

The call center for fecal sludge: An innovative tool to reduce the cost of desludging services



**Mechanism desludges
in Dakar : Profile, work
and services**

Ibra Sow

AAAS President
“Delegation is for
us a real blessing”



Collection and transportation of sludge

The facts are there and they are dramatic. People in poor countries suffer a lot from the failure of services for waste collection and proper disposal. Many reasons explain this situation: population growth, habitat structure and economic constraints. **p 27**

... towards an innovative and cost-effective management of fecal sludge



Management of sludge is one of the major environmental and health problems in small, medium and large cities in developing countries. **p 24**

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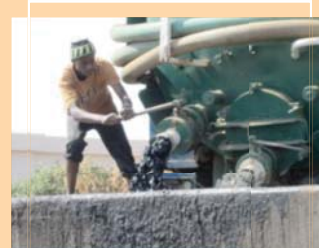
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Mid-term technical and financial assessments

The technical committee of the PSMBV held its third working session on Thursday, Dec. 26, 2013, to mid-term technical and financial assessments of program activities. **p 4**



Mechanical desludgers in Dakar : profile, work and services offered



A team of 17 investigators and two supervisors have worked for 8 days in June 2012 in Dakar to identify and interview the mechanical desludgers in the Dakar region, using a questionnaire developed by IPA with support from WSA. **p 14**

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The Innovation Hub



Alioune Badara DIOP

It is almost superfluous to say that there is a major informative value in a news magazine for such a strategic project as the Fecal Sludge Market Structuring Program (PSMBV). A year and a half after the launch of the PSMBV, the arrival of "Boues Mag" will finally complete its value chain which is the substrate of the program launched by the National Office of Sanitation in the vulnerable neighborhoods of Pikine and Guédiawaye with support from the Bill and Melinda Gates Foundation. With a nice-looking presentation and attractive content, it presents itself as the indispensable medium for the dissemination of timely information on the life of the PSMBV, but more importantly, as a critical relay of exchange and sharing of scientific and technical knowledge, experience and other innovations.

The quarterly issues of "Boues Mag" offers significant time to design, collect, select, and deliver structuring information, accessible to all targets audiences. Many news topics or themes will be open so that through the

editors' diversity and perspective, the adequacy of their analysis, the depth of their forward thinking, innovative ideas permeate the sector and drive expected changes.

Therefore, institutional, technical, financial, social and other partners, as well as operators and other stakeholders involved in some way in the process of production, collection, treatment, and processing of fecal sludge will all find an ideal forum for fruitful reflection that is free and qualitative.

Obviously, none of the essential issues related to the value chain of sanitation will be left out. "Boues Mag" is the hub, resource center, and voice of all those who have a say in the field of sanitation, with all the consequences on public health, hygiene, and environment – in short sustainable development. To be honest, "Boues Mag" offers a gleaming showcase to ONAS. It is the voice of our values and the dynamic reflection of our commitment to earn the trust of the State of Senegal and the beneficiaries, in this vital sector of sanitation.

"Boues Mag," as you are well aware, is a contracted combination of the French words for Sludge and Magazine. This modern touch shows our ambition to create a communication tool in the same standards as quality journals. Its social base reflects its title in our common local language Wolof, "Boues Mag" refers to elevation and everything that is great. Beyond its quality content, this is the double label we chose to give this magazine.

Alioune Badara DIOP
General Director ONAS

Mid-term technical and financial assessments



The technical committee of the PSMBV held its third working session on Thursday, Dec. 26, 2013, to mid-term technical and financial assessments of program activities. Under the chairmanship of Mr. Adama Mbaye, National Director of Sanitation in Senegal and Chairman of the Technical Committee, who welcomed the compliance to the calendar for the holding of that meeting and compliance to the baseline planning related to the execution of program activities, attendees appreciated the progress of the project components.

Committee members highlighted that, in fact, studies on "situational analysis" and "market research" are validated and the final versions are available. And the PCU (Program Coordination Unit) will hire a consultant for the compilation of the key results of all studies in a document for

the benefit of all stakeholders in the management of sludge.

About the license that will be established for desludging operators, it was observed that the process is being finalized because the latest report on the laws and regulations has been validated. In addition, the report describing the certification process as well as the desludgers' manual are available and have been the subject of several sharing and validation workshops with stakeholders. Briefings were held with the police, SNH, and AAAS to share the certification process.

Besides, the mapping of sanitation services has been finished. This activity helped to have a database of 59,000 referenced septic tanks and a list of all mechanical desludgers operating in the region of Dakar.

phases, the Call Center recorded 59 oil changes done with a downward trend in the cost due to the behavior of the market (law of supply and demand) with satisfaction rates between 93 and 98% for Quality of Service.

In addition, a workshop was organized to the attention of the Regional Services of ONAS and private desludging operators in Saly. For desludgers, training was held on the optimal use of the Guarantee Fund. Following the call for tender launched by ONAS to select a bank that will host the guarantee fund, BSIC has been chosen with preferential benefits (competitively fair rate capped at 12%, outstanding balance available for lending: 800,000,000 CFA, etc...). Desludging service providers will receive credit once their applications are validated. It should also be noted that 11 monthly reports were prepared and the disbursement rate is 29 %.

Nevertheless, a correction has been made on the evaluation period by shifting the measurement of the impact of the program to late 2014 because the program is just in its second year of implementation. With regard to the testing of the subscription to the desludging service, it should be noted that the first phase has been completed (data collection). The next step will be the launch of the "Mobile Money" service with tests to improve service.

Experimentation of the Call Center is underway with the current pilot phase. However, the scaling-up was decided and should happen no later than the end of January. Note however that some problems have been encountered and partners are working to find solutions. In its Beta and pilot

Regarding the Marketing component, the implementation of the communication strategy is in full swing: Broadcasting 20 TV ads and 220 broadcasts on the radio.

14 information sharing workshops held in municipalities, with a wide dissemination of materials (posters, T-shirts, brochures, etc.).

The Delegation of the management of FSTPs, for its part, was materialized with the signing of the contract between ONAS and DELTA/VICAS group. Since November 1, private operators have been working at the plants.

Moreover, in terms of the ONAS/OXFAM partnership agreement to build toilets adapted to flooded areas, various studies are already underway (or in progress) for the design and marketing of the types of toilet to design.

The Biogas component was also successful as the Committee noted that three planned studies have been conducted and the reports are finalized and available, and 3 others are in progress. A workshop to share the results was organized with all partners and the private sector in attendance.

In addition, the technical committee decided to prepare the meeting of the Steering Committee in order to hold it in March 2014 according to the calendar of the Secretary General of the Ministry of Water and Sanitation. An organizing committee will be established for the preparation of the agenda and any related documentation.

Bassirou SOW
Expert IEC



The call center for fecal sludge



An innovative tool to reduce the cost of desludging services

To bridge the gap between clients and service providers by increasing the market share of operators through the generalization of mechanical desludging based on a strategy to reduce the costs of desludging, the operability of a call center is being tested. Let us remind that the average cost of desludging in the program area of the departments of Pikine and Guédiawaye is around 30,000 CFA per rotation and, according to the objectives of the program, inclined to eventually drop at least 30%.

The call center is the result of work done by experts in social, environmental, economic and computer science, commissioned by the National Office of Sanitation (ONAS) through the Market Structuring Program of Fecal Sludge (PSMBV) funded by the Bill and Melinda Gates Foundation.

The implementation of the call center consists of four key phases:

- The beta stage already launched on July 15 lasted a month and a half. During this period, the call center has registered a total of 44 actual desludging services subsidized up to 13,500 CFA per desludging. The objective of this phase was to test the functionality of the tools developed through the Call Centre at a very small scale. The test took place in the Ouest Foire District in Dakar, in its part that is not connected to the network.
- The pilot phase, which is currently being implemented and will last five months, aims to put into practice the call center on a small scale to understand the variability of desludging costs.
- The scale-up phase is the spread of call center services throughout

the program area (Pikine and Guédiawaye). During this phase, the lessons learned from previous phases will be used to improve the performance of the service on a larger scale. Trade policy will be defined at the end of this phase to clarify, among other things, management of customers, desludgers and client/desludger interactions, as well as sources of sustainable funding for the continuity of the call center service.

- The operational phase, contrary to the "beta", "pilot", and "scale-up" phases, will be the responsibility of ONAS. In other words, at the end of "scale-up" phase, the call center will be redeployed at ONAS that will then be in charge of updating the trade policy, whenever necessary, to optimize its operation.

Moustapha LO
Monitoring evaluation expert



Information and sharing with stakeholders at the municipality level

Consolidating the Participative Approach

The organization of information and sharing workshops in 21 Municipalities in the departments of Pikine and Guédiawaye continues as part of the implementation of communication activities for behavior change aiming to instill a sense of ownership of mechanical desludging via the innovative tools of the PSMBV program and raise people's awareness about the dangers of manual desludging. Participants include representatives of the administration of municipalities and several opinion leaders (imams, neighborhood delegates, women's groups, Cultural and Sports Associations...) whose feedback is gathered. This communication campaign is accompanied by the performance of a skit currently broadcast on local TV and radio stations. Nineteen out of twenty-one municipalities have been visited, with an average of four workshops per month. These workshops that attracted the membership of grassroots actors were rich in exchange of

information and experience sharing. Local stakeholders we met are more aware of the health and environmental risks of manual desludging and of the tools proposed by the PSMBV to access quality mechanical desludging service at an affordable cost. A few lessons learned:

1. High cost of service, aging fleet, lack of equipment, conflicts with users...

The workshops provided an opportunity for the association of desludgers to talk directly to people about several aspects of their activities and to share the difficulties encountered. Indeed, many argue that because the mechanical desludging service providers charged with an increase in the price, we are witnessing a proliferation of manual desludging. Also, users report several other problems when they empty their septic tanks, such as mechanical breakdowns

of vehicles, lack of protective equipment for servants (drivers and apprentices), flexible hosepipes patched in several places and various breaks caused the superstructure of septic tanks, etc. Also, some trucks are unable to drain some types of septic tanks, like traditional pits, as they are unable to access certain areas and their staff is generally unqualified.

Because the mechanical desludging service costs much more, between 25 000 and 30 000 F, manual desludging (15 000 F) is not affordable for most households in poor neighborhoods of the departments of Pikine and Guédiawaye. Please, note that the truck carrying fecal sludge to the treatment plant represents the sewer network for

¹PSMBV is the French acronym for the Market Structuring Project of Fecal Sludge for the benefit of households in the suburban areas of Pikine and Guédiawaye.



households with private sanitation works. However, the current state of the desludging truck fleet is a problem. Most currently operational trucks are older than 20 years and can only take the effluents. Let us specify that there are two types of trucks currently used: vacuum trucks that collect the effluents and hydro-cleansing trucks that do the cleansing and therefore take out the mud.

2. Conversion of “bayes-pelles” (or manual desludgers)

This is a question that often comes at the workshops and that shows that participants are very interested in the impacts of the implementation of PSMBV. Also, it is clear from discussions that we must make the difference between the professional “baye pelles” and the occasional “bayes pelles” who practice this activity depending on the circumstances and often empty the septic tank of the family home and neighborhood with modest incentive. Regarding professional “baye pelles”, they are a relatively small number of practitioners for whom the PSMBV reflects on their conversion into workers at the sludge treatment plants, salespeople of fertilizers from the treatment of sludge or managers of kiosks of purified water, among others.



Parameters that influence the cost of mechanical desludging:

Depending on their experience, it is clear from discussions with workshop participants that the parameters that influence the cost of mechanical desludging are, among others, the high pump price of gasoline, the distance between the household and the treatment plant, taxes for dumping et the plant, police harassment on the way to the plant, old fleet of trucks that significantly increase fuel consumption...

Mme GUEYE Khadidiatou DEME
Sanitary Engineer - Cabinet EDE

Project dynamic

A guarantee fund
for desludgers

Easier Access to Financing



The structuring program of the sludge market (known by its French acronym PSMBV) has a budget of two hundred and two million five hundred thousand CFA francs (CFAF 202 500 000 CFA) for the establishment of a guarantee fund for desludging companies in Dakar.

Easier Access to Financing

Its main objective is to promote the development of desludging companies by easing their access to credit for the renewal of their vacuum trucks as well as their acquisition of spare parts, and to ultimately enable them to comply with future requirements related to the implementation of the operation license for the desludging activity.

Management of the guarantee fund has been entrusted to the BSIC bank (Sahel-Saharan Bank for Investment and Trade) through the signing of a financing agreement with ONAS.

In order to ensure proper operation of the guarantee fund, desludgers are introduced to the workings of the guarantee fund through training, which is a condition to be able to apply for a credit at BSIC and to participate in the call center.

The conditions of this funding agreement which aims to facilitate access to credit for desludgers in the PSMBV are the following:

- a 25% counter-guarantee of the amount of the credit;
- a maximum of 20 million CFA francs for trucks and 5 million CFA francs for spare parts;
- a credit period of 60 months for trucks, and 24 months for spare parts;
- a grace period of 6 months;
- a 1% application fee;
- an Annual Percentage Rate (APR) of $\geq 12\%$.

In this respect, two training workshops were organized to explain to desludgers the mechanism of the funds and to raise awareness about their responsibilities for proper operation. The workshops were facilitated by Mr. Almamy Sagna, the expert consultant, with the participation of the BSIC, a tax inspector, the Project Coordination Unit (PCU) staff and technical partners.

The desludgers' responsibilities on which the facilitator focused his awareness-raising are:

a) Financial Responsibility:

- Understand the importance of bank liabilities;
- Emphasize the consequences of non-payment by a desludger;
- Raise awareness about the importance of financial statements, a forecast balance sheet and a projected operating statement;
- Raise awareness about the importance of having an internal or external accountant.

b) Tax Liability:

- Understand the importance of tax obligations;
- Emphasize the consequences of non-payment of taxes;
- Raise awareness about the importance of the statement of existence, its monthly and annual tax returns;
- Raise awareness about the importance of having a contact person at the Tax Service.

c) Corporate Social Responsibility:

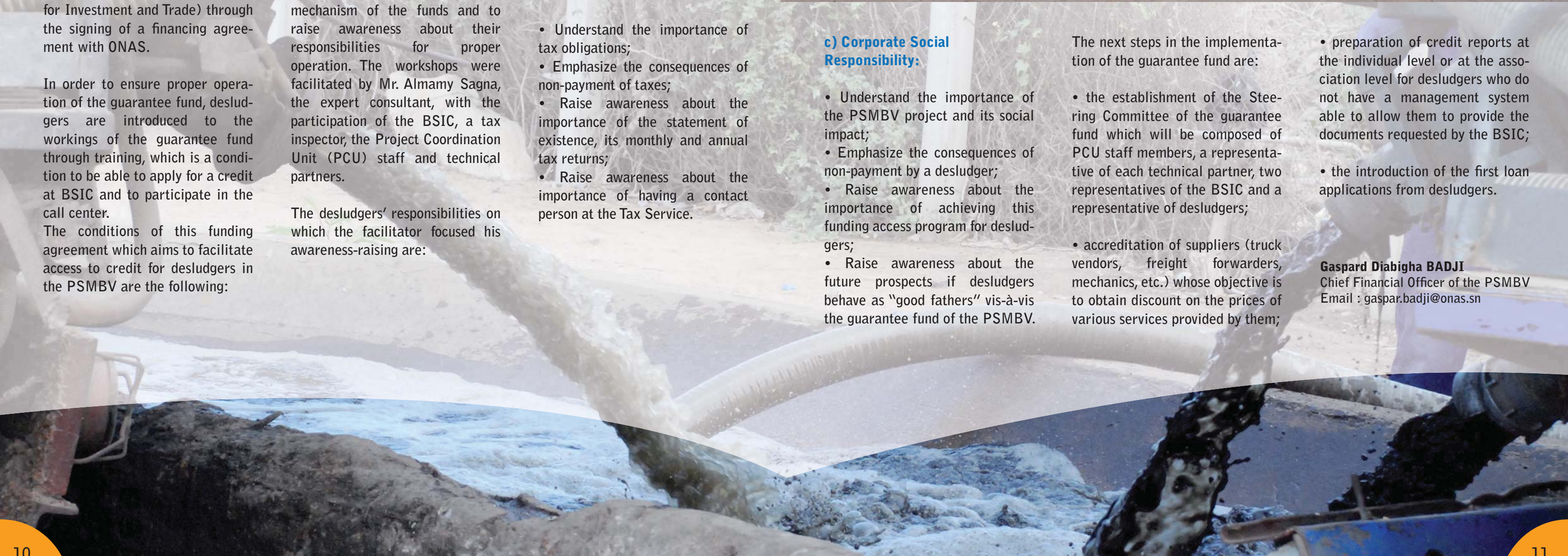
- Understand the importance of the PSMBV project and its social impact;
- Emphasize the consequences of non-payment by a desludger;
- Raise awareness about the importance of achieving this funding access program for desludgers;
- Raise awareness about the future prospects if desludgers behave as "good fathers" vis-à-vis the guarantee fund of the PSMBV.

The next steps in the implementation of the guarantee fund are:

- the establishment of the Steering Committee of the guarantee fund which will be composed of PCU staff members, a representative of each technical partner, two representatives of the BSIC and a representative of desludgers;
- accreditation of suppliers (truck vendors, freight forwarders, mechanics, etc.) whose objective is to obtain discount on the prices of various services provided by them;

- preparation of credit reports at the individual level or at the association level for desludgers who do not have a management system able to allow them to provide the documents requested by the BSIC;
- the introduction of the first loan applications from desludgers.

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Complementary Project for flood-prone areas in Pikine and Guédiawaye

Improving health conditions in the future

Led by Oxfam America in partnership with the NGO Eve (Water, Life, Environment), under the coordination of the Coordination Unit of the Program (CUP) of the PSMBV, the complementary project called 6th PSMBV component aims to improve the health conditions of the most vulnerable households in flood-prone areas in the big suburbs of Dakar.

The cities of Pikine and Guédiawaye are heavily exposed to annual floods that have become almost cyclical since 2005, affecting 14 municipalities out of 16 in Pikine and 04 municipalities out of 05 in Guédiawaye. Annual assessments made since 2010 by OXFAM and EVE reveal three situations: endemic areas, seasonally flooded areas, and areas overtaken by the waters (new flooded areas). The consequences are manifold and manifest themselves in the degradation of individual and

community infrastructure, an increase of the incidence of vector-borne diseases, the risk of fecal oral contamination related to the deterioration of sanitation conditions, the deterioration of the living environment, etc. Floods also affect the purchasing power of households by contributing to the decline in opportunities for livelihoods and increased expenses caused by the natural disaster (fuel, medicines, rent, etc.). In 2012, the number of victims had already been estimated to be more than 200,000 people.

To promote a better quality of life, the project will provide households with latrine models that are technologically adapted to the geographical area (stagnant water almost on the surface) and are financially affordable to solve sanitation problems related to geophysical conditions aggravated by recurrent floods. Also, the project will develop a communication strategy to

promote change in people's behavior for the adoption of good hygiene, sanitation and health practices. Such change in behavior will focus on hand washing at key times in order to reduce the prevalence of childhood diarrhea, and promoting innovative technology based on the scale of investment priorities of the people in the area. For greater ownership of the project at all levels, local and administrative authorities will receive support in the promotion of a shared commitment to take charge of the issue of on-site sanitation, as well as water and sanitation problems in general to concretely improve people's living conditions and quality of life.

Description of the project

This 3-year project (November 2012-October 2015) is the 6th largest component of the project called "Market Structuring Project of Fecal Sludge" (known as PSMBV, its

acronym in French) implemented by a consortium 6 partners including IPA, WSA, EDS and OXFAM, and coordinated ONAS. It operates mainly in the 9 municipalities in Pikine: Diamagueune - Sicap-Mbao Tivaoune-Diak-sao, Guinaw Rail Nord, Guinaw Rail Sud, Yeumbeul Nord, Yeumbeul Sud, Keur Massar, Thiaroye sur Mer, Djiddah Thiaroye Kao, and 3 municipalities in Guédiawaye: Madina Gounass, Wakhinane Nimzat, and Ndiarème Limamoulaye.

The **general objective** is to reduce the risk of epidemics, mortality and morbidity due to oral contamination of fecal origin in the most vulnerable households in Pikine and Guédiawaye, enabling people to sustainably benefit from their right to sanitation. The specific objectives are the following:

1. Convince the most vulnerable populations in flooded and flood-prone areas of Pikine and Guédiawaye to change positively in their risk perception, attitudes, norms, capacity to self-regulate the factors related to the purchase and use of adequate sanitation facilities with a positive change of behavior in terms of hand washing (after using the bathroom, after cleaning children's feces and before eating, etc.).

2. Develop, test and validate in target communities 2 or 3 innovative sanitation works (prototypes) that are adapted to the environment and affordable

3. Develop a business plan describing how communities will ensure massive sanitation works acquired at affordable prices, and sustained commitment to do the maintenance on a regular basis (daily cleaning and adoption of mechanical desludging).

4. Make it easier for 1,000 families (living in the target area) to acquire new technology options and their replication in flood-prone zones.

5. Encourage communities, partners and local authorities to get actively involved so that the needs of the most vulnerable populations in public health and sanitation are taken into account.

The **total project cost** is U.S. \$ 2,791,976 of which \$ 2,499,145 are funded by the Bill and Melinda Gates Foundation.

Partners include local authorities, administrative authorities, technical services in Pikine and Guédiawaye, ONAS, MRAZI, NGO VEV (Life Water and Environment), EAWAG, and the health districts of Pikine and Guédiawaye.

The target **beneficiaries** are estimated at 120,000 households with priority given to female heads of households, local and administrative authorities of the cities of Pikine and Guédiawaye.

Project Activities

identification of target households, baseline study on the determinants of behavior regarding hygiene and health, development and implementation of a communication strategy for behavior change and the promotion of hygiene and sanitation, advocacy with local authorities for a joint commitment and dedication to improving hygiene and sanitation conditions for the populations of Pikine and Guédiawaye, study and design of autonomous sanitation works that are adapted to flooded and flood-prone areas, establishment of a funding mechanism adapted to the purchasing power of the population, training of local private contractors on how to build the tested and selected sanitation works, financing 2,000 books for the benefit of Pikine and Guédiawaye populations in the project's area of intervention, and development of mass communication to raise awareness on issues related to hygiene/health and the right to sanitation.

Dr. Astou Fall
OXFAM America

Photos: Example of a flooded street

Mechanical desludgers in Dakar : Profile, work and services offered



Organisation et...

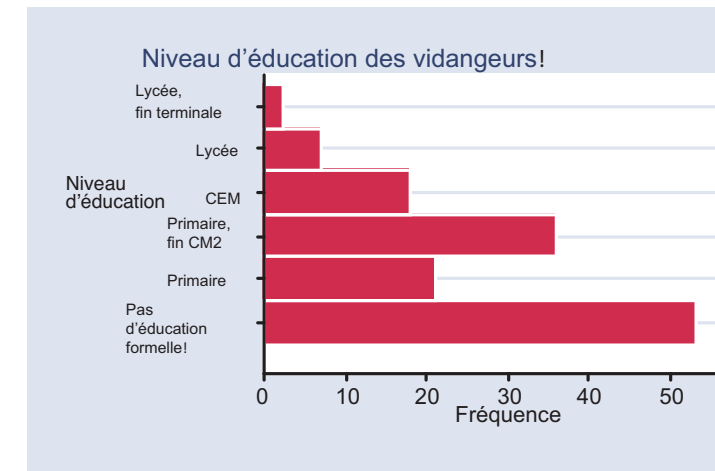


Ardeur au travail

A team of 17 investigators and two supervisors have worked for 8 days in June 2012 in Dakar to identify and interview the mechanical desludgers in the Dakar region, using a questionnaire developed by IPA with support from WSA. From the data collected, we could describe the population, in order to observe its evolution based on the activities of the PSMBV in the departments of Pikine and Guédiawaye.

What have we learned from that survey?

We found that the population of 138 desludgers is not homogeneous. Although most of these desludgers are aged between 25 and 40, there are ten aged over 50. The majority of desludgers have attended formal school: most of them have attended only elementary school even if some went up to the Terminal class in high school (twelfth grade).



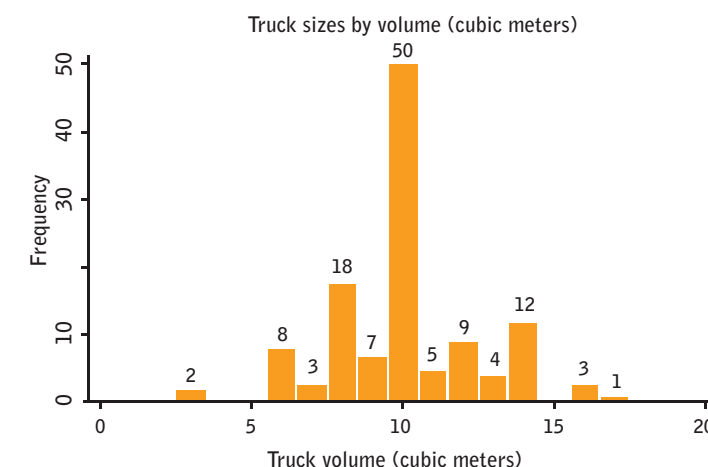
The vast majority of desludgers are truck drivers, and the oldest are more likely to undertake management tasks. The trucks are also quite old; the average age is around 28 years, and one of them has been circulating since 1955! Almost half of vacuum trucks in Dakar belong to companies or EIGs, and their average capacity is 10 cubic meters.

During the days of work, 10 hours a day 6 days a week, these desludgers perform, on average, 7-8 domestic desludgings, especially in municipalities in Thiaroye, Guédiawaye and Almadies. Domestic desludging is not their only activity; 78%

of respondents say they use their trucks for other activities, especially to pump water during the rainy season, on behalf of government programs (98%) and private compounds (79%).



La presqu'île du Cap Vert



* for this study, "desludger" is defined as a vacuum truck driver who drives at least 3 times a week a vacuum truck; emphasis was laid on trucks working primarily or partially on domestic desludging

Organizing the transportation of sludge: A new approach in progress



Focus group sessions with private operators and mechanical desludgers

Individual sanitation is the most widespread system for the wastewater management in Senegal. In Dakar, a city facing a high population growth, about 75% of the population has individual sanitation (PDA by 2025). This creates a significant production of sludge whose transportation, done by trucks that are mostly old, suffers from a real structuring problem. An organization process has already been launched with the target outcome of getting certification (license) for vacuum trucks.

Taking into account the ongoing development of autonomous sanitation that led to increased production of sludge whose mismanagement is a source of danger to both human health

and the Sanitation in Senegal (ONAS), with the construction in Dakar suburbs of: (i) 65,000 individual sanitation works and (ii) three fecal sludge treatment plants. However, significant problems are noted in the sludge management system, particularly in the part that connects domestic structures and fecal sludge treatment plants, i.e. everything that revolves around the vacuum truck. This part is characterized by a deficit of organization, a lack of training and outdated or inadequate working tools used by desludgers (trucks and equipment).

Therefore, it is necessary and urgent in the light of these shortcomings to reflect on a new approach in the

sludge sector, in order to better organize the business, its profitability and to reduce the cost of desludging services in favor of the most underprivileged populations.

Certification of desludging companies is critical to this approach.

The process implemented under the PSMBV to achieve the certification of desludging companies is based on a participatory and inclusive approach, involving all stakeholders in the sector to define the criteria and conditions of such certification. The methodological approach is structured around a number of activities including interviews and/or focus groups with institutional stakeholders (ONAS, DEEC, SNH, CL, and Police), private operators and mechanical desludgers.

Certification of desludging companies could help solve these problems by reaching four objectives:

1. structuring the mechanical desludging sector with the inclusive and participatory adoption of new organizational, technical, and administrative standards accepted and respected by all stakeholders;

2. strengthening the legal framework governing the fecal sludge sector in Senegal by the "definition of the conditions of collection, transport, discharge and dumping of materials originating from emptying septic tanks" as stipulated by Article L.83 of the Code of Sanitation;

- Definition of sanctions in case of non-compliance with legal requirements: the different types of



Damaged hoses



Defective Valve



Defective discharge valve Mechanical



Desludgers without Personal Protective Equipment

potential sanctions include the withdrawal of point(s) from trucks in violation [The idea is to give each company 10 points when giving them the license and to remove a few points for each offense];

3. and defining the role of each institutional stakeholder concerned; The strong support from all stakeholders, as well as the accompanying measures implemented by the PSMBV program (guarantee fund for retrofitting desludging trucks and equipment) suggest a promising future for a better organization of the sludge sector in Senegal.

Dr. Bécaye Sidy DIOP
Coordinator of the PSMBV
Water and Sanitation for
Africa (WSA) Agency

Testing Platform for innovative sanitation technologies

Dakar, a future laboratory

The Bill & Melinda Gates Foundation, in collaboration with various partners, intends to make of Senegal, of Dakar in particular, a testing platform for innovative technologies in sanitation. Indeed, under the aegis of the foundation, a new type of toilet called "Reinvent the Toilets – RTT" is being developed. This is a new system of collection, transport and treatment of sludge with the "Omni-Ingester," and a special decentralized unit for the treatment of fecal sludge called "Omni processor."

These groundbreaking initiatives should add value to the profitability of the system and the tools for the sustainability of the operation. Moreover, these technologies will reinforce the new approach to the sector which aims to transform the sanitation into a market value by valorizing fecal sludge, strengthening the private sector, diversifying the appropriate technologies, and improving the quality of service.

The choice of Senegal by the Foundation is partly due to the strong political will to develop on-site sanitation and the availability of fecal sludge treatment infrastructure that can be coupled with new technologies to be tested. Also, there is in Dakar a strong private sector that begins to take an interest in the valorization of sanitation by-products. This is evidenced by the marketing strategy

implemented by the private sector, which now manages the fecal sludge treatment plants, following the delegation policy implemented by the sludge market structuring program funded by the Gates Foundation. Also, Dakar's socio-economic context is part of the dynamics prevailing in much of the countries of West Africa.

This testing platform of technologies for the development of sustainable sanitation will thus aim to contribute to improving the value chain of autonomous sanitation through experimentation of innovative technologies developed by BMGF (storage, collection/transportation, and treatment/valorization). On the other hand, the platform seeks to validate the conditions of their release. This will improve the sanitation conditions of billions of people living in poor countries, through the provision of affordable and drainable toilets, and through the implementation of transport and treatment systems that are efficient and cost-effective.

Indeed, lack of basic sanitation is one of the major challenges to ending extreme poverty and diseases in the poorest countries around the world. This mainly relates to sub-Saharan Africa where nearly 565 million people lack access to adequate sanitation. It also affects nearly a third of the world population, i.e. 2.6 billion people without access to improved sanitation facilities. In addition, according to the report of Water and Sanitation Program of the World Bank, this lack of sanitation infrastructure costs nearly \$ 5.5 billion a year to eighteen African countries.

However, despite the increasing appropriation of more autonomous sanitation by populations, this system still faces huge problems at different stages of the value chain, meaning from sludge collection to treatment, through transport.

B. SOW & M. LO
PSMBV



l'assainissement pour un meilleur cadre de vie

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Fecal Sludge: A Promising Market

The analysis of current sanitation policies in urban centers, implemented by ONAS, provides information on new national guidelines focusing on the promotion and diversification of on-site sanitation systems and breaking, de facto, with past strategies that often advocated the "everything in the sewerage."

The renewed interest in on-site sanitation is evidenced by the implementation of programs and ambitious projects whose results have positively impacted people's quality of life. Among these programs, we can list the following:

- The Project for the Improvement of Sanitation in Peri-urban Areas of Dakar (known as PAQPUD, its French acronym) which enabled the construction of more than 60,000 autonomous works in several municipalities of Dakar and its suburbs (Pikine and Guédiawaye), and coverage of at least seven

municipalities in a semi-collective network. This program has allowed the achievement of three fecal sludge treatment plants in Cambérène, Rufisque and the Niayes.

- The project to build 12,000 individual works in the suburbs funded the GPOBA (Global Partnership for Output-Based Aid) whose main objective was to build autonomous works (septic tanks, Pour Flush Toilets (PFT), PFT with shower, VIP with two septic tanks, showers with pits, laundry tubs with pits) for areas neither covered by a sewerage network nor by a semi-collective network for areas that have it.

- The Sludge Market Structuring Program (PSMBV) in the departments of Pikine and Guédiawaye initiated by ONAS and funded by the Bill and Melinda Gates Foundation, whose main

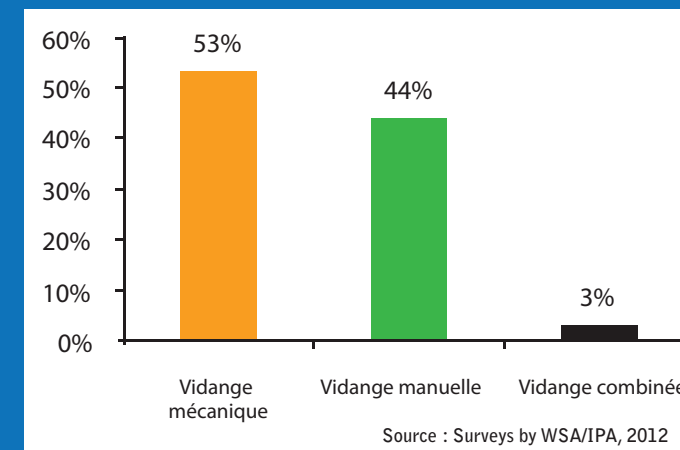
objective is to promote the populations' better access to quality desludging services at low cost.

In the departments of Pikine and Guédiawaye, these programs have participated in the creation of a significant market for desludging services for public and private service providers (98% of the population is served by on-site sanitation). For this demand, it is necessarily to master the local realities in particular to define mechanisms combining performance and profitability of desludging companies on the one hand, and cost reduction of mechanical desludging, especially for the most vulnerable households.

The surveys of 4,000 households carried out by WSA/ H2O show that 84% of compounds that are not

connected to a sewer have a septic tank for the management of wastewater and toilet water. These septic tanks have been emptied at least once in 70% of cases, and the last desludging was done less than 20 months before the survey in 79% of cases.

Desludging methods used by households are threefold as shown in Figure 1.



Desludging methods practiced in Pikine and Guédiawaye

Mechanical desludging appears to be the most widely desludging method used in the departments of Pikine and Guédiawaye with an access rate of 56%. However, among the households that had used mechanical desludging, 3% adopted a combination of mechanical and manual methods.

However, the proportion of households using manual desludging remains high (44%) mainly because of the relatively high cost of mechanical desludging for a good segment of the population that is often poor, and because of inaccessibility of some compounds. Indeed, the cost appears to be the most important criterion in the choice of desludging methods for 55% of households. With an average cost of 14,500 CFA per operation, manual desludging is the least expensive method of emptying and is more accessible to the poorest people, as compared to

mechanical desludging whose average price is 25,700 CFA populations.

It should be noted that the determination of the price of desludging is often not based on objective criteria and is often part of business logic where the service provider tries to make the maximum profit possible. However, desludging companies and informal operators provide service to populations at an amount they set themselves and that competition regulates depending on the time the year.

Dakar has about 53 desludging companies that are active. A count of desludging companies shows a predominance of entities without legal status over formal entities with a trade register and a NINEA (identification number in the Senegalese national register of companies and associations).

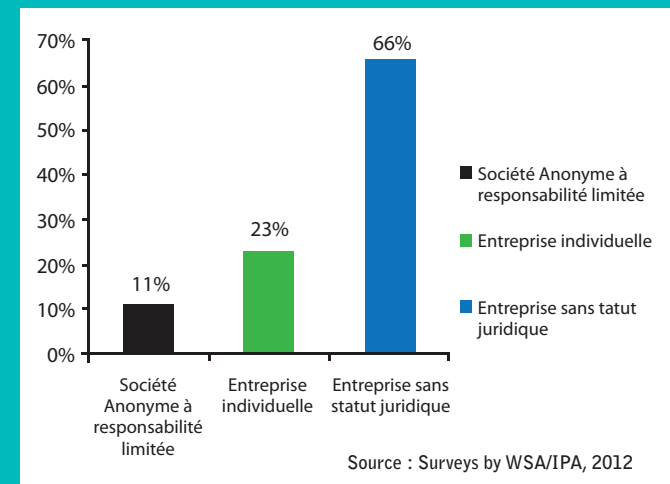


Figure 2. Status of Mechanical Desludging Companies

Administrative non-compliance of the majority of companies is, for them, a handicap because only those with formal legal status and in good standing with the tax and social services are allowed to bid for public contracts such as pre-rainy season operations, management of fecal sludge treatment plants, maintenance of sewage treatment plants and septic tank emptying during major religious events.

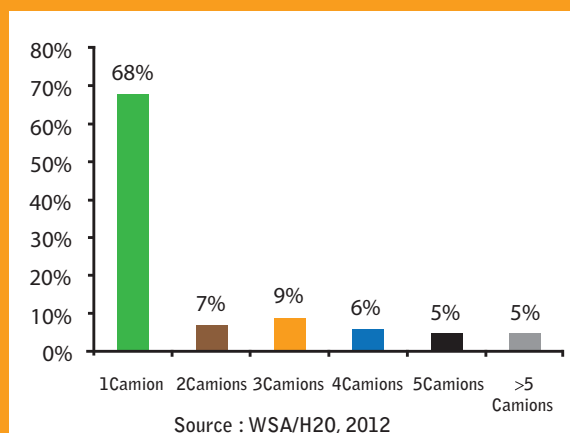


Figure 3. Number of trucks per desludging company

Most desludging companies (68%) have only one truck because of their weak financial capacity that does not enable them to acquire additional trucks and make profit out of their businesses. They also have difficulties in accessing bank loans. These companies often have very dilapidated trucks, contrary to companies with a fleet 5 trucks or more, which often correspond to the companies with legal status.

The number of desludgings performed by service providers remains very low. Half of vacuum trucks make less than 10 trips per week, i.e. less than 1.4 trips per day. The maximum number of trips that the most efficient desludgers make is between 40 and 50 trips per week, i.e. 5.7 to 7.1 trips per day.

The production of mechanically drained sludge gradually goes up due to the increase and intensification of the population and living standards which will directly affect the equipment of households with latrines and insulated pits instead of the traditional latrines.

Figure 4. Evolution of the daily production of sludge in the study area (cubic meter/day)

	2012	2013	2014	2015
Guédiawaye	249	254	259	265
Pikine	738	753	769	785
Total	987	1 007	1 028	1 050

With an estimated daily production of 1,007 cubic meters per day, a growing number of mechanical desludgings approximating 125 operations per day, and an annual turnover of around 918 887 500 F CFA (market study, WSA, 2012), the mechanical desludging market remains promising, dynamic and scalable despite a service request still affected by the practice of manual desludging.

Manual desludging, which is prohibited by national legislation and whose health and environmental impacts are felt by people, is unfortunately a recurring practice in the departments of Pikine and Guédiawaye. This trend is mainly due to the households' low income (only 2 out of 12 people per household are active with an average salary of 60,000 CFA) and the high and fluctuating cost of mechanical desludging.

However, despite the deeply rooted practice of manual desludging in certain segments of the population, it appears that mechanical desludging, used by most people, constantly wins market share mainly because of the following reasons:

- customers maintain contact with mechanical desludgers;
- easy payment;
- recommendations to other customers;
- social desludgings for the least fortunate.

While the mechanical desludging market is dynamic, it nevertheless appears that the supply of services, provided by private operators, still faces several major challenges that threaten the very sector. These difficulties are primarily related to:

- dilapidated trucks,
- non-regulation and deregulation of the sector,
- difficulties in accessing funding,
- the dizzying and redundant increases in fuel prices,
- administrative constraints,
- etc.

These difficulties negatively affect the profitability of drain as they are small (one truck), medium (2-5 trucks) or large (more than 6 truck) sizes.

Small and medium-sized desludging companies have a positive but low profitability rate with respectively 10.13% and 14% of their revenues. Large companies, on the other hand, have a positive and satisfactory profitability rate approximating 30%, which is justified by more significant income generated from diversification activities such as operations before the rainy season, intervention in the National Contingency

Plan also known as ORSEC (organization of aid, enrollment in desludging activities in religious cities, etc. For some large companies with legal status, revenue from non-domestic activities may reach up to 70% of annual revenues.

However, it should be noted that the expenditures of these companies, whether small, medium-size or large, suggests a structure of expenses mostly related to operating costs and staff salaries, investments being a small part of it.

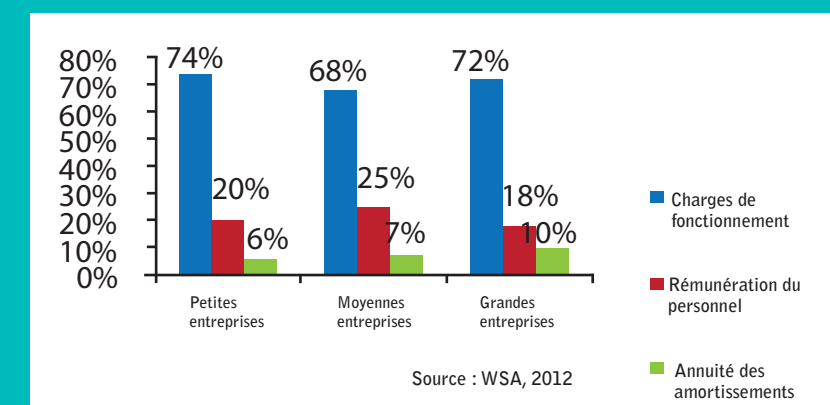


Figure 5. Distribution of the operating cost structure of desludging companies

Fuel charges are the main operating cost for desludging companies. This is a real concern of desludgers who denounce the continued increase in fuel prices which prevents the development of mechanical desludging.

Although the market for mechanical desludging is promising in the departments of Pikine and Guédiawaye, this activity alone does not currently allow desludging companies to have a net profit equal to the minimum profit rate of 20% of total revenues due to the high cost of operation and the small number daily rotations.

Therefore, it is urgent to think about an economic model that reduces companies' operating expenses to diminish desludging. ONAS will have to find a solution to reduce the proportion of households using manual desludging, make the mechanical desludging activity profitable and participate, de facto, to improving the quality of life of urban dwellers.



... towards an innovative and cost-effective management of fecal sludge

Management of sludge is one of the major environmental and health problems in small, medium and large cities in developing countries. The rapid and often exponential population growth in these cities is not often accompanied by suitable sanitation programs to ensure development correlated with health infrastructure. Group or individual solutions implemented urgently often fail to adequately and effectively meet the needs in this sector. This is particularly the case in the Dakar suburbs that, due to rapid natural increase of the population, exacerbated by a massive rural exodus, face many problems among which a huge deficit sanitation infrastructure.

To cope with this situation, the State of Senegal established in 2000 an extensive sanitation program in peri-urban areas of Dakar (PAQPUD), a \$ 20 billion CFA program funded by the World Bank to improve people's quality of life. Implementation of PAQPUD has covered 32 local communities in the suburban areas, affecting 22% of households not served by sewerage. 66,732 individual works, 16 public toilets, 76 school toilet blocks, 03 fecal sludge treatment plants and 130 semi-collective systems have been built.

This success has not only attracted the interest of several development partner, as well as many water and

sanitation companies in the sub-region, but also helped funding of new projects by the Global Partnership Output Based Aid (GPOBA) and UN-Habitat.

Still under the PAQPUD, in June 2011 Senegal organized a "Workshop for the definition of a project on the operational mechanisms for universal access to mechanical desludging services" in which all the operators and stakeholders in the sector have come up with priorities to improve the functioning of this sector. This workshop resulted in a grant agreement amounting to nearly 7 billion CFA between the Bill and Melinda Gates Foundation and the State of Senegal, for the establishment of an innovative program of

market structuring of fecal sludge for the benefit of vulnerable households in Pikine and Guédiawaye.

A program to reduce the cost of desludging and to improve health conditions of the population

The market structuring program of fecal sludge (PSMBV) aims to improve the living conditions of low-income residents of peri-urban areas of Dakar region, by facilitating access to hygienic and affordable mechanical desludging and by reducing the prevalence of manual desludging that is highly prejudicial to the population's health and to the environment. This will entail encouraging the development of the private sector of sanitation through delegation of Fecal Sludge Treatment Plants (I); improving the quality of service offered by the drain private operators (II) ;

increasing demand for mechanical desludging service by improving access to information and raising awareness at the household level (III); facilitating access to fecal sludge treatment plants and their performance (IV).

A program with six components and four implementing partners

The program is divided into six components: a research component managed by IPA (Innovation for Poverty Action) and WSA (Water and Sanitation for Africa), an infrastructure component managed by EDE (Water Waste Environment), a sanitation component in flood-prone areas controlled by Oxfam America, a biogas component, a marketing component, and finally a coordination component managed by ONAS.

Steering bodies set up by the State of Senegal for close monitoring of program activities

The Minister of Water and Sanitation established by decree the Steering Committee (SC) of the program whose general aim is to contribute to the achievement of the program's objectives and to ensure its supervision. It will specifically prepare all the consultations with the various program partners, both in public and private sectors (I); monitor the implementation of the partners' commitments (II); submit to the Government decision proposals based on studies and the program work, and ensure the implementation of Government decisions (III); supervise on behalf of the Ministries of Finance and Sanitation and, upon request, take care of all other matters relating to this program (IV); participate in awareness-raising activities for communities, associations and residents in the program area (V).



The Steering Committee is chaired by the Secretary General of the Ministry of Water and Sanitation and meets at least twice a year at the invitation of its Chairman. It is composed of sectorial ministries, departments and programs involved in the program, and local beneficiaries.

A Technical Committee was also established, chaired by the Director of Sanitation of Senegal. The Technical Committee oversees the preparation of reports to the Steering Committee (I), gives an opinion on technical studies (II), validates the procedures manual (III), makes recommendations on appropriate communication policies on the program, and also to desludging professionals and beneficiaries of autonomous works in the Pikine-Guédiawaye area (IV), and assists, if necessary, ONAS in the conduct of program activities (V).

It is composed of Departments of Sanitation, Economic and Financial Cooperation, Public Hygiene, Environment and Classified Establishments, Energy, the National Office of Sanitation in Senegal (ONAS), the Program for Drinking Water and Sanitation in the Millennium (PEPAM), the Association of Sanitation Stakeholders in Senegal (AAAS) and implementing partners of the program.

Innovation at the heart of the program

For the first time in Africa, fecal sludge treatment plants are delegated to the private sector not only to encourage investment in the sanitation sector which used to be considered a non-market sector, but also to optimize the public service management system of autonomous sanitation vulnerable households.

In addition to this delegation, the program is setting up a certification program for desludgers. As stipulated by the Code of Sanitation, a set of measures will be taken to regulate the desludging sector for service providers. To this end, in addition to consultation with stakeholders, advocacy activities are being done towards authorities, after which a bill will be proposed by the Ministry of Sanitation in the National Assembly. To do so, the program will help desludgers research funding to upgrade their activity through the establishment of a guarantee fund in a financial institution.

The Program, in collaboration with its research partners "WSA/IPA" is also in the process of setting up a call

center that will reform the field of autonomous sanitation. With a phone, you can order a desludging service at ONAS who, through open competition between desludgers (auctions), offers the best deal possible for households. It will thus bring supply and demand of desludging services closer. The beta phase of the call center is over; the five-month pilot phase has started; the last phase of scaling-up covering the entire area of intervention will begin in the month of January 2014.

Prospects in the short term

The subproject called Sanitation Program of Peri-urban Areas of Dakar (PAQPUD), implemented between 2000 and 2008 had allowed the National Office of Sanitation in Senegal (ONAS) to set up three Fecal Sludge Treatment Plants (FSTP). Due to their popularity, these plants are in a situation of overexploitation and receive three or four times their normal volume. To relieve these plants and bring dumping sites closer to the beneficiaries, and to reduce desludging costs, the Bill and Melinda Gates Foundation has agreed as part of this program to fund a fourth Fecal Sludge Treatment Plant in the district of Keur Massar, and this plant

will have a biogas production unit. The study phase is almost finished, and construction will start later in 2014.

The objective of ONAS through the activities carried out in Pikine and Guédiawaye, is to have a sustainable development model of autonomous sanitation implanted in other cities in the country. Beyond the technical considerations, a model of communication and involvement of local communities is about to be implemented at the program level not only to facilitate its appropriation by the target populations, but also make easier future replication of this innovative program whose success will allow us to consider a definite improved sanitation for millions of people living in poor areas of developing countries. This is the objective pursued by the Gates Foundation.

Dr. Mbaye Mbéguéré,
Program Coordinator





Dr. Mbaye Mbégué,
PSMBV Coordinator

Stop individual solutions

Developing countries are characterized by a significant increase in their population that is concentrated mainly in cities where economic activities are much more dynamic than in rural areas. For example, in the case of Senegal, Dakar which occupies only 0.3% of the national territory is home to 22% of the total population (DPS, 2002). This demographic situation explains why it is difficult for governments to meet the different needs in basic services of populations, among which sanitation is central (United Nations, 2007). This results in inadequate collection of waste, and its improper disposal in the streets and vacant lots (Medina, 2000).

Severe diarrheal diseases

Moreover, mainly due to habitat structure and economic constraints, it remains unlikely that conventional sanitation through a sewerage system will be widespread as an option for these countries.

In these poor places, individual sanitation (septic tanks, latrines, etc.) appears as the best solution for achieving the Millennium Development Goal to halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation. Moreover, this affects nearly one third of the world population, i.e. about 2.6 billion urban dwellers in developing countries. However, individual wastewater systems produce large amounts of fecal sludge that should be regularly emptied and disposed of properly to avoid harmful effects on the population's health and the environment. In the city of Dakar only, about 1,500 cubic meters of fecal sludge is removed from on-site sanitation systems daily. This waste is often dumped directly into the environment as the outskirts of cities, rivers, and streams. In Senegal, the health statistics of the Ministry of Health ranked diarrheal and parasitic diseases, all related to water and these practices, fourth

among morbidity and diarrheal diseases ranked second for death after malaria.

In addition, individual sanitation systems are characterized by the presence of individuals or small-size companies that often informally ensure the collection and transport of sludge to dumping sites that are illegal, or authorized but for the most part inappropriate. These desludging operators, whether manual or mechanical, play a central and essential role in the individual sanitation system.

1. Manual Desludging



Photo 1 : Manual Desludging

An exhausting and dangerous operation

In Senegal, manual desludging is performed by desludgers called "Baay Pelles" in Senegal and "Puisatiers" in Côte d'Ivoire. These people work in the largest informal sector. Their job, in most cases, consists of operations they call "cleansing," i.e. removal of sand and pasty sludge remaining in the septic tank after vacuum trucks have finished desludging. Families that cannot afford the services of a vacuum truck for this operation hire the service of manual desludgers. Sometimes, they are asked to completely empty the septic tank by themselves.

Manual desludging is usually done in teams of two people. One of them enters the pit and, using a bucket, sends the mud to the second person who dumps the content into a hole previously dug in the yard or in front of the house (photo 1). If they are unable to dig a hole (insufficient or unsuitable space) for the fecal sludge, they put it into bags to be thrown into dumpsters or in vacant lots. The operation continues until the full collection of the sludge in the pit.

It should be noted that in Dakar, the activity of manual desludging is performed either by professional desludgers for whom that is the main occupation or by occasional desludgers (artisans, masons...) who, during their frequent periods of inactivity, engage in this practice. In addition, some households mobilize members of the family for a desludging, sometimes at night. In Bamako, manual desludging is sometimes done by farmers who agree with households to provide their free service because they use the sludge as fertilizer for their crops.

Manual desludging is not only practiced in Africa. In India for example, more than 1000 manual desludgers have been counted despite the existence of a law prohibiting the practice. In this country, such activity is performed by the social class of the Dalits, a lower class regarded as untouchable. Their habitat is often located in the periphery of the city and they are not allowed inside the concessions they are supposed to clean. However, in terms of income, they are not the poorest in the village.

In addition to difficulties in this activity and lack of hygiene that characterizes it, manual desludging is badly perceived by people. It is ignored by the authorities despite the important role that these desludgers play in the desludging market. However, it is recognized that this method of emptying septic tanks, highly prejudicial for the environment and public health, will expand as long as vacuum trucks remain inaccessible to people in developing countries.

Risks associated with manual desludging

Manual desludging is an activity with many risks related to the physical integrity of desludgers, their health and that of the populations, and the environment.

• Risks related to the physical integrity of desludgers

- Risk of collapse of the floor of the pit,
- Risk of explosion due mainly to gas produced during the anaerobic digestion in progress inside the septic tanks (CH₄, H₂S)
- Risk of suffocation and burns related to the intense heat in the septic tanks,
- Risk of injury associated with sharp objects in the septic tank, such as glasses, knives, blades.

• Health Risks

These risks are mainly due to the fact that the manual desludgers enter into the pits, bare-chested, with no protective equipment (mask, gloves, boots, etc.). Under these circumstances, they are in direct contact with feces with possibilities of skin infections, respiratory and oral infections that can be immediate or long-term (chronic). In some cases, the disposal of sludge in the immediate vicinity of latrines or directly on the streets causes the spread of pathogens in the environment, with real health risks for populations. Raising awareness of desludgers about the risks to their business and improving regulation will, in the short term, improve the working conditions in this activity prior to its disappearance in the agenda of autonomous sanitation.

• Risks to the Environment

In addition to the unpleasant odor and aesthetic discomfort they may cause, sludge poses a serious risk to the environment because a vacuum truck dumping its content out in the open is equivalent to about 5,000 people defecating in the open air! With the high pollution loads they carry, underground water and surface water are threatened



Certains gestes sont nocifs

by pollution, which jeopardizes economic, recreational and consumption activities that characterize these water resources. In Dakar for example, water is heavily polluted with nitrate in Thiaroye because, among other things, of the daily unauthorized burying of fecal sludge in neighborhoods.

2. Mechanical desludging

For more professionalism in the sector

Private operators in mechanical desludging consist mainly of two categories: companies formally registered and individual operators.

78% of individual operators own only one truck that they manage by themselves in a totally informal manner.

Most stakeholders in the desludging sector have only one truck; these operators are essentially individual entities. Big operators hold only 6% of the fleet. The best equipped operator in Senegal had a fleet of 15 trucks in 2010. Desludging companies are often members of an association. This legally registered



La vidange mécanique une pratique fructueuse

association plays the role of interface between their members and the government services. Its role is first to work towards the recognition of the desludging work, and secondly to work on the formalization of the sector, regulation and limitation of the fleet and, more importantly, on the transparency of public procurement contracts.

Furthermore, it is important to note the hybrid nature of companies that operate not only in the collection and transportation of domestic fecal sludge, but also in the pumping of

rainwater and wastewater, in industrial desludgings and in the cleaning of drainage works.

The mechanical desludging activity in Dakar includes a large fleet of nearly 130 trucks, but overall they are rather dilapidated. None of the trucks in use is less than 10 years of age. If one were to divide the number of trucks by

the number of households with an individual sanitation system, the ratio would be one truck for about 11,538 people who have individual sanitation, or one truck for 1,154 households.

The equipment potentially available on the market is sometimes reduced by frequent breakdowns that

often require spare parts that are not available locally. The percentage of trucks occasionally unusable affects the cost of desludging because it affects the ratio between supply and demand. If 50% of trucks became unusable for some reason, the number of vacuum trucks per household would be one truck in 2308 households. This explains the widespread use of manual desludging that is highly prejudicial to the population's health and the environment.

• Condition of the truck fleet

Currently, out of one hundred desludging trucks available in Dakar, only 3 are hydro-cleaning trucks. The rest consists of regular vacuum trucks and liquid manure tanks. This is a problem that affects to the ability to desludge all septic tanks. So after desludging, much of the solid sludge remains in the septic tank and only the floating matter is taken to the dumping site. Besides the technical problems this creates at the treatment plant, this poses also social problems between the desludging service providers and people who, because of the rapid filling of their pit after emptying, consider that the work has not correctly been done.

Second hand trucks are mainly imported from Europe, mainly from France, Belgium and the Netherlands. In the case of Senegal, the import of this type of truck for specific use is facilitated by the existence of tax incentives (tax exemption, customs duties amounting to 5% as opposed to 30% for other types of vehicles, 50% reduction of insurance fees, and 100% free vignette).

These measures that seem interesting have so far not supported the renewal of the fleet because, according

to the operators, despite these conveniences, the import prices of second-hand vacuum trucks remains very high (between \$ 25,000 and \$ 45,000 USD depending on whether it is a pumper or a hydro-cleansing truck).

• Plans for the future

The renewal of the truck fleet for desludgers has become a must, not only for the sustainability of desludging services, but also to lower prices for participating in the reduction of operating costs for desludging companies. This will also help them have equipment suitable for emptying various individual sanitations.

Moreover, beyond this renewal, reflection should focus on the conditions of profitability of desludging companies that are a true mobile sewer network for individual sanitation. Only successful and well organized companies can make it possible to improve access to mechanical desludging for the poor. The establishment of dumping sites near areas where fecal sludge is produced helps to reach this objective by reducing the cost of transporting sludge but also by the introduction of value-creating systems leading to the reduction of taxes related to the dumping of sludge.

Also, the development of new truck models to reduce the operating costs of desludgers and to increase efficiency of the desludging service will undoubtedly help to modernize the sector and to make autonomous sanitation become an attractive sector for private operators. This way, new public-private partnership will be launched for the benefit of sanitation for the most vulnerable households. This is the objective of the Gates Foundation in its project to invent a new vacuum truck called Omni Ingestor.

M. Ibra SOW, president of the Association of Sanitation Stakeholders in Senegal (AAAS)



**“ Delegation is for us
real blessing”**

Driver at the beginning of his career, Mr. Ibra SOW became a highly respected entrepreneur in the desludging sector. He has a fleet of fifteen trucks and is president of the association of desludgers in Senegal. Privileged interlocutor of civil society and the government on issues relating to sludge management, he encourages and supports changes in the sector. In this interview, he gives the position of desludgers on the Market Structuring Program for the Sludge Sector, particularly on the delegation of fecal sludge treatment plants and the introduction of a call center to bring supply and demand closer together.

Does delegation make it possible to optimize sludge management?

Delegation will be very important for the management of sludge. Indeed, if one day we manage the plants where we dump fecal sludge, we can already say that the desludging activity will be more profitable. We have always criticized the hours and days of opening and closing of the dumping sites that are not helpful at all to our business. Closing at 5PM does not enable us to provide a continuous desludging service and does not give us the opportunity to maximize our revenue opportunities. For example, when the Bel Air dumping site was functional during the

rainy season, we could easily pump rainwater during the day and empty a few septic tanks at night. Now we can no longer do that and the desludging sector suffers from the fact that we cannot do more than one or two desludgings per night, and that is unfortunate for septic tank owners.

So during the rainy season, you stop emptying septic tanks?

Of course; that time of the year, it is much more profitable to pump rainwater – which we do almost every day from 8AM to 6PM – upon request from ONAS, the Ministry of Sanitation, or City Halls of flooded areas.

Have you assessed the impact on the sludge sector?

Households face enormous challenges that time of the year to empty their septic tanks. I can assure you that it is very difficult to find a desludging truck during the rainy season because of the demand for removal of rainwater that is more profitable. Some of us, however, try to increase their revenues and secure gas money by emptying a few septic tanks at night. But maybe they do not know that the dumping sites do not operate at night. In fact all that fecal sludge will be dumped in the sewerage network of ONAS, thus causing a great nuisance.

Then, how do you plan on optimizing the management of the sludge sector?

If one day, thanks to delegation, we end up managing dumping sites, we will work 24 hours a day, if ONAS allows us to do so. So, we will substantially increase our revenues and at the same time valorize sludge and the by-products of its treatment. This is where the future of the sector lies. If we manage well, we could one day pay households to desludge their septic tanks thanks to what we will get from the valorization if we study it well. For us desludgers, delegation is a real blessing.

What support can then bring you the call center that is currently being tested?

A huge support! This call center is welcome. Normally we do not do hype; the call center will allow us to better publicize and make ourselves more accessible. On the other hand, the auction system that will be introduced in the call center is a good thing for the client. In fact, the client will not pay excessive amounts of money to desludge their septic tank because costs will inevitably decrease since the user will have the possibility to choose the lowest bidder. Besides, it will also allow us to significantly boost our sales with the expected increase in the number of customers. Where we used to have two or three desludgings per day, we expect to double or even triple the number. As a result our turnover will increase due to the proximity that will be created by the call center between supply and demand.

The PSMBV is changing the sludge sector! Are you involved in the execution process?

Yes, indeed! I must even say that ONAS involved us since the time the program was being developed. Then, with the establishment of the Coordination Unit of the Program (CUP) that set up an office in its headquarters to accommodate the Association of

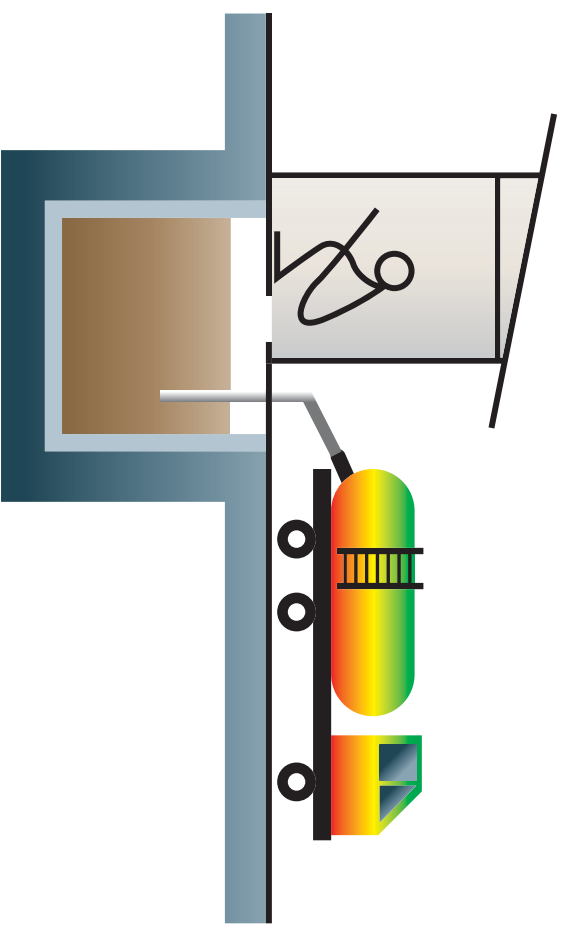
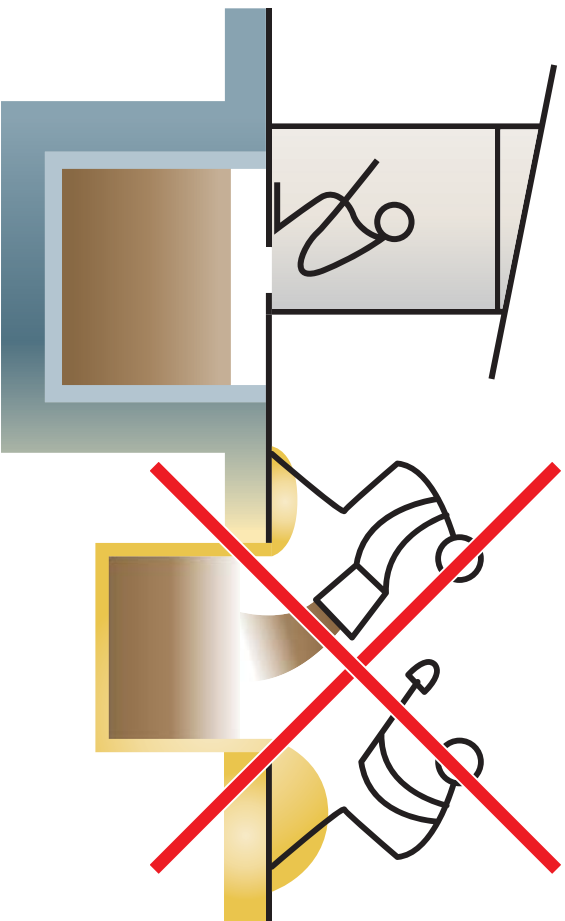
Desludgers, we are involved in all activities and regularly consulted in decision-making. Moreover, we participate in all meetings of the governing bodies of the program. Also, most of the meetings of the Association of Desludgers are held in the conference room of the CUP that often helps, at our request, to facilitate our relationship with the General Directorate of ONAS. This reassures us and puts us at ease.

When you look at the ongoing initiatives, what do you see as the prospects for the sector?

The profession has become attractive due to the opening of the fecal sludge treatment plants: there is less dumping out in the open. The trucks are no longer as dilapidated as they used to be and we see a lot of newcomers to the desludging business. We have, as of January 2013, a very credible association gathering 99% of desludgers, i.e. 87 service providers, including 17 companies and individuals. The advantage is that all members are required to comply with the local standards of hygiene and environmental protection. With coaching from the program, we will be better organized. A license system will be established and former misbehaviors will no longer be tolerated. The result will be more customers and more revenue for us.

Interview by **Bassirou SOW**

Jëfëndikoo kamion widaans yi, mooy li ñu war



NON

OUI



*Programme
Boues de Vidange*