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Water Management Policies in Cameroon: Interference Through Technology Transfer

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Abstract

Water is an indispensable resource for human life and for social and economic development. But Oswaldo de Rivero (2003) notes that ninety-seven percent of all water on the planet is salty, only 3% is fresh and three-quarters of it is concentrated in inaccessible places such as the 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 Environment Institute, 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 in 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 has a pride of place in the MDGs, which show that disparities in access to water are high, particularly in Sub-Saharan Africa, and require the pooling of all energies. In Cameroon, the resurgence of endemic water-borne diseases prompted the government to set up a drinking water supply system known as the "Scandinave Water Project." This article attempts to describe the water management policies that eventually led to the re-emergence of water-related diseases. The data for this study were collected between 2006-2009 as part of doctoral studies. This collection is still going on in other localities of the country. This reflection is based on two theoretical approaches: The sociology of knowledge, which, according to David le Breton (2004), strives to identify laws that escape agents carried away by the weight of their class habitus. Knowledge is then viewed as a conquest, an enterprise 'against,' where it is a question of forcing the agent give up a conduct whose motivation he does not know. Science then brings out the hidden, the unknowing, it is an illumination, the revelation of obscure laws of operation to those who live them. Then comes pragmatism, an empirical theory of knowledge of which Widmer (1968) is one of the representatives. The relevance of this theory is measured by its consequences on reality. Pragmatism rehabilitates knowledge as it participates in the mutual construction of the world and brings about changes. The failure of this water supply project is above all the non-involvement of the populations and the lack of communication.

Keywords: Independence, Policy, Water, Development, Technology

Introduction

At the beginning of the 1960s, Africa had better assets for rapid economic development. These assets included, among other things, many natural and human resources, and there was therefore hope that this part of the world would emerge from its state of poverty and assert its political and economic sovereignty. But before the end of the first decade of independence, people quickly began to decry the decline in yesterday's development performance in the face of the evolution of some socio-economic indicators. Kamajou (1992) reports, for example, that the growth rate of gross domestic product (GDP) per capita, which was 1.2 between 1960 and 1970, fell to 0.9 and -3.4 for the periods 1970/1980 and 1980/1984 respectively. It is only from this moment onwards that one begins to become aware of the extent of the deterioration in the economic performance of African countries such as Cameroon¹ where the majority of development projects have not lived up to expectations, as Olivier de Sardan (1995) puts it. The fact is that the concept and the process of development involve human interests which are still largely under the absolute control of representatives of the active Western civilization, so much so that this word itself needs approaches based on analysis and doubt. This control has not always been scientifically informed by a knowledge of all the facts involved. Even today, one wonders whether the changes that have taken place in African societies are such that can bring about a common existence consisting in harmonious cooperation; or should they lead to temporarily suppressed but powerful forces of rupture, upheaval and historical catastrophes of unprecedented magnitude! The transfer of hydraulic technology to Cameroon seems to be a perfect illustration of a model of interference and Westernization of Africa. Behind this transfer is still hiding a colonial development ideology that is dominant and concomitant with the American hegemony that opportunely takes over from the African ideology. The transfer of hydraulic technology from Scandinave Water, which was supposed to provide drinking water to the populations in order to reduce the rise in water-borne diseases that have plagued the entire country until now, has hardly ever worked. In this perspective, Serge Latouche (2005) has no illusions about the conception of development for African countries. He says about it that, presented as the solution to the problems of the South, development is often just another face of the westernization of the world. Whether it is "durable," "sustainable" or "endogenous," it always fits, in a more or less violent way, into the destructive logic of capitalist accumulation. It means inequality, destruction of the environment and cultures. However, solutions can be imagined taking into account the diversity of the world and are based on the experiences, carried out here and there, of non-market economy. The interest of studying the failure of this development project and the modalities of transfer of this technology will only be possible if we seek to understand the problems that its arrival poses for the development and fulfillment of the Cameroonian populations.

1. The dissemination of an ideology through science and technology

The idea of transferring technology to developing countries in general and to Cameroon in particular integrates the most essential concerns of the great powers and especially "*Point IV2*" of *President Truman's speech at the end of 1948, taken up by Gilbert Rist* (1996). It stands out from this speech that the advantages of the technical

¹ Cameroon is a Central African country, covering a surface area of 475,442 km², with an ancient population that has had contact with the Western world since the fifteenth century when the Portuguese set foot on the coasts of Douala. During the Cameroon general population and housing census of 11 to 30 November 2005, the Bakassi area was excluded from the operations, since it was still under Nigerian military occupation. After the first stage of the transfer of authority on 14 August 2006 in the occupied areas, a special census operation was envisaged. It had not been successful, since on the ground people were reluctant to be counted. In the villages, those who did not feel concerned tore up sensitization posters under the helpless gaze of the Cameroonian military. The latter had been instructed not to give in to provocations that could lead to acts that could complicate the process of transfer of authority. Statistics set at 12,062 people the number of inhabitants of this area "recovered" by Cameroon after a brave fight and more than 8 years of trial at the International Court of Justice against Nigeria. The results of the April 1987 census, however, already estimated the population of Bakassi at 9,000 people. The Cameroon Ministry of Territorial Administration (MINAT) works on the basis of a population of 130,000 inhabitants for the N'dian Division, including 60,000 for Bakassi and Bamouso. In the introduction to the document defining the planning and development strategy for the Bakassi zone drawn up in 2008 by the Prime Minister's Office, we learn that the "peninsula has a population estimated at 75,000 inhabitants. The issue of counting the population of Bakassi remains problematic.

² Fourthly, we need to launch a bold new programme that harnesses the benefits of our scientific advance and industrial progress to serve the improvement and growth of underdeveloped regions. More than half of the people of this world live in near-poverty conditions. [...] They are victims of diseases. Their economic life is primitive and stationary. Their poverty is a handicap and a threat both to them and to the more prosperous regions. For the first time in history, mankind possesses the technical and practical knowledge that can alleviate the sufferings of the people.

knowledge reserve must be made available to "peaceful" peoples in order to help them achieve the better life to which they aspire. At the same time, the other countries were called upon to pool their technological resources in this operation so that it would be a collective enterprise in which all nations collaborate through the United Nations and its specialized agencies as far as this is feasible. Thus, the peoples of developing countries will be confronted with the challenges which arise from their integration into the " World-Economy " where exchanges with the outside are developed. This model of transaction seemed indispensable for the development of Africa since it had already taken place in the history of humanity and had been an important development issue in several countries³. Technology transfer follows this logic of development and cooperation assistance, reiterated at the Rio Conference of 1992 and which contributed to redefining, in part, the forms of international assistance (Ndonkou 2009). It is in this logic of exchange that Africa is trapped and since then, doctrines follow one another like metaphors of the same myth (Rist 1996) and the concept of development has been enriched with particles (Latouche 2005) contributing to the ideology of interference (Rossi 2000). The theoretical and practical history of development, even if it had positive effects in the North (reconstruction of Europe in ruins after the Second World War), stands out in Africa from the developmentist rhetorics and ideologies that are the focus of analyses. The economic context of African countries and the modalities of transfer do not allow the monitoring of projects.

2. Paradigms around a project

As early as the 1960s, the social and cultural components of technology transfer were at the centre of the French rural sociology programme (Jollivet 1966). It focuses on the local social context, which constitutes the unit from which it is possible to study the forms that the processes of innovation and change to which they are associated can take. During the 1980s and 1990s, technology transfers gave rise to a quantity of publications (Wisner 1981, Boutat 1991, Perrin 1983, Wisner 1997...). Apart from codes of conduct for technology transfers and specific conventions such as that of the International Labour Office (ILO), this work was mainly carried out by economists. In this movement, the social sciences are not at all involved. From an anthropological point of view, these decades are mainly marked by a series of critical and non-contradictory approaches ranging from the classical **diffusionist thinking of the early 20th century to the problematic of acculturation**. From a sociological point of view, the paradigm of "**diffusion of innovation studies**" presents the richest and best structured series of works based on an empirical data set covering several decades. The works resulting from this line of thought insist on the modalities of adoption of innovations (Cresswell 1983), the role of individuals or groups of individuals which are in all cases abstract categories resulting from scientific construction (Olivier de Sardan, 1995). In these works, these individuals and groups were given very little consideration.

Today, however, there is a reinvestment of work on the social and cultural components, but also, within it, a critical look at this paradigm. To some extent, the works of anthropologists such as Raulin (1967) and Cresswell (1983) also follow this trend. For Raulin, the ethnologist should facilitate the task of technical support in development programmes. By giving priority to the dissemination of traditional techniques, he is supposed to produce knowledge to help solve questions relating to technical transformations. Cresswell (1983) extends his vision of traditional technology transfer further. The technical choice is conditioned by the analysis of social relations integrated into the technical organisation of the societies concerned. Basically, this choice must be based on a detailed study of technical processes. This is the only way to assess the adequacy of the borrowed element with the existing technical organisation (Martinelli, 1987). Therefore, it is possible to consider the impact of the innovation. The works of anthropologists explicitly refers to the question of learning and training modalities which are one of the key factors in the dysfunctions observed in technology transfer.

The objective of this study is to make an inventory of research on Africa since Independence through the transfer of hydraulic technology. This project resembles those carried out within the framework of colonial policies, or at a distance, by exogenous or endogenous actors. This reflection is based on two theoretical approaches: The

³ In the 18th and 19th centuries, reports Jacques Perrin (1983), countries like the United States, France, Germany and Poland started their industrialization process by importing techniques previously developed by England. Japan imported technologies developed by Western countries in the first decade of the last century.

sociology of knowledge, which, according to David le Breton (2004), strives to identify laws that escape agents carried away by the weight of their class habitus. Knowledge is then viewed as a conquest, an enterprise 'against,' where it is a question of forcing the agent give up a conduct whose motivation he does not know. Science then brings out the hidden, the unknowing, it is an illumination, the revelation of obscure laws of operation to those who live them. Then comes pragmatism, an empirical theory of knowledge of which Widmer (1968) is one of the representatives. The relevance of this theory is measured by its consequences on reality. Pragmatism rehabilitates knowledge as it participates in the mutual construction of the world and brings about changes. It is not a question of finding out where the ideas come from, but of observing their practical consequences, it is necessary to collect them in order to understand them. The research methods that led to this study are commonly used in social science. Direct observation and directive and in-depth interviews with the various actors involved in the project made it possible to collect the data that accompany the following lines.

3. Historical overview of water management policy in Cameroon

Before 1960, like many other African countries (Burkina Faso, Chad, Tanzania, Uganda...), Cameroon did not have a formulated water and sanitation policy. At the dawn of the 1960s, the management of the water sector in Cameroon was gradually put in place thanks to circumstances and events that sharpened the awareness of people on the stakes of this resource. The few hydraulic projects, essentially made up of drinking water distribution networks in large urban centres, did not fit into a long-term national perspective. These networks were built to meet the water needs of the wealthiest, grouped together in shopping centres. In 1960, drinking water production and distribution activities in Cameroon were carried out by a multitude of companies and local authorities. In addition, water and electricity services were intermingled. Thus, the *Compagnie centrale de distribution d'énergie électrique* (CCDEE) manages water and electricity in the localities of Yaounde, Maroua, Mbalmayo and Nkongsamba while the *Société Eaux & Assainissement* (SOCEA) manages water in Douala. During the same period, the *Société Energie Electrique du Cameroun* (ENELCAM) manages water and electricity in Dschang, Ebolowa, Edéa, Foumban and Kribi. In Bafang, Bafia, Garoua, Mbanga and Sangmelima, water and electricity are under the control of autonomous municipal boards. The choice of cities was also dictated by the colonial presence. In 1963, only about ten towns in East Cameroon had a drinking water supply system. The plethora of management bodies and the extreme diversity of conventions governing them create a confused situation, which delays the harmonious development of the water and electricity sectors. Faced with this situation, the State decided to create in 1964 *Electricité du Cameroun* (EDC) and the *Service Provisoire des Eaux du Cameroun* (SPEC). In the wake, studies were carried out to set up a national body in charge of producing and distributing drinking water to the populations. These studies led to the creation, on 13 May 1967, of the Cameroon Water Corporation (SNEC), responsible for the production and distribution of drinking water in the country's urban areas under a system of concessions. SNEC then had 14 centres. Twenty-five years later, the company manages 103 centres across the country. This notwithstanding, the need for drinking water keeps growing. The State undertakes to supply villages and urban peripheries with a view to making up for this shortage through the Scandinaive Water project which assists populations in case of water emergencies and also participates in development programmes. The choice of installation areas was based on the annual health report from the Ministry of Public Health and these stations were located in localities with high endemicity of water-borne diseases (onchocerciasis, bilharziasis, river blindness, amebiasis, etc.). This project fell into disuse under the inquisitive eyes of public authorities. How can we explain the fact that the State has allowed a strategic sector where real development assets exist to deteriorate to such an extent?

3.1. Presentation and escheat of the system

The Scandinaive Water project mainly had to do with the distribution of drinking water. Its installation and operation system consists in creating a water retention tank near a watercourse and immersing a motor in it to capture the resource. This water is then conducted into the metal cage through pipes where the reservoirs are placed, each having a role. Some are used for settling and filtration, others for water treatment and distribution. Scandinaive Water was established in Cameroon at the beginning of the 1980s by a Finnish limited company (Scandinavian Water Technology SA), under the Drinking Water Supply (DWS) programme funded by the

Public Investment Budget (PIB). In 1986, another series of installations will take place and even in other localities in Cameroon. This system also required electrical energy for its operation, managed by SONEL which later became AES-SONEL after privatisation in 2004. It provided electricity for the operation of the system. Following this privatisation, the price per kilowatt witnessed three increases in four years. With this rise in prices, the electricity supply by SONEL and the meters installed in the Scandinave Water distribution stations were interrupted. As a result, these stations will be abandoned in the bush due to lack of maintenance. They will be exposed to bush fires and are a resting place for domestic animals (goats, sheep, pigs...). SONEL's electric meter is disconnected, the mechanical system of the installations is uninstalled by the populations to be sold in the informal sector. Photos (1), (2) and (3) below show this state of defectiveness. In these conditions of escheat, the State could not count on the financial participation of the populations whose incomes are already meagre and who consider water as a providence.



Photo 1



Photo 2



Photo 3

Source : Peguy Ndonkou, 2005.

3.2. Failure of innovation: from business conditions to structure

The technological knowledge and technical science made available to Africans in general and Cameroonians in particular have not really changed the health landscape since independence. In the field of transfers, the Western technology has not benefited Africa. Philippe Geslin (2002) points out that during the 1970s and 1980s and up to the early 1990s, technology transfers were mostly part of an international context that tends to point to the failures or damage caused by these processes since independence. The works on technology transfers during this period (Wisner 1981, Cresswell 1983, etc.) illustrates the complexity of these phenomena, describes the different ways in which they are implemented and opens up avenues for reflection on the forms they should take in the future, as soon as one asks oneself how to accept or reject the innovations and their long-term consequences. We note in particular that these works insist on taking into account the social and cultural characteristics of reception contexts and on the discrepancies that we observe between the stated objectives of these processes and the effects they produce in reality. The failure of this project can be attributed to multiple factors and can therefore be read from the economic hardships that African countries, and Cameroon in particular, have been going through for decades. Jean Tchédjou, 49 years old, Legal Officer, in the litigation department of the Ministry of Water and Energy of Cameroon thinks that *the failure of this project is partly due to the economic crisis that the country is going through. The State had reached a level where it could no longer take charge of everything, hence the decentralisation policies. It saw its field of action shrink and its modes of intervention, and even its legitimacy, contested. The logic of globalisation is not understood, the rapid and unhindered movement of people and goods and even capital does not recognize state borders and regulations. No one can really tell you how this project happened to be here, but we can see what it has become...failure.* This testimony still calls into question the role of the State, whose populations do not understand when faced with certain situations. With a State without instructions on the changes in society, no one would be surprised by the current state of this project.

We must also read in the failure of this project, the responsibility of the institutions. Christian Freud (2006) takes exception to the donors and says that their logic is that of turnover. The civil servant is rated by his hierarchy according to the number of projects he dishes out in a year. The institution itself is judged by its constituents (the

members of National Assembly who vote the budget of the Ministry of Cooperation in France, the American Congress which passes the budget of the World Bank) according to the credits it consumes. If the commitments are lower than the allocated credits, the budget may not be renewed, to the same tune, the following year. Therefore, anything contributes to the acceleration of the financing process. Sylvie Vincent (1986) shows that the concern of promoters and rulers to "consult" the populations is relatively recent; Just fifteen years ago, the communities concerned were not informed that they would soon benefit from a major development project.. If new paradigms have emerged while others, much older, have been called into question, one can nevertheless wonder which ones are currently in force in research on the African continent, what are their weights and influences, particularly on the studied societies? Within this framework, what roles do the institutional contexts animating and surrounding research play?

3.3. Methods of technology transfer: from interference to dependence

Do technology transfers from developed to developing countries by multinationals benefit the host countries or is it simply interference? Through technology transfers, Jacques Perrin (1983) asserts that they do not seek to promote the development of the host country, but to make profits and not to increase the national product, reduce unemployment or boost the scientific and technical potential of the host country in order to reduce its economic and technological dependence on the industrialised countries. Technology transfer to developing countries aims at continuously expanding the economic and social space for their interventions in order to find new avenues for profit-making. It is understandable that the establishment of Scandinave Water could not get very far inasmuch as the populations and their cultures were not taken into consideration; despite the good intentions behind this project. Jacques Perrin (1983:59) states that : *Technology transfer is not the primary tendency of foreign firms [...] They are nevertheless led into participating in transfer operations to consolidate their marketing strategy, to ensure a regular supply of raw materials and to exploit cheap labour.*

From every indication, transnational firms, in the name of technology transfer and development ideology, are interfering in several areas of social life in developing countries. However, Jacques Perrin comes back to the final declaration of the International Conference on Cultural Imperialism in Algiers (11 to 15 October 1977) and notes that : *Any domination, even simply, so to speak, economic or technological, carries cultural imperialism like the cloud carries the storm. Much vigilance is needed to ensure that technical and cultural cooperation, the importation of equipment and technologies, do not impose an unsuitable model of development, encourage brain drain and, under the guise of cooperation, lead to a new dependence.* The lesson hitherto had not been learnt, since René François Bizec (1981) shows that companies, whether multinationals or not, transfer techniques that they know are threatened by technological progress. They thus retain control over novelty.

The majority of authors who have worked on technology transfers to developing countries also point to dependence whereby the interests of Northern firms and consultancy firms take precedence over humanitarian issues. Jean-Jacques Perennès (1993) shows, for example, that he holds that the theory of dependence still exerts on economic thinking is likely to discredit the invitation to technological audacity. For him, there is no shortage of arguments, nor examples, to show that recent technical choices have often promoted the interests of multinationals and consultancy firms from developed countries: overcharging for construction, very high rates of return for selling a project, inadequate or outdated equipment. There is therefore an urgent need to review the terms and conditions of technology transfer. Anne Stamm (1998:90) states that : *all these factors are a major handicap for African countries, all the more so because at the time of their independence, the developed nations, believing that they had found an outlet for their industry, granted them loans whose interests today mar the puny efforts that they can make to progress.*

3.4. Impact of the arrival of technology transfer and resurgence of water-borne diseases

With the arrival of this transfer of water-related technology, the entire social life of the populations is turned upside down for industrial reasons. Serge Latouche (2005 : 95-96) rightly points out that [...] *The realisation of major projects based on the massive adoption of cutting-edge techniques leads to failures that are now well*

known and recognised [...] The immediate causes of these failures are now admitted. The technical company is not a real machine that you buy turnkey. People, their beliefs, their traditions, their skills are essential cogs for the proper functioning of the machine and they are not delivered with it plug-and-play. The technological shortcut is an illusion because technique is not only the machine to which it gave birth, but the whole the relationship between the people, the tools and the environment during the process of production and consumption. Everything must go together. Any loophole in the circuit leads to failure. There are therefore countless failures, and their causes are infinitely diverse. We thought it would be useful to take this author's thoughts as a witness, because he shows how, dispossessed of their sociality, and therefore of knowledge of their reality, the populations do not recognise themselves in the new technical, political, legal and administrative relationships resulting from the stakes involved in the transfer of water-related technology. The transfer of hydraulic technology from the perspective of Serge Latouche (2005) has the appearance of deculturation, i.e. the outright destruction of traditional economic, social and mental structures, only to be replaced, over time, by a large pile of scrap metal destined to rust.

Upon admission of failure, the populations could only return to their former and untreated source of supply (swamps, rivers, ponds and wells) in search of drinking water. Salomon Mbiat, 56, a primary school teacher in Bangangté says : *Scandinave Water has not changed people's lives in any way. These imported houses remain a decoration in the landscape of many localities in Cameroon The project was as brief as a dry season rainfall. The populations use water from the springs as usual.* As a result, the endemic water-borne diseases for which this project was intended to address are increasingly emerging. The majority of African countries are currently in perpetual epidemic crisis. The cholera epidemic raging in Cameroon since 1972 has increased in scale in recent decades and the 2004 epidemic in Douala (Cameroon's economic capital) has had particular resonance in stigmatizing a social group (Ndonkou, 2009). From 2004 to 2011, the disease spread at a dizzying rate. 2,078 registered cases including 155 deaths in the Far North region, 2,558 cases reported in the Centre region according to the media and websites. Thus, human development and the fulfilment of populations cannot be possible in a context of water scarcity and insalubrity. Typhoid is not left out. It weakens populations that do not already have access to adequate health care. This is why they resort to traditional healers, who sometimes try to treat them anyway, telling them that their illness due to an evil spell.

4. Transfer of management to users

The unfavourable socio-economic context of African countries did not allow the State to follow the Scandinave Water Project with the drop in the rate of gross domestic product in the decade of this transfer. Admittedly, the ideology of dependence maintained by the developed countries, although having influenced technological development, could not by itself delay Africa's development when some non-Africans (Serge Latouche 2005, Gilbert Rist 1996, Oswaldo de Rivero 2003...) militated for a liberal logic, and of which some Africans grasped the moral and pragmatic content. These authors believe that Africa is not a continent in its own right since it integrates the challenges of globalisation. Field observations show that users of Scandinave Water took ownership of the project so as to rehabilitate it, as water is part of their lives. The question of development must also include the analysis of projects and be appropriate to the context in which it is implemented. Olivier de Sardan (1995) analyses development in Africa in terms of social change and distinguishes three approaches⁴ which explore the interactions of all kinds occurring in the world of development, bringing into play representations and practices, strategies and structures, actors and contexts.

⁴ The first approach is that of deconstructing the discourse of development, which is often reduced in a caricatured way to a single, hegemonic and evil model. The second approach is of the "populist" type: an "ideological" populism, which systematically exalts popular knowledge and practices, is sometimes mixed with a "methodological" populism, which seeks to explore the cognitive and pragmatic resources of actors, however destitute they may appear to be. The third approach, which is defended here, is concerned with the 'tangle of social logics' and the heterogeneity of the actors who confront each other in development operations.

Conclusion

Africa is suffering from its endeavour to adhere to an ideology of development through Western science and technology. This is the substance of what Mbonji Edjenguèlè (1988) shows by insisting on a cultural revolution and the cultures of development available in Africa. Alf Schwarz (1980 : 35) notes in his own way some of the issues at stake in this ideology: *"The great industrial powers have succeeded perfectly well in convincing the entire planet that henceforth the salvation of humanity as a whole rests solely on the sciences and techniques developed in the West. It would suffice to surrender to this single science to surely make up for lost time and become the equal of today's wealthy nations. This is a doctrine which literally numbs the critical mind of the majority of African researchers and intellectuals.* It is therefore understandable that the majority of development projects towards Africa like the ScandinaVe Water Project was doomed to failure in the face of deteriorating economic performance. Moreover, the analysis of transfer modalities shows that water management remains dependent on economic policies. But in reality, the State cannot totally disengage from a transfer it enabled the installation, nor even abandon these facilities in the current context. The project is far from having achieved its objectives. Rehabilitation margins are reported on the ground, they do have limitations, but it is and remains a voluntarist operation in a context of abundant capital for official development assistance. How can sustainability be established in this project that engages future generations? Were women not forgotten in the various phases of the project?

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