

Running Water

Running Water N°22 December 2020

Save the Fouta Djallon Highlands, West Africa's water tower in a critical state of degradation



«Guinea, as a West African Water Tower, benefits from the support of donors in the integrated and sustainable management of its natural resources.»

Oye GUILAVOGUI, Minister of State in charge of Environment Water and Forestry of Guinea



«80% of affected people will move towards coastal countries»

Sékou SANGARE, ECOWAS Commissioner

«Faced with the increasingly degradation of the FDH, particularly of its vegetation cover and the erosion phenomena coupled with the loss of biodiversity, the Guinean Administration has taken various measures and developed actions at the scale of the Highland»

Cheick Taliby SYLLA,
Minister of Energy and Hydraulics of Guinea



«Problems caused by natural factors are mainly related to climate change, which has resulted in a general downward trend in rainfall since the 1960s, leading to a significant decrease in flows from the Niger River»

Abderahim Birémé HAMID, NBA Executive Secretary



«Faced with the persistent degradation of ecosystems and environments in the Fouta Djallon Highland, the OMVS Heads of State have decided to take action»

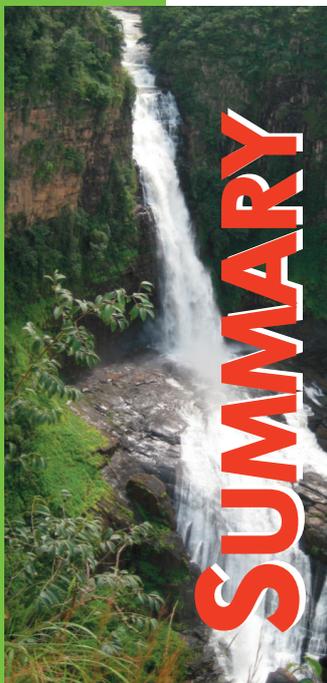
Hamed Diane SEMEGA, OMVS High Commissioner



«The transfer of the RIDP/FDH from AU to ECOWAS for subsidiarity is looking for efficiency»

Almamy Dampha, Senior Policy Officer, African Union Commission

Save the Fouta Djallon Highlands, West Africa's water tower in a critical state of degradation



EDITORIAL

Managing well the Fouta Djallon Highlands to safeguard a symbol of collective memory and an endangered water tower in West Africa **P3**

EXECUTIVE SECRETARY'S WORD

Restoring and safeguarding the West African Water Tower: a necessity for water security and sustainable development in the sub-region **P4**

Guinean parliamentarians advocate support to the sustainable management and protection of the natural resources of the Fouta Djallon Highlands **13**

The way of life of residents is seriously impacting the ecosystems of the Fouta Djallon Highlands **15**

Local associations are mobilizing to protect their environment **19**

The ATLAS of the Fouta Djallon Highlands : a decision-making tool to guide sustainable investments in the FDH and West Africa **20**

Interview with Hamed Diane SEMEGA, OMVS High Commissioner
«The hydrological network of the FDH⁹, due to its morphological characteristics, offers great possibilities for hydraulic developments of all sizes» **21**

Meeting with Oye GUILAVOGUI, Minister of State, Minister of the Environment, Water and Forests of Guinea **24**

The Regional Programme for the Integrated Development of the Fouta Djallon Massif / RPID-FDM **27**

Adamou BOUHARI, Task Manager Biodiversity/ Land Degradation UN Environment West Africa Sub-regional Office

«With the Fouta Djallon Highlands, we must develop a mechanism for the payment for ecosystem services» **28**

Sékou SANGARE, ECOWAS Commissioner for Agriculture, Environment and Water Resources

«Let's act today to find sustainable solutions for tomorrow's problems» **30**

«African Union will not and cannot step aside of the Programme which is for the whole of Africa», Almamy Dampha, Senior Policy Officer, African Union Commission **32**

A WORD FROM THE CHAIR OF THE CWP-GUINEA

We need to succeed with this advocacy **P5**

Problems of management and exploitation of the Fouta Djallon Massif

Presentation of the Fouta Djallon Massif **P6**

The preservation and restoration of forest galleries and spring heads, an imperative for the protection of the main watercourses in the Fouta Djallon Highlands **P9**



«The approach is to let everybody come on-board, noting that Fouta Djallon is the livestock of West Africa», Ibrahim Babatunde Wilson, Director ECOWAS WRCC **32**

Senegal is working for the sustainable safeguarding of an eco-geographical area in the Fouta Djallon Highlands **33**

«With the project, we have achieved concrete and viable results», Atigou BALDE, Focal Point Guinea **35**



We can achieve more with less cumbersome, Mohamed Adideye Maiga, Focal Point Mali **35**

«There are a lot of activities that should be implemented but the funds are very limited», Fatou John, Focal Point Gambia **36**



«All watersheds in Sierra Leone are threatened and water is a major security concern», George ROGERSON, Focal Point Sierra Leone **36**

«In Niger, the crucial problem is the silting of the river», Sani Adamou, Focal Point Niger **36**



Meeting with Abderahim Birémé HAMID the Executive Secretary, NBA
«The degradation of spring heads threatens the very survival of the Niger River» **37**

Interview with Cheick Taliby SYLLA, Minister of Energy and Hydraulics of Guinea
«The preservation of the Fouta Djallon highlands is a priority for my Ministerial Department and the RIPD/FDH» **39**



GWP-WA Executive Secretariat
Ouaga 2000 Avenue Bila Charles Kaboré, porte 1673
05BP 6552 Ouagadougou 05
Burkina Faso
Tel : +226 25 36 18 28 / 25 37 41 04
E-mail: gwp.westafrica@gwpao.org

Director of Publication: **Prof. Amadou Hama MAIGA**

Executive Director: **Armand HOUANYE**

Associate Director for this issue:

EI Hadj Mamadou Alpha HANN

Editor-in-Chief: **Sidi COULIBALY**

Collaborators for this issue

- **Idiatou CAMARA**

- **Hafziou BARRY**

- **Mariama Dalanda DIALLO**

- **Mody Sory DIALLO**



EDITORIAL

Managing well the Fouta Djallon Highlands to safeguard a symbol of collective memory and an endangered water tower in West Africa



The Fouta Djallon Highlands are undoubtedly a part of each of the countries and populations of the West African sub-region, without regard to any specific geographical partitioning. The importance of the Guinean Highlands, of which the Fouta Djallon is the emblem, lies in its essential contribution to the water potential of almost all West African countries. The two largest transboundary rivers in West Africa, Niger and Senegal, but also the Gambia River and many other rivers have their source there.

Like all human civilizations in the world, West African civilizations have developed mainly around the major rivers and their watersheds; and their resource-based economies are still heavily dependent on them.

A militant dimension was added to this since of the early years of independence advocating the development of African resources and culture as an engine for the development of the countries. This in an approach of political and economic integration of the Continent. This political commitment was reflected in the school curricula of most African countries. Thus, the Fouta Djallon Mountains, which were taught in primary and secondary schools, had inspired many young schoolchildren in the West African sub-region, particularly in Mali and Niger, with choruses already advocating the preservation or safeguarding of the Fouta Djallon Highlands.

"Nowadays, governments, communities and all actors whose activities are linked to the highlands and their rivers, but also the international community, agree on the urgent need to establish a concerted and integrated management of the highlands and their resources, other than in the past."

The rulers are not to be outdone. Indeed, significant efforts have been made for more than three decades by the highest authorities of the countries of the West African sub-region to develop cross-border cooperation around rivers and their basins, and more particularly those originating from the Fouta Djallon Highlands. This is reflected in the creation and functioning of the Niger Basin Authority (NBA), the Organization for the Development of the Gambia River (OMVG), the Organization for the Development of the Senegal River (OMVS) and the Mano River Union (MRU), but also the Regional Programme for the Integrated Development of the Fouta Djallon Massif (RPID/FDH).

It is fortunate to note that the Niger (NBA), Senegal (OMVS) and Gambia (OMVG) river management organizations were recognized in 2017 by the Strategic Foresight Group (an international think tank based in Mumbai) as positive examples of organizational frameworks and mechanisms for the management of shared waters.

However, it is unfortunate to note that the Regional Programme for the Integrated Development of the Fouta Djallon Highlands (RPID/FDH), which was designed and established under the responsibility of the Organization of African Unity (OAU), after several decades and despite significant resources mobilized in its favour, has had only limited impacts on the protection of the Fouta Djallon highlands. According to all stakeholders, the situation in the Highlands has even deteriorated significantly.

Without a significant change in strategies, the worst is yet to come with the effects of climate change, to which the highland's resources have proved highly vulnerable, combined with human activities that are disastrous for the highlands.

Nowadays, governments, communities and all actors whose activities are linked

to the highlands and their rivers, but also the international community, agree on the urgent need to establish a concerted and integrated management of the highlands and their resources, other than in the past.

The transfer of the RPID/FDH from the African Union to the Economic Community of West African States (ECOWAS) in November 2018 is undoubtedly a reason for hope for a revitalization of the Programme.

The Global Water Partnership in West Africa (GWP-WA), acting within the framework of the vision of the Global Water Partnership (GWP) network of "working to achieve water security everywhere through meeting water needs for all uses", welcomes the transfer of the RPID/FDH to ECOWAS. GWP-WA and GWP wish to contribute to all processes and activities that will be undertaken as part of the planning and implementation of the Regional Programme for the Integrated Development of the Fouta Djallon Highlands.

This special issue of Running Water magazine is part of GWP-WA's contribution to the RPID/FDH. It is intended as an advocacy element addressed to all public and private actors in the countries concerned by the Fouta Djallon highlands as well as to the international community to act now, at the appropriate levels, with the right decisions and adequate means for the safeguarding and restoration of the Fouta Djallon Highlands.

Professor **Amadou Hama MAIGA**
Chair GWP-WA

EXECUTIVE SECRETARY'S WORD

Restoring and safeguarding the West African Water Tower: a necessity for water security and sustainable development in the sub-region



Human and sustainable development would get a fatal blow in West Africa if nothing is done to reverse the vertiginous trend towards the degradation of the natural resources of the Fouta Djallon Highlands. Indeed, the Highlands give birth to the main transboundary rivers of the sub-region such as Niger, Senegal, Gambia and Mano. Life and socio-economic development in several West African countries are organized around these rivers. 12 countries in the sub-region (Benin, Burkina Faso, Côte d'Ivoire, Gambia, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone) are bordering one of the main transboundary rivers originating from the Highlands. The other 3 West African countries that are not directly concerned are Cabo Verde, Ghana and Togo.

Water security and therefore the survival of the populations of the sub-region undoubtedly depends, among other things, on the restoration and maintenance in good ecological condition of the Fouta Djallon Highlands, which unfortunately is already in a critical and alarming state of degradation. The reasons for this situation are related to poor human resource management practices in the Highlands, as well as the impacts of climate variability and change.

For those who visit the Guinean Highlands in the regions of Labé, Dalaba or Mamou, one quickly realizes the fragility of a very rich and varied environment.

"...good ecological state contributes to improving the well-being of the populations and socio-economic development of the sub-region"

The mixing of rivers with vegetation, sometimes dense and sometimes scattered, raises the need for urgent and immediate action to preserve this environment. Otherwise, it would be difficult if not impossible to guarantee the existence of the multiple watercourses that take their sources there and water security on the one hand; and on the other hand, a better well-being for the populations, who depend on it for their survival in the countries of the sub-region.

It goes without saying that maintaining the Fouta Djallon Highlands in a good ecological state contributes to improving the well-being of the populations and socio-economic development of the sub-region. It therefore contributes to the achievement of Sustainable Development Goal (SDG) No. 6, namely «To ensure access for all to sustainably managed water supply and sanitation services» and all other 16 SDGs that have a direct and/or indirect link with water. This is a challenge whose recovery is as much the great collective responsibility of all West African States as it is the individual responsibility of the people who live there.

Safeguarding the Fouta Djallon Highlands involves many challenges, including ensuring a decent life for the populations living in and around the Highlands. The natural resources of the Highlands are the main source of subsistence for the communities that live there. How do we ensure human and sustainable development by ensuring economic, social and environmental development in a balanced and environmentally sustainable manner? The weakness of natural resource governance systems in the sub-region is a major concern for sustainable development actors.

Most of the phenomena, which contribute to the degradation of the Fouta Djallon Highlands, are of anthropogenic origin. They persist due, among other things, to the lack of rigour in the appli-

cation of the laws leading the governance of water and environment in one hand, and in the other hand the exacerbation of poverty in several countries in the sub-region. The populations are therefore developing survival strategies that are incompatible with the sustainable management of the Highlands' natural resources. Among these survival strategies, we can highlight the excessive cutting of trees on watersheds and spring heads for wood supply for various purposes, the installation of brick kilns along the banks of watercourses and mining activities.

For several years, the authorities and development actors have been aware of the extent of the situation in the Highland. All actors at their own level have an important responsibility to ensure the restoration of the natural resources of the ecosystem, West Africa's water tower, and to ensure water security in the sub-region. No action today to safeguard the Massif is a threat to water security for our children and future generations. It also means compromising their future, because of the lack of sufficient water resources for their various needs.

As the Guinean Minister of Energy and Hydraulics, Dr Cheick Taliby SYLLA, told us again, «*We are not right to leave to posterity sand dunes in one of the densest rivers in the world, namely the Niger River, which originates from the Fouta Djallon Mountains*». This echoes the words of his colleague at the time in charge of the Environment, Water and Forests, Mrs. Aïssata BALDE, whose heartfelt cry was «*we as a country have a historical responsibility to save the heads of river springs and protect the associated hydrographic basins so as not to jeopardize these water resources, which are very crucial for the survival of a large segment of the populations of West Africa*». These are challenges for all actors.

Armand K. HOUANYE
Executive Secretary GWP-WA

A WORD FROM THE CHAIR OF THE CWP-GUINEA

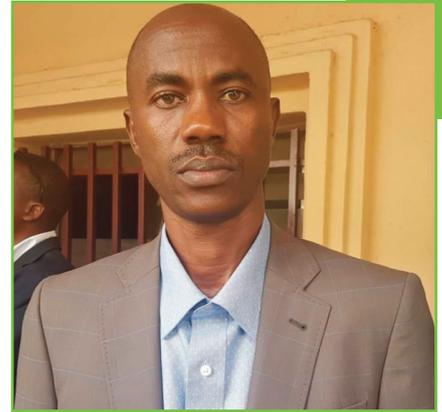
We need to succeed with this advocacy

When, in March and February 2018, during the visit to Guinea of the Chair of GWP-WA, Professor Amadou Hama MAÏGA accompanied by the Executive Secretary, Armand HOUANYE and the Head of Communication and Knowledge Management, Sidi Coulibaly, GWP-WA was asked by both the Minister in charge of Environment, Water and Forests and the Minister of Energy and Hydraulics to contribute to the efforts to protect the head sources of the rivers in the Fouta Djallon Highlands, we were far from imagining how the Country Water Partnership of Guinea (CWP Guinea) could join in producing this special issue of Running Water magazine as our first response to this request.

It is with great pride, determination and hope that we have accompanied the

production of this special issue of Running Water on advocating for the safeguarding and restoration of the natural resources of the Fouta Djallon Highlands. I would like to thank the Chair and the Executive Secretariat of GWP-WA for fulfilling the commitment made at the end of the February-March 2018 visit to Guinea to produce this special issue. This is a first contribution of our GWP network to the efforts to restore and safeguard the West African Water Tower.

We are pleased to renew, through this message, our commitment to the Guinean authorities and other stakeholders in sustainable development, to contribute significantly to the success of the advocacy for the restoration and maintenance in good ecological condition of both the head sources of rivers



and the natural resources of this ecosystem essential both for Guinea and the entire West African sub-region. CWP Guinea intends to win this bet together with all the actors, who support the efforts of the Government of the Republic of Guinea for the sustainable development of the country and our sub-region.

El Hadj Mamadou Alpha HANN
Chair of CWP Guinea



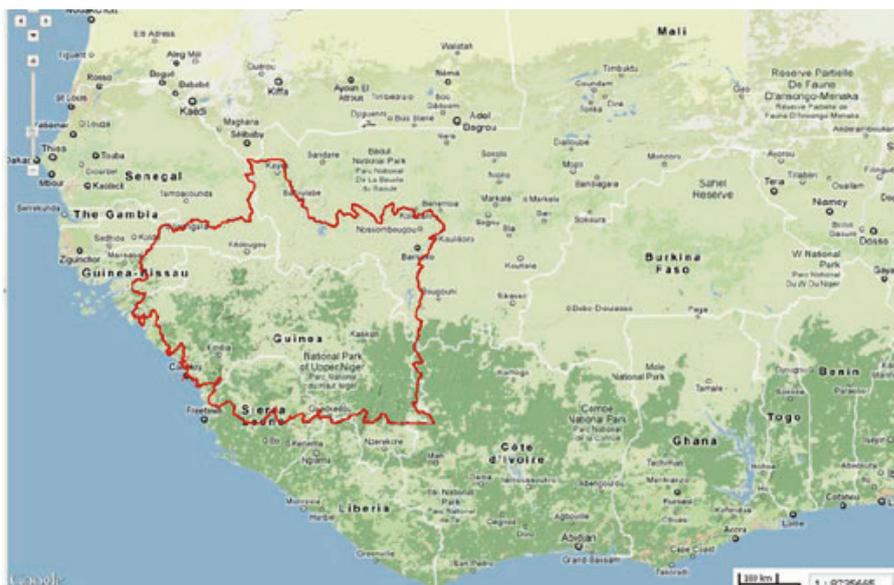
Problems of management and exploitation of the Fouta Djallon Massif

Presentation of the Fouta Djallon Massif

The Fouta Djallon Highlands (FDH) consist of a set of high plateaus located at an altitude between 500 m and 1,500 m. They cover the northern and western part of the Republic of Guinea and extend to Sierra Leone, Guinea-Bissau, Senegal and Mali. With the physical extensions, they cover an area of approximately 120,000 Km². In the Republic of Guinea, they extend over the natural region of Middle Guinea and extend into Maritime or Lower Guinea and Upper Guinea, covering an area of 60,000 km² (See map).

The FDH are subdivided into four (4) large ecosystems distributed as follows: (i) a Sudano- Guinean savannah in the North-East, (ii) a dry forest area in the North-West, (iii) a highland area in the Centre and, (iv) a wet plain area in the South. This ecological diversity is coupled with significant biodiversity; the region is home to many plant and animal species, some of which are considered endemic and require special protection.

This region owes its reputation to the density of its hydrographic network. Many national and international rivers have their sources there. This is the case for the Niger (4,180 km), the Senegal (1,800 km), the Gambia (1,120 km), the Koliba/Corubal (560 km) and the Konkouré (303 km) rivers. These rivers are of vital importance to the sub-region with millions of people depending on them. This is justified by the fact that these rivers are home to major hydraulic structures used for power generation, irrigation, navigation and fishing. The FDH relief configuration offer enormous possibilities for the construction of



Map: delimitation of the geographical area of the Fouta Djallon Highland

hydraulic structures for single and multiple uses. The construction of these facilities could generate major benefits, particularly in terms of improving drinking water supply and electricity production, developing irrigated agriculture and regulating the flow rates of shared watercourses to preserve the needs of countries dependent on the FDH water resources.

The consequences of inaction will be invaluable to the lives of the people and economies of the countries concerned.

Currently, there are a few dams in the FDH in Guinea. These are the dams of Kaleta (240 MW) that came into service in 2015, Kinkon (3.5 MW), Tinkisso (1.7 MW), Grandes Chutes (27.6 MW), Banéya (5 MW), Donkéya (15 MW) and Garafiri (75 MW). Some projects are under way for the construction of dams, including those of Souapiti (450 MW) considered to be the largest hydropower dam in the country and Amaria (285 MW) on the Konkouré, Fomi (90 MW), Koukoutamba (280.9 MW), Boureya

(160.6 MW), Félou (70 MW), Gouina (140 MW), Goubassi (20 to 25 MW), and Balassa (180 MW) among others. The establishment of multiple dams will lead to a substantial change in the environment of the highlands, coupled with both positive and negative impacts on the habits of the populations that will be displaced, but also on the fauna and flora. These projects pose significant challenges for the States of the sub-region to preserve the natural resources of the FDH and the lives of the people who depend on it.

Among these dams, just for illustration, we can mention the Manantali dam located on the Bafing river 90 km south-east of Bafoulabé in the Republic of Mali. Construction work on this structure began in June 1982. Final acceptance took place in 1990. This multi-purpose dam is designed to promote:



Drainage channel

- the irrigation of 255,000 ha of land in the valley ;
- the navigability of the Senegal River from St-Louis to Ambidédi all the year round ;
- the annual production of 800 Gwh of electrical energy secured 9 years out of 10.

The Manantali dam consists of a 1,460 m long dike. It consists of a concrete central part (482.8m) containing all the surface hydraulic structures and two lateral rock-fill dikes. The height of the dam is 66 m at the foundation.¹

There is also the Diama dam located on the Senegal River, near the village of Maka-Diama, 27 km upstream from Saint-Louis in Senegal. It is called «anti-salt» because it is mobile. Before the construction of this dam, in dry weather, the sea penetrated up to 250 kilometers inland. Rises that can have disastrous consequences for life in the villages.²

FDH in Guinea

The FDH cover 20% of the territory of the Republic of Guinea (245,857 km²) and are home to more than 40% of the country's inhabitants (12.77 million in 2017) and 40% of the livestock. In addition to these human, animal and water resources, the Highlands contain important mining resources (bauxite, limestone, etc.) whose development could benefit the entire Sub-region. This high human and animal concentration, which is growing rapidly with the combined actions, is strongly disrupting the ecological balance of the Fouta Djallon Highlands.³

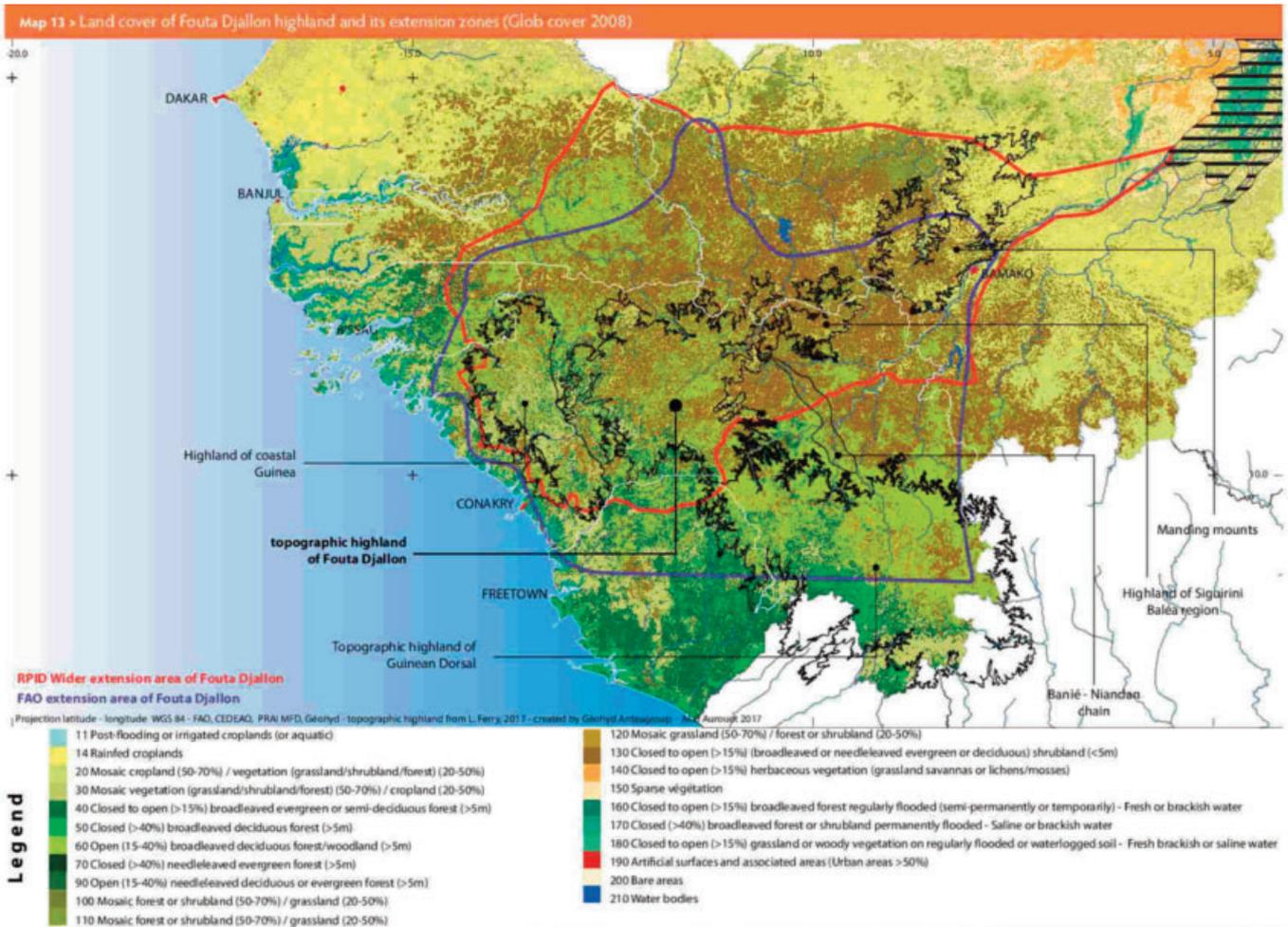
Considered as the «Water Tower of West Africa», the FDH have been attracting the world's attention for more than half a century because of their progressive

degradation due to the strong threat of agro-pastoral practices but also to activities such as brick making and excessive wood cutting. Roving crops, bush fires, over-exploitation of land, charcoal and bricks production all contribute to soil erosion and the degradation of the region's natural resources. Climate variability and change contribute to further weakening the highlands.

The problems listed, if not mitigated, could reduce the natural resources available and dangerously compromise the lives of the millions of populations in

Guinea and the subregion that depend on them. This accelerated degradation is a major cause of concern both for Guinea and the neighbouring countries whose main rivers (Gambia, Niger, Senegal) originate from this mountainous region. The consequences of inaction will be invaluable to the lives of the peo-

The actions undertaken have so far failed to reverse the continuing trend of degradation of the highland. Hence the implementation of programmes to protect and restore the natural resources of the highland.



¹ <http://www.sogem-omvs.org/barrage.html>

² <https://savoirs.rfi.fr/comprendre-enrichir/environnement/barrage-de-diama-un-rempart-contre-l'inondation-par-l'eau-de-mer>

³ <https://www.riob.org/fr/file/264432/download?token=yMyALXK7>



ple and economies of the countries concerned. These include, for example, the rural exodus, the massive displacement of pastoralists to other regions, the multiplication of conflicts of all kinds over access and sharing of available resources, the loss of crops and de facto income, the increase in poverty and unemployment.

Faced to this diagnosis, established very early on (the first elements date back to 1910), many actions have been initiated and others are underway to ensure the protection, rehabilitation, rational and then sustainable management of the resources of the Highlands. But it should be noted that this gloomy picture still persists today, leaving the highlands in a critical state of degradation⁴. The actions undertaken have so far failed to reverse the continuing trend of degradation of the highlands. Hence the implementation of programmes to protect and restore the natural resources of the highlands.

The Integrated Development Program of the Fouta Djallon Highlands

In November 1959 at the Inter-African Soil Conference held in Dalaba, Guinea, concerns about the management and preservation of FDH were raised and discussed by participants from Guinea and neighbouring countries. In conclusion, in view of «... the geographical position of **Fouta-Djallon**, which makes it the **true water tower of West Africa**, the Conference notes with particular interest the intention of the Guinean National Delegation to the **Dalaba Conference to pay** very close attention to this region. The importance of protecting the mountain range to control the water regime and ensure its regulation motivates joint action by all the countries concerned». This gave rise to the idea of an integrated development of the FDH. But it was not until the severe droughts of the 1970s that genuine concerted action was taken under the aegis of the Organization of African Unity (OAU) at its 33rd session of

Some of the achievements of the RPID-FDH⁵

Among the achievements of the RPID-FDH, we can mention in particular:

- the conduct of numerous studies on FDH;
- the implementation of various activities at the pilot sites;
- the elaboration and signature of the Framework Convention for Cooperation between States bordering rivers originating from the FDH by the 5th Ministerial Conference of the RPID-FDH held in Freetown (Sierra Leone) in November 2011;
- the ratification by several Member States of the said Framework Convention;
- the preparation of the documents available for the Observatory supported by an Observatory action plan;
- the development of indicators for monitoring and managing the FDH.



Hafiziou BARRY
Executive Secretary CWP Guinea

Highlands by coordinating the mobilization of the necessary resources to finance this project».

In 1981, the OAU and the United Nations (UN) initiated the FDH Regional Integrated Development Programme (RPID-FDH). Its objective is to ensure the protection of the environment and the development of the natural resources available in the FDH to contribute to the improvement of the living conditions of the populations of the region and those of the regions irrigated by the rivers originating from the Highlands.

In November 2018, the act of transfer of the RPID-FDH from the African Union to the Economic Community of West African States (ECOWAS) was officially signed in Addis Ababa followed by a technical workshop in November-December 2018 in Conakry.

Hafiziou BARRY
Executive Secretary CWP Guinea

the Council of Ministers held in Monrovia (Liberia) in July 1979. Thus, the Council of Ministers of the OAU countries aware that the development of the Fouta Djallon, a real water tower in West Africa, constitutes a safety valve against the hydrological repercussions of the years of drought in West Africa:

- «REQUESTS the Executive Director of the United Nations Environment Programme to integrate the Fouta Djallon Massif Development and Restoration Pilot Project into the transnational green belt project south of the Sahara;
- «DECIDES that the OAU will actively participate in the implementation of the Pilot Project for the Development and Restoration of the Fouta Djallon

⁴ Véronique André-Lamat. The memory of knowledge and its use. The foundations of the Fouta Djallon Integrated Development Project (Guinea). International symposium, Interactions, Nature, Society: analyses and models, 3 to 6 May 2006 - La Baule (Loire-Atlantique), 2006, La Baule, France.

⁵ Read the interviews with the outgoing RPID-FDH coordinator and the national focal points of the Regional Natural Resources Management Project of the Fouta Djallon highland. An issue of Running Water is dedicated to this Program

The preservation and restoration of forest galleries and spring heads, an imperative for the protection of the main watercourses in the Fouta Djallon Highlands

Despite the significant drop in rainfall in its geographical area, the Fouta Djallon Highlands still remain «the water tower of West Africa», an IUCN quote from 1959. The water potential is considerable, and in Guinea it is estimated at 27,000 m³ per inhabitant per year. There are about 1,165 watercourses in the country, which is a major asset for its socio-economic development. At the scale of the Fouta Djallon Highlands, many water resources challenges need to be addressed to support sustainable development.

A recurrent need for information to better understand water resources

Having quantitative and qualitative data on water resources is one of the prerequisites for better planning and sustainable water resources management. In relation to this resource, there are still recurrent weaknesses in the monitoring of the resource, and in the Republic of Guinea, the estimates still need to be improved, as they remain unreliable. In summary, there is insufficient information on the flows of the countless rivers listed in the Fouta Djallon Highlands, nor on their interannual variability. This situation continues to challenge the main national and regional water stakeholders, as the findings are alarming for some lotic environments. At the level of the Niger River, water flow decreased by about 30% between 1971 and 1989; those of the Senegal and Gambia Rivers fell by nearly 60%, compared to a decrease in rainfall of about 25% on aver-

age per year, in the same basin and for the same reference periods.

This downward trend needs to be reversed in order to support sustainable development in the region, with the involvement of stakeholders and combined efforts at different scales of intervention. With the effective transfer in 2018 of the Fouta Djallon Highlands Programme from the African Union to ECOWAS, there is hoped that a new multi-stakeholder intervention scheme in the Highland will be proposed by ECOWAS and discussed with all stakeholders with a view to a long-awaited and certainly more strategic synergy of actions to strengthen the resilience of local communities and natural water-supplying ecosystems, namely rivers in general and spring heads in particular. In Guinea, the objective of setting up a regional observatory on the Fouta Djallon Highlands are in line with this dynamic and will in the medium term provide an effective operational water information system essen-



Prof. Aboubacar AWAISS

tial for the implementation of its national water policy recently adopted by the Government.

Preservation of water resources and associated ecosystems

This is a major challenge of the Regional Water Policy in West Africa (RWAP), and this is obvious, because it is about combating the quantitative and qualitative degradation of water resources resulting from factors as varied as the modification of the hydrological regime, the reduction of groundwater, the silting up of rivers and water bodies, pollution, etc.

In this regard, several member states of the Fouta Djallon Highlands Programme have made efforts over the past two decades to improve strategic measures to improve the management of natural resources, particularly water resources. In Guinea, for example, a law on water was adopted in 1994, the sectoral water and sanitation policy in August 1996, many codes and national strategies for the implementation of international conventions on desertification, climate change, biological diversity, wetlands, etc. were adopted. All these measures



Head of the main source of the Tinkisso, arranged. Today the site is classified and prohibited to any form of exploitation



Cliffs above the Tinkisso dam

are supported in their implementation by numerous national action plans.

Despite this important achievement, threats to water resources and associated ecosystems are intensifying and there is a significant weakening of the governance system, due to the low allocation of financial resources, low motivation of human resources, the absence of multi-year intervention programmes and monitoring and evaluation mechanisms. It is also unfortunate that uncoordinated sectoral management of natural resources has continued at the national level. As for integrated water resources and ecosystem management, it is carried out outside national development strategies, including poverty reduction and the decentralization process.

In this context, with the adoption in 2017 of the National Water Policy and Action Plan, Guinea now has an instrument for the operationalization of various legislative provisions relating to water resources, including codes, decrees, development plans, administrative organization, financing, etc. In terms of securing water resources and associated ecosystems, including particularly sensitive ecosystems such as gallery forests and spring heads, few significant investments have been made in recent years. These characteristic natural ecosystems, including plant formations are threatened with extinction on the scale of several sub-basins, with the accentuation of the effects linked to mainly anthropogenic actions and to the changing climate.

In view of the current level of degradation of these ecosystems in the Fouta Djallon Highlands, and the search for ap-

propriate solutions to support local communities in their adaptation, technical and financial partners, including IUCN, continue to initiate and promote actions that enable socio-professional actors and decision-makers to have the necessary planning tools at their disposal, on the one hand, and to undertake actions to preserve and restore these degraded natural ecosystems on the other hand.

Thus, IUCN, with the support of the Swedish International Development Agency (Sida), developed and implemented between 2012 and 2014, with the actors of the Dabola Prefecture in Guinea, an initiative through the REPASE Project «**Ecosystem Restoration and Payment for Environmental Services in the Tinkisso Basin**», on the preservation and restoration of critical ecosystems in the Tinkisso basin, one of the major tributar-

ies of the Niger River in Upper Guinea. The main objective of REPASE is to promote integrated management of the Tinkisso catchment area through the ecosystem approach to reduce the effects of climate change and increase the benefits for communities living downstream and upstream of the Dabola hydroelectric dam. At this level, the major challenge is to promote the participation of local communities at all stages of the decision-making process in order to define the basis for a better intervention for the preservation and restoration of degraded ecosystems in the various sub-basins of the Tinkisso.

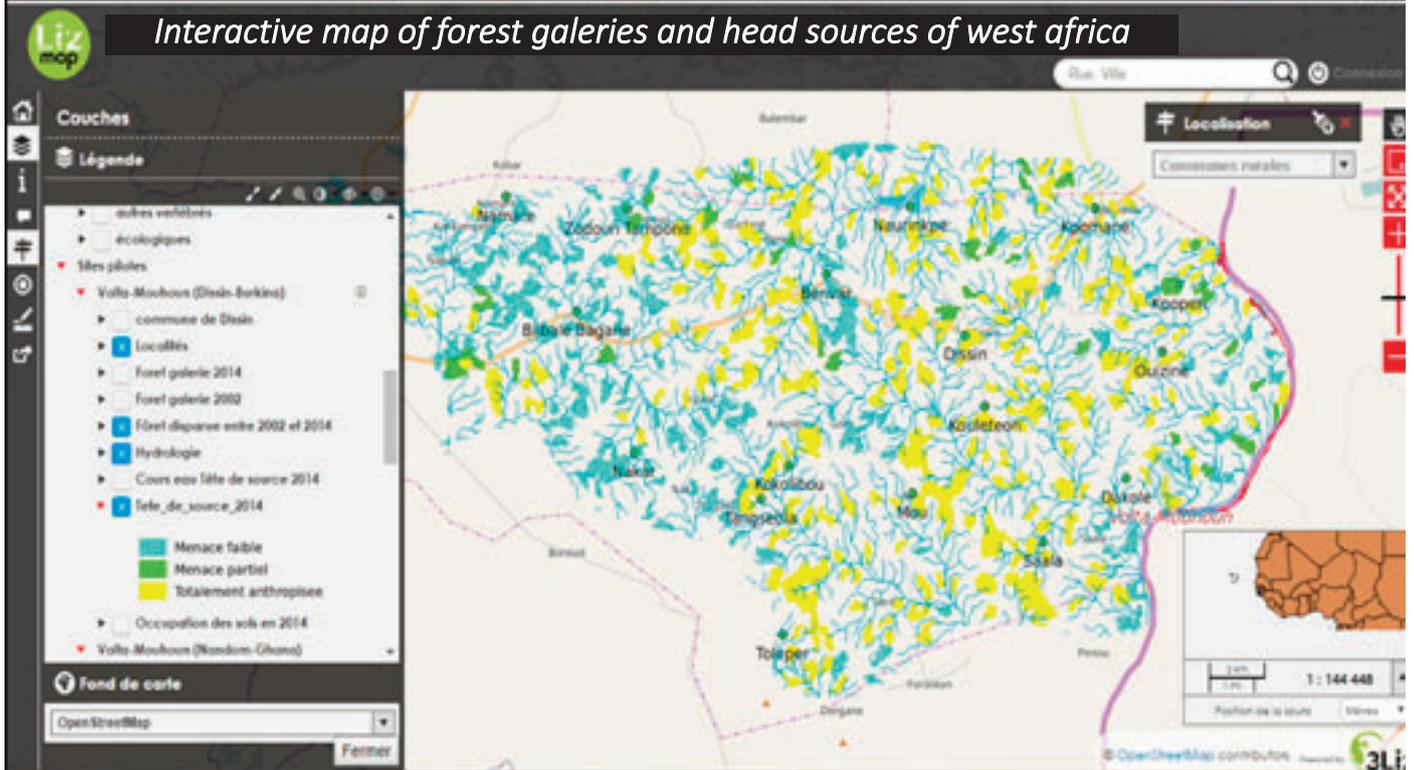
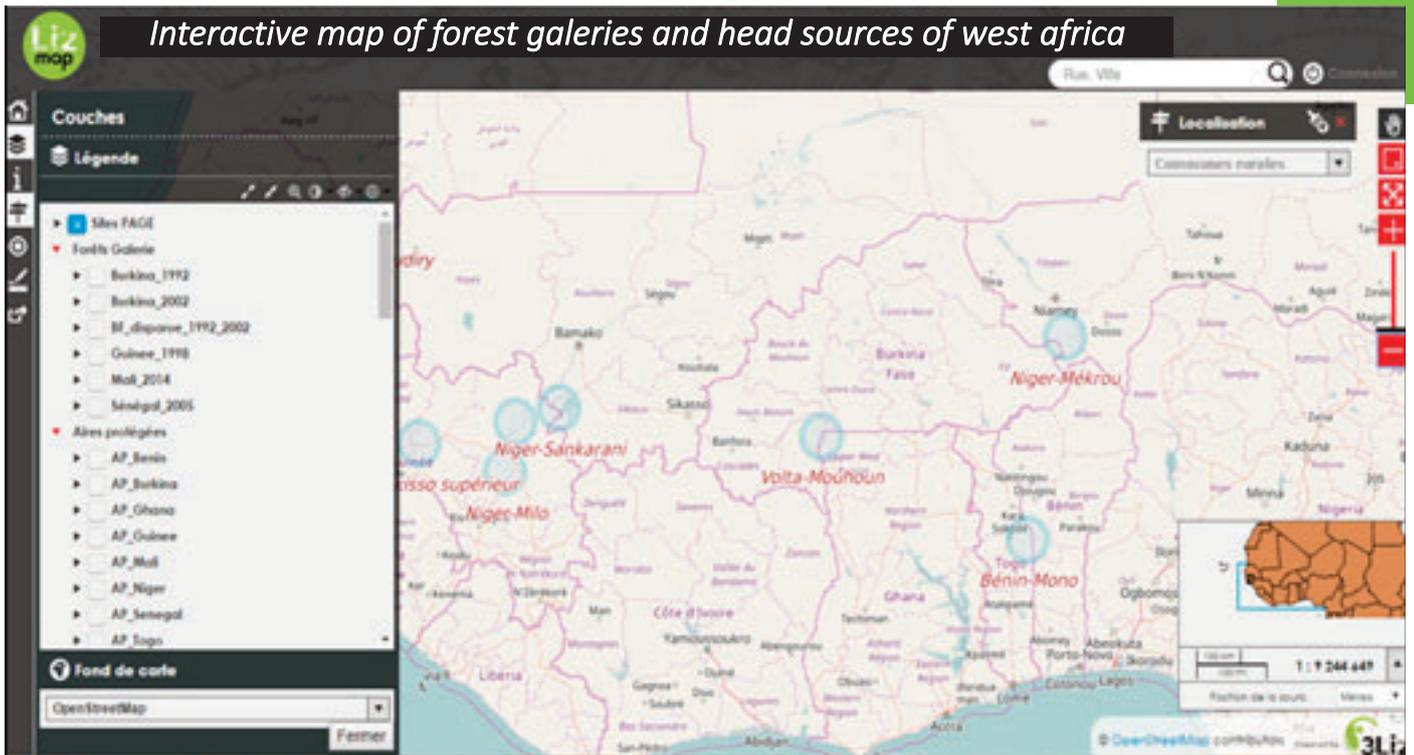
Classification of degraded spring heads

The actions that made it possible to classify the spring heads in the Tinkisso basin, and thereby preserve them in their entirety, were facilitated by the Dabola Prefectural Directorate of Water and Forestry, which initiated the intervention project on the scale of the identified sub-basins. Thus, the project, with the support of the prefectural authorities, first undertook a participatory diagnosis of natural resources, supplemented by an environmental communication campaign carried out by civil society actors and community radio stations in Bisikirima and Dogomet.

This involvement of basin stakeholders allowed, on the one hand, to generate knowledge on the natural and production potential of the basin and its level of degradation and, on the other hand, to

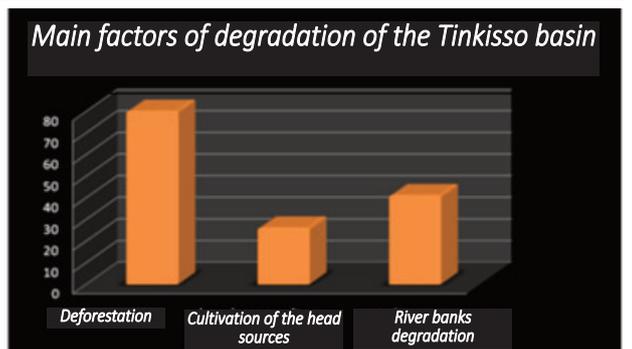


Brick making on the banks of the Tinkisso river in Noumessoria



develop a shared vision for the management of water resources and related ecosystems in the upper Tinkisso basin. Overall, various anthropogenic actions are the main factors causing degradation in the Tinkisso catchment area, as shown in the figure below, with the major consequence that the Dabola dam reservoir will be filled, thus limiting the duration of water supply and the supply of electricity to the population.

Figure 1: The shared vision for the basin favours actions requiring the involvement of all the stakeholders in the basin, thus making it possible to rethink in depth the way responsibilities and benefits are shared among these stakeholders. In the



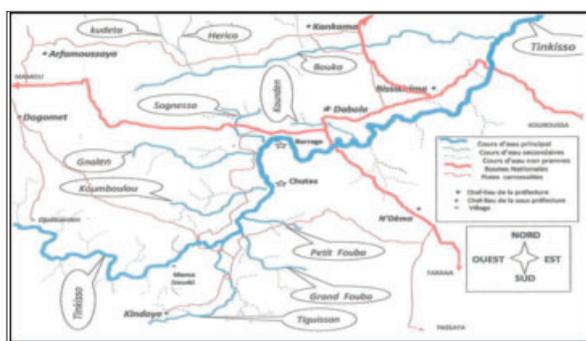
Save the Fouta Djallon Highlands, West Africa's water tower in a critical state of degradation

In the short term, the ranking of the main source heads of the Tinkisso is the priority action to be undertaken in order to better strengthen the pursuit of awareness through service contracts with community radio stations covering the entire Tinkisso basin. It is also a de facto demonstration of the effective implementation of the Shared Vision's priority action plan. Figure 2 illustrates the sub-basins concerned by the integral protection of spring heads.

The classification process described below shows the need to mobilize the basin's stakeholders by providing them with decision-making tools (thematic maps on resources and land use, among others) and updated knowledge on the basin's natural potential. The importance of the spring heads and the level of degradation of the basin are now known thanks to the combined action of an environmental communication campaign led by civil society and the implementation of a communication plan through the local media and valuing the technical expertise of State services in the differ-

ent sectors at the level of the prefecture of Dabola.

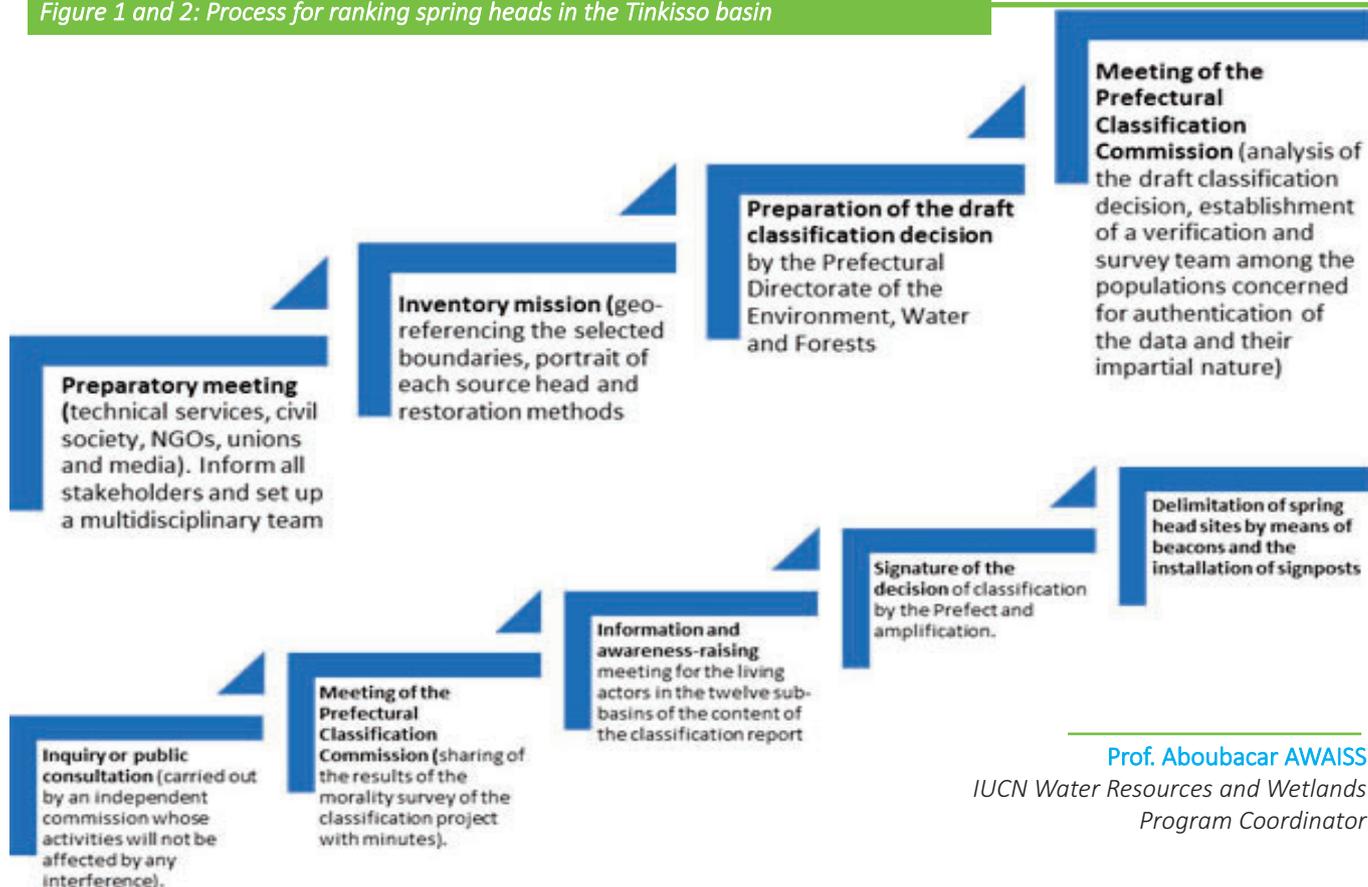
It is a useful and feasible work, inexpensive but requiring the sharing of relevant information with stakeholders and in particular with prefectural authorities, associations and technical services working in the basin. The success of this project led the central government to undertake the cleaning of the dam lake at the same time, which also encouraged the conduct of reforestation to further secure the banks of the water body.



Maintenance of the plants on the site boundaries

Figure 2: Sub-basins covered by the process of integral protection and management of spring heads.

Figure 1 and 2: Process for ranking spring heads in the Tinkisso basin



Guinean parliamentarians advocate for support to the sustainable management and protection of the natural resources of the Fouta Djallon Highlands

A mission of the Environment, Fisheries, Rural and Sustainable Development Commission of the National Assembly of Guinea visited several localities in the Fouta Djallon Highlands from 18 to 24 February 2018. Parliamentarians made alarming observations on the advanced state of deterioration of the highlands. They also invited the government, technical and financial partners and the population to take appropriate measures to ensure the protection of the Fouta Djallon Highlands.

Alarming findings

The mission first went to the source of the Konkouré River to identify the realities that characterize it. The exchange with local authorities and other stakeholders and observations made on the field enabled the delegation to note an advanced state of degradation of the source of the river. This river is of extreme importance to Guinea because it houses the main dams built and under construction. These include the Garafiri, Kaleta, Souapiti and Amaria dams. The preservation of this source is therefore vital for the country; hence the great interest of parliamentarians for its survival. According to the interlocutors found on the spot, the reasons for the degradation are linked to deforestation, carbonization, and the manufacture of fired bricks.

The parliamentarians exchanged with the Association of Young Volunteers for the Protection of the Konkouré Spring (AVPSK). The members of this local NGO have undertaken to do everything possible to support any initiative aimed at preserving the source of the river, something that is greatly appreciated and welcomed by the parliamentarians.

The parliamentary mission visited a Gmelina nursery planned for the reforestation of the Konkouré head source, and a classified forest of 1,200 ha reforested with the support of the NGO Guinea Ecologie. According to the residents, this forest has allowed the return of an important and diversified fauna, including chimpanzees.

In Mamou, the mission exchanged views with the managers of the decentralized technical services. This meeting allowed MPs to understand the difficulties linked to the lack of resources for monitoring the 36 forest camps in Mamou and the implementation of local development plans (LDPs).

The interviews was an opportunity for



A scene of destruction of the environment

the managers encountered to highlight a number of difficulties that prevent them from achieving the objectives assigned to them. These include, for example, the lack of knowledge of Guinea's laws and regulations by the majority of the population and the lack of technical support of farm-

ers. The public officers also deplore the poor understanding of the role of the timber sector, the lack of cooperation from the population, which does not sufficiently denounce the perpetrators of abusive exploitation of wood and bush fires, the lack of sanctions for offenders and point out the difficulties linked to the identification of sites to be reforested as well as the weakness of the citizen culture.

"the situation in the Fouta Djallon highland is very worrying in view of the observations on the ground. The parliamentarians invite the government, technical and financial partners and the population to take appropriate measures to protect it"



Human waste in the water way



and Petel Lingué (a tributary of the Bafing) where they noted the concern of residents about the preservation of the source of the Bafing River. This site, although heavily forested at present, is threatened by farmers. To ensure the protection of the site, the village elders had developed a myth that suggested that anyone who would be responsible for the degradation of the source head was at risk of death. This myth has been dispelled.

The parliamentarians visited the Labé region where they made the same observations and exchanged views with regional and prefectural officials on the issue of sustainable management of natural resources in the Fouta Djallon.

Regarding emergency actions, the Governor of the region, Mr. Sadou KEITA, proposed the popularization of butane gas to better protect forests and the dissemination of environmental legislation, particularly in local languages, to put people on the same level of information.

In Koumbia, parliamentarians noted that the bed of the Dimma River had dried up in some places. Interviews with residents indicate that the flow of the river decreases over the years, which is a major concern for the local authorities and populations. MPs called on local stakeholders to take all necessary measures to better protect the river.

After the exchanges, the mission visited the 45 ha Touldé lougambhé classified forest, which is under serious threat from residents and illegal operators. They also visited the 35 ha Hooré Sougué community forest. At this level, the parliamentarians were amazed by the quality of the

maintenance of this forest by the beneficiary communities.

In Pita, the mission exchanged views with the authorities on the issue of environmental protection. The Prefect, Mr. El hadj Ibrahima Diallo, indicated that, in accordance with the recommendations of the Prefectural Council, all actors (governments, governed, institutions, NGOs and populations) have been asked to raise awareness and advocate for the rigorous application of the law for effective environmental protection.

At the Kinkon dam, the parliamentarians noted that the banks of the reservoir are severely degraded. They noted that the riverbed gives the appearance of fine sandy beaches that extend as far as the eye can see, like the beaches on the coast.

The National Environmental School located not far from the hydroelectric power plant has outdated buildings, sur-



Mody Sory Diallo,
Permanent Secretary

rounded by an environment of total neglect. This school has no technical or professional link with the dam.

Parliamentarians' concern and call for action

During this mission, parliamentarians noted the proliferation of brick kilns and bush fires in all the areas visited. The mission also noted the poor security of classified forests against illegal logging, and the poor collaboration between officials under the Ministry of the Environment on the one hand and those of other departments such as Energy and Hydraulics on the other.

This situation worries parliamentarians because there is little or no action to reforest the head sources of watercourses. Since 2010, the Government of Guinea has been building the Kaleta, Souapiti and Amaria dams, all located on the Konkouré River. Because of these ambitious projects, reforestation actions should be undertaken to support investments.

In summary, the situation in the Fouta Djallon Highlands is very worrying in view of the observations on the ground. Therefore, the parliamentarians invite the government, technical and financial partners and the population to take appropriate measures to protect the Fouta Djallon Highlands, whose natural resources are no longer to be dismantled.

This mission led by the Honorable Anne Marie Mansaré, Vice-Chairperson of the Commission, also included MPs Dr. Alpha Mamadou Baldé, Sékou Camara, and Ibrahima Lélouma Diallo. The mission was assisted by Mody Sory Diallo, Permanent Secretary of the Network of Parliamentarians on the Environment, Robert Sidi Tolno, Christine K. Oundéno, Diaraye Diallo and Abdallah Baldé, all journalists from the parliamentary press.

The mission was made possible thanks to the support of UNDP through its «Support to the National Assembly Project».

By **Hafziou Barry,**
Executive Secretary of the Country
Water Partnership of Guinea

Mody Sory Diallo,
Permanent Secretary of the Network of
Parliamentarians on the Environment

The way of life of residents is seriously impacting the ecosystems of the Fouta Djallon Highlands

Guinea is a coastal country with 320 km of Atlantic coastline, midway between the equator and the cancer tropic between 7°05 and 12°51 north latitude and 7°30 and 15°10 west longitude. It has many natural resources, including water, forestry and mining. The country is characterized by a two-season climate whose duration varies according to the regions from 3 months (in the North) to 9 months (in the South-East). Rainfall varies from 4,000 mm (coastal region) to 1,300 mm (Upper Guinea). Rainfall peaks everywhere during July and August.

Guinea is characterized by a heterogeneous soil and a dense hydrographic network with many rivers and streams that take their source there and water all neighbouring countries. According to the data of the Ministry of Energy and Hydraulics, the country has 1,165 rivers, 14 transboundary basins and 24 catchment areas. This makes Guinea the water tower of the sub-region, with most of these rivers originating from the Mamou region, a prefecture located 270 kilometres from Conakry, the Guinean capital. All the international rivers in the region (Niger, Senegal, Gambia, Corubal, Diani, etc.) originate from Guinea, hence its name «West African Water Tower».

The Fouta Djallon Highlands and the Guinean ridge are the dividing line of these rivers that flow either north, north-west and northeast or south and west.

Today, unfortunately, this water tower is threatened by the extent of drought, which is the harmful consequence of anthropogenic actions of various origins as well as the impacts of climate variability and change. Among the many human activities, we note the aggression of the banks and head sources of rivers or the use in agriculture of farming techniques with considerable negative impact on the environment (clearing, deforestation, slash-and-burn farming), gold panning, artisanal fishing, deforestation, bush fires, overgrazing and carbonization. These practices are recorded daily throughout the Highland region in defi-

ance of the laws and the presence of hundreds of eco-guards deployed throughout the country for the surveillance and alerts. «For the production of charcoal, no plant species are spared. The efficiency of traditional coal furnaces is poor and makes carbonization a real threat to the survival of biological diversity, especially plant diversity. [And for] logging, «mangrove forests provide fuel, building materials, food, fodder, medicines, fiber, work for thousands of people. This exploitation

"Protecting the environment in Mamou means protecting Guinea and Africa as a whole"

is now the envy of many Guineans and is done for firewood, firewood and charcoal⁶. This situation should concern all decision-makers and development actors.

The report of a trip to Fouta Djallon

In the Mamou region is the source of several national and international rivers including the Konkouré and Bafing, whose confluence with the Bakoye gives birth to the Senegal River. The Bafing has its source between Mamou and Dalaba, in the Fouta-Djalou area in the sub-prefecture of Tolo, about twenty kilometres from the town of Mamou. The Bakoye River originates near the southern limit of the Mandingue Plateau and the Falémé River, Senegal's main tributary in the Fouta Djallon Highlands in Guinea.

According to the Forestry Officer at the Prefectural Directorate of Environment of Mamou, Mr. Ousmane Metta BAH, the region is facing a degradation of its vegetation cover. This is due, according to him, to the fact that communities facing survival problems are beginning to seek cultivable land and to practice carbonization as an income-generating activity, one of the corollaries of which is the excessive cutting of wood. Uncontrolled

By *Idiatou CAMARA and Sidi COULIBALY*



Ousmane Metta BAH,
Forestry Officer at the Prefectural Directorate of Environment of Mamou

bushfires for bush farming are quite common. All these practices degrade the vegetation cover that is the cover that protects watercourses. «Nearly 30,000 hectares are cleared each year in Mamou. In 1958, the population was 200 thousand, in 2018 it is more than 300 thousand according to statistics, which means that the needs are increasing according to the demography,» says Mr. BAH.

But for the Prefectural Director of the Environment, Mr. Ousmane SYLLA, the environmental situation is no more dramatic than elsewhere because of the multiple environmental assets in the prefecture. He cites in particular the presence of numerous watercourses, the existence of a well-supplied wildlife, abundant vegetation, or even mobilized and available human resources. Faced with the greenery of the city, Mr. SYLLA's wish is to make «Mamou the lung of Guinea. For informed people, protecting the environment in Mamou means protecting Guinea and Africa as a whole. If the environment is hit hard in Mamou, he says, this will be felt throughout the country and elsewhere».

The Bafing originates from a forest area of about 33 hectares around which there



Bags of charcoal

⁶ Report on the implementation of the Marine and Coastal Biodiversity Programme, Maadjou Bah, CBD National Focal Point



Amadou Oury BARRY,
Chief of the Bafing Forest Cantonment

are 11 villages with more than 3,000 inhabitants, according to Mr. Amadou Oury BARRY, Chief of the Bafing Forest Cantonment. He explains that here the population is aware and committed to defending the source of the river and the surrounding forests. «*We monitor the forest on a daily basis in collaboration with the community,*» he explains. «*We organize awareness sessions for the communities, which has been successful to date. There is a local protection association, the village bushfire committee, farmers' organizations exist to protect our forests...*» Mr. BARRY points out. In Bafing, the inhabitants interviewed seem to be aware of the situation of deteriorating watercourses and the importance of the river as well as the need to preserve the vegetation cover.

«*We are vigilant here, we are doing everything we can to protect this forest. We know that our lives depend on it. That is why we are monitoring the forest that shelters the source of the Senegal River as much as we can. As soon as we hear a*



Thierno Abdoulaye DIALLO,
Vice President of the Moronden district

vehicle, a motorcycle or see a stranger, we come to ask that person what S/he is doing there,» says Mr. Thierno Abdoulaye DIALLO, Vice President of the Moronden district, one of the villages at the head of the Bafing spring.

People living near head sources facing a shortage of drinking water

The conditions of water supply in the dry season in the Fouta Djallon highlands are very difficult with impacts on other uses, including agriculture, livestock, fishing and market gardening. The fact is that the difficulty of providing drinking water in the dry season, when rivers and many springs are dry, is one of the priority problems of rural populations and women in particular.

Despite all the rivers and efforts made, access to drinking water remains a major problem in several localities, including some urban neighborhoods. Existing boreholes are not enough to cover the needs of the populations of the urban commune of Mamou, with all the health risks, says the Prefectural Director of the Environment of Mamou, Mr. Ousmane SYLLA.



Ousmane SYLLA
Prefectural Director of the Environment of Mamou

Livestock farming activities are dominated by idle grazing and the almost permanent divagation of the livestock. The inadequacy and poor state of road infrastructure is a major constraint to the development of these communities.

The 1,700 inhabitants of the Salamayo district, where the underground source of the Senegal River is located, have no



Alpha DIALLO

access to drinking water. The few rare wells found there are deep and polluted in the dry season. «*We have no drilling here, we drink the reddish water from the well, that you see. Our children, ourselves are sick because of it. In addition, we have no health center, and neither do we have a school,*» says Mr. Alpha DIALLO, a 60-year-old village resident.

The Chief of the Bafing Forest cantonment, Mr. Amadou Oury BARRY, says that in 2017, at times, men and chimpanzees met around water points. «*As a result, we tried to know the chimpanzees' water drinking hours to avoid deadly confrontations, and fortunately nothing serious happened. This is to tell you how crucial access to drinking water is at the source of the Senegal River, which is incomprehensible,*» he explains.

How did it come to this? For Mr. SYLLA, Prefectural Director of the Environment of Mamou, this situation is caused by man's behavior towards nature. «*Water shortages, floods, drought and the list goes on, we are all responsible at every level*». It is because of human actions that most of these rivers are «drying up» today he concluded.

Managing the Fouta Djallon Highlands, a daily battle

The challenges are enormous, and the various actors are at work with concrete actions on the ground. According to Mr. Ousmane SYLLA, measures were undertaken by the Prefectural Directorate of the Environment to protect watercourses and vegetation cover in the Mamou region, including information and awareness raising for communities through opinion leaders and local media, partic-

⁷<https://www.ifad.org/fr/web/ioe/evaluation/asset/39829035>

ularly rural and community radio stations. «We must react or our present and future are threatened. It is also necessary to punish if awareness does not work. For this purpose, we have the legal texts, namely the environmental code, the water and forest code, etc. Currently, woodcutters are being prosecuted by the court of Mamou and we are waiting to see how it will turn out. Because a fair punishment should serve as an example to others».

The Konkouré sub-prefecture located 25 kilometres from the city center of Mamou is undergoing the same realities. Awareness-raising actions for reforestation have been carried out. «Our life is intimately linked to the forest. We can't live without it. Here, no one produces charcoal and we ask the population to plant trees,» explains Mrs. Mariama Melly CAMARA, the 40-year-old president of the Konkouré Gare women's group.

At the level of local authorities, «strong» actions are being taken, as underlined by the Sub-Prefect, Mr. Amadou BAH, who explains that «we must protect the source of this river, as wanted by the Head of State, President Alpha CONDE. Otherwise we will see the river dry up and our lives may be threatened». As a concrete action, he cites the recent reforestation of 15 hectares with the support of parliamentarians, members of the Environment Commission of the National Assembly in collaboration with the Prefectural Water and Forestry Service of the Mamou Prefecture. «We have banned the manufacture and sale of charcoal, and we are firm on this,» hammered Mr. Amadou BAH.

The same measures are in force in Pita, whose area in the Fouta Djallon Highlands is home to numerous dams, including those of Kambadaga and Kinkon, which supply the prefectures of Pita, Dalaba and Mamou with electricity. According to Ms. Djamilatou DIALLO, Prefectural Director of Environment, carbonization is prohibited in Pita and offenders are «severely punished». She adds that the forest classified as «Kinkon Falls», which houses the dam in the sub-prefecture of Sintaly on the side of the dam over an area of 320 hectares, was classified in 1955.

Ms. DIALLO says that actions to restore the vegetation cover have been undertaken through numerous reforestation campaigns along the dam. Thanks to the many awareness-raising sessions on the need and importance of protecting the forest heritage, restoration actions are increasingly visible despite very limited means of action.

«We have to travel long distances to find water in the dry season»

According to the General Secretary of the Decentralized Communities of the Prefecture of Pita, Mamadou Bella BALDE, the environment «occupies a prominent place in Pita's prefectural policy with a 30% budget that allows planned actions to be carried out during the year.»

Limited resources

As we can see, the rivers of the Fouta Djallon Highlands are between protection and threat. Hence the urgent need today for decision-makers and all populations to act without delay, for the present and future generations.

Working and living conditions on the ground are difficult, as Thierno Abdoulaye DIALLO, vice-president of the Moronden district explains: «We have no means of transportation, access is difficult, you have noticed, we travel kilometres to find drinking water. There are also conflicts between farmers and herders due to the lack of field fencing, we lack the equipment and inputs to properly work the land from which we derive our



Mariama Melly CAMARA,
the President of the Konkouré Gare women's group

livelihood». He calls on the State and the partners to help achieve greater impact. The Head of the Forest Cantonment, Mr. Amadou Oury BARRY, advocates for the State to implement actions to fight against poverty through income-generating activities for communities. Well-targeted support for the development of agriculture, market gardening, livestock and lowland management could help them avoid attacking the forest for livelihoods.

Populations report being overwhelmed by climate variability and change and feel the negative effects on their lives. «We noticed this year, for example, that the river has completely dried up and this must be of concern to us,» notes Konkouré's Sub-Prefect, Mr. Amadou BAH. The situation is very much felt by the populations in general and women in particular in the Highlands region and all other regions of Guinea. They are forced to travel long distances to obtain drinking water, especially during the dry season.

In Konkouré and in all the prefectures we visited, the findings reveal that rainfall has decreased according to the inhabitants we met, who informed us that the dry season is increasingly longer than the rainy season.

Mrs. Mariama Melly CAMARA, the President of the Konkouré Gare women's group, has been practicing market gardening with her group of about fifty women for many years. «We grow eggplant, okra, taro, chilli, pepper, potatoes, cabbage, carrots and many other vegetables». She says she noticed that it is raining less and less, the weather is warmer and in November we already sweat a lot, which is not usual. «The rains are slow to fall and when they start, the periods are shorter than before, when they lasted several months in a row,» she insists with



Ms Djamilatou DIALLO,
Prefectural Director of Environment



Interview session at the source of the river senegal with local residents

an air of regret. «We have to travel long distances to find water in the dry season to water our plants, and this year the rain was not abundant, so we lost a lot of our vegetable garden because of the lack of water», she told us.

Conclusion

In the field of environmental protection and restoration, the results remain very disappointing. The initiatives currently being implemented in the Highlands over the past few decades have been limited to proposing a catalogue of more or less specific interventions on a few cultivated plots or certain sensitive points (drilling).

To bring about a significant improvement in the current situation of the Fouta Djallon Highlands, it is important to consider the results achieved and lessons learned from some initiatives implemented in the area. This is the case of the Fouta Djallon Agricultural Rehabilitation Project (FDARP), «whose results remain very dis-

appointing in the field of environmental protection and restoration of the environment».

It would be very easy to learn from the recommendations of this project to move forward. «In addition to the simplistic nature of the diagnosis and the proposed agricultural development model, which did not consider the great diversity of agro-ecological situations, this scenario grossly ignored socio-land factors (determinants in the Foutanian context), the division of labour between genders and the integration of crops in external fields into a very restrictive system of resource management that left little room for manoeuvre to the individual.

In fact, a transformation of the production system is not only conceivable at the level of individual exploitation: bushfires, deforestation upstream, and livestock divagation are all factors that overdetermine everyone's behavior. Thus, the



Idiatou CAMARA,

Journalist / Communication Officer of the Country Water Partnership of Guinea CWPGUI



Sidi COULIBALY,

Communication and Knowledge Manager GWP-WA

fundamental problem of antagonism between agriculture and livestock can only be solved through a profound change in the management of the cattle herd, involving joint pasture management, control of divagation and a review of fallow management. These measures require decisions to be taken at different levels (village, chief of farm, individual) and cannot under any circumstances be based on the simple transmission of a technical message. Similarly, the problem of soil fertility conservation or restoration cannot be solved solely by the introduction of a few composters or the localized use of mineral fertilizers. It is the entire production system of the farm that is at stake, involving the management of the livestock (night parking and manure production), the availability of labour force, the balance between the different spatial units composing the farm (subterranean, outdoor field, possibly lowland), land uses (reforestation authorization, security of land allocation).»⁸

«Although we ask them to conserve resources and ensure that the resources of the Fouta Djallon Highlands are managed in a sustainable way, we have an obligation to support the communities of the Highlands as part of their right to development,» says Mr. Adamou BOUHARI, Task manager Biodiversity Programme/ Land Degradation, UN Environment West Africa Office.

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⁸<https://www.ifad.org/fr/web/ioe/evaluation/asset/39829035>

Local associations are mobilizing to protect their environment

In Gongoret, of the Sub-prefecture of the same name, 70 km northwest of Mamou, the local population has been severely suffering from the adverse effects of climate change in recent years, with very late rainy seasons. When it rains, runoff carries thousands of pieces of tree and soil debris, which turns streams into real garbage dumps, resulting in sediments that help these streams dry up. In the area, there are increasing conflicts around water points between humans and livestock, including wild animals such as chimpanzees, monkeys and dog-faced baboons. The area is home to a large population of chimpanzees who, driven from their natural habitat by bush-fires and slash-and-burn agriculture, come to villages in search of water and food.

The population, concerned about this new situation, called for the mobilization of local nationals residing in Guinea and elsewhere across the world as well as local authorities.

Thus, the forest grouping of «Hoorè Bady» has been updated to meet the challenge. This group, which has about 30 members, was set up in 1998 to work to protect the environment in an area of 37 ha. It had been financially supported with the European Union's Support for the Integrated Management of Natural Resources (AGIR) project as part of the development of the catchment areas of the Upper Niger and Upper Gambia, with technical supervision provided by the managers of the Prefectural Directorate

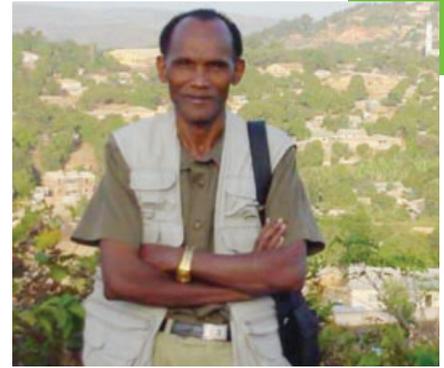
of the Environment Water and Forests of Mamou.

Several activities had been carried out, but at the end of the project, there was demobilization and several members of the group decided to try the adventure in the big cities or even abroad. During this period, the group only survived thanks to a nucleus that remained in place.



At the head source of the water way

The call for mobilization in the face of the ongoing tragedy was quickly heard. The members of the group who had set off on an adventure returned to the village to join those who had remained on the spot, made up of active and retired civil servants. Thus, in July 2018, everyone



Mody Sory DIALLO

gathered in the village to revive activities during this period of favorable forestry conditions. The Prefectural Directorate of the Environment of Mamou contributed by providing three supervisors and more than two thousand Gmelina plants for the reforestation of the Hoorè Bady and Fello Kourou estates, with a total area of 98 ha.

The estate is watered by the Badiwol River, which rises above the site (Féto Tyèrno) to the west of central Gongoret. Due to various human activities, this watercourse is hindered in its major bed. This situation has led the members of the group to undertake cleaning activities on the Badiwol River, which waters the 37 ha that are protected by the Hoorè Bady forest group.

The group needs to be supported in its efforts to carry out these activities successfully, in particular through awareness-raising actions and reinforced education for the local population.

For the preservation of endangered wildlife such as chimpanzees, whose locality has a very large population, the «Hoorè Bady» and «Fello Kourou» groups intend to federate their actions to set up a joint association with the collaboration of the NGO Guinée Ecologie, which has proven expertise in this field.

Mody Sory DIALLO,

Permanent Secretary of the Network of Parliamentarians on the Environment, member of the «Hoorè Bady» forestry group



Collective engagement to protect the water way

The ATLAS of the Fouta Djallon Highlands: *a decision-making tool to guide sustainable investments in the FDH and West Africa*

Presentation of the FDH Water Atlas

The Fouta Djallon Highlands Water Atlas is a decision-making tool to support the IWRM process and sustainable investments in the FDH and West Africa.

It is a reference document for decision-makers, politicians, planners, civil society, technical and financial partners as well as training and research institutions to facilitate and guide their future support.

The goals of the FDH Water Atlas are as follows:

- Identify and document the issues of water and related resources in the FDH using narratives, maps, graphs and photos.
- Inform and raise awareness among recipients about the richness and challenges of ecosystems, biodiversity, landscapes and FDH culture.
- Highlight the influence of the FDH on populations and natural environments well beyond their boundaries through the international and national rivers that originate there.

The Water Atlas aims to provide a multi-faceted, but not exhaustive, represen-

tation of the Fouta Djallon Highlands for environmental decision-makers and planners. All the spatial vector and raster data series are grouped together in a project called *ESRIR ArcReader*.

The main categories developed cover administrative levels as well as population, hydrology, topography, climate, soil, vegetation cover, protected areas, fires, satellite images and digital maps to consider various environmental parameters. It is an Atlas on Integrated Water Resources Management (IWRM) that deals with water and its associated resources.

The States participating in the Atlas are Guinea, Gambia, Guinea-Bissau, Mali, Mauritania, Niger, Senegal and Sierra Leone.

The Atlas was developed for the creation of the Regional Observatory as part of the «**Integrated Natural Resources Management Project of the Fouta Djallon Highland**» of the Global Environment Facility (GEF).



Mariama Dalanda DIALLO

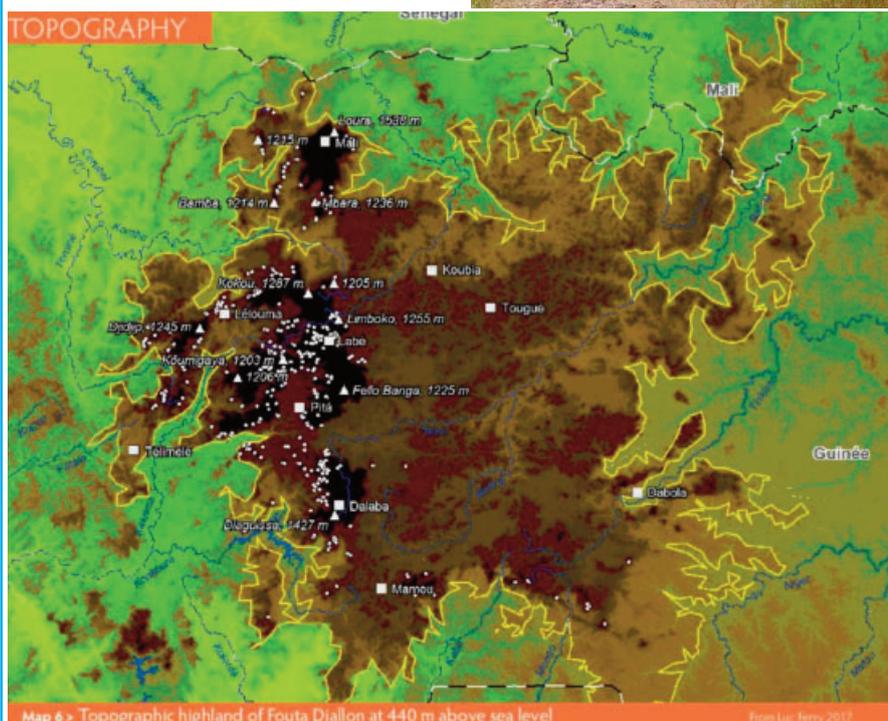
The project is part of a collaboration between the United Nations Environment Programme (UNEP) now UN Environment, the Food and Agriculture Organization of the United Nations (FAO) and the International Coordination Office of the African Union (ICO-AU) of the participating States.

The Atlas's contribution to a better understanding of the global problem of degradation of the Fouta Djallon Highlands is based on the 4 intervention components on which it has focused to meet all its objectives.

- **Component 1:** Strengthen regional collaboration in the planning and implementation of natural resources management activities in the Fouta Djallon Highlands.
- **Component 2.** Improve the management of natural resources and living conditions in the Fouta Djallon Highlands.
- **Component 3.** Strengthen the capacities of stakeholders in the integrated management of natural resources in the Fouta Djallon Highlands.
- **Component 4.** Ensure project management, monitoring and evaluation and dissemination of information on the Fouta Djallon Highlands.

The final document is accessible to all these recipients, its content is attractive, well-illustrated and pleasant to read.

Mariama Dalanda DIALLO,
IWRM Unit, National Directorate
of Hydraulics, Guinea



Interview with Hamed Diane SEMEGA,
OMVS High Commissioner

«The hydrological network of the FDH⁹, due to its morphological characteristics, offers great possibilities for hydraulic developments of all sizes».

Hello High Commissioner, thank you for accepting to answer the questions of «Running Water» on this important issue of protecting the natural resources of the Guinean highlands where several shared rivers in the sub-region, including Senegal, whose basin you are in charge of managing, have their sources. What do the Fouta Djallon Highlands represent for OMVS,¹⁰ apart from the well-known fact that the Senegal River has its source in the heights along these Highlands?

Everything comes from there: because the river has its source there, the Fouta Djallon Highland is vital for the river, and therefore vital for the Organization for the Development of the Senegal River (OMVS). I would like to take this opportunity to recall that when it was established on 11 March 1972, the Organization was given the mandate to

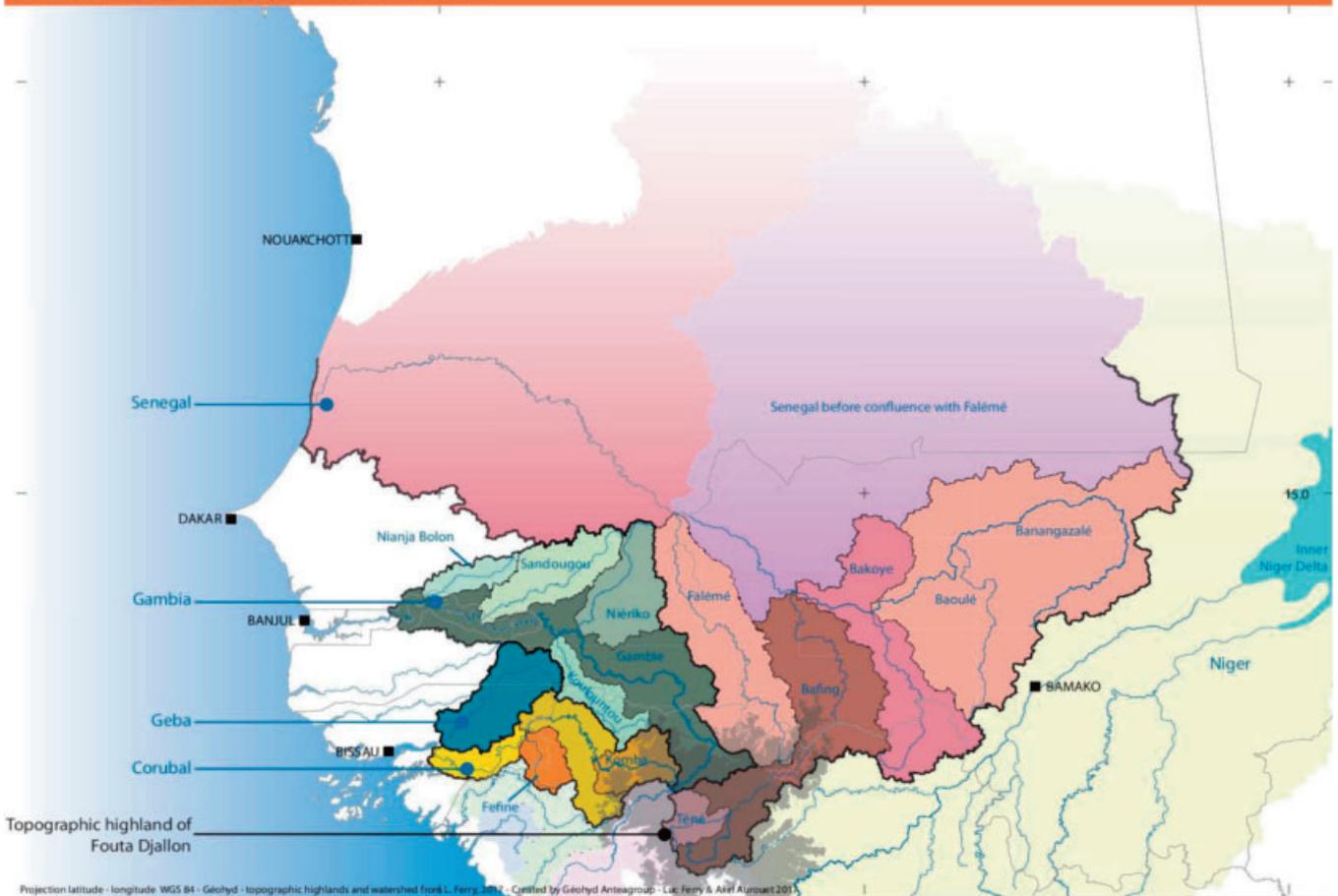
ensure food self-sufficiency for the populations of the basin; to improve their incomes; to reduce the vulnerability of Member States' economies to climate risks and external factors; and to support Member States' economic development. All these missions assigned to OMVS depend exclusively on the availability of water.



Hamed Diane SEMEGA

Moreover, due to the morphological characteristics of the Highlands, their hydrological network offer great possibilities for hydraulic developments of all sizes, with single or multiple purposes. These contribute to the regulation of the Senegal River, which makes it possible to satisfy several water uses in OMVS Member countries, and to meet local, national and sub-regional needs in several economic sectors: the supply of drinking and industrial water for human settlements and livestock; the production of hydro-

Map 10 > Rivers and basins of Sénégal, Gambia, Geba and Corubal



⁹ Fouta Djallon Massif

¹⁰ Organization for the Development of the Senegal River



Hamed Diane SEMEGA

electric power at a lower cost than thermal energy; and land irrigation for fixed and intensive agriculture that protects the environment.

To date, we have built multi-purpose hydroelectric facilities, the Manantali, Félou, and soon Gouina dams, which supply electricity to Member States. There is also the Diama anti-salt dam, which now provides drinking water to the cities of Dakar (60%) and Nouakchott (100%). It also allows the mobilization of important water resources for the irrigation of nearly 400,000 ha, particularly in the valley.

We are starting the implementation of the Integrated Multimodal Transport System (SITRAM) integrating navigation on the river on the Saint Louis section in Senegal to Ambidédi in Mali, to mention only major infrastructure projects. This project is in a new phase, which will make it possible to achieve a great dream of the populations living along the basin. I would like to note that the Highland is home to 40% of Guinea's inhabitants and 40% of its livestock. It contains important mineral resources whose development can benefit all the countries of the Sub-region.

OMVS is an example of successful governance among transboundary basin organizations around the world. The major source of the Senegal River is threatened and observers are worried because of the critical state of degradation of its ecosystems. Have you carried out a diagnosis at OMVS level of the state of the source of the river and what are the major factors of threat?

Indeed, the Fouta Djallon Highlands are experiencing an accelerated degradation, due to a combination of factors. This is the case with the traditional practices of slash-and-burn shifting agriculture with increasingly shorter fallow times that do not spare steep slopes; excessive cutting of forest woodlands to meet ever-increasing needs for fuelwood; uncontrolled bushfires; and the effects of overgrazing that greatly reduce the plant cover exposing the soil to drying out and, of course, the cumulative impacts of climate change.

In response to this alarming situation, OMVS Member countries, those of the subregion and the international community have mobilized to take action to stop and even reverse this degradation process.

Regarding OMVS, we have carried out diagnostic and resource planning studies of the basin with the support of our technical and financial partners, as part of several integrated development projects and programmes in the Senegal River basin. In the 2000s, for example, the GEF project carried out activities to reduce the negative impact of soil erosion and further degradation of water resources. A study on bushfires in the Highlands was also conducted. Similarly, the first phase of the Integrated Water Resources Management Programme (IWRM) and multi-purpose uses has enabled us to acquire important documents. First, the Transboundary environmental Diagnostic Analysis (TDA), which made it possible to identify, classify and categorize the emerging transboundary problems of the basin and to recommend options for measures that OMVS and the riparian States could implement to respond to these problems. Second, the Strategic Action Plan (SAP), whose general objective is to provide OMVS and its partners with a tool for the sustainable transboundary management of the environment of the Senegal River basin by:

- proposing priority actions and measures to address the most urgent environmental problems identified in the TDA;
- identifying the roles and responsibilities of the various actors in the implementation of the selected actions;
- defining the institutional and regulatory framework, and if necessary, the reforms required to create an enabling environment for the imple-

mentation of the suggested measures;

- defining an investment plan and the mobilization of financial and human resources for the implementation of the proposed actions.

Finally, there is the Master Plan for Water Development and Management (SDAGE) for the Senegal River Basin. As a reference document for the planning of the sustainable and harmonious development of the Senegal River basin by 2025. It highlights the main orientations and options for sustainable development of the Senegal River basin through a multi-sectoral development action programme integrating energy, agro-sylvo-pastoral, industrial and mining development, environment and tourism, transport and communications, drinking water supply and human and animal health.

What can you tell us about the major actions you have taken so far or planned to address the critical situation of FDH degradation?

The idea of integrated development of the Highlands in a regional context dates back to the international soil conference held in Dalaba, Guinea, in 1959.

With the droughts of the 1970s, genuine concerted action was taken under the aegis of the Organization of African Unity (OAU) at its 33rd session of the Council of Ministers held in Monrovia, Liberia.

The O.A.U., with the assistance of some partners, has set up the Integrated Development Program of the Fouta Djallon Highlands (RPID-FDH), involving the eight countries (Gambia- Guinea- Guinea Bissau, Mali - Mauritania - Niger - Senegal - Sierra Leone) dependent on the waters of the Highlands. The RPID-FDH will develop various programmes, including an Observatory to monitor the environment of the Highlands.

Faced to the persistent degradation of ecosystems and environments in the Fouta Djallon Highlands, the OMVS Heads of State have decided to take action. The Assembly of Heads of State and Government of OMVS, through Resolution No. 00035 XVIth /SO/ER/CEG/CKRY/2015 of 11 March 2015 instructed the Office of the High Commissioner to establish the Regional Observatory for Water and the Environment of the Fouta Djallon Highlands (OREE-FDH).

We carried out the institutional study establishing the Observatory. This study was validated in August 2018 in Conakry. With the third support of the Kingdom of the Netherlands (Trust Fund 3) through the second phase of the Integrated Water Resources Management Project (IWRMP 2), we are carrying out architectural studies for the rehabilitation of the premises of the Organization of Senegalese Riparian States (OERS) located in Labé (Guinea). We intend to rehabilitate these premises to make them the Observatory's headquarters.

What are your various regional and international partners in the fight to safeguard the head of the sources of the Senegal River and beyond the Highlands in general?

"We carried out the institutional study establishing the Observatory. This study was validated in August 2018 in Conakry."

In the fight to safeguard the source heads of the Senegal River and the Fouta Djallon Highlands in general, OMVS' partners are the World Bank (WB), the European Union (EU), the French Development Agency (AFD), ECOWAS, the AU, RPID-FDH, etc.

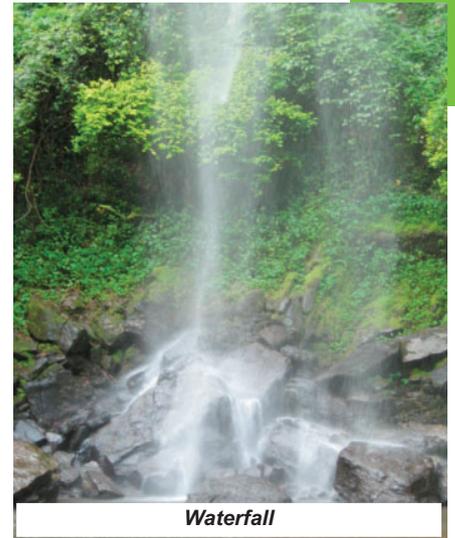
The partners contribute to the financing of the safeguarding and development activities that we are carrying out in the Senegal River basin in general and in the Fouta Djallon Highlands in particular.

What do you think about the transfer of the Regional Programme for the Integrated Development of the Fouta Djallon Highlands (RPID/FDH) from the African Union to ECOWAS? Why was OMVS absent in Conakry on July 7, 2018 for the first ceremony for this transfer?

The Integrated Development Program of the Fouta Djallon Highlands (RPID-FDH) is one of the pioneering programmes in the fight against the degradation and preservation of the resources, ecosystems and associated environments of the Fouta Djallon Highlands.

Its transfer from the AU to ECOWAS will enable local management of environmental and social issues related to the preservation of this heritage common to all West African States.

Our absence at the ceremony for the transfer of the RPID-FDH from the AU to ECOWAS (Conakry on 7 July 2018) was motivated only by a coincidence that does not detract from our desire to cooperate with all ECOWAS development actors. However, we participated in the workshop held from 29 November to 1 December in Conakry on the effective transfer of competencies from the African Union to ECOWAS. OMVS was represented by the Director of Environment and Sustainable Development.



Waterfall

For what kind of activities OMVS would like to partner with GWP to carry out to safeguard the FDH?

With the GWP, OMVS would like to establish fruitful partnership relations in all areas of IWRM and the fight against the effects of climate change, the impacts of which on water resources and the environment are of concern to the entire international community. We intend to continue what we started on a continental scale with the SITWA project whose objective was to support the African Network of Basin Organizations.



Water body inside the Highlands



Meeting with Oye GUILAVOGUI, Minister of State, Minister of the Environment, Water and Forests of Guinea

The rivers of the Fouta Djallon Highlands in Guinea are threatened by human actions. To discuss this, we interviewed the Minister of State, Minister of the Environment and Forestry, Mr. Oye GUILAVOGUI. Discussions with the Minister of State also focused on ongoing initiatives and prospects for the preservation of the Fouta Djallon Highlands, from which most of West Africa's major transboundary rivers originate.

An interview conducted by *Idiatou CAMARA*

Minister of State, for some years now everyone agrees on the critical state of deterioration of watercourses in Guinea, particularly in the Highlands. Can you give us an idea of the causes of the problem of national, sub-regional and international importance?

Thank you for this opportunity to discuss this issue, which undermines the foundations of sustainable development in our country, Guinea. I would say that the Guinean economy is essentially based on the exploitation of natural resources and this can indeed be a factor in the destruction of our waterways. The Fouta Djallon Highlands are a common heritage to Guinea, other West African countries, Africa and the entire international community. Most transboundary rivers, including Niger, Senegal, Gambia and Mano, have their sources there.

The main causes of the degradation of the watercourses of the Fouta Djallon Highlands are, among others, the excessive cutting of trees on the catchment areas and head sources, the installation of brick kilns on the banks of the watercourses, the deposit of waste rock in the major bed of the watercourses after dredging, artisanal mining and mining activities in general in the watercourses. The list is long.

Tell us about the initiatives developed as well as those planned by the country, under the coordination of your Ministerial Department, to save the rivers of the Fouta Djallon Highlands, where the main transboundary rivers of West Africa originate, and threatened by human actions.

To address this situation, which has a dangerous impact on the integrity of these strategic resources for Guinea and the sub-region, my department, through the Environmental Monitoring Observation Centre (EMOC), regularly prepares reports on the state of the environment in general and watercourses in particular. These reports provide an overview of the degradation of the country's natural resources. As a result, the challenges and opportunities related to their restoration and sustainable management are highlighted.

"All the planned actions are supported by the implementation of a hydro-ecological monitoring system for international and national rivers."

Similarly, we have a number of initiatives related to the commitments made by the Government through the «Nationally Determined Contributions» (NDC), under the United Nations Framework Convention on Climate Change (UNFCCC) signed in 1992 in Rio de Janeiro and the Paris Agreement of 2015. In this context, the commitment made consists in preserving these resources, for the benefit of the populations of Guinea and West Africa, since the rivers of our country, filled with Mother Nature, water about ten countries in the sub-region before flowing into the Atlantic Ocean.



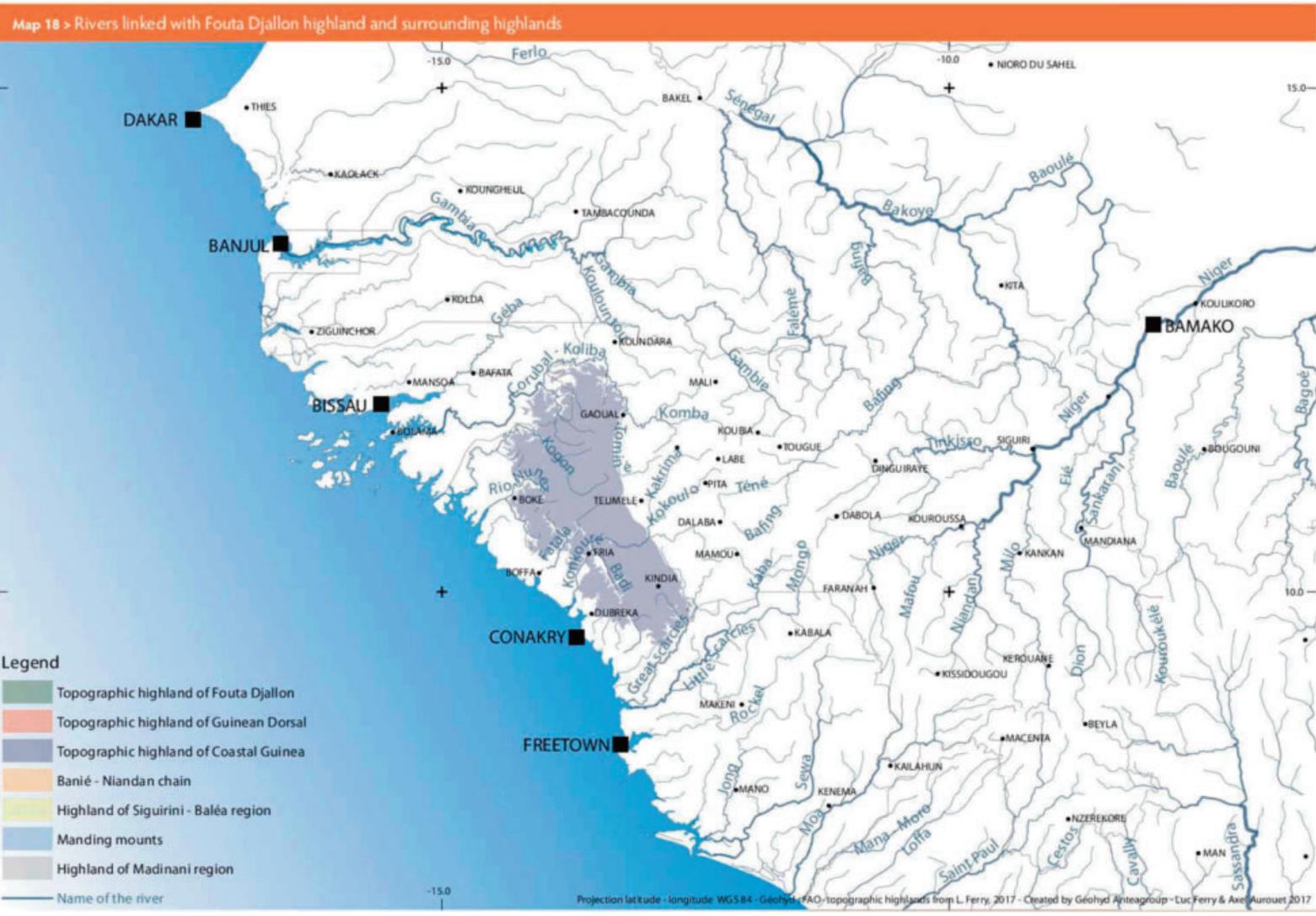
Pathway

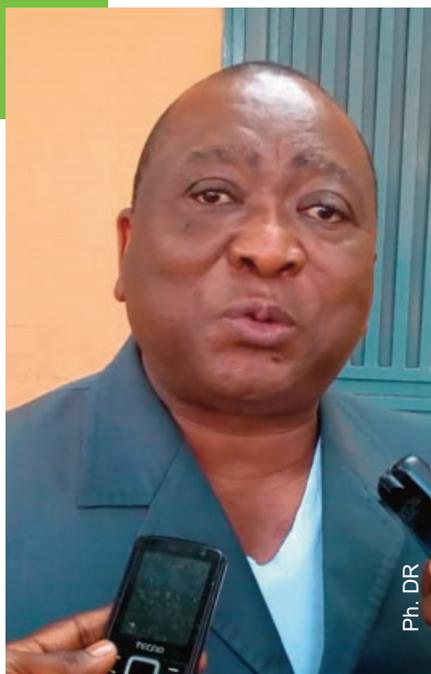
In terms of planned priority actions, there is the preservation and restoration of head sources, banks and the major bed at the scale of national and trans-boundary watercourses. There is also the search for alternatives to activities involving the use and extraction of natural resources, which are responsible for the degradation of water quality, such as the manufacture of bricks and the dredging of beds for the search for minerals. Measures to integrate the adaptation and resilience dimension of climate change into the institutional and legal frameworks of basin organizations responsible for the management and management of transboundary river basins are planned. All the planned actions are supported by the implementation of the hydro-ecological monitoring system for international and national rivers.

What is your perception of sub-regional, international solidarity with Guinea in its current struggle to preserve its High-



Forest protecting the head source





Oye GUILAVOGUI,
Ministre d'Etat, Ministre de l'Environnement
des Eaux et Forêts de la Guinée

lands, a heritage for West Africa, Africa and the international community?

Guinea, as a West African Water Tower, benefits from the support from technical and financial partners in the integrated and sustainable management of its natural resources. This is the case of the Niger Basin Authority (NBA), the Organization for the Development of the Senegal River (OMVS), the Organization for the Development of the Gambia River (OMVG), the Economic Community of West African States (ECOWAS), the Mano River Union. We appreciate the initiatives taken by these partners, which we hope will be sustainable, especially regarding the mobilization of financial resources, which is not always a foregone conclusion.

To date, Honorable Minister, if you were asked your level of satisfaction with the current mobilization for the protection of Guinean rivers and highlands, what would you say?

My Ministerial Department appreciates the current mobilization for the protection of Guinean rivers and highlands. But for a question of synergy of action, and for more sustainable and time-bound results, it is desirable that the ministerial department in charge of Hydraulics, make more communication in order to promote greater visibility on the actions developed by ensuring the effective and

coordinated involvement of the other technical services concerned.

Recently, there was the transfer of the Regional Programme for the Integrated Development of the Fouta Djallon Massif from the African Union to ECOWAS, during a workshop held in Conakry. Do you think it is a high-impact solution for the protection of rivers and river basins in our country?

We can see it from this angle, given the sub-regional aspect of this Program. The transfer of its institutional anchorage from the AU to ECOWAS is, in my opinion, an appropriate solution for its implementation. However, it is important to ensure that all parties involved play their full role and have the necessary technical and financial resources.

To conclude, Honorable Minister of State, what support would you like from the Global Water Partnership, through its regional branches for West Africa (GWP-WA) and Guinea (CWP-Gui), as part of your actions to restore and protect rivers and the Guinean Highlands? What collaboration do you plan to develop for a synergy of action?

The Global Water Partnership (GWP) is an intergovernmental organization that supports countries in translating the principles of sustainable water resources management into concrete actions. The creation and revitalization of the Country Water Partnership of Guinea, affiliated to the GWP and the GWP-WA, is a very good thing and an opportunity to be seized. I think this organization at the national level. I am pleased to note that the CWP-Gui is chaired by an official of my ministerial department.

Collaboration with CWP-Gui, together with GWP and GWP-WA, can contribute to raising awareness and mobilizing stakeholders, including technical and financial partners and the international community, around issues related to the restoration and protection of Guinean rivers and highlands, considered to be the Water Tower of West Africa, for both present and future generations. I intend to maintain the momentum of remobilizing all institutional actors, partners and other stakeholders for a synergy of actors and partners operating at various levels.





The Regional Programme for the Integrated Development of the Fouta Djallon Highlands / RPID-FDH

The idea of the integrated development in a regional context of the Fouta Djallon Highlands dates back to the International Land Conference held in Dalaba, Guinea, in 1959.

The hydrological interest at the regional level and the risks of environmental degradation of the Fouta Djallon Highlands led the Organization of African Unity (OAU) to include its protection and restoration as a priority action of the «Medium and Short Term Action Plan to Combat Desertification, Drought and Other Natural Disasters in Africa» adopted in 1979.

At the same time, in response to the relevant resolutions of the United Nations General Assembly of December 1979, the United Nations Environment Programme (UNEP) has also included the Fouta Djallon Highlands in its «Action Plan to Combat Desertification». Thus, the OAU, UNEP and the Government of Guinea initiated the Regional Program for the integrated Development of the Fouta Djallon Highlands (RPID/FDH). Eight (8) countries dependent on water from the highlands participate in the programme: Gambia, Guinea, Guinea Bissau, Mali, Niger, Senegal and Sierra Leone.

The Programme aims to ensure the rational use and protection of the natural resources available in the Fouta Djallon Highlands and to contribute to the improvement of the living conditions of the populations in this region, as well as in those watered by the waters originating from the high-

lands.

Unfortunately, the desired cooperation in the implementation of the pilot projects between 1980 and 1995 did not materialize, despite the fact that the management of the RPID/FDH had been entrusted to the OAU International Coordination Office (ICO/OAU), under the supervision of the Ministerial Conference of the eight-member countries. To remedy this situation, the Global Environment Facility (UNEP-GEF) was approached to finance a project whose main objective is to define an integrated management project, with a legal framework for cooperation and institutional framework for programme implementation.

The Fouta Djallon Highlands Regional Integrated Natural Resources Management Project funded by GEF UNEP is being implemented by FAO in RPID/FDH member countries.

After several years of programme management by the OAU and then the African Union, the Programme was transferred in November 2018 to the ECOWAS Commission for more effective proximity management.

For this issue of Running, we met with various stakeholders involved in the implementation of the Regional Integrated Development Programme for the Fouta Djallon Highlands (RPID/FDH) as well as the Fouta Djallon Highlands Integrated Natural Resources Management Project (FDH-INRM).



Adamou BOUHARI, Task manager Biodiversity/ Land Degradation UN Environment West Africa Sub-regional Office

«With the Fouta Djallon Highlands, we must develop a mechanism for the payment for ecosystem services»

UN Environment within the framework of its mandate to support them in the implementation of this programme. With funding from the Global Environment Facility, we have a project implemented by FAO that has three main components.



Bridge over a waterway

UN Environment (formerly UNEP) has an important role in development, advocacy, scientific research, support to governments in both natural resource management and regional cooperation. And based on this is a comparative advantage, the Global Environment Facility (GEF) and the States bordering the Fouta Djallon Highlands have decided to ask UN Environment to support them in the implementation of the Regional Programme for the Integrated Development of the Fouta Djallon Highlands (RPID/FDH) in an integrated manner. This programme covers more than one theme, focusing on the issue of water, biodiversity, climate change and the global management of natural resources. The involvement of communities in the management of natural resources is an extremely important element and that is why States have wanted to use the strategic position of

«We have an obligation to support communities living in the Fouta Djallon Highlands as part of their right to development»

The first component is to support the States' desire for synergy and harmonization in terms of resources management policies in the Fouta Djallon Highlands. One of the key elements of this political support is the question of the Fouta Djallon Observatory. We have undertaken to support the States in the establishment of the Observatory itself or to create the conditions for the creation of a network of observatories of basin organizations that are in the Fouta Djallon basin so that this can be used to mobilize the necessary data and information. This is in line with our willingness to lobby to raise the Fouta Djallon Highlands agenda and to do so, we need data, reliable scientific information, socio-economic data, which observatories are able to collect to enable decision-makers to have tools for advocacy.

The second component focuses on the living conditions of the communities living in this basin. Although we ask them to conserve resources and ensure that the resources of the Fouta Djallon Highlands are managed in a sustainable manner, we have an obligation to support them in their right to development. And in this second component, a number of impact actions have been initiated in the field, such as drillings to enable communities to have access to water resources for market gardening, fish farming, etc. We are implementing pilot actions to demonstrate that it is possible to move on to other alternatives to improve the



Meeting on the Highlands in Conakry

living conditions of communities while preserving the integrity of the Fouta Djallon Highlands.

The third component around which we are developing activities in the framework of this project is technical support. The States are committed to harmonizing policies and it is necessary at the technical level to have the necessary tools and information to enable them to make informed decisions in the States in the framework of the protection of the Highlands.

The Fouta Djallon Highlands are important to the international community for the simple reason that millions of people in West Africa live in this basin. We have a role to play in ensuring that these communities can enjoy a minimum standard of living while remaining in harmony with nature. Water resources in the West African region are fundamentally linked to the situation in the Fouta Djallon Highlands. It is known that this is where several major rivers in the sub-region originate. Conserving the Fouta Djallon Highlands means ensuring the sustainability of these rivers, which, beyond social, agricultural and natural resource management issues, play an important role in the economic development of this area.

The number of dams on the various rivers that originate from the Fouta Djallon Mountains and on the basis of which countries derive their electricity is a central element in the economic and social development of these countries. In the field of biodiversity, there are extremely important Highlands and that is why we want to work with ECOWAS to advocate that the Fouta Djallon be considered as a green lung that serves the world in the



same way as the Amazon or Congo basin so that it can bring environmental and global benefits to the international community and thus raise the interest of this community to save the Highlands.

From my discussions with the FAO representative in Conakry, who visited the sources of the rivers, it appears that the situation is worrying in terms of degradation and the impact of human activities around this environment. It is important that at the level of these sources, awareness continues to be raised so that both sides can understand the importance and role they must play in the survival of millions of West African souls living in these basins and it is important that their interest in socio-economic living conditions be taken into account because they too have the right to live and develop.

The Fouta Djallon Highlands provide an opportunity to develop what is called a mechanism for the payment for ecosystem services. The Fouta Djallon Highlands produce services that benefit all the inhabitants of the basin and the international community; but those who ensure this function of protecting the Highlands must be able to be rewarded

even if it is indirectly to contribute to their economic and social development so that they know that the environmental conservation actions they undertake are recognized and rewarded by the national and international community. This is why we would like the ECOWAS Heads of State, first and foremost His Excellency the President of the Republic of Guinea, Professor Alpha CONDE, to be the champion to bring this concern to the highest summit of Africa and the World during the summits and meetings of the African and international Union on climate and biodiversity but especially on sustainable development so that attention is focused on the Fouta Djallon Highlands basin. The latter is an important tool for States to contribute to the implementation of the Sustainable Development Goals that have been defined. It is an important tool that States must take into account to reverse the trend of environmental degradation but also for the fight against poverty in the sub-region.

I think that's a very good thing, it's just doing justice to make the regional mechanisms work. ECOWAS is a body that includes almost all the countries of the Fouta Djallon Highlands and has influence in terms of political decisions and guidance at the sub-regional level. Transferring the Programme to ECOWAS is a very good thing and we have high hopes that ECOWAS will play its full role. One could think that the Programme being owned by the African Union is diluted given the scale of the institution at continent level with priorities in all the other sub-regions, however, ECOWAS must make the issue of the Fouta Djallon Highlands one of its top priorities to advance together with the international community not to only ensure the conservation of the Highlands but also produce a clear impact on the socio-economic life of the peoples living in this basin.



Clothes washing in a waterway



Sékou SANGARE, ECOWAS Commissioner for Agriculture, Environment and Water Resources

«Let's act today to find sustainable solutions for tomorrow's problems»

The Conakry meeting from 29 November to 1st December 2018 marks the end of the process of transferring the supervision of the Regional Integrated Development Programme for the Fouta Djallon Highlands from the African Union to ECOWAS, in accordance with the instructions given by the Heads of State who have decided that, in accordance with the principle of subsidiarity, this Programme should be managed by the Commission of the Economic Community of West African States.

The meeting concluded the process and with the countries we discussed the results achieved so far, the weaknesses of the project currently underway and on the basis of this review to make a number of recommendations as ECOWAS takes over the leadership of this programme. In consultation with the States, we will be able to build a programme that is consistent with the wishes and objectives expressed by the countries. The interest of the Fouta Djallon Highlands Programme remains the same, i.e. it is from the Highlands that most of West Africa's water resources come from. Whether it is the Niger River, the Gambia River, the Senegal River, the Mano River, the Makona River, all these large rivers have springs located either in the Highlands or in their extensions. Therefore the preservation and proper management of the natural resources of this Highlands are important for the lives of all the populations that live and depend on these resources in these countries.

The Highlands are of vital importance to all basin organizations including the Niger Basin Authority (NBA), the Organization for the Development of the Gambia River (OMVG), the Organization for the Development of the Senegal River (OMVS), the Mano River Union (MRU). We are sorry for the absence of the Niger Basin Authority. Based on the findings, there has been progress in a number of basin organizations such as OMVS or OMVG where there are very good operational results in the field that are being implemented in the countries. It is true that not all the needs of all villages are fully covered, and this is one of the reasons why this meeting requested that ECOWAS very quickly design a regional project that will densify the results that are achieved in terms of source protec-

tion. So far, these are actions that have been undertaken as pilot actions. This project should make it possible to cover the areas that have been neglected due to lack of resources at the level of basin organizations and ensure that we are complementary and avoid duplication in the field to make more efficient use of resources.

As part of the mid-term review of the results of the GEF project, we will be able, in consultation with basin organizations and countries, to identify a concrete programme of activities and mobilize the necessary funding with the support of all our partners and extend the actions to Nigeria and Benin, which are concerned by the water resources problems arising from the Fouta Djallon Mountains.

God intended Guinea to be the natural custodian of these resources. In a village when women practice market gardening along a river, there are people upstream and those downstream. If those in the upstream block

the water only for their needs, if those in the downstream no longer receive water, there is a risk of conflict. The same situation applies to States in terms of the exploitation and development of water resources in shared rivers.

A country that hosts the sources of an international watercourse, based on international conventions, is under a natural obligation to cooperate in order to have a rational and judicious use so that downstream countries can also benefit from these waters. Fortunately, since the early days of the country's independence, the authorities have always made it a concern. Thus, the first international conference organized by independent Guinea focused on the problems of preservation, soil conservation, erosion control and natural resource conservation in the Fouta Djallon Highlands. This international conference took place in Dalaba in 1959 and was chaired by President Ahmed Sékou TOURE himself, who addressed the world

«ECOWAS will develop a regional project to further strengthen the results already achieved in the protection of head sources »



Meeting on the Highlands in Conakry

to highlight the interest of the Highlands not for Guinea itself but for the whole of West Africa. It is in this dynamic that projects were born in Guinea with the collaboration of the United Nations System through the United Nations Development Programme (UNDP) but also the FAO. The same commitments led the authorities to submit to the Organization of African Unity (OAU) at the time at a meeting in Monrovia so that the Highlands Programme could be considered as a challenge at the continental level. Therefore this programme has been integrated into the OAU's programme of activities and with development and institutional reorganization, the principle of subsidiarity has come to be applied.

The context we are living in is strongly influenced by climate change. Experts from the Intergovernmental Panel on Climate Change (IPCC) have made it clear that the African continent will be one of the most affected by the increase in temperature and *Experts predict a temperature increase of 4 to 5 degrees, and with this temperature, our region will be marked by high population migration due to droughts and floods.*

West Africa is the region for which experts say very clearly that it will experience a temperature increase of between 4 and 5 degrees. Already in West Africa there are areas where temperatures often range from 45 to 48 degrees in the shade. If we add 4 to 5 degrees, we will be above 50 degrees and with this tem-

The climate change issues mentioned are real and the media specializing in environmental issues have an important role to play

perature, our region will lose a lot of things. It will be marked by a strong migration of populations because there will be many droughts and floods. During dry periods, it is not excluded that the rivers and streams we have today may be hit by drought altogether. Today, in the capital Niamey, at certain times of the year, the national company that supplies the capital with drinking water is obliged to go to the major bed of the river to make dikes to retain the slice of water that arrives so that two or three days later it can pump water to supply the populations. You imagine that the populations facing this situation will be forced to move. The challenges facing our generation today are extremely important. And in Guinea, which is home to the springs of the main rivers, in times of drought, you can cross the Milo, Niger and many rivers disappear,

and you can cross them on foot. The climate change issues mentioned are real and the media specializing in environmental issues have an important role to play in raising awareness and informing the elders, local elected officials and young people so that we all become aware of these changes, which are realities we are already experiencing. And there are things we can do without waiting for external funding. For example, stopping bushfires is something possible and many other things we can do at the local, communal, regional and national levels, without waiting for any funding. And that will have to be done without delay.

The support of the partners will enable us to do the great work; to ensure that what is local and good can be scaled up in all the villages concerned so that we can have greater impacts. One of ECOWAS' roles will be to work with basin organizations, populations and local elected officials so that, with the support of governments, we can get involved in changing behavior to preserve and properly manage our natural resources in order to avoid dramatic situations of water shortage and high migration for our children and grandchildren tomorrow and the day after tomorrow. Do not think that people will only go to Europe, 80% of the people who will be hit will go to the coastal countries. It is in our interest to find lasting solutions for tomorrow's problems that may arise.



Group picture of the meeting on the Highlands in Conakry



Participants in the meeting on the Highlands in Conakry



“African Union will not and cannot step aside of the Programme which is for the whole of Africa”

Almamy Dampha, Senior Policy Officer, African Union Commission

The transfer of the Fouta Djallon Programme from the African Union Commission (AUC) to ECOWAS Commission has started with the organization of the workshop held in Conakry on 9 and 10 July 2018 which represents the real implementation of that transfer. This transfer is meant for effectiveness because the closer you are to the ground and the people, the better and you become more effective in terms of programme implementation.

For the reason of subsidiarity and ownership which is very important, we want ECOWAS to take this as West African patrimony, heritage. Many of the countries in the region draw their water sources from the Fouta Djallon and this water is used for energy generation, irrigation, agriculture and livestock, so this is a very important programme for West Africa. That is why the African Union Commission said that the programme should be moved to ECOWAS with the continuous support of the African Union (AU).

AU as a continental organization mandated for an integrated development of Africa based on the principles of subsidiarity and integration will not and cannot step aside since this programme is not only for this region but the whole of Africa and AU will always support this programme.

Many of the challenges Africa is facing in terms of climate change, renewable energy to ensure our development, in terms of food security can find answers in this region and the programme is helping address all of these issues including peace.

The Programme is being effectively implemented in all eight (08) Member countries (Gambia, Guinea Bissau, Sierra Leone, Guinea, Mali, Senegal, Mauritania and Niger) and we hope that countries like Nigeria and Benin currently sitting as observers will join soon to become full members. It is benefitting of the support from FAO, UN Environment, and financial support from Global Environment Facility (GEF). We are now in the second phase of a ten-year programme providing technical and financial support to all the eight countries implementing actions in pilot areas.

Over the years we have tried to make the Programme address livelihood issues, ensuring food security, sustainable environmental management. In terms of concrete activities for example in Senegal, they undertake aquaculture, in Guinea it is bee keeping, support to livestock. In Mali, the programme is providing potable water to communities, women with vegetable gardening, the same thing in the Gambia as well.

Last year (2017), we had a regional meeting with river basin organizations (OMVS¹¹, OMVG¹², MRU¹³ and NBA¹⁴) in Freetown, Sierra Leone. We came out of this meeting with a joint programme and some representatives of these basin organizations are in this meeting from 29 November to 1 December 2018, in Conakry. This is a working progress, yes, we cannot succeed without the involvement of all main stakeholders including River Basin Organizations.

¹¹ Organization for the Development of the Senegal River

¹² Organization for the Development of the Gambia River

¹³ Mano River Union - ¹⁴ Niger Basin Authority

“The approach is to let everybody come on-board, noting that Fouta Djallon is the livestock of West Africa”

Ibrahim Babatunde Wilson, Director ECOWAS WRCC



The Fouta Djallon programme is anchored at ECOWAS Water Resources Coordination Center (WRCC) based in Ouagadougou where we put it as one of our units. Having realized the importance of this particular programme, don't be surprised to see that we are going to put it as a separate entity based in Conakry with a whole structure.

As you know Fouta Djallon has the sources of most of the rivers in West Africa and it goes beyond water to deal with ecosystem, forestry, biodiversity, environment; so, it is a big and important programme for the sustainable management as an example of environmental programme for West Africa and we will put in place a very solid structure to manage it.

Eight countries are concerned, and ECOWAS is going to play its diplomacy through lobbying, encouragement, participation, negotiation. This concerns all of us. It is not a one-man game, we will use the power invested to ECOWAS so that all countries involved in the programme play their part of the game.

We worked and will continue to work with river basin organizations (RBO). It is true that some river basin organizations that have not been involved so far either for their set up (if the RBO has three or two countries, their interest is on these countries) but this is not the approach we are going to use this time. The approach is to let everybody come on-board, noting that Fouta Djallon is the livestock of West Africa. Everybody should come in and we will ensure that we get all on board fully involved working for the sustainable management of the Fouta Djallon.

Senegal is working for the sustainable safeguarding of an eco-geographical area in the Fouta Djallon Highlands

Senegal, as a country bordering the Fouta Djallon Highlands and sharing the catchment areas of two major rivers (Senegal and Gambia), which have their source there, is a stakeholder in the Fouta Djallon Highlands Regional Integrated Development Programme (RPID-FDH), like Gambia, Guinea, Guinea Bissau, Mali, Mauritania and Sierra Leone.

This programme, set up by the African Union (AU), was officially transferred to the Economic Community of West African States (ECOWAS) with the signing of the transfer of responsibility document in Addis Ababa on 24 November 2018.

The **RPID-FDH** is in the implementation of the second phase of five (05) years (2016-2021) of the Integrated Natural Resources Management Project (PGIRN) of the Fouta Djallon Highlands focused around four (04) areas of intervention:

- 1- the strengthening of regional cooperation;
- 2- improving the management of natural resources (**NRM**) and the living conditions of populations;
- 3- capacity building of stakeholders;
- 4- the management, monitoring and evaluation of the project and the dissemination of information.

In Senegal, the Fouta Djallon highlands cover an eco-geographical area of the catchment area located in the Kédougou region in the south-east of the country. This region with the Southern zone is characterized by abundant rainfall unlike other geographical features of the country.

The waters of the Senegal River and its tributaries allow the development of agriculture and rice cultivation, particularly in the river valley, and artisanal fishing thanks to the Diama anti-salt dams.

The **Manantali** hydroelectric dam promotes the production of additional electricity for economic activities.

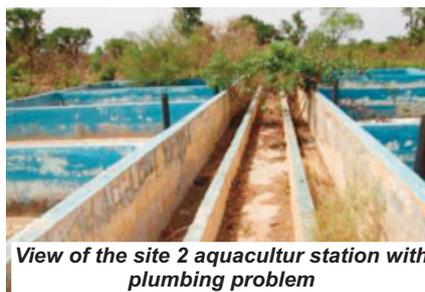


Drinking water is supplied to the city of Dakar and several other localities in the country from Lake Guiers in the Senegal River delta. The developments made by the Organization for the Development of the Senegal River (**OMVS**), created on 11 March 1972 bringing together Mali, Mauritania, Senegal and Guinea, contribute to the achievement of the sustainable development objectives of irrigation, hydropower production and navigation.



The Senegalese component of the Integrated Natural Resources Management Project (PGIRN) of the Fouta Djallon Highlands has two (02) anchor sites in Syllacounda and Samécouta in the eastern region of Kédougou, where reforestation, market gardening, aquaculture, soil defense and restoration (DRS) and capacity building activities take place. The production of improved stoves to reduce wood consumption is an activity that was initially initiated with 50 households that distinguished themselves in the project management approach.

The combination of all these strategies at the local level makes a substantial contribution to improving the living conditions



of communities and reducing anthropogenic pressures on their natural environment.

However, it is worth noting the spectacular threats affecting this part of the biotope of the highlands in Senegal, marked by, among other things, a decline in natural resources. Indeed, the woody



stock, terrestrial fauna, the extension of agricultural areas through sometimes uncontrolled clearing, the increase in domestic livestock and its perverse effects on the natural regeneration of the plant cover, clandestine carbonization, the harvesting of palm wine outside the technical standards of sampling are all harmful elements that do not militate in favor of a stable natural environment. In addition, there is an increasingly remarkable decrease in rainfall, linked to the phenomenon of climate change.

As the denaturing process is progressive, it reveals a real observation that is clearly visible to all the actors present in this configuration. The regalian missions of the forest service allow it to have data capable of showing the mutations undergone by the environment and its biocenosis that are to be castigated. In view of the progressive state of degradation, public and local opinion must be made more aware in order to reverse trends, in particular by using the new information and communication technologies (ICTs) available.



Stone cord to secure the land

The increasing population growth faced with the scarcity of the resources needed to ensure a decent existence has a negative impact and accentuates environmental damage. The loss of biodiversity contributes to the establishment and aggravation of poverty in the area and encourages emigration with its consequences. The situation is worsening with the wave of immigration from Senegal's neighboring countries, which is having a negative impact on the state of natural resources that are being overexploited for their survival. Indeed, the region is facing the rapid development of gold panning, which attracts many people whose clandestine use of mercury



Deployment of participants during the reforestation mission

forms of intervention to mitigate abuses and maintain stability and monitor sensitive sites throughout the country.

The establishment of the Scientific and Technical Committee (STC) by Order No. 12150 of the Ministry of Environment and Sustainable Development of 11 November 2011 constitutes a consultation framework for the PGIRN. The Kédougou Regional Directorate of Rural Development (RDRD) is developing coherent mechanisms for agriculture and livestock. Also, the National Aquaculture Agency (ANA) through its local representation unit implements aquaculture proj-

place of this species and the need to preserve it in their environment. The NGO Multinational Programme for Building Resilience to Food and Nutrition Insecurity in the Sahel is working in this area. All these interventions aim to contribute to the socio-economic development of communities for social balance and the preservation of the environment and its resources.

Consolidating what has been achieved

To perpetuate these achievements, the State of Senegal has defined a political orientation through the Plan Emerging Senegal (PSE) based on the following criteria:

- 1- diagnostic analysis through economic dynamics, the situation of social sectors, the state of governance, peace and security;
- 2- the strategic framework which is based on the guiding principles but also on the challenges, assets and opportunities as well as the strategic axes.

The transfer of the RPID-FDH to ECOWAS should be seen as a sign of continuity, cohesion and a participatory approach by all actors and thus commit them to a new momentum for 2025. The entry into force of the transfer of the RPID-FDH to ECOWAS should make it possible to take into account the difficulties encountered by the member components of the Programme and to bring it closer to reality in order to meet the enormous challenges of dysfunction.

Aware of all the ongoing challenges, the Ministry of Environment and Sustainable Development (MEED) has set up resources commensurate with its missions to enable the National Coordinator and Focal Point of the PGIRN to be effective. The staff provided by Senegal for the management of the massif is operational and aware of the missions assigned to it. As an indication, the strengthening of the technical staff and an adequate budget reallocation have been made. These efforts tend to support investments in the project's experimental sites for income-generating activities, including soil defense and restoration (DRS), assisted natural regeneration (ANR) and reforestation.

Colonel Bocar THIAM,

National Coordinator and PGIRN Focal Point



Launch of hard mold making or improved stove



Testing the first hard mold

pollutes water sources to the detriment of wildlife and domestic livestock.

What to do about it?

To overcome these major difficulties that affect this eco-systemic sample, the State's technical services are at work. This is the case of the Regional Inspection of Water, Forests, Hunting and Soil Conservation whose mission is to promote the rational management of natural resources in collaboration with local communities assisted by the 1996 decentralization, which promotes the transfer of skills related to the management of natural resources locally. At the same time, the State organized its surveillance structures around a strategic coalition under the name of the Security and Defense Forces. This creates synergy in all

ects with the populations of the region for the diversification of areas of interest. The transformation of shea nuts into shea butter by an Economic Interest Group (EIG) of women from the village of Kenioto makes it possible to make the community recognize the important



Marking the tree

«With the project, we have achieved concrete and viable results»

Atigou BALDE, Focal Point Guinea



We are currently taking concrete actions through of the following components. We have the forestry, planning, livestock and training and awareness components with concrete actions for sustainability. The Fouta Djallon Highlands are large and the pilot sites where we operate are minimal compared to the size of its surface area. But the exchange trips between the populations and the partner groups allow us to produce an excellent result.

The fight against bushfires, the fight against excessive logging on the banks of rivers and spring heads are examples of this. There, we have achieved concrete and viable results, such as increasing agricultural production, livestock management, protection of the slopes by vetivers, which we have experimented with on small areas, construction of storage warehouses for agricultural products, and exchange trips between people from

the northern and the southern parts of the Highlands so that people can learn from each other's practices.

There are periods for early bushfires and we mobilize populations by gathering them to raise awareness so that they know how to avoid bushfires. We brought Kenyan hives to increase the honey harvesting by avoiding cutting wood or using fire.

You know we have 1,165 rivers across Guinea and out of the 263 transboundary rivers and lakes in the world, 60 are African, 24 are from West Africa including 14 in Guinea. We are aware of our responsibility towards the people of the highland, particularly of West Africa.

We are faced with problems of non-compliance with laws and regulations, inadequate policies. We believe that the transfer of the Regional Programme

from the AU to ECOWAS is the best approach for community-based management that will make it possible to have more effectiveness in day-to-day governance, for example.

Today, everything is being done to protect the Fouta Djallon Highlands because its wealth is immense. There is biodiversity, tourism can be developed, there are structures for electrical energy, particularly on the Konkouré River, which is an inland Guinean river and for which we are responsible. We are worried that with demographic pressure and climate change, we need to have alternative solutions very quickly. But hope remains intact because we have achieved some successes in the fight against bushfires and the protection of river banks and spring heads in particular.



We can achieve more with less cumbersomeness

Mohamed Adideye Maiga, Focal Point Mali

In Mali, we have two perimeters for market gardening in the two pilot sites of the project. We have the Lingokoto site in the Kiniéba circumscription and the Keniéma site in the Naréna commune, Kangaba circumscription. These are mixed market gardening areas where women and men work during certain periods of the year. In addition to these market gardening activities, there are also fish farming activities with two ponds on each site. These ponds are working well with about 50 kilograms of fish in Lingokoto and about 15 in Keniéma in 2018. These two sites are in the gold mining zone with activities.

At each site, about twenty Kenyan hives

with all the accessories have also been set up. We also planted one hectare of eucalyptus trees in each area.

There is also the fixing of the banks by Vetiver with more than 1,000 plants on each site. There have also been boreholes in these gardens with a pipeline system. After an initial experiment of 1.5 ha on each site, we are now at 2 ha per site. We have also carried out capacity building on environmental governance, fish farming, shoreline fixing and natural resource management. At each site, some 15 members of the coordination structure benefited from this capacity building.

At the local level, there is a local project support unit led by the Prefect, which also includes technical services working in market gardening and other fields.

Our difficulties are mainly related to the availability of the external budget at FAO level, where we are lagging far behind in the implementation of activities. For example, we need two boreholes, one in Keniéma and one in Lingokoto. These wells should be drilled between May and June to be based on the true groundwa-

ter level, but until December, nothing was possible because we warned that in December, January and February we cannot drill and have the actual groundwater level. These sites should contribute to solving the problem of the increasing number of beneficiaries at the sites.

In Keniéma, for example, there are 300 women for whom a second well is needed for the second hectare of extension. In Lingokoto, there are currently 30 women but there is a lot of pressure and this should help to overcome this. These boreholes must be carried out by FAO and the equipment (water tower, solar panels and batteries) from the Malian side's special investment budget. The first drilling was carried out by the Malian side with companies and so far, no problems have been reported on these boreholes other than pressure on the resource. If FAO were to release the funds, this would have made it possible to carry out both the drilling and the installation of the equipment, even if the special investment budget (BSI) was in default as it is the case for the second half of the year due to the situation in the country.

“There are a lot of activities that should be implemented but the funds are very limited”



Fatou John, Focal Point Gambia

We have started with our pilot site in Gambia in 2015 where we are implementing activities. The activities are based on natural resources management, we have the women structural gardens. We are fencing gardens, giving them tools and equipment. We are doing beekeeping, tree planting. There are a lot of activities that should be implemented but the funds are very limited and at country level there is no contribution. There are a lot of activities that can't be implemented, and some others are stagnant.

The beneficiaries on the ground are feeling great about the projects being implemented. We have planted 3,000 seedlings in the eleven communities of the pilot site and other riparian communities are willing to do something and they have water, but the project is not giving any incentive for boreholes.

“All watersheds in Sierra Leone are threatened and water is a major security concern”

George ROGERSON, Focal Point Sierra Leone

Fouta Djallon Highlands are very important to Sierra Leone since it is watershed of two of our main water courses, the Little and Great Scarcies coming from Guinea in the Fouta Djallon flowing to Sierra Leone. As a Government, we have the responsibility to protect those watersheds and hundreds of thousands of the people whose livelihood depend on them.

Currently, we map the two pilot sites. We have done a baseline survey, trained watershed communities on sustainable water management, gardening and small-scale rural development. We are also planting ten thousand trees along the two corridors, five thousand for each site.

All watersheds in Sierra Leone are threatened and water is a major security concern in development and there is hope for watershed restoration around the world and particularly in Sierra Leone. We are educating our people, and with environmental education, using public lecture series, conservation rule shows, we will be able to restore the watersheds. All we need is to create awareness, do the right thing and get the necessary support.

Recently, we didn't have rains in two of our major counties and these led all stakeholders including the local authorities, the paramount chiefs and the local council authorities to come together and call to stop all deforestation activities, to stop transporting of all major and minor forest products and that is a



sign of consciousness among the population because it was not the Government who told them to stop these activities. They know that climate change is at the corner and they start seeing its impacts and definitely our population is getting consciousness and moving to the right direction. They just need the government technical support and strategic planning.

We have always got support from our government to try to mitigate the impact of climate change and the Ministry is taking this programme very seriously. The transfer of the Regional Programme from African Union to ECOWAS is a move to the right direction since ECOWAS is the regional body and we are all members and moving from Addis Ababa to Abuja is moving home slowly. ECOWAS has taken the lead in many programmes and we know that they will do the same for this programme very seriously and together we can change the dynamics of the Fouta Djallon Highlands.

«In Niger, the crucial problem is the silting of the river»

Sani Adamou, Focal Point Niger

In Niger, we have a pilot site in Sékoukou, located about 70 km from Niamey where we are carrying out soil defense and restoration work on a plateau. Benches and rocky ridges have been built to deal with the major problem of the area, which is the silting up of the river caused by water erosion that drains the sand towards the river. In addition, we have planted trees considering biodiversity with the different tree species appropriate to the area. In Niger, the most crucial problem is the silting up of the river. Many planted trees have grown, and the rocky ridges have effectively stopped erosion and the impact is very visible on the ground.

We have serious communication problems between the focal structure and FAO. Some activities and expenses were initiated and carried out without any information from the Focal Point.

With ECOWAS, there is a certain proximity, and everything must be done to ensure that the procedures do not take too long and do not hinder the implementation of activities.



Meeting with Abderahim Birémé HAMID
the Executive Secretary, NBA

«The degradation of spring heads threatens the very survival of the Niger River»

Thank you for accepting to answer to our questions on the major challenge of protecting the natural resources of the Guinean Highlands. The Fouta Djallon is from where several shared rivers in West Africa originate, including the Niger River, since you are the Executive Secretary of the Niger Basin Authority, which includes nine (9) member countries.

What do the Fatou Djallon Highlands mean to the NBA, apart from the well-known fact that the Niger River has its source in the heights along this Highlands?

The Fouta Djallon Highlands, apart from the fact that the Niger River originates from its heights, constitute an important ecosystem for the West African sub-region and for the African Continent. For NBA and its Member States, this ecosystem, which supplies water to the river system, controls the ecological and climatic balance as well as economic development at the basin level. Indeed, the degradation of this ecosystem, as is the case at the headwaters of the Niger River, negatively affects the availability of natural resources and associated socio-economic activities.

The NBA is practically the first trans-boundary basin organization set up in the sub-region if its creation is traced back to 1964 before the authority itself was set up in 1980. Ecosystems in the Niger River Basin are in a critical state of degradation threatening their survival. What is your perception of the situation and the major factors threatening the integrity of the Highlands and consequently the spring heads of the Niger River?

As I said above, the degradation of this part of the basin where the heads of the river's springs are located effectively threatens the very survival of the Niger River. This qualitative and quantitative degradation of the basin's resources is mainly due to human activities, including:

- mining operations (clearing, stripping, blasting, opening borrow strips and quarries, use of polluting chemicals);

- the opening of clay quarries along the banks for the manufacture of fired bricks;
- the abusive use of wood from the banks to feed the brick kilns;
- agricultural practices on the banks leading to soil erosion;
- the use of harmful products in fishing;
- Etc.

In addition to anthropogenic factors, we have natural factors and institutional and legal factors that contribute to this degradation of the head source of the Niger River.

Problems caused by natural factors are mainly related to climate change, which has resulted in a general downward trend in rainfall since the 1960s, leading

"The degradation of this part of the basin where the heads of the river are located effectively threatens the very survival of the Niger River."



to a significant decrease in flows from the Niger River. This trend has pushed more and more people into inappropriate and destructive production practices that destroy natural resources and generate social conflicts.

The main institutional and legal problems arise in terms of the existence of appropriate frameworks and capacities for the sustainable management of the natural resources of the Highlands.

As a result, we are witnessing today:

- the destruction of gallery forests and stream banks;
- land erosion and silting of the riverbed and its tributaries;
- the decline in the hydrological regime of the Niger River and water pollution.

Tell us about the main initiatives you have undertaken so far or that you plan to implement or promote to face the situation and reverse this trend towards the degradation of the Fouta Djallon Highlands?

From 2005 to 2017, actions were carried out in the framework of different projects, namely:

- the Project to reverse land and water degradation trends in the Niger Basin, which carried out, from 2005 to 2011, activities to restore degraded lands and manage fisheries resources and aquatic plants, as well as to build the capacity of stakeholders in the Siguiri Prefecture;
- the Niger Basin Water Resources Development and Sustainable Ecosystem Management Project funded by the World Bank from 2008 to 2017 for an amount of US\$9 million for the national component in Guinea. Among other things, this project car-



OMVG, Regional Programme for the Integrated Management of the Fouta-Djallon Highlands, IUCN, GWP-WA, etc.) with a view to ensuring synergy of actions.

What do you think about the transfer of the Regional Programme for the Integrated Development of the Fouta Djallon Massif (RPID/FDM) from the African Union to ECOWAS? Tell us about the reasons for your absence from the transfer ceremony that was scheduled in Conakry on July 7, 2018?

The transfer of the Programme to ECOWAS is a good initiative because it brings the management unit closer to the area where the Programme is being implemented, on the one hand, and above all to ensure coherence and complementarity between the various interventions in the sub-region, on the other.

Admittedly, we received the invitation from ECOWAS and we were unable to take part in this important meeting for agenda reasons.

In which areas of activity would you like to partner with GWP to strengthen the Fouta Djallon Highlands' safeguarding actions?

To strengthen the FDH's safeguarding actions, GWP-WA can contribute to the advocacy and stakeholder awareness activities, particularly in the promotion of IWRM and sustainable development.

ried out (i) feasibility update studies and environmental and social studies of the Fomi multiple purpose dam project; (ii) the development of 450 ha of lowlands and 500 ha of agroforestry in the Faranah and Kissidougou prefectures, and (iii) capacity building of stakeholders (technical services and population);

- the Niger HYCOS Project, which is an institutional support for the regular hydrological monitoring of 15 hydro-metric stations at the national level from 2005 to 2018.

In perspective, and as part of the implementation of the 2016-2024 Operational Plan integrating the NBA Investment Plan, planned investments in the national portion of the Niger Basin in Guinea represent \$429 million. On the instructions of the 35th Ordinary Session of the Council of Ministers held on 30 and 31 March 2017 in Conakry, we have prepared a project sheet «**Preservation and Protection of the Environment of the Upper Niger Basin**» in Guinea for an amount of about 22 million dollars. This project will be funded through the \$500 million Climate Change Resilience Development Programme in the Niger Basin currently under preparation with the World Bank. There is also the Integrated Programme for Development and Adaptation to Climate Change in the Niger Basin in preparation with the African Development Bank and a group of financial partners for a total amount of about 102 billion CFA francs. The cost of the Guinea national component of this programme, which is scheduled to start in early 2019, is CFAF 11.7 billion.

Finally, there is the Project «Climate Change, Natural Resource Management, Food Security» in Guinea, for which the

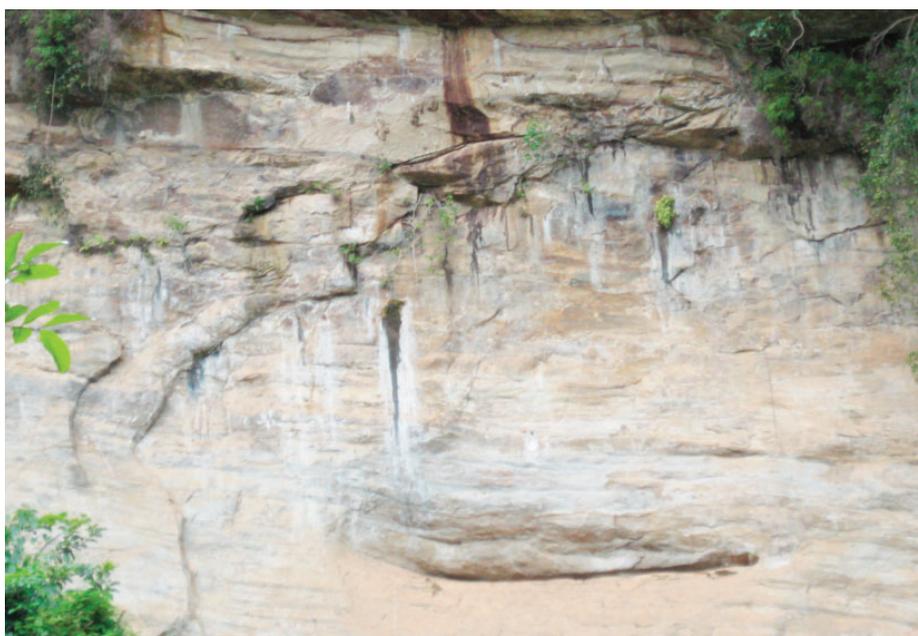
financing agreement is signed with KfW for an amount of 14 million euros, which is still in the process of being launched.

What are the regional and international partners that accompany you in the fight to protect the spring heads of the river and beyond the Massif in general?

Several technical and financial partners are supporting us in this fight to protect the heads of sources. These partners include the World Bank, the African Development Bank, UEMOA, the European Union, the GEF, KfW, the Green Climate Fund and others.

NBA will continue to seek funding from other partners and strengthen its cooperation with basin organizations and institutions in the sub-region (OMVS,

"NBA plans to invest in the next years up to 2024 about \$429 million in Guinea"



Interview with Cheick Taliby SYLLA,
Minister of Energy and Hydraulics of Guinea

«The preservation of the Fouta Djallon highlands is a priority for my Ministerial Department and the RIPD/FDH»

Thank you for accepting to answer our questions related to the problem and the actions developed for the protection and restoration of natural resources in the Guinean Highlands, from where several shared rivers in West Africa originate.

Guinea is referred to as the water tower of West Africa because it hosts the Fouta Djallon Highlands, which give substance to several transboundary rivers in the sub-region, including Niger, Senegal, Gambia, and many others. What would you tell us about the Fouta Djallon Highlands and the scope of the Regional Programme dedicated to it.

Thank you for this opportunity to speak on such an important subject as waterways. The central plateau of the Fouta-Djallon Highlands (FDH), extend over the national territories of Guinea (about 70% of the Massif), Guinea Bissau, Gambia, Mali, Senegal and Sierra Leone.

In the Republic of Guinea, they cover the territories of 22 prefectures (Dalaba, Fria, Koubia, Labé, Lélouma, Mali, Pita, Telemélé, and Tougué) and partially (Boffa, Boké, Coyah Dabola, Dinguiraye, Dubreka, Faranah, Forécariah, Gaoual, Kindia, Koundara, Mamou and Siguiri).

The transboundary shared rivers originating from the FDH, in their sub-regional dimension, are as follows: Gambia, Kaba, Little-Scarcies, Kayanga- Gela, Kolente- Great Scarcie, Koliba- Corubal, Niger and Senegal. There is also what we call the «Southern Rivers» which are in fact Guinean national rivers such as the Congo, the Fatala, Forécariah, Kapatchez, Lakilly, Konkouré, Mélakouré, Tinguilinka and Bla Soumba.

The preservation of the Fouta Djallon Highlands is a priority for my Ministerial Department and the Regional Integrated Development Programme for the Fouta Djallon Highlands (RPID-FDH). The Programme's efforts and actions cover all areas of physical extension and influence that extend over the territories of ten (10) countries that depend on river water from the Massif. These are Benin, Gambia, Guinea, Guinea Bissau, Mali, Mauritania, Niger, Nigeria, Senegal and Sierra Leone.



Tell us about the perception of the Guinean Government, the country's responsibility in maintaining the FDH and its rivers in good ecological condition on which the lives of the people of West Africa depend?

Faced with the increasingly marked degradation of the FDH, particularly of its vegetation cover and the erosion phenomena that are developing there, coupled with the loss of biodiversity, the Guinean Administration has taken various measures and developed actions at the scale of the Highlands. We had:

- a preparatory phase (1981-1985) through the mobilization by the Guinean Government of the national contribution to the Joint Action Programme in the Highlands;
- Then, there was the establishment of the national institutional framework



Group picture of the minister and his collaborators with GWP-WA and CWP Guinea delegation



Workin session of the minister and his collaborators with GWP-WA and CWP Guinea delegation

- in charge of the implementation of the Programme. This involved the creation and organization of a National Technical Coordination Committee (NTC) based in Conakry;
- the creation and organization of an Integrated Restoration and Development Service (SRAI) of the FDH in collaboration with all national technical departments;
- the allocation to the programme of a 2.37 hectares estate in Labé in the Medium Guinea region, with the construction of reception facilities in the period (1981-1985);
- the carrying out of a complementary multidisciplinary mission to study, diagnose and evaluate the situation of the FDM in the field (May-June 1981).

"The preservation of the Fouta Djallon Highland is a priority for my Ministerial Department and the Regional Integrated Development Programme for the Fouta Djallon Highland (RPID-FDH)."

The meeting under the aegis of the Organization of African Unity (OAU) of the institutional partners for the development of the Programme of Action in the FDH together with UNDP, FAO, UNESCO, WMO, UNSO and the Guinean State was held in Rome, Italy in December 1981.

In 1983, the Government of Guinea and the institutional partners approved and signed Project Document RAF/81 /060 (1982-83).

I must also recall that the Republic of Guinea's ratification of the Framework Convention for Cooperation between States dependent on FDH waters was effected by Decree D/2015/095/PRG/FGG of 18 May 2015.

On the field, the regime of rivers that originate from the Fouta Djallon Highlands is terribly affected. This situation is due in particular to the human activities that have been taking place in recent years. This results in major negative externalities for the ecosystem, biodiversity and people upstream, downstream and along these internationally important rivers.

Can you tell us about your country's initiatives with basin organizations and partners to restore and protect these highly threatened spring heads in the Fouta Djallon Highlands?

Several initiatives are being implemented or are being developed in this context. These include the FDH Integrated Natural Resources Management Project (PGIRN-FDH). This is the Project to support the 3rd phase of the FDH Regional Integrated Development Pro-



gramme (RPID-FDH), over the period 2009-2019.

The PGIRN-FDH started in July 2009 with the mobilization of the Senior Technical Adviser of the Project by FAO, the Implementing Agency. The Project Steering Committee (PSC) is the steering and decision-making body under the aegis of the Ministerial Conference of the Regional Programme. It is planned to hold the PPC meeting each year to review the status of the Project of the year and approve the Annual Work Programme (AWP) of the Project for the following year.

Can you talk about the current and planned actions, in the framework of the PGIRN-FDH, to raise awareness and involve the populations living near the large forests of the Highlands in the protection of the ecosystems of the Fouta Djallon Highlands?

The PGIRN-FDH implemented at the pilot sites of the Fouta Djallon includes 3 components: (i) sub-regional collaboration with the component on the Regional Observatory of the Highlands as a decision-making tool; (ii) natural resources management with the reforestation and awareness component; and (iii) increasing the population's income. The third and last part considers monitoring and evaluation of protection performance and dissemination of results.

In your opinion, how can the RPID/FDH, whose management has just been transferred from the AU to ECOWAS, help Guinea to achieve the objectives of safeguarding the FDM

Proximity management is the most desirable because all the countries dependent on the waters of the IFM are ECOWAS Member States except Mauritania. There is hope for ECOWAS support, as Guinea measures its moral and full responsibility in addressing the challenges of climate change and the increasing loss of biodiversity in the Fouta Djallon Mountains. Also noting the possibility of saving resources through the holding of Ministerial Conferences and Summits of Heads of State of the RPID-FDH countries.

There are 263 transboundary rivers and lakes throughout the World, 60 are African and 24 in West Africa, 14 of which are Guinean from the Fouta Djallon and neighborhood.