutional level: For sanitation there is still some degree of confusion over the allocation of responsibilities between 4 different ministries, whereas for agriculture this is much clearer. The decentralisation process has however created a situation of some confusion as the decentralised authorities have been granted responsibility for activities for which they have neither the capacity nor the financing.
- A wider uptake of PSS may be encouraged if three recommendations are followed. These are:

    1. Support other actors
    2. Frame PSS in ongoing national strategies and programmes
    3. Promote flexible PSS

1 Introduction

1.1 The project "Testing a nutrient recycling system (Productive Sanitation Systems) in Niger with a view to measuring its potential for improving agricultural productivity"

This one year pilot project is being carried out in the department of Aguié, Maradi region, in southern Niger. Through the use of Productive Sanitation Systems (PSS), with simple urinals and composting toilets, the project aims to introduce a sustainable source of agricultural nutrients and organic matter to 300 farming households across 5 villages as well as providing them with a low cost sanitation system that treats and manages excreta.

Several studies will be made based on the pilot project and materials and tools developed in order to facilitate a wider uptake of the approach. The project will also establish a Community-of-Practice through the formalisation of a development and implementation platform whereby productive sanitation, conservation agriculture and rainwater harvesting are connected to food security programmes for smallholder farmers and governments. A larger, up scaled implementation is envisioned involving selected partner institutions and governments.

One element of the project is to consider the policy situation in Niger and the compatibility of Productive Sanitation Systems with existing policy and legislation from both an agricultural and a sanitation perspective. This report is concerned with the policy segment of this project.

1.2 Project context

The landlocked West African country of Niger currently has a population estimated at around 15 300 000, and a population growth rate estimated at 3.68% - the second highest in the world (both estimates for 2009). Of the 1 267 000 km², around 11% serves as arable land. However agricultural production (mainly subsistence farming and animal husbandry) is heavily dependent on rainfall which is highly variable both over time and in its spatial distribution. Average precipitation varies from 150 mm per year over the northern 2/3s of the country to up to 800 mm per year in southernmost areas (constituting only around 1% of the total country area). The principle crops grown are cereals (millet, sorghum, rice, fonio and maize) and cash crops (cowpeas, groundnuts, voandzou, sesame, sorrel, souchet and cotton). The average size of rain-fed plots is around 5 ha for about 6 workers and harvests are low and variable. Irrigated agriculture currently only represents a tiny fraction of all agricultural production areas (perhaps around 2%) and is generally practiced on much smaller plots, of around 0,25 to 0,5 ha per family.

The low fertility of the soil, the reduction and even elimination of fallow periods and the extension of agricultural areas by clearing and planting on marginal soils increases soil erosion by water and wind and undermines attempts to stabilise soil fertility, whilst fertiliser use is low. It has been estimated that less than 4% of rain-fed fields receive fertiliser.

Animal husbandry is an important agricultural activity, with an estimate of over 7 million Tropical Livestock Units[1] in 2002, made up of cattle, sheep, goats, camels, horses and donkeys, with animals being raised extensively in rural areas. Animals graze freely, and their food is thus also dependent on rainfall.

With over 80% of the population living in rural areas the economy is strongly dependent on agriculture (representing 41% of GDP and represented 44% of exports in 2001). The drought

[1] 1 TLU is generally defined as the grazing equivalent of an animal of 250 kg

that began in the 1970's seems to be ongoing with rainfall around 30% lower than it was previously and the economy is thus vulnerable to the slightest change in the weather.

According to the Accelerated Development and Poverty Reduction Strategy (SDRP), the economic growth of the country (which averaged 3,9 % between 2002 and 2006) is insufficient to enable a significant reduction in poverty and put the country on the road to achieving the Millennium Development Goals. When confronted with the high population growth rate, and the resulting demand for infrastructure and resources, the population clearly face a huge range of problems.

Economically, the Maradi region where the project is located is one of the better situated in the country. Lying in a zone of high rainfall the region can be considered as the bread basket of Niger with groundnuts, sorghum, millet, cow peas and even cotton being grown. The proximity to Nigeria and the resulting trade has made Maradi town the unofficial economic capital of the country. The department of Aguié is one of six departments in the region and borders Nigeria. Despite the area's reputation for agricultural production, or possibly because of it, Aguié suffered particularly severely during the food crisis in Niger in 2005. Based on this year's harvest and the price of millet on the national market compared to previous years, the government and international organisations are preparing for a similarly difficult year in 2010.

From a sanitation perspective, available statistics for Niger from the MDG Joint Monitoring Programme regarding access to improved sanitation paint an extremely poor picture. The most recent statistics (from 2006) suggest that 95% of the rural and 26% of the urban population practices open defecation, and that access to improved sanitation[2] in rural areas is the lowest in the world at 3%. In order to reach the MDG for sanitation in the Maradi region, the National Programme for Water Supply and Sanitation (the PN-AEPA) estimates that around 92 500 toilets need to be installed in households, with 85 500 of these in rural areas. Over the next 6 years this would mean over 40 toilets a day being installed in the Maradi region.

The health impact on the population resulting from widespread open defecation, poor hygiene and the generally poor state of nutrition is huge. Acute respiratory infections and diarrhoea, which thrive in areas with poor sanitary conditions and hygiene, are the leading causes of child illness. Looking at the total number of child deaths resulting from diarrhoea, with 26 400 deaths per year Niger has the 11th highest number of deaths worldwide, and for a relatively small population (countries in the top ten include India, Nigeria, China, and Bangladesh). From the nutritional viewpoint, Niger had the highest percentage of underweight children (44%) on the African continent over the period 2000 -2006.

2 The compatibility of PSS with existing policy instruments[3], strategies and programmes

In order to facilitate a large scale promotion and uptake of PSS, the compatibility of the approach with existing policy instruments an initial review has been carried out to identify any major obstacles. This review considered existing relevant regulations, national strategies and programmes and a brief look at the national and local institutions which should be consulted and / or implicated in upscaling. Potential obstacles arising from the regulations have been identified and recommendations have been made as to how these may be addressed

[2] Improved sanitation is defined by the MDG-JMP as being a flush or pour-flush toilet or latrine to a piped sewer system, a septic tank, pit latrine, VIP latrine, a pit latrine with slab, or a composting toilet.

[3] Elledge (2003) defines four main types of policy instruments with regard to sanitation: (i) laws and regulation; (ii) economic measures (iii) information and education programmes (iv) assignment of rights and responsibilities for service provision.

or overcome. Discussions were also carried out with the most relevant institutions involved in national strategy implementation in order to assess how PSS could best fit in to ongoing implementation and these have been summarised within the text.

It should be noted that the low sanitation coverage figures for Niger are in part a result of the ongoing lack of clear and coherent sanitation policy and of the low development priority accorded to sanitation. Policies intended to be provide a set of procedures, rules and allocation mechanisms and thus provide a basis for programmes and services are lacking, and there is no clear mechanism by which priorities are set and resources allocated for their implementation. This lack of coherent policy, norms and objectives for sanitation has been highlighted by AMCOW in their 2006 status review of 16 African countries and in the 2004 Livre Bleu, produced by the International Water Secretariat. Although there has been a small amount of progress since these reports, sanitation policy as described in Elledge 2003 cannot be said to exist in Niger. Instead laws and regulations relating to sanitation are found scattered across different areas of responsibility and do not represent a coherent approach.

Political will has been non-existent for the most part and only the pressure of dramatically missing the sanitation MDG appears to have provoked movement on the sanitation front, with considerable pressure from the few donors that support the water sector. What little sanitation regulations that do exist are either regularly flouted or are simply not known to the wider population and despite the existence on paper of sanitary police, there would appear to be little or no enforcement of these regulations.

In addition to this it should be noted that in general PSS represents a new approach to sanitation in Niger and that existing policy and regulations are fixated on on-site sanitation infrastructure, not systems, and provide no detailed provision of how faecal sludge or wastewater should be managed. Indeed even the most recent study from 2008 on the strategy for the promotion of hygiene and sanitation in Niger recommends identifying sites in urban to simply discharge faecal sludge to address the problem of full pits. It is therefore no surprise that appropriate terms for treated faeces and urine are not found in existing legislation, policy or strategies. There are no direct references to the use of treated urine or composted faeces in agriculture or to the types of toilets proposed. It has therefore been necessary to read between the lines and interpret terms that could be expanded to cover these.

From an agricultural viewpoint a list of permissible agricultural inputs and dosages should be available from the Ministry of Agricultural Development. This list has however been difficult to obtain and the documents received that were said to contain the list did not. Discussion partners did however say that the use of faecal sludge was not encouraged (although a provision for the use of untreated faecal sludge is made in the Public Hygiene Code described below). The use of treated human excreta is not foreseen on the list.

The lack of clear sanitation policy continues to hinder progress. However there is a real effort being made, driven primarily from the Ministry of Hydraulics, to identify and establish a much clearer framework for sanitation. This current state of flux in sanitation policy provides a great opportunity for PSS if it is able to demonstrate its effectiveness on the ground, particularly if this piloting is carried out within the framework of ongoing national programmes and strategies and in collaboration with the authorities. This could result in policy being made in response to activities and experiences on the ground, and PSS being firmly established as one of the sanitation systems strongly supported in policy and legislation.

2.1 Relevant regulations

2.1.1 Ordinance No 93-13 from 2 March instituting a Public Hygiene Code

These general regulations from 1993 established the Public Hygiene Code covering a comprehensive range of topics – from streets and swimming areas to homes, industries and businesses and the natural environment.

Article 8 of the text pre-dates many later texts and clearly **assigns communal authorities the responsibility for the "regular and hygienic elimination of domestic refuse, excreta, wastewater and waste"** in collaboration with public or private hygiene and sanitation services. The implication of this for the project being that the communal authorities should be the direct institutional partner for implementation with the perspective of handing on activities when the project has ended. This is however not without its difficulties, as will be discussed in the section on decentralisation.

With regard to the where toilets with on-site treatment may be placed **Article 14 expressly forbids the installation of individual sanitation structures outside of the home compound without special authorisation.** This regulation applies to latrine pits, infiltration pits, septic tanks etc. and would be equally applicable to composting pits were they to be placed outside of the concession.

The first real challenges to PSS however come when the regulation considers hygiene in the home. **Article 35 prohibits any mixing of household refuse with excreta.** It is however unlikely that either the ash or the leaves used to cover fresh excreta in the dry and composting toilets would be considered as household waste and this article would be of greater significance if the PSS systems proposed were to advocate a secondary composting outside of the toilet vault or shallow pit.

The regulation also addresses the agricultural use of faecal sludge and untreated wastewater. **Article 91 forbids the use of faecal sludge on crops growing close to the ground and that are to be eaten raw. The irrigation of fruit and vegetables with untreated wastewater is forbidden.**

As they stand these regulations do not expressly forbid the use of treated urine and faeces in agriculture nor do they pose any direct problem with regard to the composting of faeces, as long as it is not mixed with household refuse.

2.1.2 Law No 98-56 from 29 December 1998 on the framework for environmental management

This law sets a general juridical framework and fundamental principles for environmental management in Niger. The law deals with environmental politics, environmental management and protection instruments and states what penalties are to be given for particular infractions. The protection of water resources and soil are also part of this law.

Article 55 of the law relates directly to PSS and states that the **Ministry for Agriculture is to establish a list of all fertilisers, pesticides and other chemical substances whose use for agricultural purposes is authorised. The ministry is also to state the authorised quantities and application methods compatible with maintaining soil quality, ecological equilibrium and human health**. Additionally **Article 74 forbids noise or odour emissions that are likely to effect human health or cause excessive annoyance in the surrounding area or damage the environment**.

With regards to the odour issue it is unlikely that farmers using stored urine will complain of the excessive smell during the application of urine. However the agricultural use of treated urine and faeces will need to be approved by the ministry of agriculture and they will

eventually have to be able to provide application and dosage guidelines. The list alluded to in Article 55 has not yet been seen or found by the consultant although discussions partners have spoken of it and provided documents within which it was thought to be found.

2.2 Relevant strategies currently in implementation

2.2.1 Strategy for Accelerated Development and Poverty Reduction (SDRP) / Rural Development Strategy (SDR)

The Nigerien government adopted the original Poverty Reduction Strategy (SRP) in 2002 with the aim of reducing poverty in the country from 53% to below 50% by 2015 and to provide a reference framework for the development of the country. (This was updated in 2007 as the Strategy for Accelerated Development and Poverty Reduction (SDRP) – see Annex 2.) However the pre-eminence of the rural sector and its importance for the national economy was immediately apparent and it was deemed indispensable to draw up a sector specific poverty reduction plan for rural areas. The Rural Development Strategy (SDR) (see Annex 3) was thus developed to focus on the developmental needs of rural areas. The SDR is the key national document for interventions in rural areas and provides the framework for all interventions there. The objective of the SDR is "to reduce the incidence of poverty in rural areas from 66% to 52% by 2015 by creating the conditions for an economic and socially sustainable development guaranteeing food security for the population and a sustainable management of natural resources". It has three main strategic axes:

1. To facilitate the rural population's access to economic opportunities thereby creating the conditions for sustainable economic growth in rural areas.
2. To foresee risks, improve food security and sustainably manage natural resources to secure living conditions of the population.
3. To reinforce the capacities of public institutions and rural organisations thereby improving the management of the rural sector.

These axes were broken down into a series of priority interventions which have been regrouped into a series of 14 programmes, 10 of which focus on structural issues and four on sectoral priorities. Given the overall objective and strategic axes of the SDR, PSSs fit perfectly into the logic of the strategy. The framework provided by four of the programmes in particular could explicitly be used to promote productive sanitation in rural areas and would enable the introduction of PSSs into the SDR in a cross-cutting manner. These programmes are:

- Programme 2: Local governance of natural resources
- Programme 8: Water and Sanitation
- Programme 9: Prevention and management of crises and natural catastrophes (particularly in the Sub-programme 9.2: Health and nutrition and possibly Sub-programme 9.3: Increasing the revenue of the most vulnerable)
- Programme 10: Preservation of the environment

The Executive Secretariat of the SDR expressed a real interest in the potential of PSS and is keen to have contact with the project. Chemical fertiliser is seen as having an important role within the SDR but so also does organic fertiliser. This is usually simple compost (composted household waste) or improved compost (compost with added phosphorous). The use of faeces or faecal sludge as fertiliser is not promoted, and whilst the idea of using treated urine and faeces in agriculture had not been discussed before it was seen as having potential. The main issues however that would need to be satisfied for the SDR to be able to include PSSs would be to ensure (i) the hygienic quality and (ii) the nutrient content of the treated urine and faeces (or takin ruwa and takin busache as it is promoted in the project). This should be done using the established structures such as the agricultural research institute ICRISAT and the health

services. This would also enable the Ministry of Agriculture to establish application and dosage guidelines as required under Law 98-56 described above.

Digressing slightly from the theme of integrating PSS into the SDR but remaining on discussions held with the executive secretariat of the SDR and the central office for fertiliser distribution some interesting information on fertiliser use was obtained. The government imports annually 20 000 tonnes of fertiliser (10 000 tonnes of urea and 10 000 tonnes of NPK) for subsidised sale throughout the country, however even at a subsidised price of 13 500 F CFA, the buying power of most farming households is too low to buy fertiliser. Any increase in international fertiliser prices pushes either the burden on to the state to increase the subsidy or on to the farming household due to the price increase thus further reducing fertiliser use. These state subsidised fertilisers are sourced in the Ukraine, Russia and Romania. Other fertilisers do make it onto the Nigerien market however their quality has been noted to be extremely variable. In addition to the low fertiliser use is the problem of the low organic input to the soil. Even the last residues are removed from fields and used either as fodder, fuel or to make mats or other items. This removal and non-return of organic matter from agricultural is an additional problem which cannot be addressed by increased fertiliser use, and a secondary co-composting of the composted faeces with household waste was seen to be desirable to try and get some degree of organic return to the soil – although the legality of such actions would have to be verified in accordance with Ordinance 93-13.

2.2.2 The National Programme for Water Supply and Sanitation (PN-AEPA) of the Ministry of Hydraulics

The National Programme for Water Supply and Sanitation (PN-AEPA) (see Annex 4) was finalised in 2008 and details and specifies how the quantitative objectives for water supply and sanitation of the SDRP and the SDR (corresponding to the MDGs) can be reached. According to the calculations in the PN-AEPA this will require the construction 400 000 household latrines in rural areas and 64 000 household latrines in urban, and an additional 4 640 public toilets throughout the country.

These calculations have been carried out on the basis of 18 people per household using the latrine (the usual number taken in the region per household is 10) and the estimated total cost of supplying one household with a latrine, including all necessary IEC activities, is 150 000 F CFA, whilst public toilets are priced at 2 000 000 F CFA. This puts the estimated cost of the sanitation section of the PN-AEPA at over 91 billion F CFA (around 140 million Euro), and at over 73 billion F CFA (110 million Euro) for rural area alone. The total figure of 91 billion F CFA represents less than 20% of the total cost of the PN-AEPA. This estimate is however without any provision for excreta or wastewater management, and is thus basically a national latrinisation programme.

Financing the sanitation section of the PN-AEPA will pose a major problem. The annual budget of Niger is estimated at around 220 million Euro with 40% of this coming from foreign sources, which is expected to decrease dramatically as a result of the political situation in the country. Sanitation remains a low development priority and it would appear unlikely that the estimated necessary investment will be found.

From a financial point of view PSS offers a clear advantage over the latrines proposed in the PN-AEPA and given the current political and financial situation in Niger, the moderate cost should be a huge boost for the acceptance of PSS in the PN-AEPA.

The case for the use of PSS as part of the overall is further supported by the base line study for the elaboration and operationalisation of the hygiene promotion and sanitation strategy n Niger which was carried out within the framework of the Support Programme for the Water, Hygiene and Sanitation Sector as a support to the PN-AEPA. This report from 2008 for the

first begins to talk about sanitation systems rather than simple latrines and provides a definition of a sustainable sanitation system as being "economically viable, socially acceptable and technically and institutionally appropriate". This definition however falls short of the more broadly used definition of the Sustainable Sanitation Alliance which adds that sustainable sanitation systems "should also protect the environment and natural resources".

In its overview of the international hygiene and sanitation context the report presents both the ArborLoo and the Fossa Alterna and provides an overview of the regional EcoSan programme of CREPA and recommends that "ecosan should be retained as a technology to propose to the population due to the prime interest in the use of faecal sludge in the Nigerien agricultural context".

In discussions with the Director for Rural Hydraulics at the Ministry of Agriculture further details were provided on the preferred orientation for sanitation interventions. The aim is now to strive towards Zero Open Defecation and there is a fear that mainly promoting the use of urine in agriculture will not reduce open defecation. UNICEF is currently piloting a CLTS programme in the east of the country in Zinder with partners. There does however seem to be a place for PSS in the overall strategy, particularly if it can be introduced to farming households in an understandable manner and also leads to faeces being collected, treated and reused. Given the time frame of the current pilot phase however it would be difficult at te moment to ensure that this will be achieved even in the project area.

2.2.3 The National IEC / Health Programme of the Ministry of Public Health

This programme is organised within the framework of the Sanitary Development Plan (PDS 2005-2010). The objectives of the programme are:

1. To bring the population to obtain and consume potable water
2. To help the population adopt and / or reinforce favourable hygienic practices in the preparation, conservation and consumption of food.
3. To help the population adopt and / or reinforce favourable physical hygiene as well as hygiene in the home.
4. To bring the population to construct and use appropriate sanitation installations for the correct evacuation of used materials.
5. To bring the population to undertake actions to reduce disease vectors.

The original budget for this programme was set at around 1,7 billion F CFA (around 2,6 million Euro) but this appears to have been reduced over time.

2.2.4 Decentralisation

Niger began to move towards decentralising decision making responsibility to local authorities in the 1990s, with responsibility for land tenure, education and literacy, natural resource management, livestock, agriculture, hydraulics, health and hygiene etc. being transferred to the regions, departments and communes according to the law 2002-013. However, whilst these responsibilities were conferred on the decentralised authorities, the competencies were not. Municipal elections were first held in 2004 and were due to be held again in 2008. These were postponed and were held on the 27 December 2009.

There is therefore a very limited degree of experience among municipal authorities, and very low capacities for planning of any sort. This is made worse by the limited budgets available to communes. There is an enormous need for capacity building at local level from the municipality right down to village and household level. Although certain urban municipalities are starting taking responsibility for water and sanitation services, the rural municipalities will still be absent from the sector for a long time. The Direction Régional / Départemental de

l'Hydrauliqe (in the case of sanitation) should theoretically provide technical backstopping to the communes for planning and implementation. These directions are chronically understaffed and are caught in a transition period from being an agency for the direct management of projects and control of works to one for programming, coordination and "facilitation" of the sector, supporting the communes and municipalities in assuming their new responsibility for water resources planning and sanitation.

It would therefore be of no great practical use if the PSS project were currently to consider an eventual handover of activities to communal authorities, or to expect communal authorities to become a possible multiplier of the approach. In the medium term at least the deconcentrated state technical services will still have an important role to play and should be brought into the discussions on how to upscale the implementation of the approach, together with the communal authorities.

2.3 Relevant institutions

2.3.1 Sanitation

The Ministry of Hydraulics has taken the lead in sanitation and supervises the sector through three central directorates and a network of decentralized services (the DRHs at regional level and the DDHs at departmental level). Both the ministry and the decentralised directions are understaffed given the job to be done. After a long period of direct management of projects and control of works, the Ministry and the DRHs have difficulties dealing with their new functions of programming, coordination and "facilitation" of the sector. The main difficulty is the significant discrepancy between the human resources that the Ministry has at its disposal and its current mission.

Although the Ministry of Hydraulics is now clearly the lead ministry for sanitation, 3 other technical ministries intervene directly in the sector. These are:

- The Ministry of Public Health charged with hygiene, sanitation and basic health education;
- The Ministry of Urbanism, Habitat and surveying charged with centralised sanitation systems (which currently do not exist) and large rainwater drainage systems;
- The Ministry of the Environment and Fight against Desertification is responsible for controlling pollution and nuisances as well environmental impact studies.

The coordination of the sector and the intervening parties should be guaranteed at national level by the CNEA (Comité National d'Eau et Assainissement), and at regional level by the CREA (Comité Régional d'Eau et Assainissement). The process of putting the national commission was led by a temporary committee and the regional commissions are slowly being installed with the DRH (Direstions Régionals de l'Hydraulique) taking the lead and organising initial workshops.

The last year has however seen a more concerted effort by the Ministry for Hydraulics to put a solid framework in place that will facilitate progress on a national level towards the MDG targets.

2.3.2 Agriculture

For agricultural issues the situation is much clearer with the Ministry for Agricultural Development being the lead agency and working on an implementational level through the Executive Secretariat of the SDR.

2.4 Conclusion on the compatibility of PSS with existing policy instruments

The main practical conclusions that can be drawn from the brief review of national policy, legislation, regulations, strategies and institutions are:

- Existing policy instruments for sanitation are extremely weak and neither explicitly promote nor forbid PSS as promoted by the project in Aguié.
- The use of human excreta (treated or otherwise) is not actively promoted although the practice is recognised, and the use of untreated wastewater for irrigation purposes is forbidden. There is however recognition that subsistence farmers do not have the buying power to obtain even subsidised fertilisers and that any measures to improve soil fertility and structure should be welcomed.
- The lack of a clear framework for sanitation has hindered progress in improving access across the country, but work is now advancing on developing the necessary policy instruments. This presents a huge opportunity for PSS to influence and be integrated into national policies as they are being formulated.
- Ongoing national programmes and strategies in agriculture, water supply and sanitation are oriented towards a sustainable management of resources. These provide clear opportunities for PSS to be introduced as a cross cutting approach to address several of the most serious problems of the country (low access to sanitation systems, high incidence of sanitation and hygiene related disease, and low degree of access to fertilisers).
- The decentralisation process in Niger has made local authorities responsible for issues including agriculture, sanitation, health, hygiene and water supply and management, but has not devolved financing or technical competence. It would be of no practical use if the PSS activities were directly handed over communal authorities. In the medium term at least the de-concentrated state technical services linked to specific ministries (such as the DRH or the DRA) have an important role to play and should be brought into the discussions on how to upscale the implementation of the approach, together with the communal authorities

3 Recommendations for facilitating a wider uptake of PSS in Niger

3.1 Adopting PSS on the ground and in policy

Given the relatively low capacities of communal authorities (in terms of both resources and technical know-how), the low financial and personnel resources of state technical services and the weak policy framework for sanitation, PSS cannot rely on any of these to drive a wider uptake of the approach. That is not to say in any way that these three key elements should be ignored. They have a central role to play in providing an enabling framework for the spread of PSS but are not yet in the position to do so, and an enabling framework alone would still not guarantee a wider uptake. A broader support base of actors would be needed to ensure the spread of PSS and that this happens in a safe and functionally correct way.

The wider uptake of PSS, as an innovation, could be considered as occurring on two levels. At the grass roots level, among the users, if PSS provides a service with which the users are happy and with visible results at a sufficiently low cost, spontaneous uptake is a very real possibility. This could apply particularly to urine collection and use as a minimum of effort is required for this. At the policy level, the formulation of laws and regulations, economic

measures, information and education programmes and the assignment of rights and responsibilities for service provision should be used to provide the enabling environment that ensures that PSS uptake occurs in a manner according to national objectives and in the interest of promoting human health.

The recommendations given below therefore try and address both these levels to facilitate user uptake and the creation of an enabling environment for the correct use of PSS. What they do not do is to provide possible solutions for the persistent problem of how to enforce the correct use of the system in the absence of sufficient resources on the ground. This is a serious difficulty, not only for PSS but for all regulations aimed at preventing the abuse of resources or the environment. The recommendations have been divided into three groups:

4. Support other actors
5. Frame PSS in ongoing national strategies and programmes
6. Promote flexible PSS

3.2 Support other actors

According to the law the decentralised authorities have the responsibility for planning and overseeing improved access to sanitation and for resource management, with technical support and backstopping being provided by the de-concentrated technical services of the state which are linked to specific ministries (for PSS those of interest are the DRA, DRH and DRSP). These are key actors in helping and establish the necessary enabling environment for PSS and should be kept closely informed of activities on the ground. Currently capacities and resources are low for them to fully assume their roles. Mayors are to receive additional support with PSS guidelines currently being developed. However selected actors, described below, should be supported to facilitate uptake. These actors can be found at three different levels:

- **Local Level**

Farming households and farmers groups: Farmer-to-farmer visits have already proved effective in demonstrating the fertilising effect of excreta in the first stages of the project. In farming communities good results are noticed and farmers will seek advice and share experiences with others. It is important then that farming households correctly use the system and can correctly describe this use to other farmers.

Women's organisations: With women and young girls responsible for hygiene in the home and most directly effected by having to either expose themselves during the days or risk going out at night to defecate, they can gain a lot from PSS and can serve as important multipliers.

Inter-village groups: Again through peer-to-peer inter-action groups from villages / households with PSS can act to spread information on PSS. Information here may be more general than and not as specific as that spread in farmer-to-farmer meetings.

NGO's or projects: NGOs and projects working in and around the Aguié area may be very interested in the results of the project and the approach itself and may even be willing to carry out or implement PA in their own work in the area but also elsewhere in the country.

- **Regional Level**

De-concentrated state technical services: This refers particularly to the regional directorates for hydraulics, public health and agriculture, who have an important role in both providing technical backstopping to the communes and ensuring that activities on the ground correspond to the national framework. The regional directorates would

require selected technical information regarding for example the efficiency of treatment, the construction of the toilets or the application of the urine and faeces. In providing them with this information and supporting their knowledge in the use of PS the knowledge can move both inwards towards the central authorities and outwards towards the communes.

Other projects: may be very interested in the results of the project and the approach itself and may even be willing to carry out or implement PS in their own work in the area but also elsewhere in the country.

CREA: The CREA is the regional coordinating body bringing together all actors involved in activities in the water and sanitation sector (state, civil society etc.). These are relatively new structures at have been set up in each region. The chair of the committee is generally the Regional Directorate for Hydraulics and as it unites regional actors it may serve as an excellent hub to spread information to many relevant actors.

- **National Level**

CNEA (through the CREA and de-concentrated services): The CNEA, being the national committee for water and sanitation, is charged with coordinating the sector and actors within the framework of the PN-AEPA. Through supporting the CREA with information this can be fed to the national level. Alternatively, direct contact could be made with the CNEA through the Ministry for Hydraulics.

Executive Secretary of the SDR: This body coordinates activities with the framework of the SDR and in providing them with the appropriate information and results the situation can be created not only for a clear inclusion of PSS within the SDR (and thus the PN-AEPA) but also to create a strong lobby for PSS at central government level.

Research Institutions: Nationally based research institutions are seen by national authorities as providing nationally relevant and reliable results. For this reason they should be consulted, particularly with respect to the hygienic quality and nutrient content and agricultural impacts of the products of PSS.

3.3 Frame PSS in ongoing national strategies and programmes

Existing national strategies and programmes, particularly the SDR but also the PN-AEPA, form a favourable background for the wider uptake of PS. These should be used to provide a supportive framework for the implementation of PS systems by working either with or in close communication with the executive state bodies responsible for the implementation of these programmes.

As a first step for the SDR, the compatibility of PS with the SDR can be clearly highlighted in discussions with implementing and coordinating bodies. The existence and use in ongoing activities of the WHO Guidelines for the safe use of Excreta and Greywater will illustrate that there is already a firm theoretical background to the approach. Additionally providing locally tested evidence of the nutrient content and hygienic quality of the final treated product.

For the PN-AEPA, whilst the arbour-loo and fossa alterna are both already being considered among the technological choices to offer the population, cost arguments may prove very important in increasing the promotion of PS. Using available official statistics from the PN-AEPA, for the Maradi Region alone 92 500 toilets need to be installed in households and 925 public of the regional sanitation MDG is to be reached. Using the PN-AEPA estimate of 150 000 F CFA per household to provide a toilet and 2 000 000 F CFA for a public toilet, the total cost for Maradi to reach the sanitation MDG would be around 15 725 000 000 F CFA (about

24 million Euro). The costs of providing households with PSS would be much lower than this even without taking into account the benefits of improved access to fertiliser.

3.4 Promote flexible PSS

A wider uptake of PSS should not necessarily be seen as meaning greater numbers of the toilet types used in Aguié are built but rather that sanitation systems that ensure the recycling of the nutrients and organic matter from human excreta are increasingly used. This means that the way the system functions is the important aspect of PSS, not the toilet type used.

By focussing more on how the complete system works and not just on the toilet type will enable a much more flexible approach to be adopted. It will also make outreach activities to other ongoing sanitation initiatives easier, such as the CLTS trials near Zinder being supported by UNICEF and the Direction for Rural Hydraulics.

The introduction of simple urinals into the CLTS method to enable the collection and treatment of urine would be a simple and effective measure to upgrade the sustainability of CLTS without compromising the zero open defecation goal of CLTS.

PSS approaches could also be used to try and provide a response to the faecal sludge management problem in urban areas and to propose these to the Direction for Urban and Semi-Urban Hydraulics and Sanitation. Currently, even at national level, there is no coherent plan for what should be done with faecal sludge other than to identify dumping areas.

4 Appendices

All appendices are to be found in the accompanying electronic files for this report.

1. ***Terms of Reference***
2. ***Discussion partners***
3. ***Strategy for Accelerated Development and Poverty Reduction (SDRP)***
4. ***The Rural Development Strategy (SDR)***
5. ***The National Programme for Water Supply and Sanitation (PN-AEPA)***
6. ***Further Literature***