

Rehabilitation of Scan Water Stations in the North-West Region of Cameroon: The Need for Communication for Development

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Abstract: *Water is essential for the life of all beings on earth, and especially humans. The State of Cameroon, sensitive to the needs of the populations, has always resolved to assist the population with their most vital needs. To eradicate water-related diseases, the state had invested in water supply through the Scan water project. This project had failed due to multiple errors. The State has again undertaken to rehabilitate this initiative to provide quality water and ensure the quality of health to the Cameroonian population. The data collection method is specific to social sciences (structured interviews with key actors) and the theory of interpersonal communication will contribute to the analysis of this data. This rehabilitation in the North West region has come up against the crisis that is raging in this region. A communication strategy is necessary for the success of this initiative. The second failure of this project is due to the non-involvement of the populations and the lack of communication for development.*

Keywords: Communication, Politic, water, development, technology

1. Introduction

In the early 1980s in some localities in Cameroon, it was discovered that most of the illnesses were from water-borne diseases like typhoid, diarrhea, and cholera. This was due to the lack of portable drinking water in nearly all communities in Bui Division; water was mostly collected in buckets from running streams with no hygienic roles. Most of the time, these sources of water were shared by human beings and animals. In the rainy season all running waters from the hills containing a lot of feces from human beings and animals as well and deposit them in valleys were used to carry water. The governments and its partners decided to carry out a study to try to see how these problems can be solved. With this study, the government seeks funding from the Scandinavian countries which was then used for the construction of scan water system in the country and especially the North West region. Scan water is a high-standard technological project that consists of a borehole from where water is pumped through a treatment station into a storage tank for distribution. 40 years later after the failure of the project, the government is attempting a probable rehabilitation. Scan water is a project funded by governmental and non-governmental organizations [NGOs] and Scandinavian countries such as Denmark and Sweden. Scan water is a high technological project that is a national project whose purpose is to provide good drinking water to rural areas as a result of scarcity of water in rural and local areas. Due to the cultivation of crops or water unfriendly trees beside the catchment areas, scan water was then seen as the only source that could keep water roaming in the local area. So scan the water, in particular, is a project for rural and local areas where water crises are the talk of the day. What is the condition of the scan water stations at the time of the rehabilitation? What are the pitfalls of the failure of this development project? How to correct the mistakes of the past? What communication strategies for success?

2. Context of the Study

Water is an essential resource for human life and social and economic development. But Oswaldo de Rivero (2003) noted that ninety-seven percent of all the water on the planet is saline, only 3% is fresh and three-quarters of it are concentrated in inaccessible places like Polar Regions and glaciers. Therefore, only a small fraction of the earth's water is fresh and accessible in rivers, lakes, and groundwater. According to international hydrological studies carried out by the United Nations and the Stockholm Institute for the Environment, this small fraction is declining, and by 2025 two-thirds of the world's population will be affected by water shortages due to the decrease of the earth's hydraulic cycle caused by the urban population explosion. The search for a balance between population growth and vital resources such as water figures prominently in the SDGs show that disparities in access to water are strong, especially in Sub-Saharan Africa, and require mobilization of all energies. In Cameroon, the resurgence of endemic water-borne diseases has prompted the government to use a drinking water supply system known as the "Scandinave Water Project". The population using a source of basic drinking water supply (piped water entering the dwelling, yard or plot, public taps or standpipes, boreholes or tube wells, ordinarily protected wells, protected sources, water rain collected in tanks) which is located in rooms accessible whenever necessary, free from fecal contamination and contamination by priority chemicals regulated by a competent authority. In Cameroon, between 1991 and 2014, there was a marked improvement in the percentage of the population using a safely managed drinking water service, from 43.7% to 72.9%. Estimated at 76% in 2015 by the WHO, this proportion is higher than the African average estimated at 68% in 2015 (WHO, 2017). However, there is a big difference depending on the place of residence. In fact, in urban areas, this proportion was 93.2%, unlike in rural areas, where it is 54.2%. This study attempts to describe the water management policies that ultimately favored the re-emergence of water-related diseases.

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However, rehabilitation is sometimes perceived by the populations as an aggressive approach towards it. The planned works involve transformations, arrangements, and improvements, which will undoubtedly modify the habits of the populations. These various points must therefore be defined beforehand to identify the intervention parameters for the success of the rehabilitation project. The project to rehabilitate the Scandinavian water in Cameroon has many specificities, such as high attendance at rehabilitated sites by residents and users. Communication and development studies can be used as tools to guide project managers to the successful completion of their project, whether during project design, during works, or during site management. Once the work is completed. This study attempts to address the issues of perceptions, acceptability, and appropriation of these projects by residents and users. The different actors involved in the rehabilitation deserve special attention.

3. Materials, methods, and theories of analysis

The data for this study were collected between 2006-2009 as part of doctoral studies. This collection continues in other localities of the country and particularly in Bui Division, North West region of Cameroon in June and July 2020. The proposed analysis, nearly ten years later, has been revised and updated - as can be seen from the bibliography. Guided interviews were held with certain factors involved in the Scandinave water project in Bamenda. These were 2 water technicians from the Bamenda CDE. They were questioned at their home. Important literature on the subject has been kindly made available to us. Different types of approaches are necessary for this kind of project: A demand-side approach: It is a question of knowing for whom we can rehabilitate. This approach is a matter of business discipline. A social and sociological approach. A technical approach: This involves analyzing and making a judgment on the technical failures of the project, any maintenance faults, and evaluating their cost. To approach the question of rehabilitation from an original angle, the theory of interpersonal communication is called upon. Health (2008) defines interpersonal communication as “*Interpersonal communication in dyadic interaction in which people codefine and negotiate relationships by using communication styles, content, and strategies that become personally meaningful in their attempts to reduce uncertainty (about themselves, their partners, and their relationships), to be self-efficacious, and to maximize rewards from creating, sustaining, or ending the relationship*”. According to him: « *Interpersonal communication research and theory address a wide array of topics, especially five major themes: meaning that is co-created during interactions, quality of relationships, social conflict, the accuracy of people’s understanding of one another, and communication planning and competence*”. Communication in this perspective aims to explain the rehabilitation project to gain the support of users, taking into account - as far as possible - their wishes and comments. Its purpose is to continuously inform users as to how the rehabilitation will take place, by various simple means accessible to all, both during the study phase and the works phase. It will nevertheless have to spark a dialogue and encourage the greatest number of users. To do this, it is necessary to set up a simple communication process, which

will earn the trust of users and thus facilitate their participation. This is to enhance the image of the approach in the eyes of users. This action is based on the quality of existing relationships, stakeholders, and the presentation of the communication process.

4. Motivations for the implementation of the project in the department of Bui

Scan water was a technology developed in Scandinavian countries to provide good and portable drinking water probably in Sweden. For this technology to be able to succeed in other countries needed the transfer of technology and technical know-how. Scan water is a project that is being funded by Scandinavian countries. Scandinavian countries are those countries that are involved in the development of other countries through scan water projects. There were two countries involved in the funding of scan water development in Bui Division were: Denmark, Sweden. Scan water is a general and national project and so it was introduced to all Regions and Divisions of Cameroon. Therefore being a national project it has the same reasons for its settlement in Bui Division. Therefore the main reasons why scan water was introduced in this region were as follows. To provide good and capable drinking water to the population and the communities of the local areas and villages in that region. Since Bui division had faced daily scarcity of water there was then the need to improve a way to bring good water. The population of Bui has several recorded deaths from cholera from water-borne diseases as a result of lack of good drinking water. Water for human consumption had become scarce and difficult to access. Rivers, streams, and groundwater are constantly contaminated with human excreta. AnyereMelvisMbu, 33, residents of Bui appreciate the arrival of the project in these terms:

« *When we saw the people landed here in the village, then building the scan water stations, we said thank goodness the government thought of us, now we could drink clean water*».

Although villagers misuse water and so leading to frequent water shortages during the dry season. Misuse of water means the planting of water unfriendly trees beside catchment areas making water quickly dry off especially in the dry season or low capacity of flow leading to water crises. Also, relief and topography of villages in Bui divisions have contributed to shortages or a complete lack of good and capable drinking water and inadequate water sources. For example, places full of hills and unwanted water relief features giving it a possibility that a borehole or underground water source of water will be helpful. The above listed are personal thinking why the scan water was introduced but actually since scan water is a national project and it is the responsibility. While in Bui division scan waters were situated in villages with a very high density of water-borne diseases, for example, the Lassin village that was situated in a plane.

4.1 Involvement of the population and local communities

The entire population of all the villages involved in Bui division were sensitized and were so delighted to receive the project but they did not understand the working terms of the project. They were sensitized because after the schemes of the scan water project were constructed the local community went ahead and created the guiding committee that was in charge of handling and maintenance. They however did not understand the working terms as they were thought the basis of the project and the daily maintenance was not taken into consideration so the villagers were now responsible for daily upkeep to maintain the project and this became a very big problem as they could not sustain the project due to intense poverty in the community. The project schemes were even higher above the council's expenses making them completely abandon the project. The population was aware but the project terms were not well explained on how the scan water system had to function they had to face a lot of problems. The population had created a committee that was in charge of maintenance but the committee failed because the committee had no funds for it and did not have the high technology that was needed in the project to maintain it which led to mismanagement of the water structure. A scan water system has a treatment station and a generator to pump water into a tank, so without technicians to control it, it was bound to fail. Atem Paul Ojong, 44 years, Bui division noted that: « *We were gathered here once to ask to contribute financially to the rehabilitation of the Scan water stations. How are we responsible for a tool that we do not know? The government has to manage it, we are not responsible*».

From the nature of the project, the community had no role in the construction schemes of the scan water project, so they just had to welcome the project even when the population did not contribute in any way to support the scan water because experts were brought in to bore a hole and connect or build the pumping system, a treatment station, and a water tank and all these were funded by the government and NGOs from Scandinavian countries. All these were high-standard technologies that no local villagers could do so experts were brought in. But after the project schemes were completed it was handed over to the local authority to take charge and control so villagers had to participate by contributing to the daily upkeep in terms of funds for the scan water system. It uses the generator to pump out water from the borehole and still uses a generator to pump it up to maintain the patrol they had to contribute and it is equivalent to participation. Also in case of destruction or carelessness, the local communities will still be in charge to contribute and manage it. Above all management was handed completely into the hands of the local communities, yet, the project had high standard management that was above the local communities and even the council. During construction works, a local committee was selected and given eliminatory training on water management and finances, due to the high level of poverty, they lacked the will to contribute even small levies due to ignorance. Community participation will be effective at the end of the crisis which has raged in the region for several years.

4.2 State and components of the scan water stations in Bui division

There are in a total number of (4) four scan water stations recorded in the whole of the Bui Division and all are located in Verkovi, Lassin, Giyarni [Oku], Kiyarn. Analyses from the villager's point of view the scan water project, in general, was not well received in the local communities as from the four villages where the scan water systems were located none had succeeded in maintaining them and this discouraged the bringing up of such systems in Bui division. Also, the project had equally failed not only in Bui division but in other parts of the North West Region such as Dumbuh [donga mantum, Bangoland). All these scan water had to fail both in the Bui Division and North West Region in general because all of them had a high running and high-cost maintenance rate that the local communities could not even handle so the above listed four scan water system station in Bui division all had failed and non-succeeded.

In Bui division presently the structures of the scan water system still exist and but not functioning. The general scan water in Bui division had faced a lot of difficulties, challenges, and distractions that had finally stop the system from functioning. Thus the following explains why it stopped functioning. First, the high rate of poverty was a major problem; generally, villagers are poor and depend solely on farming as their main source of income so could not be able to contribute to managing their homes and at the same time pay for the maintenance of the project. Lack of money to buy and fuel the generator had to stop the system from working, and the villagers lacked managerial skills. The borehole is so deep that even if it has complications inside there will be no one to fix it. The villagers were not taught how to manage the borehole and had no idea what to do or how to do it so the project had to fail. The scan water system was a combination of high technological inputs brought together. The level of technology and technical know-how that was used in the system was higher than a layman's understanding and too high to cope with. The technology of using a generator to pump out water from the hole into storage tanks was so high and needed technicians, well-trained technicians to coordinate the process and to frequently check the area but lack of these potentials stopped the scan water system from functioning. High cost and maintenance. The system consists of the water source, a pumping system, a treatment station, a storage water tank, and a distribution system. Therefore maintenance could be unreliable on the part of the villagers. The contribution of money to fuel the generator to pump water was above the villagers' income. Daily and frequent contributions had to make villagers complain about money for the purchase of chlorine for the treatment of water was another. So with sudden contributions, villagers became so tired and angry and had to abandon it. Other councils in some villages took over but the cost was still higher than the above maintenance making them abandon it completely.

Also lack specialized technicians. It was a great idea to bore a hole and make it work using a generating system but other factors and challenges that could hinder the success of the project were taken into consideration, because bringing in such a huge and costly project without people to manage it

was already leading to failure. Therefore bringing in such a project they needed to have a good look and see what could be sustainable for the project. A local technician could not be enough to handle the maintenance of that project and the scan water system is very unfamiliar within the localities

and can hardly succeed there. The scan water stations include the following: Source of water, a pumping system working with a generator, an automatic water treatment system, a Storage tank, Water distribution system.



Picture 1: Scan water station in Bui Division, North West region of Cameroon

The water source. The scan water source is underground water. A geophysical test was undertaken to identify a position where the aquifer is good. A borehole was done to a depth of more than 40m and this was done with a drilling machine while drilling plastic pipes are inserted to protect the walls of the borehole from collapsing and to ensure that there is clean water a sand-gravel filter is installed at the end of the borehole. A pumping pipeline with an immersed pump is inserted inside the pipeline right to the bottom of the borehole. After the installation of the pump a system is sealed to prevent contamination from surface water:

A pumping system. The pumping system consists of a generator to produce electricity, and immersed electric water pump, and a pumping pipeline. This system helps to pump water from a borehole through the treatment station into a storage tank.

An automatic water treatment station. Water from the pumping system passes through the treatment station. The treatment station consists of some filters and chlorine injectors. The chlorine injectors inject chlorine into the water following a specific calibrated rate [usually 0.1 ml of chlorine per cubic meter of water] this chlorine helps to kill bacteria.

Storage tanks. Clean treated water is now stored in the storage tank. Scan water storage tanks are metallic tanks made of galvanized stainless steel with a capacity of 100 cubic meters. From this tank water is transferred to the distribution network for distribution.

Distribution system. It consists of pipelines and taps that are used to remove water from the tanks and distribute it to the general population it also consists of various pipe sizes. Scan water woefully failed because of the following reasons: -High technology with low educated communities, -high

income consuming project for very poor communities, - highly skilled labor-intensive system within a low skilled community, - lack of knowledge on the prevention of diseases and particularly water-borne diseases.

4.3 Communication for the rehabilitation of the water scan project

The success of the rehabilitation project will be possible when the issue of the maintenance of the technical tool is resolved. The project is necessary for improving the living conditions and development of the population, but as long as the development trap (maintenance of the technical tool) persists, this kind of project will always be doomed to fail. Maintenance is the most expensive step in a project of this magnitude, and also operational and practical communication is necessary. Despite all the efforts put together, scan water had failed because it was a strategic technological project that needed a lot of capacity to move ahead. So, when it had failed the government gave it a survey to visualize and discover what problems were encountered that led to its failure, and in the course of the survey effective majors were taken to revive the scan water system in Bui division which included; simplifying the technology meaning trying to reduce the cost of management, organize a workshop on the importance of fighting against water-borne diseases. This is because some villagers are completely ignorant and have no idea of what is meant by water-borne diseases. When workshops and sensitization meetings are organized motivation should be given to those who take part. A group of villagers were equally selected for the management committee and trained on management skills and also assist them with tools to do their jobs.

With an advance in technology, which affects contemporary life and especially the modern mentality is undoubtedly the

technologies of mass communication. These technologies are aimed at huge masses of listeners whom they tirelessly bombarded with new ideas and images and in which they arouse renewed aspirations or needs. Various studies have already examined the influence of these media on human behavior. Mass communication shatters the borders of regions and countries, like that of thought. With the advent of the corona virus pandemic, communication has taken on an unsuspected planetary dimension as we see it today. It is necessary to develop communication strategies in the new communication know-how. Its absence is at the origin of the failures of many development projects for decades as confirmed by this assertion: *"The successes and failures of most development projects are often determined by two crucial factors, that is, communication and people's involvement. Even though communication for development came into being in the 1960s, and has clearly shown its usefulness and impact in change and development actions, its role is still not understood and appreciated to the point that it is routinely included in development planning."* Following this strategy, Paul AnimbomNgong and Victor NguCheo, (2018: 157): "Nowadays, visual modes of communication are more and more dominant and more important to cultural functioning than verbal modes".

The Scan water project seems never to have been the object of visual or strategic communication the drift was evident. Today, for effective communication for the rehabilitation of Scan water, the EMIP-MHY (Mobile Information and Prevention Teams for Waterborne Diseases) must be created. This association will be made up of various professionals involved in information and prevention. This team could be made up of health professionals, teachers, hospital and liberal care professionals, representatives of associations. The characteristic of EMIP-MHY is to deliver information by reaching out to populations, by moving into their environment. It is therefore on this mobile nature that this new principle of awareness and prevention, of education, which is primarily intended for people who cannot or do not dare to seek information, is based. However, this kind of meeting is not imposed but proposed. This is most often collective information, delivered to a generally homogeneous group, from a specific world. The security crisis and the containment linked to Covid-19 have reduced access to information by the population of the region concerned in this study.

4.4 Rehabilitation and awareness for beneficiaries

In the context of operational rehabilitation, it is very important to take into account the structure of the population (age of users, composition of services, seniority in the office, mobility). Indeed, specific actions will often have to be undertaken in favor of the population. A social survey should therefore be carried out to collect all the information necessary to understand the experiences of the populations. This social diagnosis takes place in several stages: the development of a social questionnaire, which will allow, after analysis, to provide answers to a certain number of questions; technical field surveys intended to collect users' wishes. CHE Funwie Stephen, 41, resident of Bui believes that: *"The misery of the populations of this locality does not date from now, the crisis has worsened the situation, we do*

not have drinking water, and diseases are killing us. Every day the roads are impassable, the children do not go to school and this has been ongoing since colonial times". The decision is to rehabilitate, done by the State, generate pre-studies in the form of definition studies preferably carried out by a social science expert.

Consequently, all the actors concerned by the operation must be made aware to avoid surprises, which are often consequential, and could compromise good relations between partners, even before the dialogue is initiated. The quality of the awareness-raising of the beneficiaries of the rehabilitation program will depend on the quality of the dialogue that will subsequently take place. This awareness must take place early enough to avoid rumors circulating about the rehabilitation. Awareness can be achieved in different ways: by organizing meetings with users, the most representative of the most dynamic; by showing an audiovisual montage relating to the rehabilitation; by organizing contacts with the officials of the Ministry in charge of water issues, present in the field, who can become one of the communication relays; by publication, in the internal newspaper, of an article which will set out the "rehabilitation project" and explain that rehabilitation is envisaged and that it will take place in close consultation with the users.

4.5 Communication for sustainable rehabilitation

The success of a rehabilitation operation depends to a large extent on the quality of the communication between the technical players and its users, which must be based essentially on the clarity, simplicity, and frequency of the information. Good communication is a privileged moment that should allow, subsequently, the setting up of new services and the redefinition of a management and production policy. Communication, a source of information and an incentive for dialogue and participation, must be conceived as an overall strategy from the beginning - a period of definition and awareness - until the completion of the work. It is important that, from the start of the operation, users can identify the person responsible for information and consultation, and those they know the action will continue until the complete completion of the work, including during the year of perfect completion of these. The communication process must be continuous throughout the operation and not give the user the impression that they are being abandoned after having informed them. It should in particular be based on simple and concrete ideas that are immediately perceptible. The construction phase is the most important moment of the rehabilitation. It is therefore very important to anticipate, plan and adapt the interventions of different companies, according to the lives of users. The main means are mainly based on direct or individual dialogue (contact, visit), public meetings with the users' association but also on: writing: letters announcing meetings or a particular event, reports of meetings, distribution of specific documents (consultation charter, rehabilitation journal, program presentation brochure, a guide to new users; image and object: audiovisual assembly, presentation panels, posters, plans, models are so much communicational heritage to highlight.

4.6 Discussion considering the scan water project

Scan water was introduced to Bui division because of the alarming water crises in the interior of villages in the Bui division. Water crises occur when there is an inadequate supply of water to meet the needs of the community villages such as kiyarn, Giyarni, and Lassin had frequent water shortages. This came as a result of mismanagement of water used for irrigation in topography, and relief. In these areas, a survey was carried out and discovered that constructions of scan water system could be able to supply the whole population and even guarantee that there will be water, in the long run. This project was important because it took into consideration the sustainable impact of development, provided good drinking water to a large community, helped in the prevention of water-borne diseases, and created employment considering the sustainable impact, the word "sustainable" means handling the present problem which will be beneficial to the present and future generation. So it means trying also to meet the need of the future. Scanwater was perfect as far as it was maintained to provide good and capable drinking water. It was a perfect source of drinking water when the underground water is well treated and contributes greatly to the prevention of water-borne diseases. Water-borne diseases come from bacterial infections and are dangerous to the system so the presence of a treatment station in the scan water project has chlorine that kills bacteria leading to the low rate of water-borne diseases. Scan water projects had created employment in so many communities due to the high intensity of labor that was needed and there were bound to be employed because workers were needed after the scan water project was completed and handed to a few persons that were trained to manage it thus giving them employment as they were paid and it increased their per capita income. Scan water is a kind of project that every local community will love to have but due to its high upkeep of maintenance it has to fail as a result of poverty in most local communities but it is a project that could still be revived. Since its failure, the villagers had no other source of good drinking water and the rate of water-borne diseases increased. It will be very easy for them to welcome this time but efforts need to be put in place since the structures are still there and will reduce the cost of spending. The state must have a hand in the project, but Valette H. and al, 2017:117) the state has not abandoned the project, but: « It is not a question of a withdrawal of the state, but a redefinition of its functions, no longer as an "operator", but as an "organizer". According to this framework, the costs must be borne by the users thus aiming for a balance in operation, according to the principle of « sustainable cost coverage ».

5. Conclusion

Water is a basic necessity and must be treated with great care and it is used by human beings for drinking, for their irrigation farming, and also by animals. Water scarcity or shortage is not good for a community though scan water failed in the Bui Division, other ways of getting clean water should be considered or the project should be revived and in a more friendly manner. The establishment of scan water stations in the regions of Cameroon aimed to significantly reduce the diseases that have plagued the population since

colonial times, as Canute A. Ngwa and Christian Asongwe (2018: 104-105) assert in these terms: « *In Africa, health and healing were at the heart of socio-cultural, political and cosmological order in societies across the continent before the encounter with colonialism/ Overall, most traditional African cultures believed that to maintain the health and vitality of human beings they have to address forces in both natural and spiritual world.(...) Africa faced numerous health challenges especially the prevalence of diseases like malaria, sleeping, sickness, chickenpox, leprosy, smallpox among others* ». Scan water had its importance as well as disadvantages. The negative impacts of scan water came as a result of the following reasons. Scan water was a good project to have been introduced but it had a high cost of management making villages regard it as overexploitation and lack of trained personnel to maintain it. There were no trained personnel to manage it which had a negative aspect so it was doomed to fail. The high standard technological project, the high technological know-how was more than the villagers to comprehend. The poverty rate of villagers was not taken into consideration, the project was put in place without taking into account long-term measures that could keep it running. Also, the project was improvised without considering its nature if it could be friendly to its localities.

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