# Sub-projectplan
## Water supply
## NAMU


Board of SALEK foundation
May 2008

# Chapters

# 1. Situation display Namu, Nigeria

Nigeria can be found in West-Afrika and borders on the river Niger. Nigeria exists out of lagoons en wide rivers, mountains and plateaus. Nigeria is tropical with many different climates because of the large height differences throughout the country.

There's about 2.000 schools in primary education. Many classes will be held underneath trees. De financial coverage by the government is far from encouraging. Only 0,76 percent of the Gross national product is being used for education. The is the lowest percentage compared to other countries in Africa like Ghana, Kenia, Angola and Malawi.

When the children will continue to suffer from a bad level of education, it will have negative consequences for the unemployment figures. Children will now easily find their way into criminality. Nigeria is also staying behind on economical, social and political areas. There's an estimated 49 percent of illiterates in Nigeria.

**Population**

Nigeria has approximately 139,8 million residents; population growth is 3.8 percent per year. Approximately 42.3 percent are younger than 15 years, and about 2.9 percent over 65 years. The average life expectancy is 47 years. The main populations are the Hausa in the north, the Yoruba in the southwest and the Ibo in the southeast. In the predominantly Muslim northern states, the Sharia. In the mainly Christian south, the laws of the government, while the supporters of various pantheistic cults have their own law.
English is the official- and trading language. In addition, virtually every nation has its own language.
The working population can be divided as follows:

- Agriculture and fisheries 70%
- 10% Industry
- Trade and services 20%

**Namu**

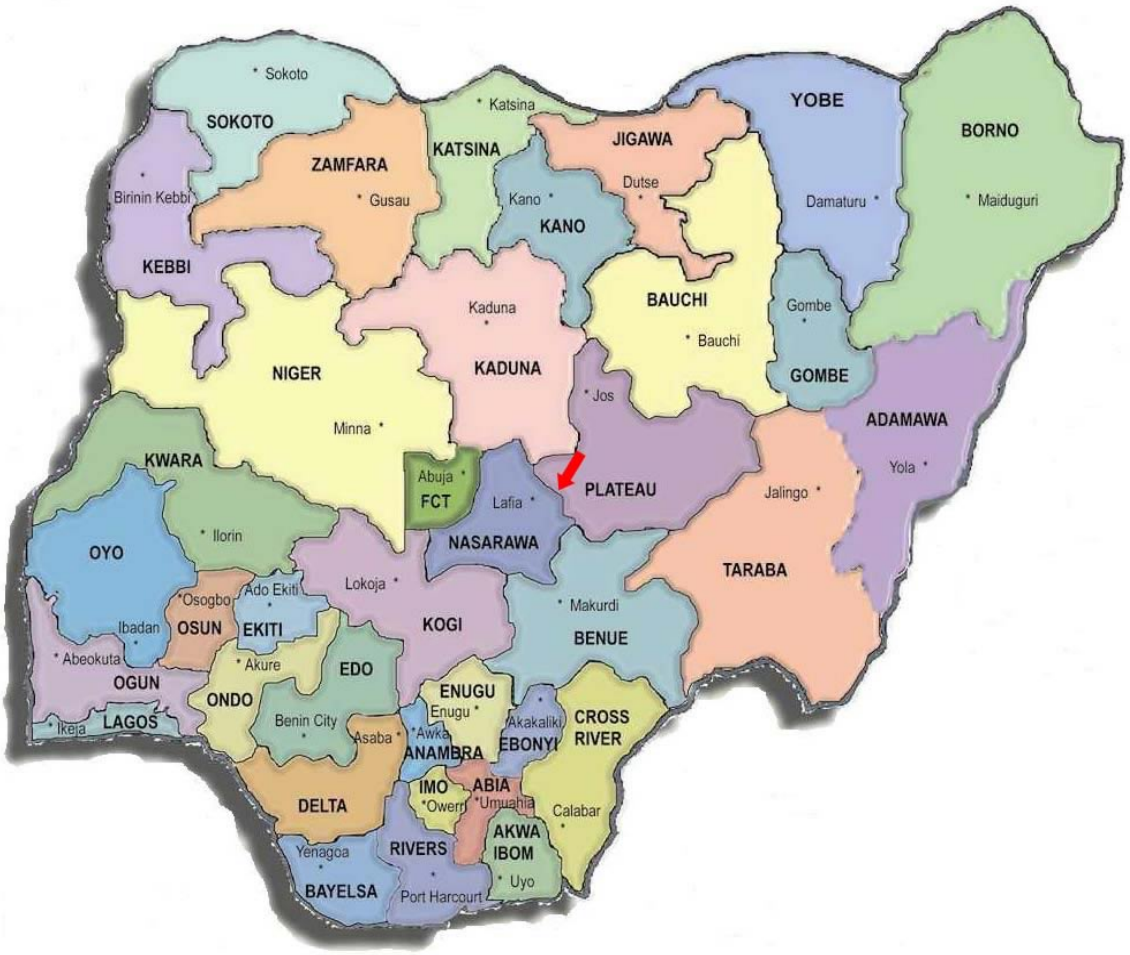
From west to east through Nigeria we find the Middle Belt, this is the wide corridor where farms mainly in agriculture are located. Within this Middle Belt is the state 'Plateau' situated. Because of the new state of Nasarawa, Namu now lies in the extreme west of the Plateau State. In Namu both Christians and Muslims can be found.

Farmers are losing more and more of their crops and at this moment are the figures that no more than 50% return derives from their country. What the exact cause of it is, is not entirely clear. It is clear, however, that farmers and the elderly would love practical training, with particular focus on their work.

Namu itself has about 13,000 inhabitants of 18 years and older. It is estimated 25,000 residents total. The surrounding villages consist of the same amount of inhabitants. These also make use of the facilities of Namu, such as schools.

There are no precise figures known about the composition of families, but they are large. Mostly in farming families there's still a very vivid impression that the more children you have, the more work we can be done. This will allow for better life. The former Chief had 50 women, and children of all these women.

An estimate of the education in Namu on a scale of 1 to 10 a 3. The vast majority of adults (over 90%) has never successfully completed the secondary school. The nationwide test is too high for these children. There is only a very small proportion of the children, that completes this test. Only then do they get the opportunity to apply for entrance into a university. There are even fewer of those, because the parents can not afford it.




*Figuur 1: Nigeria. Location of Namu is being marked by a red arrow.*

The educational facilities are not adequate. The pupil / teacher ratio is 55:1. Primary education is compulsory, but the schooling is frequently evaded. Officially children under 18 years may not work. Partly because of the bad economic situation, children are still being used in many areas of the labour market.

# 2. Water supply – THE BASICS

## *2.1 The supply*

The only natural water reservoirs in Namu are some superficial basins, in which during the rainy season water is stored. These basins lie at the height of the self-dug toilets and one needs little imagination to realise what the consequences are. Sometimes tankers filled with water arrive during the drought. This is paid water, but the quality in the open air degrades very quickly. This time drinking water is only rarely available in Namu.

One of the first things we have to start with in this new project is water. Water is the most important substance on earth that can be found. Without water there is no life. The human body consists of 70% water. Without water we can not provide decent drinking water and sanitation facilities for the 2,300 pupils in the school. Furthermore, water is necessary for the construction of the school, because the cement and concrete must be made with water.

**Current situation**

In the village Namu there is a huge water tower, which is defective. The tower has been build 8 á 9 years ago by the government. The tower is owned by the government. Long time after it broke down, it was decided yet once more the tower to restore, by installing solar panels with batteries. However, the batteries can no longer be found (stolen), but the pump is still present. The solar panels are also still present, this does not seem very sensitive for theft.

*Picture 2: current water tower in Namu*

Nobody knows the precise status of this huge water tower that stands unused for years. It is impossible without a significant investment to examine what it takes to repair. In addition, the tower is far away from the terrain where the schools will be build; too far to guarantee a good pipeline, and supervision by the school itself is not possible. The availability of water in the school would also become dependent on a system, whereby maintenance and supervision currently can not be guaranteed. Moreover, the tower is only equipped to supply drinking water at that location; the tower is not suitable to provide toilet and tap water for 4 school buildings.

Salek and Efli (the local partner organization) have decided after extensive consultations the existing water supply in the village can not be repaired because the theft can not be avoided. In addition, we have difficulty repairing something that is not ours. This belongs to the government.

**Acceptance and supervision**

The water tower is going to located at the school terrain surrounded by a fence. The water tower is under the supervision of the local organization. Because this project is also supported by the school, local priests, imams and the local population as much as possible being deployed in the construction of the tower and the school, it has the support among the population.

In this way the water tower is a project of the village itself and the school is responsible for monitoring, management and maintenance of the water supply. This is in contrast to the previous water supply placed by the government, that was build without consultation with the local population.

The whole complex will be surrounded by a fence, which helps against theft. In addition, the solar panels will be placed on the tower 6 meters height, which further complicates theft.

**The construction and operation of the tower**

The start of the project is to determine the best location we can make a borehole by researching the soil. This also depends on the depth level of the water and the type of rock through which they must drill (see Annex 3).

De start van het project is dat op locatie bodemonderzoek wordt gedaan om te bepalen waar men het beste een boorgat kan maken. Dit heeft o.a. te maken met het diepteniveau van het water en het soort gesteente waar men doorheen moet boren (zie ook bijlage 3). The costs can vary quite a lot, the numbers in the budget therefore are average. When the hole is drilled, the pump will be connected and the tower will be built, with two large plastic tanks on top.

For sufficient water pressure we have to keep the height of the tower higher than the second floor of the future school buildings, more than 6 meters. The pump is connected

to the batteries that are recharged by the solar panels. If the water in the tank drops below a certain level, the pump will automatically be activated and fill the tank again. In this way, no fuel is needed (we can never guarantee sufficient supply of fuel) and the pump runs no longer than necessary. When after the next projects the generator house is built for the school, it can to support (and back-up) the water supply.

**Capacity**

In the latest design of the tower it has been decided to use a two-tank system. This improves the filtering to a large extent, gives more guarantees against failure, a greater capacity and better continuity of the flow of water. Through a clever sensor system added to the tanks they are automatically refilled, one tank complements the other.

The tanks with a total volume of no less than 15,000 litres of water give ample capacity for the 32 toilets and 32 taps plus 1 or 2 tapping points at the water tower itself. The new tower has been designed to for fill 100% of the schools water needs. Enough capacity will remain to use for purposes like selling water.

*Picture 3: Example of a water tower. This is just one tank.*

## 2.2 The water supply is a success

The water supply is a success because it is the basic requirement of the school. Without water no school, no work for the teachers, no education, no children. There will be more than 2,300 pupils and 45 teachers making use of this water. Because water is the basic requirement for anyone involved, the facility is already a success.
With the announcement of construction, the president of the Salek Foundation already build a local network consisting of contractors, agents, contacts with authorities, local teachers, residents / parents and of course the children.

It is essential for Salek Foundation to invest in reliable contacts and intermediaries in Nigeria. The project is at a great distance from its donors. In order to ensure efficiency, reliability and especially financial performance of the project, we have made some close ties with some people in Nigeria who can personally monitor the implementation and later on management and maintenance.
These are people have all the means for living, so they voluntarily (which is to say 'only' motivated by ideals) will be able to work. Also, these are local people who know their way, can negotiate, are in a position to monitor and they are respected by the local population.

For these reasons and certainly to achieve a successful project we have helped setting up a formal partner of the Salek Foundation, called Education for Life Initiative (EFLI), based in Abuja, Nigeria, in december 2007. This organisation consists of:

- *Datong Dominic Gwaman*; Former pupil of the school in Namu, IT Support Officer of Central Bank of Nigeria, and owner of HostService Nigeria Ltd. (computers, automation and webhosting);
- *Dinak Martins Davugun*; Commissioner for Electoral Commission Plateau State and independent entrepreneur (farm and drugstore);
- *Damen Joseph*; Security Atache to the Governor of Bauchi.

These three board members are meant to create support among both local people and the government for projects of the Salek Foundation in Namu. Also, they connect with the headmasters and staff of the schools, with regard to the needs, wishes and demands on the educational facilities. Two of the members have close relations within the state, who will also be closely involved in future construction, mainly in the school buildings.

Therefore, we can make sure that schools are better funded better in the long term. With the help of media attention chances are very plausible that we will be listened to which will result in adequate funding and continuity of (among others) the water tower.

EFLI is being supported by a team of five volunteers, formed by the two schools (Elias Shirya and Bridget Maaji), the assistant of one of the two headmasters and two teachers.

For the construction of the school and the water towers, we will pay against the usual local rates. Whenever possible, local contractors are attracted, for the benefit of responsibility and local employment.

**The maintenance**

There is more than sufficient local knowledge in the field of electricity, solar panels and generators for local maintenance care. Also with this maintenance we can create jobs in the village and in the immediate vicinity. In this way the project has more positive effects than just improving education.

The school is going to partially sell the water at the tower to the population because there is an excess. The income will go to the water tower, to fuel and especially maintenance. EFLI has made agreements with the local priests and imams, that they will help in the progress of the water tower and in possible financial emergencies.

At present, the water is purchased from expensive tankers, which is of very poor quality, we have seen personally. From a fraction of that price, the school will provide clean drinking water.

The local organization will act as watchdog and ensure compliance with agreements. The tower will be built along with the village's own people, this gives a high degree of accountability and commitment.

The school has recently proven that through their own money and collections from parents they were able to build a new building with 2 classrooms.

Salek invested the past 2 years in identifying, investigating and to establish contacts and relationships and a very solid foundation for the water tower and, consequently, the construction of the school.
In short: Salek vouches for this project!

# Annex 1: Project budget

**Budget water supply Namu**

| Item | Amount (€)[1] | Amount (Naira) |
|---|---|---|
| Soil and building plan | € 647 | N 110.000 |
| Drilling of bore hole | € 5.882 | N 1.000.000 |
| Pomp and accessories | € 941 | N 160.000 |
| Water tank (15.000 litres) | € 912 | N 155.000 |
| Concrete tower for tank | € 353 | N 60.000 |
| Transport costs for material | € 735 | N 125.000 |
| Solar panels | € 588 | N 100.000 |
| Batteries (4 x N 35.000) | € 824 | N 140.000 |
| Inverter (motor generator) | € 353 | N 60.000 |
| Charge controller | € 176 | N 30.000 |
| Installation costs | € 353 | N 60.000 |
| Extra 10% | € 1.100 | N 187.000 |
| ***Total*** | ***€ 12.865*** | ***N 2.187.000*** |

| **Budget revenues** | |
|---|---|
| Aqua For All (50%) | € 6.433 |
| Schools | € 1.500 |
| Contributors | € 300 |
| Funds | € 1.632 |
| Companies | € 1.500 |
| Events | € 1.500 |
| ***Total*** | ***€ 12.865*** |

[1] At a rate of N 17.000 = € 100

# Annex 2: Survey of the teachers in Namu

To show how harrowing the situation is and find to out where the biggest local needs are, we have surprised the teachers in Namu with a (unexpected) survey. Of course we wanted an independent response to a number of questions, from the teachers themselves.
To ensure that the answers could not be nuanced and (politically) weighted, we have surprised the teachers during a visit in november 2007 with a questionnaire that they have completed in 15 minutes. The results we have processed in the following table.

| | | |
|---|---|---|
| 1. Considering the 2300 children that go to both schools in Namu, if you had all the money to build something new for these children, what would you build? | 19 | More classrooms |
| 2. What other facilities would Namu need that would help this project | 8 | Educational Material (lesmateriaal) |
| | 6 | Water |
| | 4 | Electricity |
| 3. What do you consider the level of commitment government's to this school? Do you think it gives good attention to the school? | 19 | No or not enough attention |
| 4. If it was your own money in this project, what would you try to let the local Government do on its part to sustain the school at high standards? | 5 | Hire more trained/qualified teachers |
| | 2 | Motivating teachers and staff |
| | 5 | More financial help to improve standard |
| | 5 | Help building more classrooms |
| 5. What do you consider shifts (morning and afternoon) run by the schools to be; is it liked by the children, teachers and (or) parents? | 17 | No, it is not appreciated/encouraged |
| | 1 | Yes, to a certain extent |
| 6. What would you think is responsible for running of shifts in this school? | 17 | Inadequate facilities |
| | 2 | Not enough teachers |
| 7. In your opinion, does the school have enough teachers teaching all the children in your school? | 19 | No |
| 8. If the two shifts were merged, will it partially solve the problem of the number of teachers or worsen it? | 11 | No / Worsen it |
| | 5 | Solve it |
| | 2 | Partially Solve it |
| 9. After completion of studies in this school, how will you rate the | 7 | Below Average |

level of preparedness of the children to enroll into secondary school? Is it averagely normal, below average or good?

5 Normal
5 Good

# Annex 3: Construction drawing of the bore hole

Fig.1, Typical Borehole Design in a Sedimentary Terrain