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COTE D'IVOIRE WASH CONTEXT

West Africa Water Supply, Sanitation, and Hygiene Program (USAID WA-WASH)

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WASH LANDSCAPE ANALYSIS

COTE D'IVOIRE

Photo 1. USAID WA-WASH Regional Director (blue shirt) with the Coordinating Secretariat team visiting SODECI drinking water plant.
Source: USAID WA-WASH

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ACRONYMS AND ABBREVIATIONS

ACTED	Action d'Aide à la Coopération Technique et au Développement
CODINORM	Cote d'Ivoire Normalisation
DALY	Disability-Adjusted Life Years
FNE	Fond National de l'Eau
GLAAS	Global Analysis Assessment of Sanitation and Drinking-Water
HDI	Human Development Index
INHP	Institut National d'Hygiène Publique
JMP	Joint Monitoring Program
MDG	Millennium Development Goals
MP	Members of Parliament
NGO	Non-Governmental Organization
NPRI	National Pollutant Release Inventory
NTD	Neglected Tropical Diseases
ONEP	Office National de l'Eau Potable
PAGIRE	Integrated Water Resources Management Action Plan
RCI	Republic of Cote d'Ivoire
SDG	Sustainable Development Goals
SODECI	Société de Distribution d'Eau de la Côte d'Ivoire
SWA	Sanitation and Water for All
TFP	Technical and financial partners
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	Water Supply, Sanitation, and Hygiene
WA-WASH	West Africa Water Supply, Sanitation, and Hygiene Program
WDF	Water Development Funds
WHO	World Health Organization
WSS	Water Supply and Sanitation
WUP	Water Utility Partnership

1. INTRODUCTION

Based on the USAID WA-WASH's WASH analysis report in Cote d'Ivoire (October 2016), access to potable water, adequate sanitation, and good hygiene behavior are essential for life. They are also key drivers of greener growth and ensure economic development.

The USAID WA-WASH Program is one of the stakeholders supporting the government in the drinking water, sanitation, and hygiene sector policy development through its various activities and actions in Cote d'Ivoire (Photo 2). In addition to its various planned activities, USAID WA-WASH has also been analyzing the drinking water quality and the improvement of sanitation and hygiene in Cote d'Ivoire every six months since 2016. The relevance and usefulness of this analysis are justified in a context where the current natural, political, economic, institutional, legal, and environmental context is taken into consideration. In accordance with the SDGs requirements for the development of Africa, USAID WA-WASH is improving the water, sanitation, and hygiene sector.

In order to develop the necessary baseline, and to get a better understanding of the WASH landscape (social, economic, legal, institutional, technical, and environmental) in Côte d'Ivoire, the program deemed it necessary to commission this study.

Therefore, this study analyzed the WASH context in Côte d'Ivoire and helped formulate the problems in terms of the WASH sector's main strengths, weaknesses, opportunities, constraints, and challenges (USAID, WA-WASH, 2016).

Photo 2. USAID WA-WASH Regional Director visiting the water treatment plant of the National Office for Drinking Water in Cote d'Ivoire.
Source: USAID WA-WASH

2. COUNTRY OVERVIEW

Cote d'Ivoire is situated in West Africa along the inter-tropical zone. The country is bounded to the North by Burkina Faso and Mali, to the South by the Atlantic Ocean, to the West by Guinea and Liberia and to the East by Ghana (Map 1). It has a total surface area of 322,462 Km². It has an equatorial climate with two wet seasons and two dry seasons of variable length to the South and West in the forest zone. In the savannah areas of northern and central regions, the climate is tropical (ADB, 2010).

Cote d'Ivoire has more than 60 ethnic groups classified into five principal divisions: Akan (east and center, including Lagoon peoples of the southeast), Krou (southwest), Southern Mandé (west), and Northern Mandé (northwest), Sénoufo/Lobi (north center and northeast). The Baoulés, in the Akan division, probably comprise the largest single subgroup with 15%-20% of the population. They are based in the central region around Bouaké and Yamoussoukro. The Bétés are in the Krou division, the Sénoufos in the north, and the Malinkés in the northwest and the cities are the next largest groups, with 10%-15% of the national population. Most of the principal divisions have a significant presence in neighboring countries (UN DESA, 2017).

Map 1. Overview of Cote d'Ivoire national borders, important cities, rivers, and lakes.
Source: FAO, 2009

In Côte d'Ivoire, 30 % of the population is estimated to live in water stress areas and according to the forecasts, this figure could reach 45 % in the next 20 years.

The importance of water problems in Côte d'Ivoire has led the Water Directorate of the Ministry of Economic Infrastructure to propose for several years a policy of more integrated water resources management in the country.

With the support of the French Ministry of Cooperation, a national seminar was organized in September 1996 by the High Commissariat for Hydraulics, created in early 1996. The seminar brought together 80 participants from various ministries involved in the management of other specialized organizations (SODECI), industrial circles and multilateral (World Bank) or bilateral missions through French Cooperation (Office International de l'Eau, 2017) .

2.1 Current Situation

This section provides a brief overview of the current water, hygiene, and sanitation situation in Cote d'Ivoire. Due to urbanization, the country has to build and develop new infrastructures, provide safe and reliable access to drinking water, and improve sanitation and hygiene to meet the needs of its population in the WASH sector.

2.1.1 Water

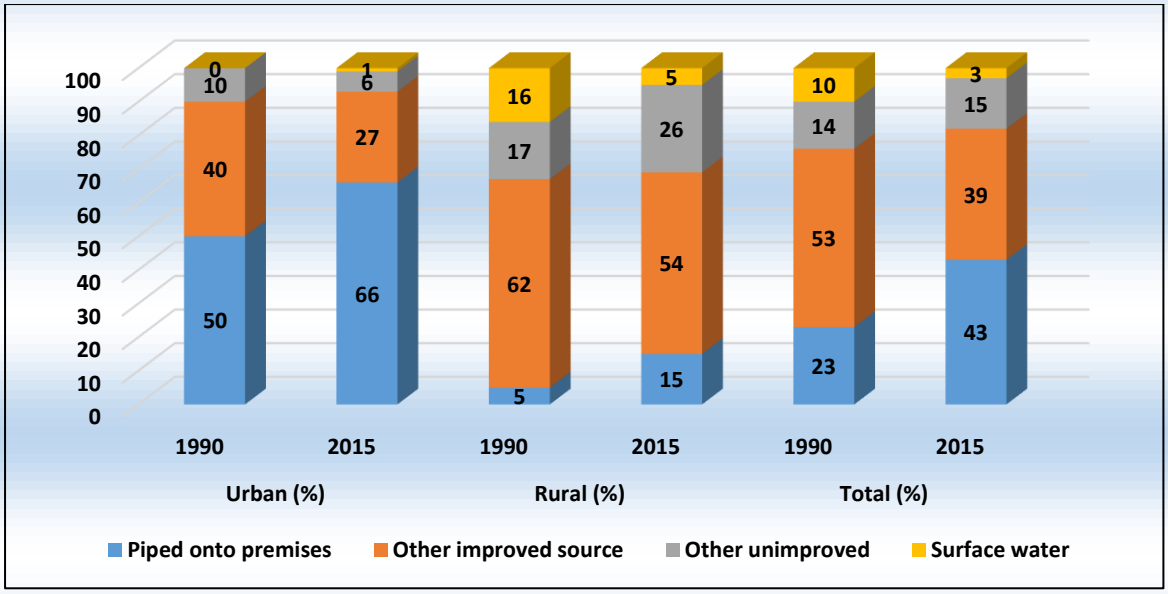
The conflict that ended in 2007 has greatly affected the regular maintenance and repair of water supply infrastructures, especially in the North of the country. Over 4 million people still use unsafe drinking water sources, mainly in rural areas. Consequently, many children die every day from diarrhea and other diseases related to the lack of water. The lack of access to safe drinking water and appropriate sanitation has many other serious repercussions. Women are forced to spend large parts of their day fetching water (85.9% of women in Côte d'Ivoire are in charge of supplying their family with water). Poor farmers and workers are less productive due to frequent illnesses, and the national economies suffer. Without safe water, sustainable development is impossible (UNICEF, 2007) (Box 1.).

In the urban area, 66% of the population now have access to water piped on their premises, compared to 15% in rural areas in 2015. In both areas, there is a decrease in the percentage of population with access to other improved sources of drinking water (27% in urban and 54% in rural in 2015). Note that for the rural areas, the decreasing percentage of population with access to other improved sources of drinking water in 2015 (27%) is almost the double of that of 1990 (40%). Furthermore, the percentage of the population with access to other unimproved sources of drinking water increased from (0%) to (1%) in urban areas. The percentage decreased from 16% to 5% in rural areas. Additionally, the access to surface water in urban and rural areas increased (1% and 5% respectively) in 2015 (Graph 1).

Box 1. Acces to Drinking Water

- In 2007, about 700,000 people benefited from access to drinking water through the rehabilitation/construction of 1,170 village pumps.
- 24% of the population does not have access to safe drinking water (MICS 2006).
- 35% of people living in rural areas do not have access to safe drinking water (MICS 2006).
- 7.5% of girls under 15 are in charge of fetching water for their family.

Source: UNICEF; 2007



Graph 1. Evolution of drinking water coverage in Cote d'Ivoire from 1990 to 2015.
Source: WHO/UNICEF, 2015

2.1.2 Sanitation

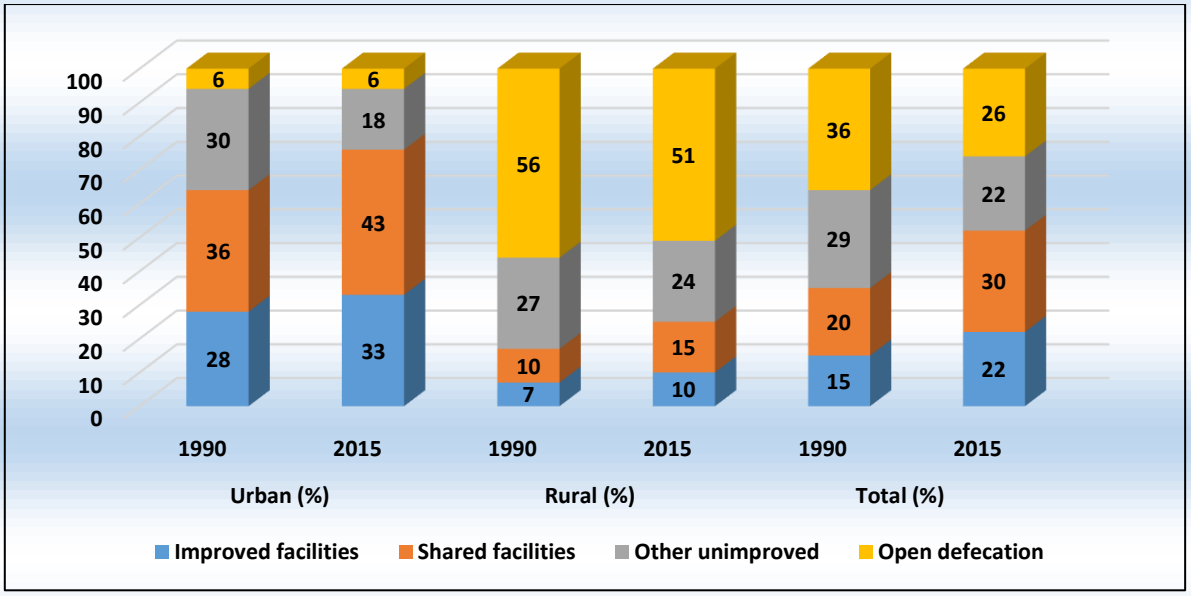
A new global study estimates the benefit-cost ratio of investments in sanitation for Côte d'Ivoire, taking into consideration health improvements and time savings. The economic benefits are estimated to be at least three times lower than the costs for sanitation, under the most conservative cost assumptions. Indeed, the case for investment becomes even more compelling when one considers that these results underestimate economic benefits as they fail to include a range of other health and non-health benefits associated with improved water and sanitation (World Bank, 2012). Photo 3 is an illustration of the way to keep clean sanitation.

In urban areas, 33% of the population now has access to improved facilities, compared to 10% in rural ones in 2015. In urban areas, 43% of population uses shared facilities compared to 15% in rural areas in 2015. Note for the other unimproved source, we have 18% for the urban side and 24% for the rural one in 2015. Furthermore, the percentage of the population practicing open defecation decreased from 36% in 1990 to 26% in 2015 (*Graph 2*).

Box 2. Sample of Result on Water and Sanitation Program

Large numbers of people in Côte d'Ivoire lack access to basic sanitation. One of the UN Millennium Development Goal (MDG) was to halve the number of people who lack access to these services by 2015. According to data compiled by the WHO/UNICEF Joint Monitoring Program (JMP), the rate of progress towards achieving this target in Côte d'Ivoire was such that the targets could not be reached by 2015. Côte d'Ivoire's national targets were 58% for rural sanitation, and 98% for urban sanitation in 2012.

Source: World Bank, 2012



Graph 2. Evolution of sanitation coverage in Cote d'Ivoire from 1990 to 2015.
Source: WHO/UNICEF, 2015

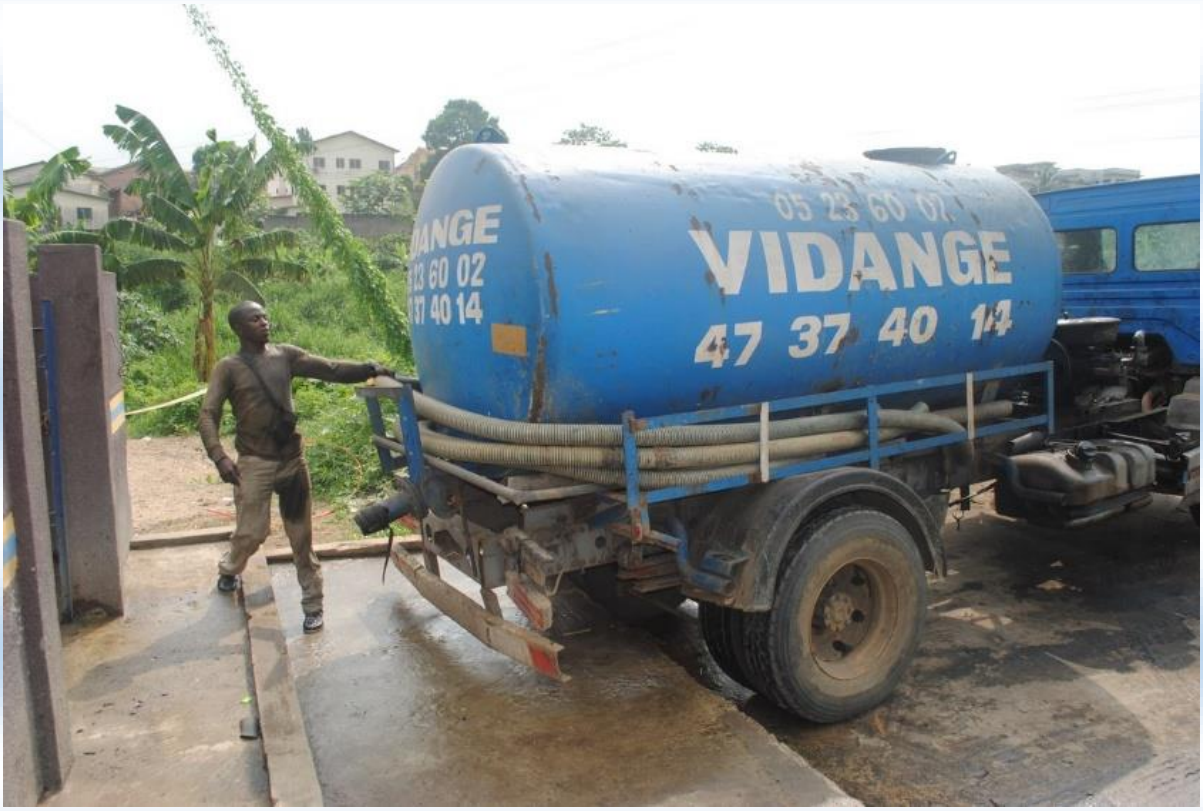


Photo 3. A dump truck loaded with empty latrines to ensure a healthy sanitation of the neighborhoods.
Source: USAID WA-WASH

2.1.3 Hygiene

Hundred millions people are still affected by neglected tropical diseases (NTDs), particularly in the developing world due to parasitic worm infections (helminthiases). Taken together, soil-transmitted helminthiasis and schistosomiasis are responsible for 8.5 million disability-adjusted life years (DALYs), with more than 1 billion people infected. Diseases caused by intestinal protozoa infections, such as giardiasis and amebiasis also cause considerable morbidity and mortality in Cote d'Ivoire (Box 3).

Current helminthiases control programs focus on preventive chemotherapy that is the regular administration of anthelmintic drugs to at-risk populations, particularly school-aged children in Cote d'Ivoire. However, preventive chemotherapy does not prevent re-infection, which might occur rapidly. Additionally, there is considerable concern about the development of drug resistance in the era of preventive chemotherapy, as experience has shown in livestock. Although, the importance of integrated control approaches for the interruption of transmission of helminthiases is well established since almost a century, current control efforts emphasize drug interventions, and do not give sufficient attention to hygiene behavior, clean water, and adequate sanitation. Indeed, data from 2010 suggest that 2.6 billion people lacked access to some kind of improved sanitation. To contribute to the achievement of several of the millennium development goals (MDGs), ongoing efforts to control NTDs have to be maintained and further intensified, including complementary approaches for prevention and control (Schmidlin et al., 2013).

Box 3. Case Practice of Infections in Taabo, Cote d'Ivoire

More than 1 billion people are currently infected with soil-transmitted helminths and schistosomes. The global strategy to control helminthiases is the regular administration of anthelmintic drugs to at-risk populations. However, rapid re-infection occurs in areas where hygiene, access to clean water, and sanitation are inadequate.

A total of 1,894 participants had complete data records. Parasitological examinations revealed prevalence of hookworm, S. haematobium, T. trichiura, S. mansoni, and A. lumbricoides (33.5%, 7.0%, 1.6%, 1.3% and 0.8%, respectively). Giardia intestinalis and Entamoeba histolytica /E. dispar were detected in 15.0% and 14.4% of the participants, respectively. Only one out of five households reported the presence of a latrine, and hence, open defecation was common. Logistic regression analysis revealed that age, sex, socioeconomic status, hygiene, and defecation behavior are determinants for helminths and intestinal protozoa infections.

Source: Schmidlin et al., 2013

2.2 Issues

This section provides a brief overview of water, hygiene, and sanitation issues in Cote d'Ivoire. Due to rapid urbanization the country faces problems with access to drinking water, improved sanitation and hygiene.

2.2.1 Water

In spite of decades of government and donor-supported investments in water supply, public utilities in many African countries have been unable to fully meet the demand for water services. One of the resulting effects of the poor service is that Africa has the lowest water supply coverage in the world. More than 1 on 3 Africans do not have access to improved water supply. Photo 4 gives an overview of the machine used to distribute clean water. Current coverage levels stand at 62% for water supply. The reality is that the absolute number of people without access to water services is likely to increase from 300 million to 400 million from now to 2020. The majority of these people will be those living in rural, informal, and peri-urban communities.

Almost in every case, studies have shown that the root cause of these problems has been poor choices with regard to the systems related to sector policies and institutional and regulatory frameworks. Often the water sector is perceived only as a social service, not an economically viable endeavor. Tariff levels tend not to recover costs and subsidies. They are justified in principle on the grounds of helping the poor. They have actually made it financially unattractive for utilities to serve that segment of the population, while those most likely to pay have enjoyed artificially low tariffs. At the same time many water utilities have been notoriously inefficient, wasting half of the water they produce, for technical reasons and through pilferage, and poor account collections. Weak, unresponsive institutions, lacking autonomy and accountability have been subject to pervasive political interference and have not obtained the incentives or the means to provide adequate services to their existing customer bases. As a result, potential private investors and operators have stayed away from what they perceive to be a risky business (Mwanza, 2001).

Photo 4. Water treatment plant machine at SODECI which distributes clean water in Abidjan.
Source: USAID WA-WASH

2.2.2 Sanitation and Hygiene

The poor conditions and/or the lack of sanitation infrastructures in the underprivileged neighbourhoods of Abidjan are responsible for the propagation of water-borne diseases such as cholera, yellow fever, and malaria (Photo 5).

General hygiene comes in on a second place to INHP's first activities after vaccination. It represents 20% of its own resources. Since 2004, the INHP management team has decided in its new strategic vision, to give priority to this area of intervention in order to boost it. The given orientation allowed to structure general hygiene into two main activities namely hygiene and sanitation on one hand and vector control on the other hand (Box 4).

Finally, hygiene specialists contribute their sanitary expertise when the situation requires it by participating in the work of the commissions in charge of building permit insurance; public awareness and education on hygiene; and the work of CODINORM in defining standards to regulate activities in Côte d'Ivoire (INPH, 2004).

Box 4. Sanitary Control Example

This activity focuses mainly on sanitary inspection in public places and establishments, the issuance of food safety certificates, health expertise, and participation in hygiene committees and works. Speaking of sanitary inspection, it is a question of enforcing hygiene in the places and establishments receiving sanitary controls by the public (preschools and schools, bars, bush, cinemas, restaurants)

Source: INHP, 2004.

Photo 5. Hygiene and sanitation issues.
Source: INHP, 2017

2.3 WASH Quality Challenges

This section provides a brief overview of water, hygiene, and sanitation challenges in Cote d'Ivoire. The rapid urbanization pushes the country to overcome some challenges related to the access to drinking water, improved sanitation, and hygiene.

2.3.1 Water

The Water Development Funds (WDF) in Côte d'Ivoire, for instance, are based on a water consumption tax levied on consumers in the higher tariff blocks. In Abidjan, the main service provider, SODECI, has utilized the fund to implement a connection program that has benefited households in all areas including low-income settlements (Kariuki, 2000).

JMP estimates that it requires roughly to double the efforts of the past 15 years to reach the MDG drinking water target (Photo 6). While 1.2 billion people gained access to improved drinking water sources from 1990 to 2004, another 1.6 billion still needed to gain access from 2005 to 2015. 1.1 billion People need to gain access in order to meet MDG Goals for drinking water (World Bank and UNICEF, 2006).

Box 5. Case Practice

A decade-long crisis witnessed hundreds of thousands of people displaced, and much of the country's infrastructure and facilities such as schools and hospitals destroyed. Water treatment centers fell into decay, and water points maintenance stalled, risking disease propagation.

- More than 61,000 people have better access to water through rehabilitated water pumps and water treatment of 100 wells.
- Management committees of 10 members each - half of them are women - are set up in each villages targeted by the program.
- Rehabilitation has begun for 45 additional water pumps in 39 villages in Gbêkê, the central area of the country.

Source: UNDP Cote d'Ivoire, 2012

Photo 6. Access to clean water in the region of Gbêkê.
Source: UNDP Côte d'Ivoire, 2012

2.3.2 Sanitation and Hygiene

People are more willing to pay for water than they are for sanitation and hygiene promotion; however, the health benefits of water supply can only be maximized when all three services are provided. Examples of effective sanitation cost-recovery derive from water supply tariffs to ensure the integrated improvement of the entire sector in Africa exist.

While sanitation and hygiene are easily overlooked during the reform process, they must be given a higher priority to achieve the greatest possible improvements in health and well-being from sector reform (Mwanza, 2001).

Diarrhea-related mortality risks increase by 80% in cases of under nutrition or immunodeficiency. The most serious form of under nutrition is often caused by poor sanitation and disease.

Infections that lead to diarrheal diseases result mainly from pathogens transmitted by contaminated food or water, or through unhygienic contact. Nearly half of the people living in developing countries suffer from a health problem caused by inadequate hygiene and sanitation (Photo 7).

Diarrhea like pneumonia, represents 14 % of the annual public health related death toll for children under five, which represents a casualty of 8,087,000 (ACF, 2011).

Photo 7. The children of Sagbe live in precarious conditions, with a high prevalence of water-borne diseases.
Source: ACTED Cote d'Ivoire

2.4 Laws and Regulations

The Ivorian authorities were much earlier aware of the necessity to elaborate a law on the issue of water resources. Henceforth, various legislative and legal texts on the subject exist at the national level. They cover the protection and the use of the different water sources, the regulation of the commercialization and distribution of water to consumers (Photo 8), and also the creation and the organization of the national organizations dedicated to the management and implementation of decisions concerning the water sector. Additionally, RCI has signed and ratified several international legal instruments for a better protection of water resources in coastal areas and watersheds. After reviewing the international agreements and conventions, to which the Republic of Côte d'Ivoire is a party, authorities list the national legal texts that contribute to the regulation of the drinking water and sanitation sector (USAID WA-WASH, 2016).

Box 6. The WASH related International Conventions, Treaties, and Legal Texts of Cote d'Ivoire:

These include:

- The convention related to navigation and economic co-operation between the member states of the Niger Basin in 1963;
- The convention on the creation of the Niger Basin Authority and the protocol relating to the Niger Basin development funds signed on December 3, 1981;
- The convention for cooperation in the protection and development of the marine and coastal environment of the West and Central African Region, signed on January 15, 1982;
- The United Nations Convention on the Law of the Sea, signed on March 23, 1984;
- The international convention relating to intervention on the high seas in cases of oil pollution casualties, signed on August 12, 1986;
- The convention relating to a fund for compensation for oil pollution damage (and subsequent amendments), signed on January 3, 1988;
- The convention relating to a fund for compensation for oil pollution damage (and subsequent amendments), signed on July 16, 1986;
- The international convention for the prevention of pollution from ships, signed on January 08, 1988;
- The decree n°94-451 of August 25, 1994 relating to the publication of the convention on wetlands of international importance especially as waterfowl habitat, adopted on February 02, 1971 in Ramsar (Iran);
- The Law n°64-491 of December 20, authorizing the Head of State to sign the treaty banning nuclear tests in the atmosphere, in outer space, and under water.

Source: USAID WA-WASH, 2016

Box 7. The National Legal Texts of Côte d'Ivoire Related to the WASH Sector:

- The decree n°65-15 of February 11, 1965 restricting the radio-electric emissions of mobile operators in sea waters;
- The decree N°86-08 of January 14, 1986 regulating urban sanitation facilities;
- The decree N°87 1471 of December 17, 1987 approving the delegation of public distribution of drinking -water in Côte d'Ivoire and organizing public control on the delegated service;
- The decree N°87-1472 of December 17, 1987 relating to the creation of a national water funds (FNE in French) and defining its operation terms and modalities;
- The law N°89-961 of August 30, 1989 related to the groundwater abstraction tax decision made pursuant to Article 15 of Chapter V of the annex to the Law N°87-1476 of December 18, 1987 on FY 88 Finance Law;
- The decision N°137 METT CAPT/MEFP of February 26, 1992 organizing the water collection levels in the national hydrological network;
- The decision n°231 METT of March 30, 1992 relating to the control of the delegated management of public distribution of drinking water in urban areas;
- The decision N°798 METT of September 10, 1992 approving the regulations of public distribution of drinking water in Côte d'Ivoire;
- The decree N°96-136 of January 26, 1996 relating to the creation of a High Commission for Water resources management;
- The law N°96-766 of October 3, 1996 relating to the environment code that establishes the precautionary principle and environmental protection;
- The law n°96-766 of October 9, 1996 relating to the environment code;
- The law n°98-755 of December 23, 1998 relating to the water code;
- The decree n° 99-257 of March 25, 1999 relating to the approval of a leasing contract for the maintenance of sanitation and drainage works and networks in Abidjan; this decree establishes a sanitation fee on drinking water consumption.
- The decree n°99-258 of March 25, 1999 relating to a sanitation fee to be paid by the users of the Abidjan District's sanitation utility;
- The decree n°2000-14 of January 21, 2000 relating to the suppression of the High Commission for Water resources management;
- The decision n°132 MIE.CAB of June 26, 2000 authorizing the environmental audit of the facilities, networks and meters of subscribers from the central administration, territorial communities and national public institutions.
- The decree n°2004 – 378 of August 6, 2004 relating to water sale pricing and tariffs for the 2003 – 2007 period;
- The decree n°2006-274 of August 23, 2006 relating to the creation and organization of a government-owned company called the "Office National de l'Eau Potable (ONEP)" (National Office for Drinking Water in English)
- The decree n°2007- 568 of August 10, 2007 organizing the Ministry of Environment, Water Resources, and Forests.

Source: USAID WA-WASH, 2016

Unfortunately, these judiciary tools are not always enforced with the signing of implementation decrees by the government.

Example of consumption to estimate the cost of a leak. Leakage can be costly (Table1).

Table 1: What leaks cost

Examples Of consumption	Water consumed	Cost per year (Basis = national average price For 1 m^3 of water -)
A tap that drops	35 to 50 m^3 / year	From CFA 14,840 to 21,200
A stream of water on the flush	45 to 200 m^3 / year	From CFA 18,080 to 84800
A leak on a joint	150 m^3 / year	CFA 63,600

Source: ONEP, 2017

Photo 8. Regional Director of USAID WA-WASH and the Coordinating Secretariat members visiting the local distribution milk of lime at SODECI.
Source: USAID WA-WASH

3. RECOMMENDATIONS

To improve the population's life with regards to the issues and challenges encountered by the water, sanitation, and hygiene sector we recommend to:

- Address the sector's development issue in a holistic manner and create organic and functional links with the Integrated Water Resources Management Action Plan (PAGIRE) through a better knowledge of the resource status and a planning of interventions, taking into account the watershed dimension.
- Improve the sector governance through a real devolution of competences at local level, followed by a simultaneous transfer of human and financial resources. Sector governance should be subject to a better coordination of activities through better cooperation among stakeholders.
- Reinforce sector financing by giving a special place to the private sector for the latter to participate in a win-win partnership through a PPP, the framework of which has already been defined by the government. The financing of the sector should also highlight the added value that innovative projects can bring as part of research-action.
- Reinforce civil society organizations in their citizenship watching actions to better control the government's commitments in favor of the sector. They should also develop an advocacy policy with support from the media towards the sector's strategic stakeholders (Members of Parliament (MPs), government, Technical and financial partners (TFP), private sector) to get their commitment to the development of the sector.
- Target the advocacy towards the government human resources development for the elaboration of a genuine human resources capacity building policy that will help fill the existing gap (USAID WA-WASH,2016).
- Strengthen the understanding of sustainability.
- Develop a sustainability lens in the WASH-BAT to improve the analysis of key barriers and identify commitments on sustainability –generate realistic commitments.
- Institutionalize annual sustainability checks as a means to verify impacts and monitor the implementation of the Compact.
- Offer to second generation more inclusive -WASH-BAT, a starting point for a sustainability pathway.
- Bring legitimacy and WASH-BAT needs a compact type mechanism.
- Follow up commitments annually as part of the sector review process.
- Link with other national processes e.g. SWA, GLAAS, and NPRI.
- Ensure roles and responsibility of partners to support the process (UNICEF, 2014).

4. CONCLUSION

Water sanitation and Hygiene sector in Cote d'Ivoire encounters many issues. Very few sanitation and hygiene projects have been previously implemented in Abidjan.

Nevertheless, those projects, succeeded to improve access to water and sanitation, and to raise awareness on hygiene.

Besides the issues and the related achievements, more has to be done. Therefore, our recommendations are (1) to get the communities' members involved in the planning, implementation and sustainability of the projects, (2) to build the capacity of local people (Photo 9), and (3) to allocate more funds to the WASH sector.

Effective implementation of these recommendations will surely help Cote d'Ivoire achieve the SDGs goals for Water, Sanitation, and Hygiene.

Photo 9. Visit of WA-WASH and AfWA member at SODECI.
Source: USAID WA-WASH

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