



GREEN
CLIMATE
FUND

AFRICAN DEVELOPMENT BANK GROUP

BUILDING CLIMATE RESILIENCE FOR FOOD AND LIVELIHOODS IN THE HORN OF AFRICA (BREFOL)

Djibouti, Ethiopia, Kenya, Somalia, and South Sudan

Annex 2.1. Report on Economic and Financial Technical Feasibility Study for Djibouti



REPUBLIC OF DJIBOUTI

UNITY-EQUALITY-PEACE



TRANSLATED VERSION (ORIGINAL IN FRENCH)

Ministry in charge of Agriculture, Livestock and the Sea in charge of Water Resources

**Drought Resilience for Food Security and Nutrition in the Horn of Africa (PRLSP II)
Programme**

REPORT ON ECONOMIC AND FINANCIAL TECHNICAL FEASIBILITY STUDY

August 2021

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1. Introduction

1.1 General Context and General

IGAD (*Intergovernmental Authority on Development*) is a regional organization of eight East African countries: *Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan and Uganda*. The IGAD region covers an area of 5.2 million km², has a population of over 250 million and is endowed with a considerable range of natural resources, with enormous potential for a variety of wealth and development opportunities. Despite this great potential, IGAD member countries are struggling to cope with the vagaries of their difficult and worsening environmental conditions.

Recurrent droughts and unpredictable rainfall patterns are characteristics of arid and semi-arid lands (TASA), which receive less than 600 mm of annual rainfall and comprise more than 70% of the Horn of Africa region. The negative impacts of these droughts affected the lives and livelihoods of 13.4 million people and caused loss of life in the region.

Faced with this difficult situation, the Heads of State of IGAD member countries met at a summit in Nairobi on 8 and 9 September 2011. At the summit, they deliberated extensively on drought-related issues and developed the Nairobi Declaration pledging to make significant new investments in drylands to end drought-related emergencies. They committed, inter alia, to launching regional projects addressing the underlying causes of vulnerability in drought-prone areas, with a particular focus on pastoralists and agro-pastoralists to promote disaster risk reduction, ecosystem rehabilitation and basic sustainable livelihood transformation and development practices.

At the end of the Summit, an agreement was reached to develop the Regional Strategic Framework for Disaster Resilience and Sustainability in the Horn of Africa in order to reduce the impact of disasters in the region taking into account existing frameworks and programmes of action and to allocate a significant share of national revenues to financing. In line with the above, the AfDB has decided to finance part of the initiative in stages and in a number of countries under the **Multi-Country Drought Resilience and Sustainable Livelihoods Programme (DRSLP)**.

The Multi-Country Drought Resilience and Sustainable Livelihoods Programme (DRSLP) in the Horn of Africa was designed to be implemented **in three phases of five years each**.

The first phase of the program, which was to last from 2013 to 2017, is co-financed by the AfDB. The programme aims to contribute to poverty reduction, food security and accelerated sustainable economic growth in the Horn of Africa through improved rural incomes. Specifically, it aims to improve the drought resilience of dryland and semi-arid communities. Project interventions cover water supply for humans, livestock and irrigation; improving crop and livestock production, marketing and disease management, and capacity building.

The second phase of the DRSLP entitled; Resilience Building for Food and Nutrition Security in the Horn of Africa (HOA) programme follows the decision of the African Development Bank at the February 2019 roundtable on financing the Climate Investment Plan for the Sahel region (ICP SAR 2018-2030). The objective was to support the implementation of the "Priority Programme to Catalyze Climate Investments in the Sahel (PPCI 2020-2025)". This was made operational by the AfDB's commitment to support a regional programme for CILSS countries (Western Sahel) and a regional programme for IGAD countries (Eastern Sahel).

During the AfDB's mission to identify the HOA Program in June 2019, IGAD and its key partners stressed the importance of ensuring better synergy with ongoing strategies and actions at regional and national levels; and the need to build on the lessons and impacts of ongoing AfDB-supported programs. Some of these initiatives include; the IGAD Drought Resilience and Sustainability Initiative (IDDRSI) and the Multi-Country Drought Resilience and Sustainable Livelihoods Programme (DRSLP) in the Horn of Africa.

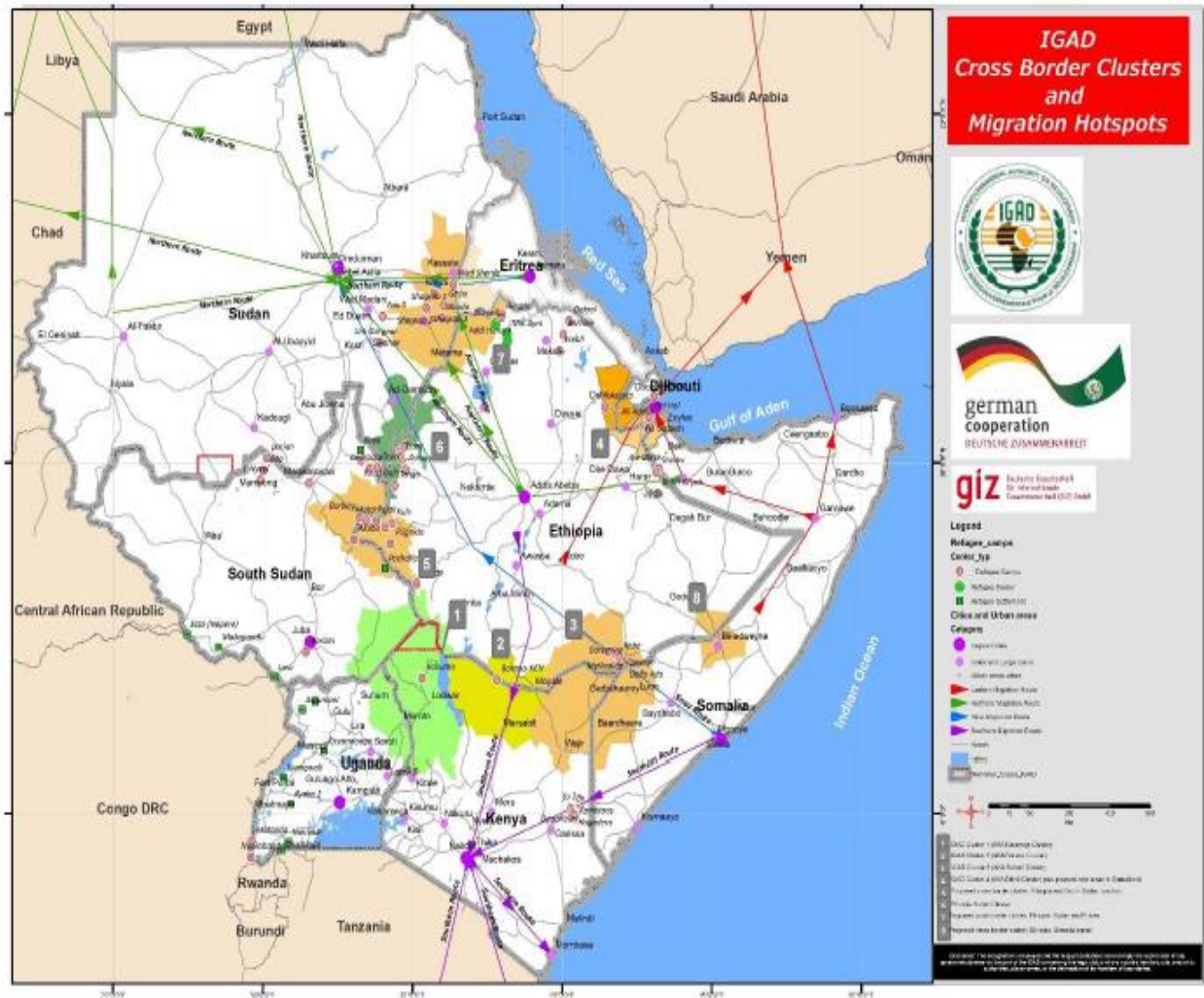


Figure 1: Map of the IGAD Region

Context in the Republic of Djibouti

Djibouti is an East African country, with a population of less than one million. The Republic of Djibouti has an economy driven by the services sector that represents more than 80% of GDP, and employs 60% of the active population. The primary sector is underdeveloped with an estimated contribution of between 3 and 4.5% of GDP (75% of which comes from livestock). However, surveys show that 96% of the rural population (estimated at 66% of the total) lives below the poverty level (compared to 75% for the national average). There is a trend towards precarious rural households as a result of drought and climate change.¹

Djibouti benefited from the 1st phase of the DRSLP I program (2015-2019) and also under DRSLP III implementation, which started in 2020.

The ambition of the Djiboutian authorities through this second project is to continue the efforts initiated with the DRSLP I and III in order to meet the needs expressed by the beneficiary populations in the regions and to improve food security, incomes and living conditions of households.

¹ General Population Census 2017

This project is entitled " **Strengthening Resilience to Food and Nutrition Security**" whose general objective is to contribute to the improvement of the living conditions of populations and food and nutrition security. The project will be implemented over a period of 5 years and amounts to **Thirty-five million US Dollars (USD 35 million)** a loan from the African Development Bank.

The direct beneficiaries of the project are estimated at more than 10,000 households, living in the watersheds of Beyya Dader (Ali Sabieh Region), Gaggade-Derela (Dikhil Region), Weima (Tadjourah-Obock Region), Douda-Damerjog-Wéa-Ali Faren (Arta Region) and Ambouli (Djibouti-City Peripheral Area) as well as the staff of the State Technical Services who will see their capacities strengthened. The indirect beneficiaries are a large part of the population of Djibouti who will benefit from improved availability and quality of agricultural and fishery products.

1.2. Objectives

1.2.1. General objective

The overall objective of the Horn of Africa Program as defined by the AfDB Project Identification Mission of June 2019 is to contribute to the improvement of people's living conditions and food and nutrition security in the Horn of Africa.

1.2.2. Specific objectives

Specifically, the Horn of Africa programme aims to:

- (i.) Increasing, on a sustainable and resilient basis, agro-sylvo-pastoral productivity and production in the Horn of Africa
- (ii.) Increase incomes from agro-sylvo-pastoral value chains, and;
- (iii.) Strengthen people's capacity to better adapt to the risks of climate change.

1.3. Rationale for this study

The objective of the programme is, inter alia, to maintain momentum and ensure that gains made by previous efforts are not undermined by persistent shocks and tensions, in particular the impact of climate change on food availability and nutrition security. These pressures threaten to overwhelm institutional capacity to manage social, economic and environmental challenges, with the risk of increasing fragility likely to lead to regional spillovers. The regional approach of the Horn of Africa programme therefore ensures that any benefits are managed by this programme.

1.4. Phase of this study

The framework of this feasibility study, there are four phases, namely:

- ✓ **PHASE I:** Documentary study and contact with stakeholders
- ✓ **PHASE II:** Site visits to components and meetings with local beneficiaries
- ✓ **PHASE III:** Preparation of reports and annexes of the country and regional components
- ✓ **PHASE IV:** Regional workshop for the validation of the various reports

The methodology used in this feasibility study is based on a participatory and inclusive approach. During the DRSLP II formulation, the country team leaders, in contact with IDDRISI and the DRSLP I & III Coordinator define the activities with the relevant authorities of each country. We will use a two-tiered approach:

- ✓ Use of a results-based logical framework model: The results-based model is frequently used by the AfDB in the design of rural development programs in several countries. The model essentially proposes a mix of quantitative and qualitative data to be collected using mixed methods, including

for data analysis. The proposed results-based model, which is expected to provide comprehensive guidance on the types of data to be collected as well as data sources, is presented as an annex to the present report. The model excludes costs from the management component of the Program (Component 4) as well as the costs of infrastructure and its set of activities at new sites or for new infrastructure and its new set of activities at older sites. The budget that will be allocated to activities in this case will be only a fraction of the total Program budget indicated in the template. It should therefore be updated when activities at the old sites need to be replicated or continued, and the old infrastructure to be renewed is known.

- ✓ Participatory approach: this participatory approach takes the form of a transversal axis that accompanies the different stages of the feasibility study constituting essentially an integral part of the various activities and tasks of the study. The application of the participatory approach requires general information meetings to : (i) local authorities, beneficiaries and/or beneficiary associations will be organized; (ii) the staff of the administrations concerned, both at central and decentralized level, (iii) local authorities and populations. This helps identify suitable sites and facilities and provides a basis for the implementation of feasibility studies.

1.5. Objectives of this phase II

The objective of Phase 2 is to consolidate the activities of the DSRLP I & III and to identify the infrastructure and major activities of the phase. The overall objective is to assess the viability of the Horn of Africa programme through feasibility studies; institutional, social and environmental analysis across the entire value chain. The mission should review the achievements of the first phase of the PRSCR and the third phase; identify challenges and lessons learned; investments in current programs and projects; identify constraints and opportunities for the implementation of Program components; propose improvements, include recommendations on the role of regional, national and subnational government agencies, and prepare a sector investment program to address constraints.

2. Anchoring with existing policies and strategies

The new and next phase of the DRSLPII entitled; Strengthening Resilience for Food Security and Nutrition in the Horn of Africa Programme, follows the decision of the African Development Bank at the February 2019 roundtable on financing the Climate Investment Plan for the Sahel region (ICP SAR 2018-2030). The objective is to support the implementation of the "Priority Programme to Catalyze the Investment Climate in the Sahel (PPCI 2020-2025)". It is also in line with the objectives set out in the Country Programme Document (CPF) and the Regional Programming Framework (PRF) developed with the support of IGAD to end drought-related emergencies in the region.

At the national level, the Horn of Africa Resilience for Food Security and Nutrition Programme is a continuation of the Multi-Country Drought Resilience and Sustainable Livelihoods Programme (DRSLP) launched in 2013 in Djibouti. It remains coherent and contributes to the achievement of the objectives set out in the Djibouti 2035 vision adopted in 2014 by the Government of Djibouti, which suggests a long-term planning framework for the country's development based on five major axes: i) peace and national unity, ii) good governance, iii) diversified economy, iv) consolidation of human capital and iv) regional integration.

At the sectoral level, the current programme is in line with the master plan of the Ministry of Agriculture, Livestock, Sea in charge of water resources, which aims to achieve sufficient and sustainable food production. It also aims to improve food security and contribute to the country's economic prosperity. The program is in line with the ministry's areas of intervention for the development of the primary sector in Djibouti. These areas of intervention are illustrated in the form of initiatives or projects:



The Water Mobilization Initiative:

- ✓ Capacity building of the MAEM-HR,
- ✓ The development of access roads,

- ✓ The establishment of a hydroclimatological network,
- ✓ The mobilization of surface waters,
- ✓ Raising awareness of beneficiary users on the use of water resources,
- ✓ The creation of new water points,
- ✓ Improving the supply of drinking water to rural areas,
- ✓ The development of natural springs,
- ✓ The rehabilitation of water points,
- ✓ The establishment of a national pumping test campaign,
- ✓ The promotion of solar energy for dewatering,
- ✓ The application of regulatory standards relating to the use of water,

Crop Production Initiative:

- ✓ The development of new areas, taking into account the availability of water resources, including the mobilization of surface waters,
- ✓ Extension of irrigation systems rationalizing water use;
- ✓ The use of quality seeds and other appropriate inputs;
- ✓ The popularization of new cultivation techniques to farmers;
- ✓ Testing the behaviour and introduction of salinity-tolerant and drought-resistant plant varieties and species;
- ✓ The introduction of greenhouse crops to produce vegetable crops,
- ✓ Improving the exploitation of existing water resources and improving research for the detection of new water sources
- ✓ The implementation of TDM techniques and technologies to enhance saline agriculture

Livestock and Fisheries Development Initiative:

- ✓ Increase livestock production,
- ✓ Strengthen veterinary control capacities,
- ✓ Valuing animal production,
- ✓ Promote livestock research and development.
- ✓ Support for small economic operators,
- ✓ Export support,
- ✓ Institutional support to the Directorate of Fisheries and other administrations,
- ✓ Preservation of the marine environment,
- ✓ Preservation of production infrastructure.

2.1. Country Programming Document (CPD)

The Country Programme Document (CPD) is based on existing national analysis and planning documents in the areas of food security and rural and social development: (i) the National Food Security Programme (NASP), as a reference document for investments for food security in the country and the Investment Plan of the Compact of the Comprehensive Africa Agriculture Development Programme (CAADP) which has been signed between food security actors in April 2012; and (ii) the Post Disaster Needs Assessment (PDNA), prepared in October 2011, and in line with the priorities of the National Initiative for Social Development (INDS).

The (DPP) describes for the period 2012-2017 (i) the priorities envisaged by the Government of the Republic of Djibouti to, in a long-term vision, put an end to emergency operations to contain the effects of drought, and (ii) the interventions needed to strengthen the resilience of rural and peri-urban communities to this phenomenon. It is the result of work carried out by the various Government Departments with the support of the Technical Consortium in support of IGAD, associating the Research

Organizations coordinated by the *International Livestock Research Institute ILRI* on behalf of the CGIAR Centres and with the technical contribution of the FAO Investment Centre.

The Country Programme Paper was presented during the joint meeting of ministers and development partners in Nairobi from 3 to 4 April 2012. It will be used in the country as a frame of reference for the eradication of drought-related emergency operations and as a national contribution element to the regional framework developed by IGAD.

In response to the Government of Djibouti's appeal following the 2011 drought, UN agencies scaled up their emergency response in the country and were able to mobilize approximately US\$20 million to respond to emergency needs.

These funds have been allocated year after year to vulnerable rural groups and refugees, who are struggling to get out of the permanent assistance system due to the lack of programmes to gradually break the vicious circle of food crises caused by recurrent droughts and their impact on the livelihoods of rural and pastoralist populations. by strengthening their prevention capacities, in line with a sustainable development approach and objective desired by the Government.

Faced with this situation, the government decided to put in place a comprehensive program to build resilience to drought and to go beyond the emergency assistance requested from the international community during each of these shocks.

These programs, implemented thanks in particular to the financing of bilateral and multilateral donors (IFAD, AfDB, World Bank, European Union, organizations of the United Nations System, etc.) also covering the mobilization of surface waters, sustainable land management, micro-finance, agro-pastoral development and studies in certain areas (aquaculture, groundwater and surface water, greenhouse crops etc.), aim to provide sustainable responses to the major challenge of drought.

The main objective of the country programme is to improve drought resilience, incomes and resilience to climate variability of rural households dependent on the primary sector. Therefore, the targeting strategy for all components of the program will be based on:

- ✓ **Geographical targeting** : the Programme will focus its interventions on the areas most affected by drought and this will mainly concern pastoral hydraulic and pasture regeneration interventions for pastoral households that have lost 30% to 50% of their livestock. For households that have lost up to 80% of their livestock, the Programme proposes to provide them with agro-pastoral perimeters and to train them accordingly. This presupposes the existence of water and soil resources to install this type of perimeter.
- ✓ **Targeting beneficiaries** : Direct beneficiaries will mainly be household members in poor communities in drought-affected areas. The Directorate of Livestock estimates that 15,000 households with a herd of 450,000 head are the most affected by the current drought. To these must be added the members of the cooperatives established for oasis agriculture, and fishing, as well as the sellers of fishery products.

Given their vulnerability, young people and women will be considered as priority target groups for the majority of actions undertaken. Priority will be given to labour-intensive projects and programmes (HIMO) to promote their employment. In addition, the initiation of income-generating activities (poultry farming, beekeeping, small crafts, etc.) should enable the creation of permanent and socially satisfactory jobs for these two target populations as well as the integration of young people without a diploma after appropriate military service with vocational training.

A programme aimed at improving food security and contributing to strengthening people's resilience to drought involves addressing several major challenges:

- ✓ Reduce food dependence on imports (uncertainty on the evolution of staple food prices);
- ✓ Allow households to partially cover their basic food needs from their own resources;

- ✓ Reduce the vulnerability of households to cyclical shocks (by strengthening the endogenous capacities of households to cope with contingencies through a range of possible responses); and
- ✓ Streamlining water resources management: a major challenge for an arid country with limited water resources or very expensive to exploit;

Based on these findings and prerequisites, the Drought Resilience Country Programme for Djibouti is composed of six components:

- ✓ Management of Natural Resources
- ✓ Market access and trade
- ✓ Support for basic lifestyles and services
- ✓ Managing the risks associated with pastoralism
- ✓ Research and knowledge management
- ✓ Conflict resolution and strengthening of the peace process

The outputs and effects expected from the implementation of such components for the Programme must respond to the concerns of rural populations so that the main impacts of the Programme are:

- ✓ Improving living conditions through access to water, the development of additional income as well as new employment opportunities and better access to basic services;
- ✓ The restoration of livestock and vegetation cover; and
- ✓ Food security of households practicing pastoralism, oasis agriculture, and fishing.

2.2. National Environmental Action Plan

The main objective of the National Environmental Action Plan is the integration of the environmental dimension into the formulation and implementation of economic and social development policies and its guidelines are: (i) to promote the conservation of biological diversity through the creation of protected areas; (ii) rehabilitate degraded ecosystems; and (iii) implement awareness-raising programmes for local communities on good practices in natural resource conservation. The Directorate of the Environment has created protected areas on a pilot basis, has raised awareness among the population to better manage the rangelands of these areas and the preliminary results are positive.

2.3. Poverty Reduction Strategy

In 2004, the Government of Djibouti adopted a Poverty Reduction Strategy Paper (PRSP) to address the country's challenges and reduce poverty among the population. The implementation of this strategy has not been able to promote pro-poor and inclusive growth. The Government of Djibouti has learned the lessons of this first strategy and has therefore decided to set up the National Initiative for Social Development 2011-2015 (INDS 2011-15) which aimed to find solutions to social problems through integrated public policies, as part of a global and coherent project where the political dimensions, social, economic, educational, cultural and ecological combine and complement each other. The evaluation of the first years of implementation of the INDS showed that, beyond the satisfactory results recorded in terms of economic growth, the initiative has not had the expected effect in the fight against poverty and unemployment.

In 2014, the Government of Djibouti launched a major initiative under "Vision 2035". This vision provides a long-term planning framework for the country's development that generates growth, significant poverty reduction and employment. The country is also a stakeholder in the Regional Programming Framework (RPF) developed with the support of IGAD to end drought-related emergencies in the region through the strengthening of drought and climate change resilience in countries in the Horn of Africa.

Djibouti produces about 10% of its food needs and imports the remaining 90%. This is due to the arid climatic situation coupled with the low development of agropastoral and fish farming activities.

Undernourishment affects 31% of the population, and an FAO survey shows that 14.3% of women (15-49 years) suffer from wasting.²

The proportion of malnourished children stands at 33%, one of the highest rates in the world. Thus, the poorest households spend nearly 80% of their consumption expenditure on food.

It is in this context that the Government has developed the Master Plan for the Development of the Primary Sector for the period 2010-2020, one of the operational tools of which is the National Agricultural Investment and Food Security Program (PNIASA) 2014-18, for an amount of FDF 35.818 billion equivalent to FD201.54 million \$EU, of which 50.3% and 20.4% for hydraulic and food security programs.³

Gender

The expected results of the project include reducing the number of people affected by the effects of drought, improving beneficiaries' incomes (including the share of non-agropastoral income), and increasing the level of household food security. Intermediate indicators supposed to provide information on the quality of project implementation will be monitored, including "the level of agricultural and fodder production and yields", "the evolution of the production/productivity of cattle and goat herds", "the rate of access to water resources for livestock". Specific gender-sensitive indicators will be monitored, including "the increase in farmers' incomes (men and women) by type of activity", "the number of jobs created in value chains (including women)", "the share of women in agropastoralists trained under the project", "the level of representation of women in decision-making bodies", "the percentage of resources allocated to women under the project". The monitoring and evaluation system already in place within the Project Implementation Unit will be extended to monitor key indicators (disaggregated by gender).

2.4. Sustainable Land Management/ Land Governance Strategy

3. Key Lessons from Previous Projects and Phase 1

3.1. Agriculture, Livestock, fisheries and related value chains

Over the past two decades, the State has implemented several livestock and fisheries development projects. These externally financed projects and national contributions have strengthened the national capacities of the actors concerned, improved the level of production and sustainably supported the management of common resources.

PROMES-GDT project: The project was designed to respond to the problem of thirst that afflicts the pastoral population. The increased mobilization of water, estimated at 150% of the objectives set, has made it possible to improve the establishment of fodder gardens while alleviating the pressure on grazing. Actions such as fencing stones piled up near El-Eyssa or with wire mesh fences on 5 ha in the Day forest have made it possible to appreciate the regeneration of cattle ranges.

PRSDMSD III: The objective of the PRSDMSD III-Djibouti project is to improve the drought resilience of rural communities in target areas for good food security, through the improvement of the availability and access to water and the diversification of productive activities. In its component 3, the programme has enabled the strengthening of the capacities of public veterinary services and the rehabilitation of livestock infrastructure (veterinary post, laboratories,) and the acquisition of medicines and livestock inputs. Also, support for agricultural and fodder production through the introduction of new salinity-resistant seed varieties has reduced the pressure on grazing; the purchase of 3000 crossbred goats (50% female); construction and equipment of 20 poultry houses; Acquisition of 1000 layers (with feed and veterinary

² PAM, WFP Food Security Assessment (FSA), May 2012

³ R.DJ-MAERH, 2014- National Agricultural Investment and Food Security Program

products). Training in improved cultivation and livestock techniques and technical supervision; training of staff in veterinary posts and analytical laboratories; Training and awareness-raising of management and maintenance committees for livestock infrastructure and rangelands have been provided. Finally, the project supported some fisheries-related activities such as capacity building for fishermen's associations, women fish merchants, power supply for the Loyola landing stage and the acquisition of engines for five of the boats that had been financed by the Bank's emergency aid project.

DRSLP I: This is the initial phase of this project. Indeed, DRSLP I has made it possible to support the Government of Djibouti in the implementation of the strategic axes defined in the INDS of 2007 (then revised for the period 2011-2015), and to strengthen the resilience of rural populations and improve the living conditions of the population affected by climatic hazards. In component 2 (Diversification of the means of production), the programme supported several activities: the acquisition and distribution of local goats and exotic goats (45 goats and goats of the Alpines and Saaneen breed); purchase of veterinary products (pest control and nutritional supplements), restocking of herds with the donation of 500 local goats allocated to beneficiaries, 27 poultry houses followed by 1540 layers and veterinary feed were distributed to 135 women; training on good poultry farming and the construction of an auction hall at the fishing port, Purchase and installation of generators and refrigeration equipment.

PRMSRVCP: The Project for Strengthening the Livelihoods and Reducing the Vulnerability of Pastoralist Communities in the Republic of Djibouti (PRMSRVCP), aims to reduce the vulnerability of pastoralists and protect their livelihoods, build resilience and accelerate the achievement of the MDGs. It is financed by the Islamic Development Bank (IDB) to the tune of 10 million dollars. The area of intervention of this project was the locality of Khor Angar and Daasbiyo. The activities undertaken are: the operation of 5 chicken coops built on the Faradil and Doureh (Daasbyo) and Samallou and Lahassa (Khor Angar) sites and the installation of 15 solar freezers with a capacity of 200 liters in addition to the installation of solar panels and batteries guaranteeing a high operating autonomy of the freezer throughout the day and the purchase of 75 goats of Alpine and Saanen breeds.

The Support Programme for the Reduction of Vulnerability in Coastal Areas (PRAREV): the project duly contributed to the establishment and restoration of fishing infrastructure. Coastal habitats have been restored (9 ha of mangrove forest restored). The novelty in this project is the implementation of the first line of credit-fishing called credit Derek.

3.2. Climate information and services

Climate information is particularly important for all decision-makers, households at local, regional and national levels. Practitioners from various sectors and decision-makers need effective climate information services (CIS) to better inform their decisions about planned activities for the coming months, seasons and years. The information is particularly important for communities in arid and semi-arid regions that do not receive regular weather and climate forecasts to make climate-smart decisions.

The Community-based approach to adaptation for climate information (CIS), known as participatory scenario planning, was introduced to rural communities in Djibouti by international NGOs as part of a climate change adaptation learning programme. This programme provided technical support and assistance to Djibouti's national meteorological agency in order to set up a programme to support the agricultural, livestock and fisheries sectors.

3.3. Environment, gender and social development

Lessons learned from previous experiences point to low impact in rural areas due to the dispersion of investments, slow procurement procedures, weak human resource capacity, weak monitoring and evaluation mechanisms and gender mainstreaming.

In previous drafts, it was noted that in most of the studies carried out at the level of the different IGAD countries, the regional dimensions of the design of the structures are not sufficiently taken into account due to lack of data and/or coordination.

Most of the surface water mobilization works carried out in Djibouti are carried out in a summary manner, without reliable technical studies, nor support for water and soil conservation.

Another lesson that can be drawn from the project is to avoid the dispersion of activities by implementing a holistic and multidimensional approach focused on integrated watershed management for (i) flood rolling, (ii) mobilization of ERs (surface and depth), (iii) use of water mobilized to improve access to drinking water (population and livestock) and the development of irrigation (cereal and fodder perimeters, and market gardens); (iv) the fight against water erosion and negative effects on the environment (including through groundwater recharge), (iv) the improvement of rangelands, and access to veterinary infrastructure and markets (tracks, markets).

3.4. Water-related infrastructure developments

The lessons learned from the implementation of DRSLP I and III projects are taken into account in the preparation of the feasibility study of the DRSLP II project, particularly with regard to the construction of water infrastructure, which represents more than half of the budget of previous projects.

(a) Watershed approach:

In contrast to a sectoral approach, the watershed approach represents a new approach for the management of programmes and projects from resilience to the effects of climate change in rural areas through watershed management. A watershed is any geographical area drained by a watercourse and watershed management is any human activity aimed at ensuring the sustainable use of the resources of these watersheds. Watershed management is particularly important in mountainous regions where human action has a positive or negative impact on downstream land.

Table 1: Watersheds of the DRSLP I & III project

Characteristics of BVs	Beyya Perpetrator	Gaggade-Derela	Weima
Region	Ali Sabieh	Dikhil	Obock
Type	National	Cross border	Cross border
Surface	513 km ²	1060.8 km ²	1949 km ²
Average annual rainfall	300 mm	186.8 mm	125.6 mm
Type of vegetation	Mountain steppes	Grassy steppes	Steppes in Rhigozum Somalense
Number of functional boreholes	6	3	5

Characteristics of BVs	Beyya Perpetrator	Gaggade-Derela	Weima
Number of functional wells	90	5	26
Number of deductions	0	1	1
Population estimation	6500	3500	1500
Estimated herd size	6500	4667	2000

The sites of the DRSLP I & III project are illustrated in the figure below

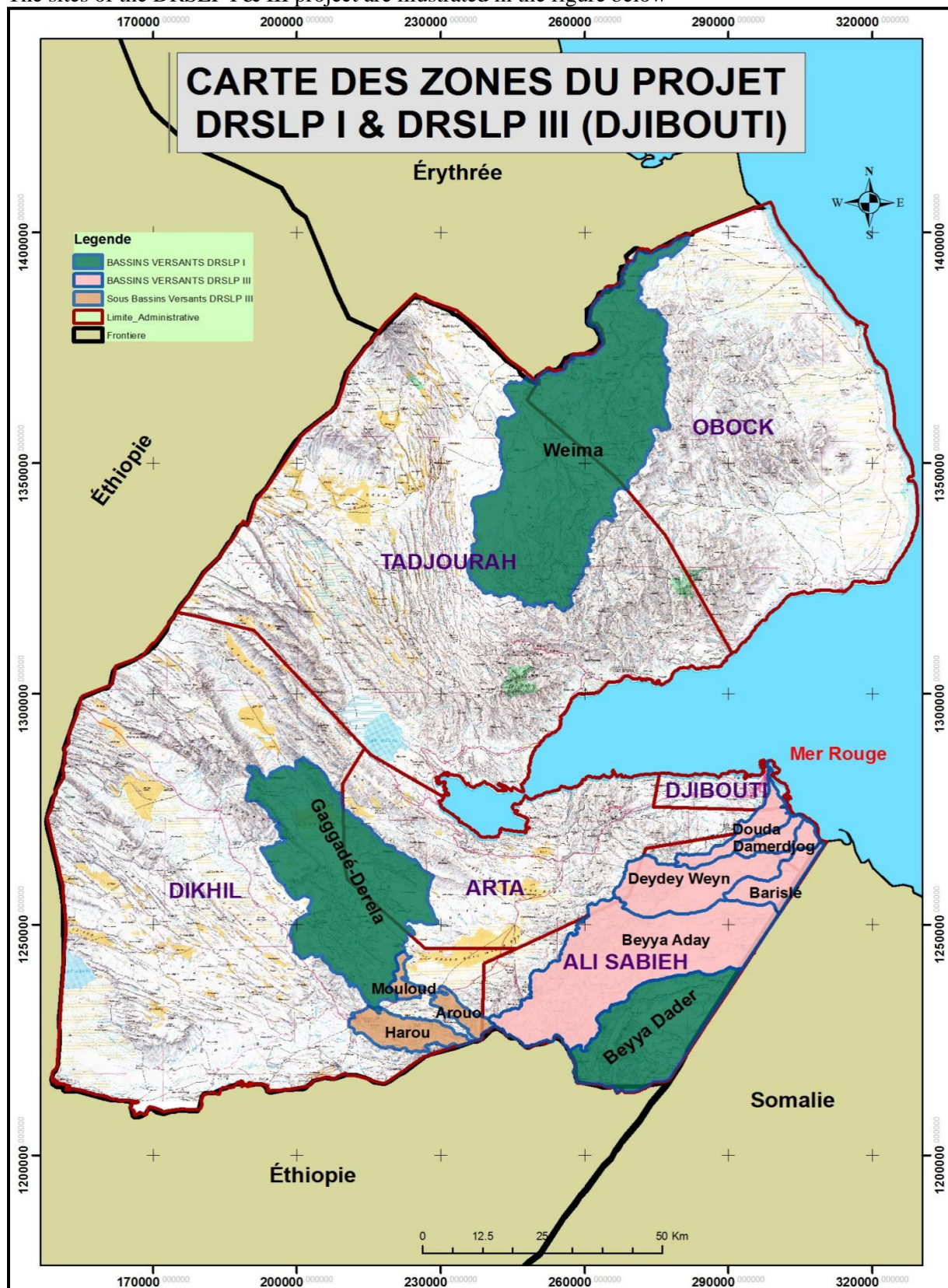


Figure 2: Watershed location map of the DRSLP I & III project

3.5. Sustainable management of land and water resources

4. Context and background to the Project Area

4.1. Location of the project area

This project will take place in the watersheds of Beyya Dader (Ali Sabieh Region), Gaggade-Derela (Dikhil Region), Weima (Tadjourah-Obock Region) and Ambouli (Djibouti City Peripheral Area). In detail, we summarized in the table below:

Table 2: Project Site Description

Watershed Characteristics	Beyya Perpetrator	Gaggade-Derela, Gobaad & Harou & Hanlé	Weima	Ambouli	Douda & Damerjog
Region	Ali Sabieh	Dikhil	Tadjourah	Djibouti City	Art
Locations	Assamo & Ali-Addé & Holl-Holl & Oboley & Daasbiyo	Hanlé & As-Eyla & Harou & Mouloud & Arwo	Assa-Gaila, Adoyla, Guirrori ; Gaoura, Dafeynatou, Ripta ; Randa, Bankoualé, Terdo, Debné, Daimoli.	Ambouli area	Damerjog, Douda, Attar,
Benefited	DRSLP I & III	DRSLP I & III	DRSLP I & III	New zone	DRSLP I & III
Type	National	Cross border	Cross border	National	National
Surface	513 km ²	1060.8 km ²	1949 km ²	600 Km ²	850 Km ²
Average annual rainfall	300 mm	186.8 mm	125.6 mm	132 mm	150 mm

Pedology	Very fertile deep humiferous soils	Fluvisols: alluvial soils with loamy or sandy sandy sand textures	Stony soils and texture Sandy see sandy-loamy	Fluvisols: alluvial soils with loamy or sandy sandy sandy textures	Fluvisols: alluvial soils with loamy or sandy sandy sand textures
Type of vegetation	Mountain steppes	Grassy steppes	Steppes in Rhigozum Somalense	A few feet of date palm D' & Doum & Proposis	Grassy steppes, a forest of Proposis
Population estimation	6500	3500	1500	---	950

4.2 Physical setting

We will briefly introduce you to the biophysical framework in the Republic of Djibouti.

4.2.1. Temperature

In the country, annual average temperatures of about 30 °C are recorded. In the summer season, there are high temperatures of the order of 40 to 45 ° C (very hot period) while the winter is relatively mild with average values of 24 to 26 ° C. The average minima are around 19 and 20 ° C. The country has a Sahelian climate see Saharan.

4.2.2. Annual rainfall

In the Republic of Djibouti, rainfall is erratic and low by an average of 150 mm/year. They vary in time and space. Over time, rainfall varies erratically, from year to year causing dramatic consequences on natural resources and the economy. Rainfall also varies spatially, from 50 mm/year in the north-west of the country to 300 mm/year in the mountain ranges west of Tadjourah (*CHA, 1982*).

For the determination of project site rainfall, rainfall will be estimated by referring to the regional rainfall network and the map of isohyets of annual rainfall of the sub-watersheds of Djibouti, established by the German Project for the "Development of Water Resources of the Republic of Djibouti".

4.2.3. Wind regime

Overall, the wind regime is as follows:

- ✓ In winter (October to April), there are easterly winds (transport of particles to the west throughout the period);
- ✓ In summer (June to August): this is the monsoon period (Khamsin) with a predominance of south/west winds (transfer of particles to the east);
- ✓ There is also a transitional period between May and September, with a generally calm to weak wind and random transport of particles;
- ✓ The wind intensities are relatively strong: the Khamsin (monsoon) has a maximum intensity of 12 m/s, against 8 m/s for the east wind, 6 to 8 m/s for the sea breeze. However, there are gales

of up to 20 m/s, due to disturbances in temperate regions by the Arabian Peninsula during the month of August.

4.2.4. Seismicity

The Arta Geophysical Observatory (*Technical Department of the Institute of Earth Sciences of CERD*) is the body responsible for continuous monitoring of seismic events throughout the country with 15 recording stations since 1972 (www.earthquater24.com). It issues a regular information bulletin on the earthquake level and its epicentre.

The observatory recorded more than 400 earthquakes, the most powerful of which had a magnitude of 6.6 according to the Richter scale. Overall, earthquakes have magnitude less than 4 which usually originate from the Gulf of Tadjourah where the Assal rift is in full activity.

The loss and damage caused by these tremors is usually low causing low damage due to the type of dwelling in the regions (a hard floor, corrugated iron, etc.).

4.2.5 Water Resources

Renewable water resources are estimated at 300 million m³/year. The river system is divided into two zones, one draining towards the Red Sea or the Gulf of Aden (45%), the other towards the western plains of the country (55%). The rivers are not sustainable, due to low rainfall, but nevertheless contribute to the recharge of groundwater (only the Djibouti aquifer is currently monitored). In general, the flow rates are low, with a salt content between 1 and 1.5 g / liter. Only about 5% of precipitation is likely to infiltrate and recharge shallow aquifers (wadi sediments) or deep aquifers (basaltic aquifers).

It is estimated that the exploitable volume of the Djibouti aquifer is between 10 and 20 million m³/year. Today, water needs are estimated at about 25 million m³/year which are directly pumped from the water table of the Ambouli watershed. This water is then conveyed by the National Office of Water and Sanitation of Djibouti (ONEAD) which supplies cities by rationing this resource. Each zone receives a limited number of hours of water with salinity greater than three times the WHO standard.

Due to the absence of perennial rivers and because of the small role in the supply of drinking water until very recently, the characteristics of floods have been little studied. Only certain watersheds and their main wadis have been monitored for hydrology (CHA 1982; ISERST 1984-1992). In the case of the basalt aquifer of the Gulf "Djibouti Table" recharge is mainly provided by 4 watersheds Ambouli (600 km²), Atar (320 km²), Douda Weyn (80 km²) and Damerjog (60 km²).

A hydrological network consisting of rain gauges and limnigraphs was installed by the German Hydrogeological Cooperation in 1978 to study the flood characteristics of certain wadis. This network no longer works today for several reasons: limnigraphs swept away by exceptional floods, equipment deteriorated because of the silting up of watchmaking mechanisms, etc.

Following the floods experienced in 2004 in Djibouti City, a project funded by USAID and hosted at CERD, is implementing a network of precipitation measurement stations on the Oued Ambouli watershed. This network makes it possible to monitor in case of floods, the variation of the water level. The data is transmitted in real time and after a certain height, an alert system is triggered and sends emails and sms to the notified authorities.

4.2.6. Soil resources

In the absence of comprehensive data on soil resources, the classification established in the national biodiversity monograph (2000) is often used as a reference. It mentions two categories of soil:

- ✓ The soils in place composed of brown soils (from basalt, quite deep), lithosols and calcareous sands (corresponding to the surface decomposition of the madreporic plateaus)
- ✓ The filler soils consist mainly of colluvium and fluvio-lacustrine alluvium.

4.2.7 Vegetation and wildlife

The main natural environments of the country are essentially determined by rainfall, which depends on altitude, proximity to maritime areas and wind regimes. The vegetation map established by André et al in 1987 makes it possible to classify the different Djiboutian land covers. Project activities must necessarily comply with existing regulations for the protection of fauna and flora.

The disasters that the country is confronted with, on a recurring basis, on varying scales of severity, can be summarized as follows:

- ✓ Drought;
- ✓ Earthquakes;
- ✓ Floods and floods of the wadis;
- ✓ Famine ;
- ✓ Environmental degradation;
- ✓ Fires;
- ✓ Strife;
- ✓ Epidemics (Cholera, malaria, and more recently the COVID-19 pandemic, etc.).

4.3 Socio-demographic characteristics of the study area

The Republic of Djibouti, is a country in the Horn of Africa, located on the west coast of the southern outlet of the Red Sea. It borders Somalia to the south, Ethiopia to the west, Eritrea to the north and Yemen. The overall population of the country is 957,000. Two major groups make up the Djiboutian population: the Afars (about 41%) and the Issas (48%) the remaining 11% are composed of Arabs, Ethiopians; Europeans.). The Afars and the Issas have a similar way of life, a language of the same origin but different (Afar and Somalia), a common religion that is Islam at 98%.

The Republic of Djibouti is divided into five regional decentralized collectivities: Ali Sabieh, Dikhil, Tadjourah, Obock and Arta regions with legal personality, public law and financial autonomy. They are freely administered through Regional Councillors elected by direct universal suffrage.

Overall, in all regions of the interior, the socio-economic situation reveals a level of employment situation that evolved favourably between 2012 and 2015. The unemployment rate fell sharply in all cities from 54.6% to 37.4%, a drop of 17.2 percentage points.

❖ Impact of Poverty

Overall, the incidence of extreme poverty and relative household poverty decreased between 2002 and 2015, from 47.8% to 33.5% and from 85.3% to 69.8% respectively. This decline in the incidence of poverty indicates a definite improvement in the living conditions of households.

With regard to access to drinking water and electricity, there has been a clear increase in the proportions of households connected directly or indirectly to ONEAD and subscribing to ESD.

The proportion of households with access to safe drinking water has increased significantly. Indeed, the level of connection to the ONEAD (direct and indirect) of households of the heads of regions increased by 20 percentage points from 57% to 76% between 2012 and 2015. The city of Arta stands out from the other capitals by the strong increase in connection to the ONEAD network. The proportion of households with access to the ONEAD network increased from 29% to 72% in this city.

We will briefly present the socio-economic framework of different regions of the Interior where the project will take place:

❖ Ali Sabieh Region

Ali-Sabieh was born more than a century ago with the railway linking Djibouti to Dire Dawa in Ethiopia. Of interesting size and far enough from the capital not to be influenced by it, the city of Ali Sabieh with a

population of 22,630 according to the 2009 population census is dominated by the ethnic group of the issas. It is an almost funnel-shaped city that lives to the rhythm of migratory flows. Entries and exits intersect according to crises.

Economic activities are dominated by transhumant livestock and agriculture. The semi-sedentarization of the pastoral population around the gardens has allowed the diversification of the productive base and the fixation of part of the pastoral population. The city is currently developing a core of industrial fabric.

Agricultural production is confronted with climatic hazards and the lack of traditional agricultural know-how of farmers, which has led to the degradation of natural capital.

There are currently a few production units (water bottling, cement plant, and a marble factory), which augurs good prospects in this sector. Ultimately, it is informal activities (especially trade) that provide employment and income.

❖ Arta Region

The city of Arta with an estimated population of 13,260 people (mostly Issa), integrates picturesque natural spaces, such as its beaches and mountainous areas, but it is especially limited on both sides of the sites of recognized importance: the Gulf of Tadjourah, the mountainous corridor to Lake Assal, the coastline. The weather conditions are much milder than anywhere else in the country. From this configuration emerges the importance of reconciling the development of the city with the preservation of natural resources and the protection of spaces, especially natural and landscape. The specificity of the city means that, from the beginning, the desire to create a real resort area close to Djibouti city was obvious.

The diagnosis on the economic development of the area revealed the economic foundations of a satellite city whose economic development would have mainly continued in the wake of the growth of Djibouti city. The urban economy is based on several activities strongly linked to Arta's role as a "dormitory town" for residents working in Djibouti. The boom in trade accompanies the urbanization stimulated by the capital Djibouti-City; the flourishing transport economy, a corollary of urban growth, flourishes thanks to the function of capital of Arta which makes this city a crossroads of communication based on commuting mobility towards Djibouti city.

❖ Dikhil Region

Dikhil Region is a region located in the south-west of the Republic of Djibouti. It has an area of 7,200 km² and an estimated population of 24,886. The Dikhil region is located on the border of the Afar and Issa sociolinguistic groups. For the most part, it includes the territory of the former Gobaad Sultanate, originally populated by Afar-speaking populations. The inhabitants are 100% Muslim. In terms of economic development

In terms of economic development, the main obstacles can be summarized as follows:

- ✓ Low diversification of agropastoral activities: the productive base of the Dikhil region is still poorly diversified despite some individual initiatives with off-season production;
- ✓ Problems of water resources and management: the difficulties linked to the harsh climate mean that agricultural activities cause significant withdrawals from groundwater, which are still poorly known and poorly controlled;
- ✓ Lack of community-based financial institutions and advisory support structures
- ✓ For future promoters of agricultural projects;
- ✓ Livestock farming has an extensive character with low added value.

❖ Tadjourah Region

The Tadjourah Region has a total area of 7,300 km², corresponding to about 31% of the national territory. The regional territory is crossed by a mountain range, with the two massifs of Goda and Mabla. It is a mountain region with altitudes that vary between 600 and 1,783 m. to which the altitude combined with maritime influences confers a specific climate, with rainfall well above the national average (about 400 mm

against 150 mm.) and a staging of the plant population. These conditions explain and make possible the existence and predominance of cattle farming in Goda and Mabla.

The population of the Region can be estimated at about 86,000 inhabitants (or just over 15,500 households) mostly Afar and 100% Muslim.

At the economic level, cattle, goat and camel breeding, agricultural activities in irrigated areas and artisanal fishing along the entire length of the coastline constitute the three traditional central pillars of the regional economy. It is even estimated that about 65% of households practice some form of animal husbandry. To this is added traditionally the extraction of salt (Lake Assal) and the caravan trade of salt and, since more recent times, the tourist industry.

4.4 Macroeconomic framework

The structure of the Djiboutian economy revolves mainly around service activities for about 80% of GDP mainly focused on port activities and road and rail connections. The share of public administration in value added is about 27% and transport and telecommunications 18%. Agriculture and industry account for only 3% and 17% of GDP respectively. Like the country's economy, the private sector is characterized by a predominance of services, which occupy 70% of all economic activity. The industrial sector is also poorly developed in the Republic of Djibouti. Recognizing that a strong and developed private sector is a source of sustainable and sustained growth capable of eradicating the poverty that afflicts a large proportion of the population, the Government has been committed in recent years to establishing a legal, institutional and macroeconomic framework favourable to the private sector. Important reforms have been carried out to improve the legal framework and the business environment. Most of the texts governing the business world inherited from the legal provisions applicable before independence have been or are in the process of being reviewed. These new provisions tend to facilitate apprehension by legal professionals and economic operators: economic orientation law (1990-2000) and (2001-2010); Investment Codes (1994) Free Zone Enterprises Laws (1994) Commercial Companies Laws (1994), Export Processing Zones Laws (1994), MIGA Membership (2007); Multilateral Investment Guarantee Agency, new Labour Code (2005), new Commercial Code (pending), Competition Law, Industrial Development Law (pending), ratification of a number of international conventions, including the United Nations Convention against Corruption.³ The observed trend in private investment reflects the effectiveness of the Government's efforts to promote the private sector; private investment now represents almost double public investment and is experiencing strong growth that will accelerate further with investments in the port of Doraleh. Overall, Djibouti ranks 153rd out of 181 economies measured in the 2009 Doing Business report. The country's performance is therefore uneven.

The secondary sector with a GDP share of 15% is still underdeveloped because of the scarcity of natural resources, the narrowness of the local market to which are added the costs of factors of production and the prices of public services (water and electricity) particularly high. The excessive cost of production factors constitutes a major constraint for the development of an economic fabric on the internal and/or regional market. Despite the efforts undertaken by the authorities, the private sector continues to suffer from an inadequate legal framework characterized by the duality of statutes with the simultaneous implementation of pre- and post-independence texts, thus creating a situation of "too much and legal vacuum", a feeling of insecurity and legal uncertainty that partly explain the weakness of domestic private investment. The result, as a corollary, is the alarming proportions assumed by the informal sector.

The prospects are towards an improvement of legal provisions with (i) the adoption of a new commercial code; in order to provide Djibouti with a modern commercial code adapted to national socio-economic realities, promote domestic private investment, attract FDI, (ii) the reform of the investment code taking into account the diversity of investment regimes classified according to 5 sectors: (a) industry (b) services (c) agriculture and health (d) tourism and (e) new sectors, (iii) the strengthening of financial intermediation

and the banking of the population, (iii) the launch of the drafting and technical validation of the second part of the draft code composed of two books relating to company law and bankruptcy law.

4.5. Project beneficiaries

According to the discussions conducted with the Djiboutian authorities in the previous project, it appeared important to concentrate most of the agro-pastoral activities of the Project, at the level of the regions of Ali Sabieh (BV of Beyya Adey and Dedey Weyn Barislé), Arta (BV of Douda, Damerjog.), and Dikhil (sub-basins of Mouloud, Arouo, and Harou) and BV of Ambouli. However, planned actions in the areas of fisheries, animal health and capacity building of national structures were undertaken at national level.

The beneficiaries of the project concerned 10,000 households corresponding to about 60,000 pastoralists, agro-pastoralists, and small-scale fishers, 51% of whom were women, to which should be added the other actors in the agriculture, livestock and related sectors. The project focused on the most vulnerable populations, including small-scale producers, pastoralists and agro-pastoralists and artisanal fishers and women involved in the processing and marketing of fish products.

5. Policy and institutional framework for natural resource management

5.1 Environmental Protection and Sustainable Development

The objectives of the Project are in line with those of national strategies and policies in the field of environmental and social management, in particular those of the National Environmental Action Plan (PANE), the strategy and the action plan for biodiversity conservation; the National Action Plan to Combat Desertification; the Integrated Coastal Zone Management Plan; etc.

The Republic of Djibouti has also adopted a series of laws and regulations for the protection and sustainable management of the environment and natural resources.

In relation to the context and the problem of the project, we can mention:

- ✓ Law No. 51/AN/09/6ème L on the Environmental Code
- ✓ Decree No. 2011-029/PR/MHUEAT revising the EIA procedure adopted on 24 February 2011
- ✓ The Regulation of Hygiene and Roads (Deliberation No. 472 / 6th L of May 24, 1968 made enforceable by Order No. 879 / SG / CD of June 2, 1968")
- ✓ Land legislation (Law No. 171/AN/91, governing the public domain of the State;
- ✓ Law No. 173/AN/91, governing the private domain of the State;
- ✓ Law No. 177/AN/91 governing private land ownership;
- ✓ Law No. 172/AN/91/2nd L regulating expropriation in the public interest).
- ✓ Law No. 66/AN/94/3e L on the Mining Code;
- ✓ Law No. 133/AN/05/5th L on the Labour Code;
- ✓ Decree No. 2000-0031/PR/MAEM adopted pursuant to Law No. 93/AN/95/3rd L of 4 April 1996 on the Water Code, relating to the fight against water pollution;
- ✓ Decree No. 2004-0065/PR/MHUEAT on the protection of biodiversity;
- ✓ Decree No. 2000-0033/PR/MAEM adopted pursuant to Law No. 93/AN/95/3rd L of 4 April 1996 on the Water Code, relating to the protection perimeters of water abstractions intended for human consumption;
- ✓ Decree No. 2000-0032/PR/MAEM adopted pursuant to Law No. 93/AN/95/3rd L of 4 April 1996 on the Water Code, relating to declaration, authorization and concession procedures;
- ✓ Decree No. 2007-0099/PR/MID on the transfer and distribution of powers between the State and the Territorial Collectivities.

The African Development Bank (AfDB) has also developed an Integrated Safeguards System (ISS), which is the AfDB's strategy for promoting socially inclusive and environmentally sustainable growth. The ISS comprises five (05) Operational Safeguards (SO): (i) SO1- Environmental and Social Assessment; (ii) SO2

Involuntary resettlement (land acquisition, displacement and compensation of populations); (iii) SO3- Biodiversity and ecosystem services. (iv) SO4- Prevention and control of pollution, greenhouse gases, hazardous materials and efficient use of resources; (v) SO5-: Working conditions, health and safety.

The activities of the project, which is financed by the African Development Bank, will necessarily be subject to the Safeguarding Policies of this institution. The relevance of each of the five operational Safeguards was verified in relation to the project.

After analysis, it was found that only two operational safeguards are likely to be triggered by the project:

- ✓ Operational Safeguard 1 (SO1): Environmental and Social Assessment
- ✓ Operational Safeguard 5 (SO5): Working conditions, health and safety.

The Bank also wants projects to comply with the following principles:

- ✓ Transparency, good governance and exclusivity
- ✓ Promotion of gender equality and poverty reduction.
- ✓ Protection of the most vulnerable
- ✓ Establishment of a Grievance and Redress Mechanism and an Independent Review Mechanism (IRM).
- ✓ Climate change mainstreaming

5.1.1. Accession to international and regional conventions


The Republic of Djibouti had acceded to several international conventions relating to the environment and labour standards, which reflected the country's agreement to establish national legal instruments in order to translate the spirit and fundamental principles of those conventions into its own legislation. The list of these conventions can be found in the ANNEX.

5.1.2 Contribution to the Sustainable Development Goals

The Sustainable Development Goals (SDGs), also known as the Global Goals, are a universal call to action to end poverty, protect the planet and ensure peace and prosperity for all people. The Republic of Djibouti adhered to the Sustainable Development Goals in 2015 with the objective of accelerating progress towards the main targets of the Sustainable Development Goals (SDGs) of the 2030 Agenda. These objectives are in line with the priorities set out in the SCAPE/2015-2019 national plan and the Regional Development Plans.

5.1.3 Implementing institutions, supporting agencies and challenges

The institutional framework for this study is structured around four institutions that will be responsible for its preparation, validation and implementation.

 Ministry of Housing, Urban Planning, Environment and Spatial Planning (MHUEAT):

At the institutional level, the Ministry of Housing, Town Planning, Environment and Spatial Planning (MHUEAT) is responsible at the Government level for the management of environmental issues. In conducting and monitoring ESIA procedures in Djibouti, the Ministry relies on the Directorate of Environment and Sustainable Development (DEDD), which is the structure responsible for implementing the environmental assessment policy. The mission of this directorate is to:

- (i) preparing and implementing environmental policy
- (ii) coordinating the implementation of government environmental policy and monitoring its implementation;
- (iii) ensure the participation of public, private and voluntary services involved in environmental management;

(iv) to ensure compliance with good management rules and both national and international standards where they apply, and to ensure the integration of the environment into economic activities through the environmental impact assessment procedure;

(v) take legal action against any natural or legal person found responsible for the pollution or degradation of the environment. The DESD provides technical support to other ministerial departments, including the review and approval of RDTs and ESIAAs developed by these departments.

Ministry in charge of Agriculture, Livestock and Mother in charge of Water Resources

Within this ministerial department, the following directorates will be involved in the project: the Directorate of Agriculture and Forestry (for support for agricultural production); the Direction des Grands Travaux (for the construction of agricultural developments and micro-dams) and the Direction de l'Hydraulique Rurale (for boreholes and wells in rural areas). Despite the presence of agronomists, phytosanitary specialists and hydraulic specialists and hydrogeologists, these structures do not have experts in environmental and social safeguards.

Ministry of Health through the INSPD

The National Institute of Public Health, which is attached to the Ministry of Health (INSP), is a public scientific, sociocultural and professional institution with legal personality and administrative and financial autonomy.

- ✓ The missions of the National Institute of Public Health of Djibouti are to:
- ✓ Contribute to the monitoring of the health status and well-being of the population and its determinants,
- ✓ Ensure health security,

Design and organize, in collaboration with National Educational Institutions, specialized training courses in public health for health professionals, including medical, paramedical and administrative staff, carry out and direct all studies and research relating to the fields of health.

Regional prefectures and sub-prefectures

Being the interface between the State and the regional councils (Local Collectivity), the prefecture intervenes in prior authorizations, in particular those concerning the opening and operation of loans during the works. With extensive experience in the field of awareness-raising, they will play a major role, particularly by participating in the implementation of the project, for social engineering operations through consultations (social mobilization, advocacy, information and awareness, conflict management, etc.).

5.2 Agricultural development and natural resource development

As the rural population of the Republic of Djibouti is of pastoral origin, there were no significant agricultural activities before the country's independence. The day after the country's accession to national sovereignty, the government encouraged former pastoralists, settled near the fertile terraces of the wadis, to practice agro-livestock activities, through intensive training and supervision assistance, the supply of agricultural inputs and the construction of hydro-agricultural infrastructure. At the same time, similar efforts were also made by the State with the help of partners to increase the exploitation of fishery resources that had hitherto remained insignificant. This state assistance that allowed the promotion of subsistence agricultural activities in the 80s was reduced to a minimum during the 90s due to a difficult economic situation in the country and a consequent structural adjustment. The Economic and Social Orientation Laws define the country's development policy. These laws set out the priorities and objectives in the various areas of the primary sector (agriculture, livestock and fisheries) that will play an important role in reducing food dependence on the outside world, improving incomes and combating poverty. Over the past five years, the government has shown a strong political will, both to assist small farms oriented mainly towards self-consumption and to promote large-scale private sector investment in order to rapidly and significantly

increase agricultural production through the use of techniques and technologies adapted to the country's agro-climatic conditions.

In this context, the Government has put in place several incentives (land use, creation of deep boreholes equipped with solar energy dewatering systems, exemption from taxes on inputs, or agricultural equipment and equipment), legislation on the concession of agricultural land, aquaculture and infrastructure in the primary sector is being drafted with the technical support of FAO). The efforts made by the government are beginning to bear fruit, since for the first time, a number of domestic and foreign investors are starting or planning to invest in agricultural projects.

5.3. Land management

The Directorate of State Domains and Land Conservation (DDCF) is responsible for the entire management of State Domains, both public and private, the Cadastre Administration, as well as the Conservation of Land Property. This division is under the supervision of the Ministry of the Budget. In particular, it is responsible for:

- ✓ Implement State policy relating to movable and immovable rights belonging to the State;
- ✓ The study of all issues relating to the public and private domains of the State in the various sectors in collaboration with the technical services concerned;
- ✓ The acquisition, management and disposal of State property ;
- ✓ To identify the movable and immovable property of the State and to draw up an exhaustive inventory ;
- ✓ Conservation of land and mortgages;
- ✓ The recovery of state products of any kind;
- ✓ Management of cadastre administration.

5.4. Socio-demographic characteristics of the study area

Pending a new census, the populations of the DRSLP areas were estimated from the 2009 census and the update of the number of certain localities in 2012 during the EDAM3-IS project. It should be noted that the numbers of these populations change according to the vagaries of the climatic seasons. To decide on the question of population numbers in the six basins, it is recommended to conduct a census on the different seasons during a year to better understand population movements as well.

For the time being, the table below gives the estimated populations of the three basins based on current average household sizes and the average growth rate between 2009 and 2012.

Watershed Characteristics	Beyya Perpetrator	Gaggade-Derela, Gobaad & Harou & Hanlé	Weima	Ambouli	Douda Damerjog Wéa
Region	Ali Sabieh	Dikhil	Tadjourah	Djibouti City	Art
Locations	Assamo & Ali-Addé & Holl-Holl & Oboley & Daasbiyo	Hanlé & As-Eyla & Harou & Mouloud & Arwo	Assa-Gaila, Adoyla, Guirrori ; Gaoura, Dafeynatou, Ripta ; Randa, Bankoualé,	Ambouli area	Damerjog, Douda, Attar, Wéa et Ali The Father

Watershed Characteristics	Beyya Perpetrator	Gaggade-Derela, Gobaad & Harou & Hanlé	Weima	Ambouli	Douda Damerjog Wéa
			Terdo, Debné, Daimoli.		
Type	National	Cross border	Cross border	National	National
Surface	513 km ²	1060.8 km ²	1949 km ²	600 Km ²	850 Km ²
Population estimation	6500	3500	1500		950

5.5. Population disaggregated by sex and level of education

According to data obtained from the DRSLP reference survey, the population in the catchment areas is characterised by its youth with 42.8% of persons under 15 years of age, 56.1% of persons under 25 years of age and 71.8% of persons under 35 years of age. The average age overall is 23 years and the median age is 19 years.

In each of the pools more than 1 in 2 people is under 25 years old and at least 7 in 10 is under 35.

The demographic dependency ratio, which is the ratio between inactive people (0-14 years and 65 years and over) and people of working age (15-64 years), is very high: 0.845 or 84.5%.

This youth of the population can translate into significant social needs in the long run in the areas of employment, education and health.

In Djibouti city, the EDAM3-IS report highlighted the same state of youth of the population with 36.8% and 73.6% of the population aged under 15 and 35 respectively.

In the gender structure, it is noted that there are as many males as females overall in the project's targeted watersheds.

The overall school enrolment rate of the population aged 15 and over is only 19.5 per cent and the literacy rate, i.e. the proportion of individuals aged 15 and over who can read and write, is only 17.9 per cent. These rates are very low, even compared to national rates which are not very high (50.1% and 50.5% - EDAM3-IS 2012).

The low enrolment rate is also accompanied by the low level of education: only 4.8% of the population aged 15 and over have reached high school, and only 0.6% have gone to university.

5.6. Social infrastructure

Social infrastructure exists in the project's target watersheds. We can cite as examples: Central administration (authorities of prefectures and sub-prefectures), regional authorities, the existence of primary schools, colleges or even high schools in some localities, health posts and medical-hospital centers, gendarmerie posts, food markets, roads facilitating access to populations.

5.7. Capacity building actors

There is little statistical data disaggregated by gender in fisheries, livestock and agriculture. However, a general gender analysis in Djibouti highlights the differences in the situation between men and women in agriculture. It reveals that the resulting inequalities affect men and women differently in terms of living conditions, status and position in the family and society, capacities and participation in development.

Unlike other developing countries on the African continent, where agricultural activities account for an essential part of production and employment, agricultural production in Djibouti is very limited, for physical reasons, and is mainly occupied by men.

For women, culturally they do not work the land but they can own small farms where they will work the male workforce. For those who are active in the sector, they are found in market gardening and fish trade. They generally face problems of low mobility, marketing and access to water.

To consolidate this momentum, the government plans to support the advancement of women in agriculture and support the socio-economic integration of gender. It is committed to developing agro-pastoral perimeters and palm groves in the regions, in particular (i) the establishment of 250,000 plants, (ii) the development of agricultural plants in several sites, (iii) the accompaniment and support for agriculture around the Oases and perennial water points throughout the territory and (iv) the development of fodder agriculture because livestock are often victims of drought (v) 40 hectares valuing women's entrepreneurship; (vi) Strengthening support for the processing and marketing of handicraft products in order to make them more competitive on the national market.

INDS also plans to support capacity building for women farmers through the establishment of a training programme for 50 women farmers in modern agricultural techniques and the provision of agricultural equipment kits and user manuals.

Market access

Many activities have been carried out to facilitate market access. Some of these activities are listed below.

- Production and marketing infrastructure -Rehabilitation of rural access roads: i) Assamo-Ali Sabieh or 27 KM of rural access track (Assamo-Ali Sabieh) and continues with the topographical works and the installation of the site and the works of the first fifteen kilometers. The physical execution rate of this activity was 80% at the time of the last evaluation. (ii) Weima;
- Construction / rehabilitation work vaccination and deworming parks, slaughter areas and veterinary posts (1 national, 2 regional and 2 satellite) and a livestock market in Ali-Sabieh;
- Development -Installation of an ice factory and cold room of 40 cubic meters + ice generators, storage silo and water cooler at the fishing ports of Djibouti and Loyada;
- Construction of an auction hall at Djibouti's fishing port.

Access to credit

The economic integration of women requires that they have access to credit in order to carry out income-generating activities. However, they have difficulty accessing formal credit because of eligibility procedures and procedures to which they can hardly respond. Women face barriers to guarantees, feasibility criteria for their projects and expensive credit, most often with interest rates too high.

Microfinance is more accessible to them. In Djibouti, there are two savings and credit institutions and a ADDS (Djiboutian Agency for Social Development) programme to promote credit services to the poorest people and women's community organizations. From 2007 to 2010, these mechanisms enabled more than 800 women to benefit from microfinance services to the tune of more than 57 million Djb francs. The credit recovery rate for women is higher than that for men and stands at 85% (Rural Women's Living Conditions Report, 2016).

Access to marketing channels

Women are engaged in the informal sector where they carry out their business activities. They are found in catering, fruit and vegetable sales, food and non-food products, handicrafts, clothing and services. The main obstacles they face are: the isolation of certain areas, the absence of storage, conservation or processing infrastructure, the lack of market information and a very low level of organization.

Overall, at the economic level, all these factors, combined with each other, explain the low level of production and productivity of women compared to men and, consequently, their low economic power. The gender constraints to be removed to support the valorization and promotion of women's economic potential are:

- Stereotyped roles of women and men in society;
- Unequal division of domestic work;
- Overwork of women and girls, particularly in rural areas;
- Unequal access to productive assets, technology and credit;
- Unequal level of education and qualification;
- Feminization of poverty;
- Lack of gender-sensitive data and low gender mainstreaming in economic policies and programmes.

At the level of water, sanitation and energy

At this level, the problem arises in terms of access and accessibility. Women, because of their role in the domestic sphere, suffer the effects of desertification, remoteness from water points and sanitation deficits in their immediate environment. Addressing these constraints will require:

- Support gender mainstreaming in policies, programmes and activities for environmental protection and natural resource management;
- Facilitate, through specific measures, women's access to drinking water and energy and their involvement in the management of equipment and services, particularly in rural areas;
- Promote positive changes in people's hygiene and sanitation behaviour.

5.8. Macroeconomic framework

After being hit by the coronavirus pandemic (COVID), the global financial crisis, drought and rising commodity prices, Djibouti has regained positive economic momentum. In 2019, economic growth reached 7.5% against 8.4% previously. According to the IMF's updated forecast of 14 April 2020, due to the COVID-19 outbreak, GDP growth is expected to slow to 1% in 2020 and increase to 8.5% in 2021, subject to the recovery of the post-pandemic global economic situation and driven by sustained growth in exports and private investment, particularly in the construction sectors, transport and storage. Growth is expected to remain buoyant over the medium term, as Ethiopia's trade recovery is expected to support a recovery in trade and logistics this year (IMF). The new infrastructure allows Djibouti to take advantage of Ethiopia's rapid growth and increase transshipment in the medium term. The Djibouti-Ethiopia railway, built in China, began commercial operations in January 2018, and the China-funded Djibouti Free Trade Zone, which is expected to become the largest in Africa, was inaugurated in 2018. These infrastructure projects are part of a government strategy called "Vision Djibouti 2035" that aims to transform the country into a middle-income economy and a logistics and trade hub for East Africa. The downside of these projects has been the pressure on public debt which, according to the latest IMF estimates, has fallen to 47.4% of the country's GDP (and 66.9%, including state-guaranteed debt). This level of debt exposes the country to the risk of insolvency. The IMF forecasts a reduction of public debt in 2020 and 2021 to 45.8% and 45%, respectively. The current account deficit is expected to reach 0.8% of GDP in 2020, mainly due to the structural deficit in the trade balance. Inflation is expected to decline slightly from 3.3% in 2019 to 2.9% this year (April 2020, World Economic Outlook IMF). It should remain under control because the Djiboutian franc is pegged to the US dollar at a fixed rate. As the IMF has emphasized, ensuring debt sustainability is a priority. This requires strengthening the performance of public investment projects and reforming the governance of state-owned enterprises, public finance and debt management and the tax system. To achieve this goal,

the government reached an agreement with Export-Import (Exim) Bank of China on the restructuring of the loan for the Djibouti-Ethiopia Railway Project (IMF). Poor governance, growing dependence on Ethiopia and China, as well as the widening gap between the modern part of the economy and the archaic informal part on which the population is largely dependent are other major challenges that Djibouti will have to face (Coface). In addition, the deteriorating economic and security climate between Djibouti's main economic partners (Yemen, Somalia and Ethiopia) poses risks to the country's economy, which hosts a growing number of refugees fleeing the conflict in Yemen. Despite positive economic indicators, Djibouti remains a poor country with a high unemployment rate (11% of the total working population according to the World Bank), high inequalities and a low level of education. The population as a whole benefits little from the income from hosting garrisons and foreign port activities, while about 16% of the population lives below the poverty line of USD 1.90 per day and 21.1% of the population lives in extreme poverty (World Bank).

Growth indicators	2018	2019	2020 (e)	2021 (e)	2022 (e)
GDP (billion USD)	3.01and	3.35and	3,41	3,66	3,94
GDP (annual growth in %, constant prices)	8,4	7.5and	-1,0	5,0	5,5
GDP per capita (USD)	2	3and	3	3	3
State debt (% of GDP)	46,5	38,7	42,2	40,2	38,2
Inflation rate (%)	0,1	3,3	2,9	2,4	2,1
Current account balance (billion USD)	0,43	0,44	0,10	-0,07	-0,03
Current account balance (% of GDP)	14,2	13.0and	2,9	-2,0	-0,7

Source: IMF - World Economic Outlook Database - October 2020. Note: (e) Estimated data

Table: Monetary indicators by year

Monetary indicators	2015	2016	2017	2018	2019
Djibouti Franc (DJF) - Average annual exchange rate for 1 EUR	189,67	189,06	200,75	209,69	199,66

Source: World Bank - Latest Available Data.

The main economic sectors

Agriculture has a tiny weight in the economy with 3.9% of GDP. Industry accounts for 16.9% of Djibouti's gross domestic product. Tertiary activity contributes to 79.3% of Djibouti's wealth. The manufacturing sector and services depend almost entirely on port activity.

Table: Distribution of economic activity by sector

Distribution of economic activity by sector	Agriculture	Industry	Services
Employment by sector (<i>% of total employment</i>)	32,4	13,3	54,3
Value added (<i>% of GDP</i>)	1,4	17,1	75,2
Value added (<i>annual growth in %</i>)	4,9	10,8	7,4

Source: World Bank - Latest Available Data.

5.9. Project/site beneficiaries

The Government chose to develop the watersheds of Beyya Dader (Ali Sabieh Region), Gaggade-Derela (Dikhil Region), Weima (Tadjourah-Obock Region) and Ambouli (Djibouti City Peripheral Area).

Table : Project Beneficiary Communities

Watershed Characteristics	Beyya Perpetrator	Gaggade-Derela, Gobaad & Harou & Hanlé	Weima	Ambouli	Douda Damerjog Wéa
Region	Ali Sabieh	Dikhil	Tadjourah	Djibouti City	Art
Locations	Assamo & Ali-Addé & Holl-Holl & Oboley & Daasbiyo	Hanlé & As-Eyla & Harou & Mouloud & Arwo	Assa-Gaila, Adoyla, Guirrori ; Gaoura, Dafeynatou, Ripta ; Randa, Bankoualé, Terdo, Debné, Daimoli.	Ambouli area	Damerjog, Douda, Attar, Wéa et Ali The Father

6. Natural Resource Development

6.1 The potential of water resources

Given the arid climatic conditions, more than 95% of the drinking water supply is provided by groundwater from volcanic and sedimentary aquifers. Groundwater production is now estimated at nearly 30 million cubic meters per year.

The intensive exploitation of groundwater for several decades has led to the overexploitation of groundwater, and consequently to a degradation of water quality. Limited groundwater recharge, increased pumping and seawater intrusion contribute to increased salinity and brackish water growth.

In addition, the issue of water is acute for the population in terms of the quantity available. The supply of drinking water to the capital and the main urban centres, which is provided by the National Office of Water and Sanitation of Djibouti (ONEAD), is very critical. In rural areas, the lack of financial resources does not make it possible to ensure sufficient maintenance of existing structures. The Djibouti City wellfield now has nearly 35 continuously operating boreholes. The main cities of the interior regions are supplied by about fifteen boreholes. Water production for the capital is currently between 12 and 13 million cubic meters annually, while that allocated for inland cities is around 2 million cubic meters. Total water consumption is nearly 10 million cubic meters each year, 88% of which is for Djibouti City. Losses in the pipeline network are estimated at between 20 and 25% of total production. Given the critical situation of groundwater, the effects of climate change are likely to exacerbate water resource deficits (especially in a context of high population growth and economic development) and to degrade water quality. To ensure the water needs of the population and the various economic sectors, the Djiboutian authorities drew up and adopted in 2000 a Water Master Plan that takes into account the seawater desalination project and the mobilization of surface water (construction of dams on wadis).

6.2 Soil Suitability

It is estimated that the alluvial and colluvial plains cover approximately only 10% of the national territory. It is in these plains that we can expect to identify agricultural soils. On the basis of the cartographic material and aerial photographs examined, and after the rapid reconnaissance of the main plains in the south and south-west of the country, it is estimated that some 110,000 ha, or 0.5 per cent of the national territory, are likely to contain agricultural soils. However, the extent of salty and/or alkaline soils unsuitable for cultivation is not known. There is also no knowledge of lithosols and regosols occupying mainly the reliefs that form the ranges.

6.3 Diagnosis of crop production

In terms of food, the country imports nearly 90% of its needs from outside. The national production of fruits and vegetables covers about 10% of needs. The main problems hindering development in this area include: (i) the lack of easily mobilizable water resources; (ii) lack of mastery of irrigation techniques; (iii) the unavailability of agricultural inputs at the national level; (iv) the lack of mastery of cultivation techniques due in particular to the lack of agricultural tradition; (v) weak training and extension structures; (vi) the weakness of producer organisations; (vii) the absence of storage infrastructure (cold room) for perishable products; (viii) competition from products from neighbouring countries where factors of production are cheaper than in Djibouti; (ix) insufficient research and development.

Although livestock farming is the main activity of the rural population, the country's livestock production covers all the needs of rural people but only part of those of urban consumers. The main constraints hindering the development of the subsector are: (i) low livestock productivity due in particular to insufficient fodder availability; (ii) inadequate water supply; (iii) non-control of transboundary animal diseases due to poor laboratory diagnostic capacity; (iv) insufficient qualified personnel (veterinarian and technician); (v) weak producer organisation; (vi) inadequate marketing of livestock and livestock products; (viii) low processing of livestock production; (ix) the lack of research and development in livestock farming.

The main problems and constraints hampering the development of this fisheries sub-sector include: (i) insufficient means of production and conservation; (ii) the weak organization of fishermen's cooperatives (iii) the insufficient professional training of fishermen, (iv) the inadequacy of the marketing circuit of products.

6.4 Livestock and animal production chains

Status of production systems

Livestock is the main activity of the rural population. This breeding is associated with crop production in potential areas. The national herd consists of goats, sheep, cattle, camels and asines. There are 2 types of production:

▪ Sedentary breeding

More harmful to Djibouti's cattle range. This type of farming is mainly practiced around urban centers and permanent water points. Major cattle breeding points are exploited to supply milk to urban centres. This livestock depends partly on farms for food and for a greater part on the purchase of fodder and cereals and by-products. It is expensive and unprofitable breeding without government support (source A. Barkat 2006)

▪ Transhumant livestock farming

This system is based on the practice of extensive breeding of small ruminants, camels, and cattle, on large and medium amplitudes (100-300 km). It is a subsistence breeding or commercial activity is very limited, the herd is composed of local breeds well adapted to the semi-arid climate of the country. Transhumance reduces pressure on pastures. However, this type of livestock tends to disappear leaving to the profits of agro-livestock or agriculture and livestock to meet the vital needs of rural households.

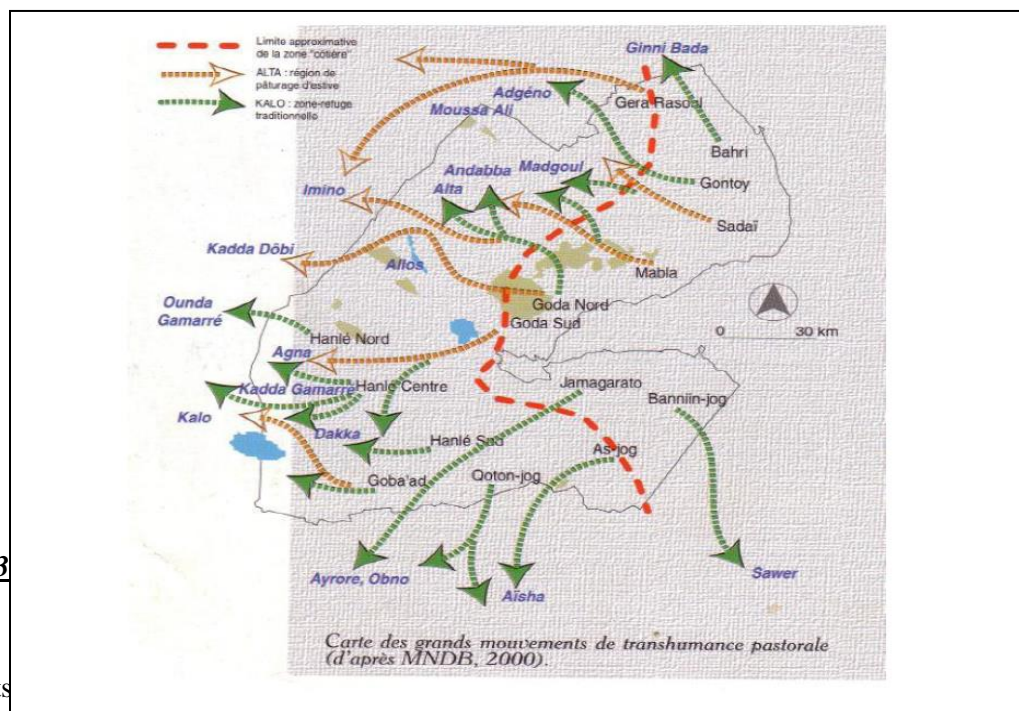


Figure 3

The texts

- ✓ Law 171/AN/91/2nd L of 10 October 1991 on the fixation and organization of the public domain;
- ✓ Law 172/AN/91/2nd L of 10 October 1991 regulating expropriation in the public interest;
- ✓ Law 1 73/AN/91/2 ème L of 10 October 1991 on the establishment and organization of the private domain of the State; Law 177/AN/91/2 ème L on the organization of land ownership.

These land laws refer only to urban areas. In rural areas, the land management system is governed by customary laws and agreements between different communities.

▪ **Cattle run**

Estimated at more than 1,700,000 ha, the cattle range represents 94% of the country's total land area. Plant species differ from one area to another as described in the map of vegetation and pastoral resources of the Republic of Djibouti at 1:250,000 (IEMVT et al., 1987).

Table 3: Land use in the Republic of Djibouti

Table: Land use in the Republic of Djibouti Land use	Areas in km ²	Areas in ha	% of land surface
Total area	23 200	2 320 000	
Territorial waters and lakes	5 208	520 800	
Total land area	17 992	1 799 200	100
Pastoral land	16 987,4	1 698 740	94,4
Agricultural land	105	10 500	0,6
marginal lands (halomorphic, bare lands and cliffs	8 99,6	89 960	5

Genetic composition and potential of herds

The national herd consists of cattle, goats, camels and sheep. A census carried out in 1978 estimated that 100,000 head of small ruminants, 50,000 cattle and 70,000 camels were headed.

▪ **Genetic potential**

These local breeds are hardy and well adapted to Djibouti's harsh climates with low production potential. The following framework shows the results of a study on genetic resources conducted in 2006 in Djibouti.

▪ **Local breeds**

Local breeds of the Republic of Djibouti are characterized by hardiness and good adaptation to the climatic conditions of the country, but their productivity rate is low. Local breeds represent 90% of the total number of animal species used throughout the national territory, the rest of the breeds (10%) are the result of a cross with exotic breeds (Frisian, Holstein, Black Magpie, Red Magpie). These exotic breeds are generally chosen for their performance in milk production by Djiboutian breeders in the peri-urban area of Djibouti. Local breeds consisting of more than 90% of the livestock raised in the country use natural resources. Among these, camels are well adapted to the harsh conditions of the country. This type of livestock plays very important roles in rural areas. Among these roles we can mention: milk feeding especially to young people (milk is the only staple food in families that have no other resources), transporting food and water over long distances. In some regions camel meat is very popular.

▪ **Cattle breeds**

Zebu Afar (adaal): it is a medium-sized animal, which has a coat of various colors. It wears long horns in the shape of a lyre its number decreases more and more in RDD it is a hardy breed resistant to diseases and long walks very sought after by nomadic breeders. It is used for the production of milk, meat and skin. Its weight is 200 to 250 Kg.

Zebu Somali (jigjigawi, adani): it is an animal that has a gray, white, or spotted coat its weight can reach 400 to 500 kg in intensive breeding the horns are average. This breed is sought after by breeders in the peri-urban area for its milk, the meat it is used for crossing with imported foreign breeds.

Native zebu: mountain ranges (bada adoo) It is an animal of small size, which presents all the varieties of dresses found in high altitude areas such as the Mabla, Randa, the horns are very small or absent The weight of the adult set from 200 to 250 kg. This breed is perfectly adapted to the climatic conditions of this region.

Cattle raised extensively require more and more fodder supplementation because of the insufficiency of natural pastures due to the degradation of rangelands. This type of livestock farming, which is subsistence farming, is becoming more and more expensive for already poor owners. As a result, livestock farming is declining at the national level and is currently confined to mountainous areas in the north of the country.

▪ Sheep breeds

Local sheep breeds are adapted to the semi-arid climate of the RDD although their numbers are decreasing compared to goat breeds.

Adal breed it is a breed of small size with a weight of 24 to 35 kg. It is present in the north and south-west of the country. The dress is varied in color ranging from off-white to sand. The head is covered with hair, the ears are short, and the tail is 25 cm long. It is used for the production of milk and meat.

Moussa Ali breed is a small breed that is present in the northwest of the country, only on Mount Moussa Ali. The coat has a red color. It has a fat pad on the forehead, the ears are short and the fat tail is long, hanging and little beyond the hock. It is used for the production of milk and meat. It is a sheep whose numbers are very limited and could be declining.

Black-headed Somali breed (dhagawen) is found in the south of the country it is a sheep very adapted to the dry climate its meat is highly sought after. It has a white coat and black head, it is large in size with a weight of 40-50 kg, the ears are long and the tail is fat.

Somali Arab breed or (dhaga yaré) can be the result of a cross between the Adal breed and the Somali breed. It is a sheep that has a white coat and black head or beige head. Its population is shrinking more and more. Weight is 27-38 kg. The ears are short and the rump greasy, the tail ends in a short appendiss. This breed is used for meat and milk production.

▪ Goat breeds

Somali breed (galla goat): this local breed found in the south of the country is perfectly adapted to the semi-desert climate, the color of the coat is varied predominantly white, the height of the withers 60 cm it is used for the production of milk and meat. Its weight can reach 30-40 kg. The male usually has more pronounced horns than the female.

Afar or Adal breed (common breed of Djibouti), it is found among nomads in the north and west of the country. It is also found in neighboring countries Eritrea, Ethiopia. This is a breed of medium size 60-65 cm with a weight of 25-30 kg.

It is used for dairy production and meat, the coat is varied in color with black or dark brown dominance.

- **Camelina breeds (dromedary)**

Race Afar/ Issa is a medium-sized camel well adapted to the semi-desert climate, is used for the production of milk, meat, skin and leather and for transport.

Ogaden or Somali breed are also present in the south of the country, it is a large breed. This breed is used for the production of milk, skin and leather and transport.

The donkey race

Asine somali breed : only one breed is present in RDD. Herders have donkeys to transport water and food in rural areas. In the urban centre, the donkey pulling the cart that transports goods plays an important socio-economic role and supports several families in the capital.

Crossbreeds of recent introduction: Exotic breeds were imported from Europe for the improvement of milk production. Imported breeds are mainly Frisian and Holstein. These exotic breeds crossed with local breeds are bred in intensive system. It is necessary to know the characterization of these breeds resulting from crosses with a view to their possible development.

Breed resulting from a cross with the one called "Frisian ": it is a mixed-race breed of introduction feels very good milky it presents the color of imported strains.

Breed resulting from a cross with the one called "Holstein ": This cross breed which is commonly called "Dutch breed" by local breeders is very well adapted after several generations in the peri-urban area. It gives a good production of milk and meats, the male can reach 800-850 kg.

Underutilized breeds and species (indicate breed size and population trends)

Bees are the underused breeds in the country. Experience has shown that the practice of modern beekeeping in potential areas (Mount Goda and Mabla) can significantly improve the income of rural people.

Constantly imported breeds: Avian breeds are the only breeds constantly imported into Djibouti. A small population (about 2,000 to 3,000 poultry) of the bird population is reared in the country in an intensive production system in the peri-urban area of the capital. Combined actions of difficult climatic conditions, inappropriate rationing, lack of control of the health aspect and lack of knowledge of the management of poultry farming have hindered the practice in the country despite several initiatives, mainly by private individuals.

A so-called "common" breed of small size from Ethiopia is present in some farms that practice a family breeding of a maximum of a few dozen hens.

National marketing and processing:

- **Livestock yard:**

With an area of 2.7 ha, the Djibouti livestock park is divided into 2 parts, one part for the small ruminant market and the other for large ruminants. It is a real employment hub where some 2000 people benefit daily from direct or indirect jobs thanks in particular to the various intermediate activities created by the marketing of livestock and related activities (restaurateur, fagotier, shopkeeper, etc ...) all around the park. In 2020 more than **132,000 head of animals (small and large ruminant) were inspected**. Agglomeration and population growth have increased demand for meat. This demand is reflected in the trend chart at the Balbala cattle yard.

Table 4: Evolution of attendance at the Balbala livestock park 2003 – 2019

Year	Large ruminants	Small ruminants
2003	28604	82967
2004	34127	106265
2005	30147	109992
2006	31832	214494
2007	38234	238290
2008	40400	130200
2009	50065	265801
2010	38598	357080
2011	38598	357080
2012	31549	195710
2013	36873	259339
2014	37742	136557
2015	26402	70682
2016	33131	85803
2017	61397	116670
2018	58719	121589
2019	54827	115992

▪ **The slaughterhouse of Djibouti**

Created in 1989 and renovated in 2012, the Djibouti slaughterhouse is a controlled meat production facility for the human consumption of the capital's population. It works 7d/7d. It is the sole slaughterhouse of capital. Agglomeration and population growth have exploded the demand for meat. Nearly 198,000 head of animals were slaughtered there in 2019. The **evolution of controlled slaughterings 2003 – 2019 (Carcases)**

- **Imports:** It is dominated by poultry meat, which is highly prized by Djibouti's middle class. The import of this meat is estimated at more than 2,000,000 kg.
- **Export:** Designed in 2006, the Damerjog quarantine centre drains livestock from the region to Arab Gulf countries through the Port of Djibouti. The quarantine center is under the concession of

the company Abu-Yasser (Saudi company) which specializes in the export of live animals. The veterinary services are in charge of the health inspection of livestock as well as health certification. In 2019, the number of livestock exported amounted to **751,464 heads**.

- **In the interior regions:** The interior regions have slaughter areas and sales of live animals. Studies on the establishment of regional slaughterhouses are being carried out.

6.5 Exploitation of fisheries resources

▪ Aquatic potential

With an area of 7190 km² of Exclusive Economic Zone (EEZ), the Republic of Djibouti has an estimated aquatic potential of 48,000 tons/year, of which 5,000 tons are considered as resources of high commercial value (Ry & Darrar, UNIDO, 2011). The continental shelf, on which most fishery resources are concentrated, is spread over a distance of 12 to 15 km, a depth of 20 to 50 m covering an area of 2,492 km², or 34.6% of the EEZ (FAO, 1984, Kunzel 1996).

Fishing grounds are abundant and poorly exploited. The richest areas are located in the north (Obock) and south (near the Somali border). According to the Directorate of Fisheries, Djibouti's coastal ecosystems are marked by the existence of lagoon networks, mangroves, seagrass beds and coral reefs. The most important functional groups of fish are the noble demersals, small pelagics, and large pelagics. Demersals include genera such as the abundant group of balisitidae (triggerfish), spines (groupers), lutjanidae (snappers), sparids (sea bream), haemulidae (rumpers), lethrinidae (emperors), and others. In addition to these groups, there are a number of important genera and species that, in general, are intimately associated with reef ecosystems, such as acanthuridae (surgeons), scarids (parrots), labrids (wrasses) or mullids (red mullet).

Small pelagics include genera such as mugilidae (mullets), some carangidae (amberjacks and pompanos), some scombrids (mackerel and small mackerel), and exocetids (flying fish).

Large pelagics include the very important group of large scombrids (mackerel and tuna), large carangidae (trevally), coryphaenidae (dolphinfish), sphyrenids (barracudas), xiphids and istiophoridae (swordfish and sailfish), and sphirnid and carcharinidae (sharks).

Beyond fish, there are stocks of less abundance of cuttlefish (*Loligo* sp. and *Sepia* sp.), stocks of sea cucumbers (*Holothuria* sp.), and a diversity of crustaceans (Decapods), such as shrimp, cicadas, lobsters, and crabs.

In 1996, studies carried out by the German cooperation DEP/GTZ estimated that the total biomass of all species combined amounted to about 102 000 tonnes, of which about 47 600 tonnes could reasonably be exploited annually.

Table 5: Exploitable potential according to species and their biomass

(tonnes)	Total biomass	Maximum exploitable potentials
Démersaux	28 000	15 000
Small pelagics	56 000	28 000
Large pelagics	18 000	4 600
TOTAL	102 000	47 600

It should be noted that fish resources are limited to fishery resources only, since continental fish resources (and possible fisheries) do not exist. Currently, aquaculture is not practised in Djibouti.

Floties and fishing conditions in Djibouti

There are three types of fishing licence categories, each relating to a type of vessel or fishery. Possession of a license is mandatory. It is issued each year and is valid until 31 December of the current year. The licence renewal application must be filed at least 30 days before its expiry date. The fishing licence is attached to the vessel. A business card is also required. Fees are renewed annually.

Table 6: Different categories of fishing licences

Licence Categories	Type of boats / fishing	Amount of the fee
A	motorized; length > 9 m	25.000 DJF
B	motorized; length < 9 m	10.000 DJF
C	non-motorized / fishing on foot	2.000 DJF
Professional Fisherman's Card		1.000 DJF

Source Directorate of Fisheries

105 licences were granted during 2020. However, a fisheries framework survey (2017) shows that 57% of fishermen have a license.

▪ The Floties

They would be 200 in number (source COFREPECHE survey 2013) including 100 broken down and 77% based at the Djibouti fishing port.

The majority of the Djiboutian fleet (80%) consists of boats 6 to 8 m long, fiberglass equipped with outboard engines of 25 to 40 horsepower, whose crew varies between 3 and 4 fishermen (source UNIDO 2011).

Less numerous, fishing port also welcomes boats, 8-16 m with more powerful engines of 35-800 HP and landing up to 1.5 tons per tide.

There are three types of boats by length of tide and average volume per tide

Table 7: Vessel type

Boat type	Duration tide	Crew	Fishing area	Ice on board	Average volume 1per tide
5m of fiberglass	3 p.m.	3	Near Djibouti	No ice on board	25 - 50 kg
7 m fiberglass	3-4 days	4	Goubet AL Karab, Somaliland, Dalay	Container + ice	150 – 300 kg

8-16 m, engine 35- 800 HP	4-7 days	4 or more	Somaliland, Obock...	Refrigerated wedge and ice	1,500 kg
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Source DP

Estimated total catch (in tonnes) by species group and per month for different landings

The COVID 19 lockdown has sharply reduced the level of production in the various landing sites. However, the country recorded a doubling of catches, from 1056 tonnes (2009) to 2322.5 tonnes (2020) respectively. For the year 2020 the total catches by weight and landing site are presented in the following table Table 2.

Table 8: Total catches by weight (tonne) and by landing site

Month	Disembarkation site				Total
	Qty (t)	Qty (t)	Qty (t)	Qty (t)	
	DJIBOUTI	LOYADA	OBOCK	TADJOURAH	
January	135.6	8.8	17.3	9.7	171.4
February	101.1	6	12.5	5.8	125.4
March	123.2	7.7	15.3	9.6	155.8
April	73.4	6.5	13.2	7.8	100.9
May	89.4	8.6	17	8.7	123.7
June	298.8	14.1	28.4	14.5	355.8
July	202.5	19.4	39.9	12.7	274.5
August	168	19.1	38.4	16.7	242.2
September	154.3	13.9	27.2	13.1	208.5
October	149.4	15.2	30.6	12.3	207.5
November	132.5	12.9	26.7	10.9	183
December	140.8	8	16.5	8.5	173.8
Total	1769	140.2	283	130.3	2322.5

Source : DP, 2020

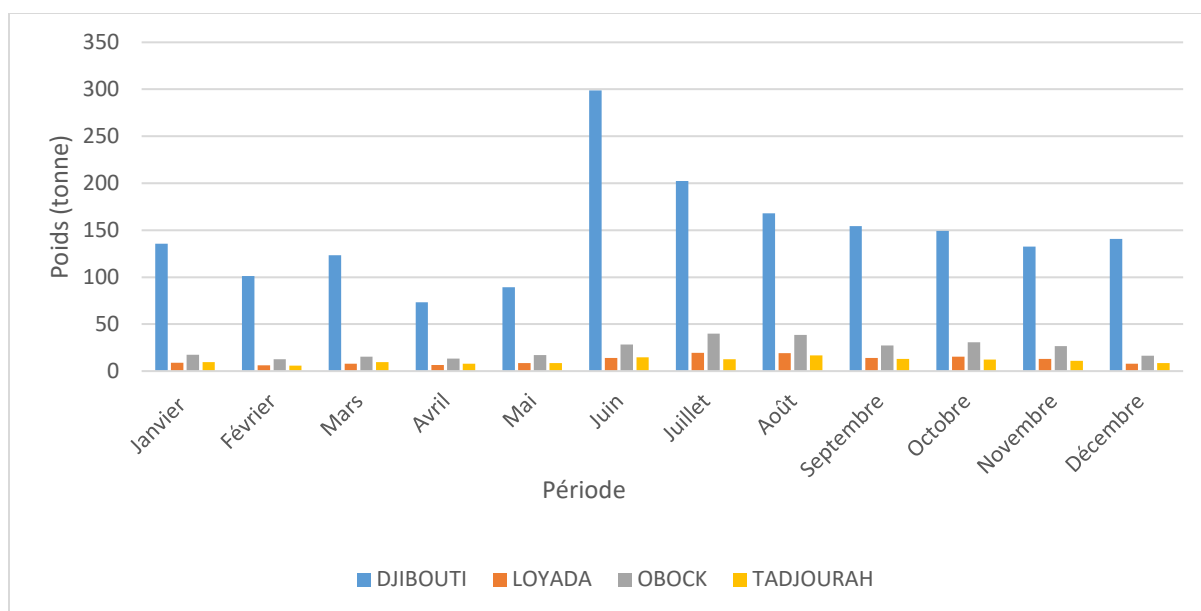


Figure 4: Monthly production evolution by landing site

Capture estimate in FDJ value

For the year 2020, landed catches are estimated at 2322.5 tonnes. The commercial value is estimated at 1,095,330,000 FDJ. (Table 1). 76% of these catches are landed at the Port de Pêche, 12% at Obock and about 6% at the other two landing sites (Loyada and Tadjourah).

Table 9: Total catches by weight (tonne) in terms of landings

Disembarkation site	Weight (tonne)	Value (FDJ)
DJIBOUTI	1769	907 694 000
LOYADA	140.2	48650 000
OBOCK	283	97 290 000
TADJOURAH	130.3	41 696 000
Total	2322.5	FDJ 1 095 330 000

Source: Directorate of Fisheries, 2020

Estimated total catches by weight (tonne) and value (FDJ) by species group and year

The analysis of catch statistics on OPENARTFISH¹ identified 37 species caught in Djiboutian waters during 2020. This analysis shows that the most fished species in Djibouti are mackerel and tuna with 13% each of the total catches of species landed in Djibouti, followed by tuna (10%), voracious trevally (8%), lentigine trevally (7%) and taleng jumper (5%). See (Figure 2).

Table 10: Total catches by species groups by weight (tonne) and value (FDJ)

	Year 2020
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No.)	Cash	Weight (tonne)	values (FDJ)
1	ThazardDerak	292.3	244 166000
2	Cute tuna/Zeinuba	291	105550000
3	Thonine orientale/Cherwa/Kawakawa	229.6	80203000
4	Voracious trevally/Houdar	183.4	77872000
5	Carangue lentigine/ Fee	152.7	66704000
6	Taleng jumper/ Hilf/Dourab	108.4	39437000
7	Weaver Shark/Spinnershark	82.8	30600000
8	Barracuda Jello/Noir	74.6	38902000
9	Hammerhead shark	73	26227000
10	Mafou-Hide	70.2	34151000
11	Sea bream other	66.9	29037000
12	Sérioles/dermella	62.6	22045000
13	Great Barracuda/White	61.9	29655000
14	Mahasena/Dorade/Mahsena Emperor	57.6	32715000
15	Other groupers	48.6	28663000
16	Antak/Colas Dentu	47.1	25902000
17	Barracudas	43.8	16054000
18	Bohar	40.8	23406000
19	Mangrove snapper/Sifane	38.5	15496000
20	Grouper/Koshar	34.8	18112000
21	Caranguetêtue/Gorun	32.4	13247000
22	Catfish	31.4	11115000
23	Other tuna	26.3	10052000
24	Other sole	22.2	10063000
25	Mulet/Arabi	22.1	12270000
26	Chinchards, carangues, carangidés nca	20	7008000

27	Merouareole	19.3	10477000
28	Marine fish nca	17.5	8952000
29	Espadons, Makaires,marlins,voiliersnca	15.8	5713000
30	Albacore	14.4	4502000
31	Autres Lutjanidae/Vivaneaux	12.9	5452000
32	Grouper/Kholkhol	11.3	6401000
33	Belt/Abessa	7.7	2166000
34	Blacktip shark/Blacktipreefshark	3.6	906000
35	Sharks	3.3	1185000
36	Rays, mantises, mantises.	1.6	439000
37	Spiny lobster	0.1	485000
	Total	2322.5	1095330000

Source : DP, 2020

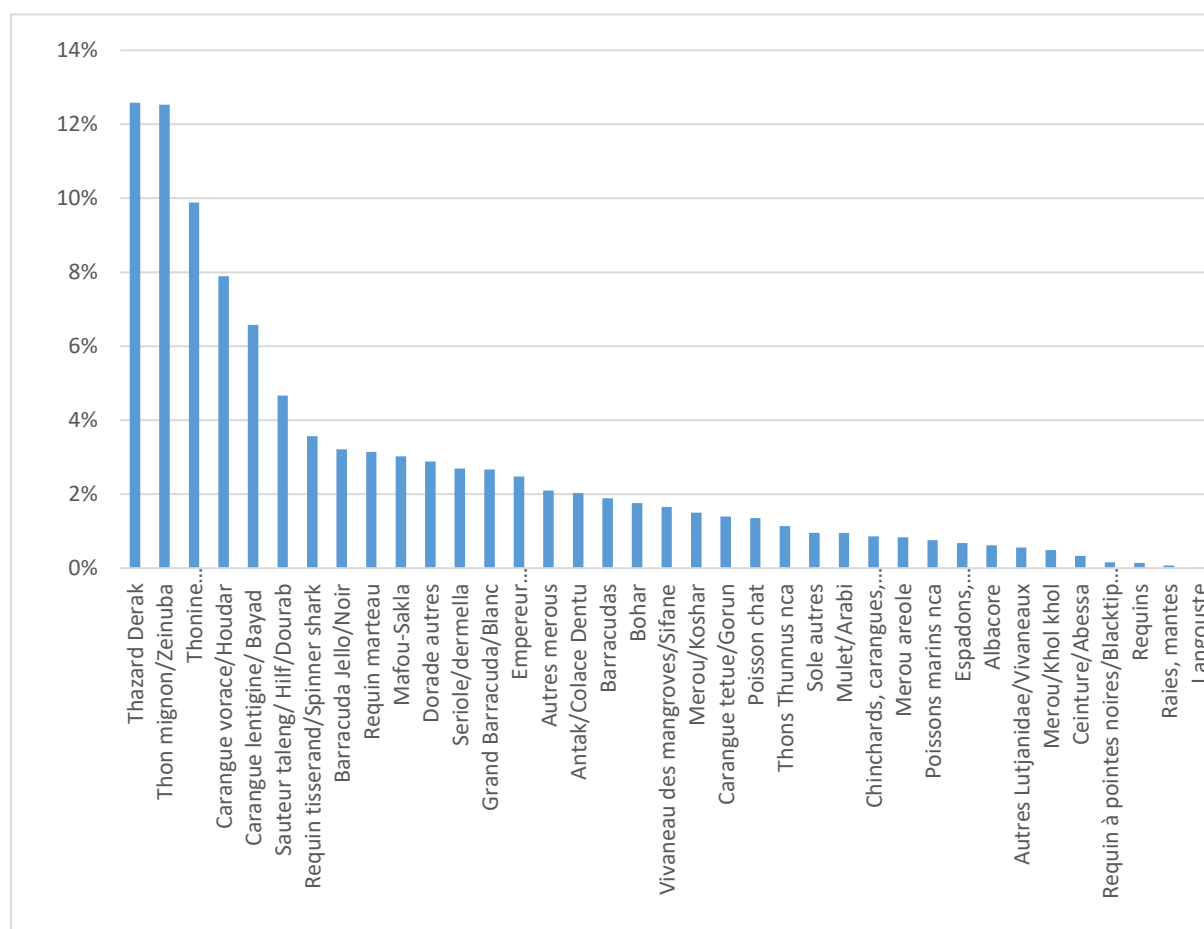


Figure 5: Percentage of landed species in relation to total catches

Capture station

THE SOCIO-ECONOMIC ROLE OF THE FISHERIES SECTOR

- **At the national level**

The fisheries sector in Djibouti employs 2,600 people, including 600 fishermen (Ry & Darrar, UNIDO, 2011). Annual landings have reached today, a volume of just under 2,500 tons and a value of 800 million FDJ or 4.5 million US dollars. The sector's contribution to GDP is less than 1.0 percent and per capita fish consumption is 2.6 kg compared to the global average of 16 kg (IGAD, 2016). The increase in the price of meat reaches 5.9% while that of fish is around 4.2% (DISED, 2016). This upward trend in meat results in stimulating demand for fish (source A, Tall 2016).

- **Access to microcredit:**

In partnership with CPEC, the PRAREV project has entrusted a "fisheries credit" line to CPEC. This line of credit called DERAK credit will make it possible to support sinners respecting certain criteria to receive

credits. Loan of 190 fishermen have already benefited from this credit (source report Directorate of Fisheries 2020).

6.6 Forest Resources

Despite the generally unfavourable soil and climatic conditions for life, Djibouti is a peculiarity among arid countries. Far from being desert, the country shelters on its territory, fascinating forest ecosystems, characteristic of those of regions with a Mediterranean climate. These forest ecosystems with humid microclimates, contradictory to the physico-climatic context of the rest of the country, are considered to have survived on mountains that could have served as a refuge during the driest periods of the Pleistocene. There are ecosystems of hyper-arid climates where specific types of vegetation resulting from harsh natural selection vegetate and develop, Mediterranean forest ecosystems, African highlands and the Arabian Peninsula where many species and varieties are described, through multiple steppe ecosystems and confined natural environments where floristic diversity varies over time and space. The flora of Djibouti, remarkable, belongs to the Somalia-Masai strain of endemism, however very close to the Afro-montane strain of endemism, of the Saharo-Sudanian transition zone, particularly its Arabian part. Since the phytogeographical boundaries between these different strains of endemism are not clear, the hypothesis that the flora of the RDD would ensure remarkable floristic links between these endemisms cannot be excluded (Audru et al. 1987). The inventory of floristic diversity shows that the country has an important floristic richness. The table below presents a non-exhaustive synthesis of this floristic diversity.

The forestry sector

The total area of wooded land (woody biomass) is 70,000 ha, of which 22,000 ha is occupied by forest formations and 48,000 ha by steppe, wooded and shrub formations. This report considers only forestry formations. In the country, there are three categories of forests whose nature and density vary with altitude and climate:

Mountain forests

These mountain forests, which constitute the densest forests in the country (the Goda and Mabla forests), consist of two types of formations:

*The dense coniferous forest with *Juniperus procera**

Coordinates of the center of the site: 11°48'N, 42°41'E

Approximate area: 900 ha

Density: 80% Altitude: 1000 - 1,800 m

This forest corresponds to the wettest microclimate of the country and represents the best developed vegetation of mountain forests. It is a climatic formation in the sense that its structure is closely dependent on climatic factors and the nature of the soil. This formation occupies the upper floor of the Day Forest (unique ecosystem and the only true forest in the country) and covers an area of about 900 ha at altitudes between 1000 and 1783 m. It is the remnant of an ancient forest that once covered a considerable area and contracted at the rate of terrestrial warming of the Quaternary area. More recently, pastoral fires in the 18th century and the eruption of 1862 have reduced the forest to the area it currently occupies. Currently this formation is in decline as a result of high mortality of juniper trees with a low possibility of regeneration due to the combined effect of overcutting, overgrazing, the effect of a weakness parasitic fungus (*Armillaire* sp.) and adverse climatic changes. It deviates inexorably from the ideal climatic state. Despite the restoration projects of these fragile sites, the idea of a rapid return to the previous natural state is unlikely and the decline that continues to increase in the absence of satisfactory regeneration of vegetation

constitutes a major mortgage for the future of animal populations and human populations that depend on this forest. The Day Forest occupied an area of 900 ha in 1987, whereas it extended to more than 7,500 ha two centuries ago and about 2,300 ha in 1949 (CNE 1991 Blot 1987). This regression has been highlighted thanks to the existence of isolated and scattered remains of *Juniperus* throughout the Goda and Mabla Mountains.

*Forests with *Terminalia brownii**

The forests of Goda and Mabla are found on these two massifs at an altitude between 500 and 900 m, and are composed mainly of *Terminalia brownii*. These forests cover a total area of about 13,900 ha.

Massif du Goda

Coordinates of the center of the site: 11°48'N, 42°41'E

Approximate area: 8,300 hectares

Altitude: 180 – 1000 m

At Mount Goda, this formation occupies the lower level of the Day Forest composed of *Juniperus procera* with, however, a certain amalgam of the two species in the transition zones. The upper stratum of the forest is dominated by *Terminalia* with a vegetation cover of 5 to 10%, while the lower stratum is occupied by *Buxus hildebrandtii*. This type of formation is associated with many species (e.g. *Commiphora* spp., *Acacia seyal*). The vegetation cover of this level is 20-60%. Finally, the herbaceous layer varies according to the woody cover and the state of degradation of *Terminalia brownii*.

Woody tree sizes and densities vary greatly and depend on soil and microclimate. At high altitudes, we find *Olea africana* and *Acacia seyal*, while at low altitudes *Acacia mellifera* and *Premna resinosa* become important. On the steep slopes the *Buxus* are increasing. Species of the genus *Aizoon canariense* and *Blepharis ciliaris* invade the herbaceous stratum.

Massif du Mabla

Site center coordinates: 11°58'N, 42°59'E

Approximate area: 5 600 ha

Altitude: 370 – 1,250 m

It is the second largest area of mountain forest in Djibouti and it is believed that there was once a juniper forest similar to that of the Day Forest in the Goda massif. However, today few of these juniper trees survive, and the dominant species are *Acacia seyal*, *Buxus hildebrandtii* and *Acacia etbaica* - the latter is very numerous in some places. *Acacia mellifera* is also common locally. Compared to the Day Forest, the forest structure is more open with few large trees, and areas of dense vegetation limited to ravines and mountain slopes. The Mabla region has not been visited by scientists for several years because of the lack of security. It remains one of the areas of Djibouti with the thinnest documentation.

Accacias nilotica forests of plains and depressions

Coordinates of the centre of the sites: 12°21'N, 42°28'E and 12°19'N, 42°25'E

Total area : 5400 ha

Density: 40 to 70%

These are mainly the *Acacia nilotica* formations located in the floodplains and depressions of Madgoul and Andabba located in the north of the country at the foot of Moussa-Ali, and that of Ginni Bad located in the south of the country on the Dakka plateau. The center of these formations is dominated by *Acacia nilotica* and the periphery by *Acacia ehrenbergiana*. The recovery rate of these trainings varies from 40 to 70%. They have no herbaceous stratum with the exception of *Aponogeton nudifloris*, an aquatic tuber plant that grows in Madgoul and Andabba, considered a species to be protected.

Mangrove forests

Total Surface : 800 ha

Density: > 80%

These are very special maritime swamp forests. They are periodically flooded by the tides, do not have a herbaceous stratum but most often several woody strata whose cover exceeds 80%.

The three most important areas are: Godoriya Forest, Khor Angar Forest and Ras Siyan Forest. These mangrove forests cover a total of about 700-800 ha and are currently in decline under the pressures of the interactions of natural factors and those due to human activities. In the Republic of Djibouti, eight mangrove areas have been identified along the entire coastline. The three most important areas are all on the North Coast between Obock and Doumeira: Godoriya Forest, Khor Angar Forest, Ras Siyan Forest

Elsewhere, there are some relics on the south coast between Djibouti and Loyada, at the mouth of the Oued Ambouli, near the Presidential Palace, as well as in the Moucha Islands, however they are not considered forests.

6.7 Biodiversity

According to the predictions of IPCC experts, if global warming continues to reach + 4.5 ° C, nearly 50% of the species that currently live in the most biodiverse regions will be threatened with extinction within 60 years. For drylands, such as the circum-Saharan zone in Africa, adaptation to climate change is the most important aspect of the UNFCCC process. This is an intersectoral issue that can allow a real synergy of actions and strengthen the adaptive capacities of the most affected African populations.

It cannot be a new programme or plan which is added to all those already developed by the affected countries and whose implementation will be subject to the same obstacles as those experienced by the others.

On the contrary, the definition of adaptation strategies to climate variability and change must be a process that strengthens, supports, energizes and enhances the various principles of environmental governance adopted by countries and the actions envisaged within the framework of the programme to combat desertification and preserve biodiversity and which have not yet been effectively implemented.

Awareness of biodiversity in general (knowledge, awareness, management) is not new in Djibouti. NAPA projects mentioned this activity in relation to mangroves, including Khor-Angar and Atar-Damerjog, water and soil conservation in the As-Eyla region and in the Goda and Mabla massifs.

Djibouti's biodiversity, encompassed by the broader notion of natural resources, is naturally unevenly distributed. Overall, it is located in areas with less water resources, in all its forms. These are the highland regions, the depressions, the hydrographic network and the coastal zone. The latter is the receptacle, downstream, of the western part of the hydrographic network, that draining the floods towards the coast.

The coastal area of Djibouti was delimited on the land side by a distance from the sea of 15 kilometers, and on the sea side by the limit of the territorial sea, i.e. 12 nautical miles [22,224 km]. This corresponds to a land area of about 4567 km² and marine area of more than 1000 km². The choice of 15 km may seem arbitrary but depends in fact on criteria specific to coastal areas such as socio-economic aspects, physical characteristics, agro-pastoral characteristics, etc. Nevertheless, this delimitation could be revised according to the particularities of coastal zones in different regions.

In practice, the coastal area of Djibouti therefore includes, in addition to reef and mangrove habitats, the two *mountain biodiversity hotspots*, Goda and Mabla (map below). It is therefore of paramount importance.

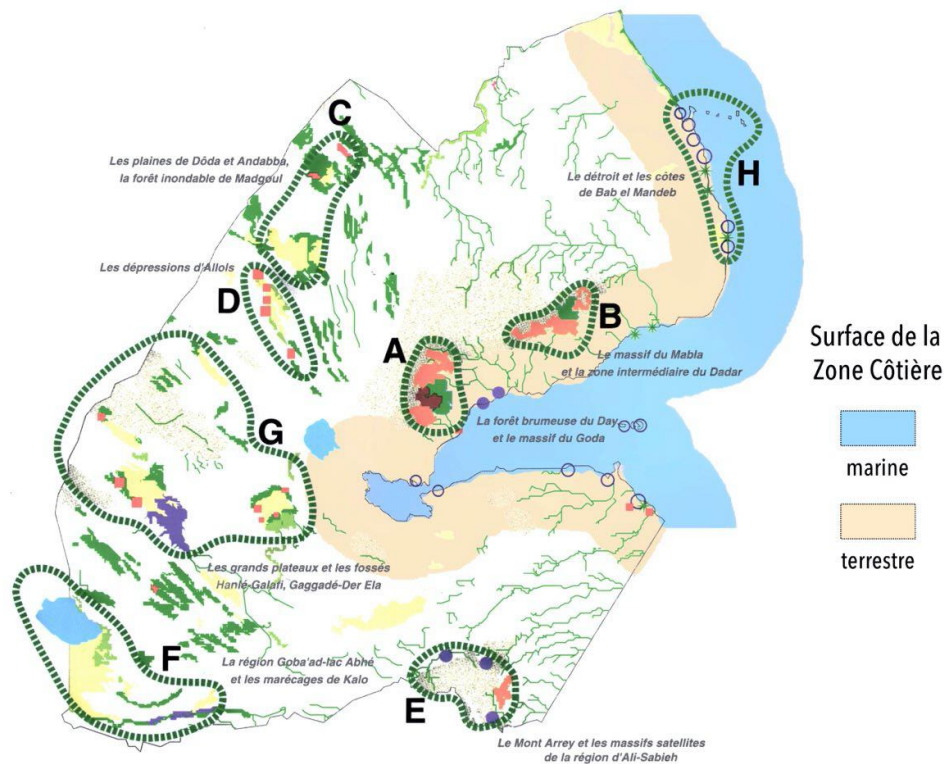


Figure 6Representation Map of the Coastal Zone including 3 biodiversity hotspots: A: Goda, B: Mabla, H: Bab-el-Mandeb Strait and coasts

In 2012, the Rio+2048 document noted: at present, after twenty years that the process is implemented, the Republic of Djibouti records a positive balance sheet in terms of accomplishment of milestones and achievements. At the level of the overall strategy and at the level of all sectors, there are significant developments at the institutional level, at the level of regulations, at the level of infrastructure and at the level of capacity building in general while adopting the participatory process at all levels of society.

6.8 Potential and constraints of Natural Resource Management (NRM) in the country

Despite the difficult agro-climatic conditions, the country has a potential for agricultural development, particularly in terms of the development of vegetable crops, fruit arboriculture and fodder crops. Out of an easily irrigable area of 10,000 hectares, only 12% is cultivated so far. The multiplication of water points (boreholes) in the various areas with agricultural potential, the gradual introduction of the solar system for water dewatering, as well as a new impetus for investment in the agricultural sector will undoubtedly allow the development of the remaining areas. This will ultimately contribute to the significant improvement of food security at the national level.

Livestock farming contributes significantly to the income of rural households (1/3 of the population). Also, there are good commercial opportunities for livestock and its products compared to other production systems. The country has a livestock adapted to local conditions. There is a growing need for animal

products (meat and milk). Experiments (crossing with exotic breeds) conducted in peri-urban areas on dairy cows have shown the margins of significant increase in milk production. Given the situation described, if the sector is well developed through genetic improvement and food improvement, the potential exists. Djibouti has a regional livestock export centre that contributes to improving the income of livestock farmers by valuing the price of animals, creating jobs and generating significant revenue for the State.

The country has very important fishery resources with an estimated exploitable potential of 47,000 tons per year all species combined. To date, only about 4.2% of the potential has been exploited (2000 tonnes/year). This underexploitation of these resources is mainly due to the lack of means of production, in particular, the limited number of boats, the low level of training of fishermen and unsuitable fishing techniques. In order to make the most of the resources of this subsector, the State has made a major investment in infrastructure in particular: a modern fishing port, the food hygiene laboratory meeting international standards. However, it is necessary to seek funding from development partners to acquire additional means of production (large-autonomy boats). Private investors are increasingly interested in investing in this promising sector. The existence of a vocational training centre for technicians and fishermen is also an opportunity to provide regular training in this field.

7. Detailed description of project components

7.1 Activities to be carried out

List of activities selected by the APHRM

PROJECT COMPONENTS/SUB-COMPONENTS/ACTIVITIES	UNIT	Quantity	Prix, UNIT. (DJF)	TOTAL (DJF)	TOTAL (USD)
COMPONENT A: STRENGTHENING THE RESILIENCE OF DROUGHT-PRONE AREAS AND PASTORAL AND AGROSYLVOPASTORAL PRODUCTION SYSTEMS TO CLIMATE CHANGE				3 844 000 000	21 629 408
SUB-COMPONENT A1: SUPPORT FOR SUSTAINABLE AGROPASTORAL LAND MANAGEMENT				190 000 000	1 069 091
A1.1 Technical study on sustainable land management and implementation of a National SLM policy + Monitoring of works and awareness-raising/training of water and soil conservation techniques	FF	1	20 000 000	20 000 000	112 536
A1.2 Creation of nurseries for the protection of endangered species and planting drought-resistant trees and shrubs in rangelands (acacias, laureates etc.) (HIMO work and accompaniment) SDSA+ DAF	In the	2	25 000 000	50 000 000	281 340

A1.3 Construction of anti-erosion structures at the watershed level (gabion thresholds, stone barriers, etc.).	In the	6	15 000 000	90 000 000	506 412
A1.4 Regeneration/enrichment/management of defensive courses, rotational management and load compliance	Has	20	1 500 000	30 000 000	168 804
SUBCOMPONENT A2: DEVELOPMENT OF CLIMATE-RESILIENT INFRASTRUCTURE				2 504 000 000	14 089 500
A.2.1 Support the implementation of a national policy for livestock, agriculture and fisheries (development of a strategy document + workshop + recruit a consulting firm + ...) = EVALUATION and actuliasé PINIASA	FF	1	10 000 000	10 000 000	56 268
A.2.2 Complete technical study of integrated infrastructure development on new BVs (Gobaad, Magalé, Darriyou, Assali) and reinforcement of the watersheds of DRSLP I and III (Weima, Beyya, Dadder, Beyya Adey, Dedey, Wein, Douda, Damerjog) and development of perimeters at the BV Ambouli Friendship Dam) (micro-dams and boreholes and access tracks) + Supervision of works	FF	1	75 000 000	75 000 000	422 010
A.2.3 Construction/rehabilitation of water resources mobilization infrastructure: micro-dams, related infrastructure and boreholes	In the	9	40 000 000	360 000 000	2 025 647
A2.4 Rehabilitation and equipment of existing irrigated perimeters (wells, solar pumps, reservoirs, irrigation kits, fences, etc.) and development of perimeters at the BV Ambouli Friendship Dam)	Gardens 1Ha	700	1 940 000	1 358 000 000	7 641 190
A2.5 Maintenance work on existing hydraulic structures (excavation dams, micro-dams, collinear lakes) + Development of drinking troughs, standpipes (downstream of threshold structures) for livestock EPA and grazing	In the	9	4 000 000	36 000 000	202 565
A2.6 Technical studies for the construction and rehabilitation of distribution networks 4 large villages in rural areas including Karta-Layta (storage tank, water supply and distribution network inside the village) KARTA-LAYTA GARABTISAN-BALHO + Construction supervision	In the	1	45 000 000	45 000 000	253 206
A2.7 Construction and rehabilitation of distribution networks in 4 large villages in rural areas, including Karta-Layta (storage tank, water supply and distribution network within	In the	4	155 000 000	620 000 000	3 488 614

the village) KARTA-LAYTA GARABTISAN-BALHO					
SUBCOMPONENT A3; PROMOTING CLIMATE-SMART TECHNOLOGIES AND INNOVATIONS				1 150 000 000	6 470 817
A3.1 Identification of innovative and intelligent technologies (drones, mapping tools and satellite image processing software, differential GPS, plotting table, livestock dynamics monitoring tools, fisheries resource dynamics monitoring sensors) (regulation and training): ANM, DESV, DAF, DHR, DP, DGT, CERD, DE	FF	1	10 000 000	10 000 000	56 268
A3.2 Acquisition (drones, mapping tools and satellite image processing software, differential GPS, plotting table, livestock dynamics monitoring tools, fisheries resource dynamics monitoring sensors) (regulation and training): ANM, DESV, DAF, DHR, DP, DGT, CERD, DE	FF	1	20 000 000	20 000 000	112 536
A3.3 Technical study and monitoring on the establishment of an aquaculture farm, a landing stage of a regional center of excellence in animal science (engineering-genetics) for arid and semi-arid areas in the context of climate change, national pilot seed center and landing stage	FF	1	25 000 000	25 000 000	140 670
A3.4 Creation of an aquaculture farm implementation centre + landing work	In the	1	95 000 000	95 000 000	534 546
A3.5 Creation of a regional centre of excellence in animal husbandry (engineering-genetics) for arid and semi-arid areas in the national pilot seed centre and two pilot demonstration centres for agricultural production of 5 hectares each (hydroponics must represent 5% of production)	In the	1	800 000 000	800 000 000	4 501 438
A3.6 Technical training for staff of aquaculture farm establishment centres, regional centre of excellence in animal husbandry (engineering-genetics) for arid and semi-arid areas in the context of climate change, national pilot seed centre	FF	1	10 000 000	10 000 000	56 268
A3.7 Support to the In vitro-CERD Laboratory	FF	1	150 000 000	150 000 000	844 020
A3.8 Acquisition of equipment for locust control	FF	1	40 000 000	40 000 000	225 072
COMPONENT B: SUPPORT FOR AGRIBUSINESS DEVELOPMENT				1 126 000 000	6 335 773

SUB-COMPONENT B1: FACILITATING ACCESS TO ADVISORY SERVICES, FINANCING AND MARKETS				971 000 000	5 463 620
B1.1 Feasibility study of the establishment of a credit system for small farmers and fishers;	FF	1	6 000 000	6 000 000	33 761
B1.2 Development of new financial services adapted to the financing of small farmers and fishers	FF	1	20 000 000	20 000 000	112 536
B1.3 Rehabilitation works of 60km rural roads (Ali-Sabieh & Daasbiyo and Tadjourah Ripta);	Km	60	14 000 000	840 000 000	4 726 510
B1.4 Technical studies + Supervision and control of rural road rehabilitation works.	FF	1	30 000 000	30 000 000	168 804
B1.5 Study/monitoring for the construction and equipment of small processing and marketing units for agricultural, dairy, fisheries and construction products and the equipment of community markets in large localities centres polarizing rural communities	FF	1	25 000 000	25 000 000	140 670
B1.6 Construction and equipment of small processing and marketing units for agricultural, dairy, fisheries products and construction and equipment of community markets in large localities centres polarizing rural communities	In the	5	8 000 000	40 000 000	225 072
B1.7 Identification/formation of exploitable potential according to areas (meat, milk, market gardening, fodder, honey, butter, cheese, fish, etc.)	FF	1	10 000 000	10 000 000	56 268
SUBCOMPONENT B2: SUPPORT FOR THE DEVELOPMENT OF ENTREPRENEURSHIP				20 000 000	112 536
B.2.1 Structuring, sensitization of communities on procedures for access to credit and financial management of activities (training)	FF	1	5 000 000	5 000 000	28 134
B.2.2 Training on marketing and business plan implementation	FF	1	5 000 000	5 000 000	28 134
B.2.3 Provides direct support to entrepreneurial initiatives for a line of credit that will finance 5 innovative entrepreneurship projects) = FPA participatory financial approach.	PROJ ECT	5	2 000 000	10 000 000	56 268
SUB-COMPONENT B3: PROMOTION OF NATIONAL BIODIGESTERS AND SOLAR ENERGY				135 000 000	759 618
B.3.1 Studies and Monitoring for the installation of a solar power plant in Bissidirou	FF	1	30 000 000	30 000 000	168 804
B.3.1 Installation of a solar power plant for the village and drilling of Bissidirou	FF	1	75 000 000	75 000 000	422 010

B3.2 Promote and develop the use of environmentally friendly and renewable energies and technologies to save wood as fuel: improved stoves; biomass programs; and alternative energy sources (geothermal, wind, solar, biogas);	FF	1	30 000 000	30 000 000	168 804
COMPONENT C: CAPACITY BUILDING FOR ADAPTATION TO CLIMATE CHANGE				754 000 000	4 242 605
SUB-COMPONENT C1: DEVELOPMENT OF CLIMATE SERVICES				40 000 000	225 072
C1.1 Technical study on the establishment of a climate data portal in partnership with ANM and CERD;	FF	1	10 000 000	10 000 000	56 268
C1.2 Establishment of an agro-climate forecasting service at national level.	FF	1	20 000 000	20 000 000	112 536
C1.3 3. Identification and training of an integrated early warning mechanism against drought, facilitate the transmission and exchange of information between all actors (technicians, decision-makers, civil society, community organizations)	FF	1	10 000 000	10 000 000	56 268
SUB-COMPONENT C2: STRENGTHENING THE CAPACITIES OF KEY AGROPASTORAL SECTOR STAKEHOLDERS IN DROUGHT-PRONE AREAS FOR CLIMATE CHANGE INTEGRATION AND MONITORING				349 000 000	1 963 752
C2.1 Studies and control of the rehabilitation works of the premises of the technical departments of the MAEPE-RH and the development of livestock infrastructures in the regions	FF	1	30 000 000	30 000 000	168 804
C2.2 Rehabilitation work on the premises of the technical departments of the MAEPE-RH and the development of livestock infrastructures in the regions	In the	13	8 000 000	104 000 000	585 187
C2.3 Acquisition of CERD/Laboratoire de Pédologie laboratory equipment (2 spectrophotometries, 2 centrifuges, 1 laser particle size, 2 electrical particle sizes, 2 liquid chromatography, 3 field analysis cases)	FF	1	20 000 000	20 000 000	112 536
C2.4 Acquisition of workshop trucks equipped with tools to troubleshoot drilling, tanker trucks and crane trucks	In the	6	15 000 000	90 000 000	506 412
C2.5 Acquisition of spare parts for large trucks and construction machinery, generators, solar panels, drill tubes, pumps and drilling equipment	FF	1	30 000 000	30 000 000	168 804

C2.6 Procurement of animal health laboratory products and instruments to be acquired for monitoring and evaluation of fisheries resources	FF	1	30 000 000	30 000 000	168 804
C.2.7 Acquisition of tracking vehicles, office automation and computer furniture for the technical departments of MAEPE-HR (DHR, DGT, DESV, DAF, DP)	In the	5	6 000 000	30 000 000	168 804
C2.8 Training/Study Trips for managers and technicians of the CEP and the technical departments of MAEPE-HR (DHR, DGT, DESV, DAF, DP)	FF	5	2 000 000	10 000 000	56 268
C2.9 Feasibility studies for insurance mechanisms at macro-micro level	FF	1	5 000 000	5 000 000	28 134
SUB-COMPONENT C3: STRENGTHENING OPERATIONAL RESILIENCE CAPACITY				365 000 000	2 053 781
C3.1 Technical studies for the identification of generating activities of women and young people	FF	1	5 000 000	5 000 000	28 134
C3.2 Local construction work for AGRs	FF	10	2 500 000	25 000 000	140 670
C3.3 Acquisition of 1000 hens, equipment and food and veterinary products for one year	FF	10	2 000 000	20 000 000	112 536
C3.4 Training of actors in i) environmental and social assessment, ii) environmental monitoring of sub-projects (30% women and young people will be trained);	FF	1	5 000 000	5 000 000	28 134
C3.5 Acquisition of agricultural inputs and small tools for forage nurseries;	FF	1	80 000 000	80 000 000	450 144
C3.6 Acquisition of crossbred goats, including nutritional supplements and veterinary products;	FF	1	80 000 000	80 000 000	450 144
C3.7 Acquisition of veterinary inputs and livestock products;	FF	1	25 000 000	25 000 000	140 670
C3.8 Training of good practice techniques in agropastoral with a long duration dedicated to the beneficiaries of the project (Technical supervision for the regeneration of pastures, installation of irrigation systems, training on the cultural cycle ect ...);	FF	1	25 000 000	25 000 000	140 670
C3.9 Training Awareness/mobilization of populations (50% women) on the following themes: gender, hygiene, HIV-AIDS, nutrition, FGM, climate change.	FF	1	10 000 000	10 000 000	56 268
C3.10 Technical Assistant to the management of works (infrastructures);	FF	1	30 000 000	30 000 000	168 804

C3.11 Technical Assistant on Gender and Community Development	FF	1	5 000 000	5 000 000	28 134
C3.12 Technical Assistant in Environmental Assessment and Safeguarding;	FF	1	5 000 000	5 000 000	28 134
C3.13 Baseline study, mid-term review, and impact assessment (end of project);	FF	1	30 000 000	30 000 000	168 804
C3.14 Audit of the Project	FF	1	20 000 000	20 000 000	112 536
COMPONENT D: PROJECT MANAGEMENT AND CAPACITY BUILDING	FF	1	496 235 017	496 235 017	2 792 214
TOTAL PROJECT COST				6 220 235 017	35 000 000

7.2 Implementation Strategy

The implementation strategy of this program will be under the supervision of the coordination unit of the MAEPRH in collaboration with the other technical and financial partners.

7.3 Expected Results by Component, Sub-Component and Component

Project Title		Strengthening Resilience to Food and Nutrition Security Project (DRSLP-II) / DJIBOUTI				
Purpose of the project		contribute to the improvement of people's living conditions and food and nutrition security in the Horn of Africa				
Results Chain		Performance Indicators			Means of verification	R M A H
		Indicators	Ref	Target		
IMPACT	Improving the resilience of populations to climate change, droughts, pandemics and shocks.	Reduction of the 45% of the population affected by drought and climate change (disaggregated by gender); Number of people with improved incomes;	AD (surveys), including women	40% reduction at the end of the project	Reports of the Government/ Programme/ UN Agencies and other PartnersIGAD reports, IDDRIS (ICPAC, ICPALD ect...) Reports of Research and University Center (CERD, UD)Reports of International and National NGOs	<p><u>Guess 1:</u> No major conflict in the Horn of Africa</p> <p><u>Guess 2 :</u> No extreme and prolonged weather conditions (drought and flood)</p>
	Improved community access to food and nutrition.					
	Improving community resilience to CC, droughts, pandemics and shocks.	- Number of children/women/men/families with better access to food and nutrition				
	Improved community access to water	Length (km) of farm to built market roads;				

	for irrigation, sanitation, etc.					
	Improving the resilience of agro-pastoral production systems	- Number of individuals/families/communities benefiting from H2O irrigation and sanitation systems				
	Human, institutional and legislative capacity-building	Area (ha) of restored agropastoral systems				
Results Chain		Performance Indicators			Means of verification	R M A H
		Indicators (ISC comprises)	Ref	Target		
RESULTS	1.Improving people's access to food and nutrition	1.1 Level of household food security	1.1 DA (respondents)	1.1 20% increase	MAEPRH Ministry of Health. MENSURIGAD and IDDRSI-PCU, AED, DRISD, PSD, PCPD....ICPAC, ICPALD, ICARDARcontribution from the Government/UN Agencies/ Project (surveys)	<u>Risk 1:</u> Insecurity and conflicts in the region for access to natural resources exacerbated Mitigation 1: IGAD and member countries have already set up a conflict resolution mechanism (At national and regional level) <u>Risk 2:</u> Non-involvement of women in project activities due to social constraints <u>Mitigation 2:</u>
		1.2 Rate of increase in household income (by gender)	1.2 DA (Investigations)	1.2 30% increase		
	2.Improving the resilience of agropastoral production systems	2.1 Staple crop productivity (by gender)	2.1 1.7 to 2.8 T/ha	2.1 40% increase		
		2.2 Livestock productivity (by gender)	2.2 Growth rates: cattle (2.75), sheep/goats (1.75), camels (1.25)	2.2 Growth rates: cattle (3), sheep/goats (2), and		

				camels (1.5);		
3.Improving water availability and accessibility in the country	3.1 Number of individuals/families with year-round access to water	3.1 RFA (Investigations)	3.1 25% increase			<p>Raising awareness of the gender approach to authorities and populations by local organizations promoting gender Risk 3: Weak human and institutional capacity of IGAD and national implementing agencies</p> <p>Mitigation 3: The capacity of national implementing agencies will be enhanced as they work alongside regional and international consultants recruited by the HoA Program.</p>
	3.2 Number of cattle/cattle producers assessing water > 6 months/year	3.2 DA (investigations)	3.2 20% increase			
	3.3 Number of Water Infrastructure/Water Harvesting Systems Constructed and Used	3.3 DA (Investigations)	3.3 25% increase			
4.Improved sustainable access to natural resources (water, grazing), including for women	4.1 Minimum average distance to nearest water point	4.1 AD (km)	4.1 30% discount			
	4.2 Load capacity of the routes	4.2 AD ha/LU	4.2 30% increase			
5. Human and institutional capacity building in the country	5.1 Number of people trained in agricultural and pastoral techniques	5.1 AD	5.1 30% increase			
	5.2 Number of people trained in mapping and remote sensing for climate prediction	5.2 AD	5.2 15% increase			
	5.3 Number of personnel trained in Environmental and Social Assessment	5.3 AD	5.3 35% increase			

		5.4 Number of staff trained in good nutrition & HIV & CC & gender practices	5.4 AD	5.4 40% increase		
Results Chain		Performance Indicators			Means of verification	R M A H
		Indicators (ISC comprises)	Target			
PRODUCE	Component I: Strengthening the resilience of drought-prone areas and pastoral and agro-pastoral production systems to climate change. Sub-Component 1: Support for sustainable agro-pastoral land management Sub-Component 2: Developing climate-resilient infrastructure Sub-Component 3: Promoting climate-smart technologies	1.1 At the level of food security (i: purchase of <i>hens</i> , ii: <i>purchase of cross-bred goats</i> , iii) <i>purchase of veterinary inputs and livestock products</i> , iv) <i>purchase of irrigation kits</i> , v) <i>purchase of small tools and agricultural inputs</i> , vi) <i>Development of agropastoral perimeters</i>)	1.1 i) 2000 poules, ii)800 U, iii) 800 U iv) 800 U, v) 800 U, vi)800 U		Periodic activity reports, mid-term review report and project completion report	Risk 1: Lack of experience of the country in the construction of micro-dams and drip networksMitigation 1: An ATGR will be recruited to support the selection of contractors, the follow-up of studies and works, the management/maintenance of structuresRisk 2: Risks of premature deterioration of structures due to lack of maintenance Mitigation 2: The project will finance the training of Drilling Management Committees, some
		1.2 Increase in household income (i: <i>Establishment of IGAs</i> , ii) <i>Conduct of an agricultural credit study for women and youth</i> , iii) <i>Develop agricultural entrepreneurship</i> , iv) <i>Construction and equipment of small processing and marketing units for agricultural and dairy products</i>)	1.2 i) AD, ii) 1, iii) AD, iv) 6 U			
		2.1 Agricultural production (i: <i>Technical support for agropastoralists</i> , ii) <i>purchase of a tractor</i>)	2.1 i) AD; ii) 1			

	and innovations Component II: Supporting agribusiness development Sub-component 1: Facilitating access to advisory services, finance and markets Sub- component 2: Supporting entrepreneurshi p development Sub-component 3 Promotion of national biodigesters and solar energy Component III: Building capacity to adapt to climate change Sub- component 1: Development of climate services Sub-Component 2: Building the capacities of key stakeholders in the agro- pastoral sectors	2.2 Agricultural production (<i>i: technical support to agropastoralists, ii) purchase of veterinary inputs, iii) purchase of a mobile laboratory, iv) construction of rural roads</i>)	2.2 i) AD; ii) 800 U; iii) 2; iv) 3		
		3.1 Number of individuals/families with year-round access to water	3.1 (i) AD		
		3.2 Number of cattle/cattle producers assessing water > 6 months/year	3.2 (i) AD		
		3.3 Number of Water Infrastructure/Water Harvesting Systems Constructed and Used	3.3 i) AD;		
		4.1 Minimum average distance to the nearest water point ((i) Construction of Micro Dams, ii) Rehabilitation of micro-dams, iii) Construction of, iv) Rehabilitation of v) Construction of charging structures, vi) Rehabilitation of recharging structures, vii) Construction of reservoirs, viii) Rehabilitation of reservoirs, ix) <i>Maintenance work of existing hydraulic structures (excavation reservoirs, micro-dams, collinear lakes), x) Development of drinking troughs, standpipes (downstream of threshold</i>	4.1 i)		

	Sub-component 3: Building operational capacity for resilience Component IV: Project Management and Capacity Building	<i>structures) for livestock EPA and grazing xi) Realization of exploitation boreholes, with raised reservoirs, networks of EPA, drinking troughs / standpipes; (xii) Rehabilitation of drinking water distribution networks for 15 large villages in rural areas</i>			
		4.2 Load capacity of the rangelands (<i>i: Integrated development studies of the Gobaad BV; Magale; Darriyou and Asaleyl and Ambouli</i>) <i>infrastructure execution studies on BV (Gobaad, Magalé, Darriyou, Asaleyl) ii) Development of agro-pastoral perimeters, iii) Purchase of solar equipment for wells / Boreholes</i>	i) 6 BV ii) 800 U iii) 800 U		

		<p>5.1 Technical and human capacity building ((i) <i>Number of animal health infrastructures built/rehabilitated/equipped</i>; (ii) <i>mobile laboratories</i>; (ii) <i>Vaccination park</i>; iii)<i>Quantity of seeds/inputs/small equipment agricultural and veterinary tools</i>, iv) <i>Number of breeding/veterinary equipment</i>, v) <i>Number of analytical equipment for CERD</i>, <i>Number of software and image processing tools</i>, vi) <i>Number of poultry houses built (women)</i>; (vii) <i>Number of improved goats distributed (women)</i>; (viii) <i>Number of ship's equipment acquired</i>; ix) <i>Number of markets built/re-accustomed</i>; (x) <i>Number of training provided</i>; xi) <i>Number of logging areas rehabilitated/constructed</i>; <i>Number of processing units built</i>)</p>	<p>(i) 6: (ii) 2; (ii) 1 ; iii) 800 U iv) 6 U v) AD vi) 8 ; vii) 800 U ; viii) 4 ; ix) 4 ; x) 10 ; xi) 5 ; 15</p>		
		5.2 Number of people trained in the effective handling of agropastoral systems			
		5.3 Number of people trained in good maintenance practices and conservation in agropastoral production			

		5.4 Number of staff trained by IGAD as trainers in climate-related services (Agriculture & Livestock & Pastoral ect...)			
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8. Intervention Approach

The approach used in the activities selected for the second phase of the DRSLP is based on a participatory and inclusive approach. This approach allows the participation of the different stakeholders of the project in the implementation of the activities and participates in its formulation of the activities. It was used in the pretender phases of the resilience program and gave better results. In the implementation strategy of the programs and project of the Ministry of Agriculture, the watershed approach is used and by involving the direct beneficiaries of the project participated fully in the formulation of the project and member of the steering and monitoring committee of the project.

The local communities benefiting from the project will be trained and employed with appropriate tools to manage the hydraulic works and infrastructure built and rehabilitated under the DRSLP II project. Water resources management requires the following activities:

- ✓ Establishment of a management committee for hydraulic structures;
- ✓ Train and sensitize project beneficiaries on the proper management of water resources;
- ✓ Train local communities on regular monitoring of water use;
- ✓ Use the endogenous knowledge of local populations on water resources management.

9. Detailed Program Cost

The cost of the activities selected under the DRLPII is summarized in the table below:

Table 11: Detailed cost of DRLPII activities

PROJECT COMPONENTS/SUB-COMPONENTS/ACTIVITIES	UNIT	Quantity	Prix, UNIT. (DJF)	TOTAL (DJF)	TOTAL (USD)
COMPONENT A: STRENGTHENING THE RESILIENCE OF DROUGHT-PRONE AREAS AND PASTORAL AND AGROSYLVOPASTORAL PRODUCTION SYSTEMS TO CLIMATE CHANGE				3 844 000 000	21 629 408
SUB-COMPONENT A1: SUPPORT FOR SUSTAINABLE AGROPASTORAL LAND MANAGEMENT				190 000 000	1 069 091
A1.1 Technical study on sustainable land management and implementation of a National SLM policy + Monitoring of works and awareness-raising/training of water and soil conservation techniques	FF	1	20 000 000	20 000 000	112 536
A1.2 Creation of nurseries for the protection of endangered species and planting drought-resistant trees and shrubs in rangelands	In the	2	25 000 000	50 000 000	281 340

(acacias, laureates etc.) (HIMO work and accompaniment) SDSA+ DAF					
A1.3 Construction of anti-erosion structures at the watershed level (gabion thresholds, stone barriers, etc.).	In the	6	15 000 000	90 000 000	506 412
A1.4 Regeneration/enrichment/management of defensive courses, rotational management and load compliance	Has	20	1 500 000	30 000 000	168 804
SUBCOMPONENT A2: DEVELOPMENT OF CLIMATE-RESILIENT INFRASTRUCTURE				2 504 000 000	14 089 500
A.2.1 Support the implementation of a national policy for livestock, agriculture and fisheries (development of a strategy document + workshop + recruit a consulting firm + ...) = EVALUATION and actuliasé PINIASA	FF	1	10 000 000	10 000 000	56 268
A.2.2 Complete technical study of integrated infrastructure development on new BVs (Gobaad, Magalé, Darriyou, Assali) and reinforcement of the watersheds of DRSLP I and III (Weima, Beyya, Dadder, Beyya Adey, Dedey, Wein, Douda, Damerjog) and development of perimeters at the BV Ambouli Friendship Dam) (micro-dams and boreholes and access tracks) + Supervision of works	FF	1	75 000 000	75 000 000	422 010
A.2.3 Construction/rehabilitation of water resources mobilization infrastructure: micro-dams, related infrastructure and boreholes	In the	9	40 000 000	360 000 000	2 025 647
A2.4 Rehabilitation and equipment of existing irrigated perimeters (wells, solar pumps, reservoirs, irrigation kits, fences, etc.) and development of perimeters at the BV Ambouli Friendship Dam)	Gardens 1Ha	700	1 940 000	1 358 000 000	7 641 190
A2.5 Maintenance work on existing hydraulic structures (excavation dams, micro-dams, collinear lakes) + Development of drinking troughs, standpipes (downstream of threshold structures) for livestock EPA and grazing	In the	9	4 000 000	36 000 000	202 565
A2.6 Technical studies for the construction and rehabilitation of distribution networks 4 large villages in rural areas including Karta-Layta (storage tank, water supply and distribution network inside the village) KARTA-LAYTA GARABTISAN-BALHO + Construction supervision	In the	1	45 000 000	45 000 000	253 206

A2.7 Construction and rehabilitation of distribution networks in 4 large villages in rural areas, including Karta-Layta (storage tank, water supply and distribution network within the village) KARTA-LAYTA GARABTISAN-BALHO	In the	4	155 000 000	620 000 000	3 488 614
SUBCOMPONENT A3; PROMOTING CLIMATE-SMART TECHNOLOGIES AND INNOVATIONS				1 150 000 000	6 470 817
A3.1 Identification of innovative and intelligent technologies (drones, mapping tools and satellite image processing software, differential GPS, plotting table, livestock dynamics monitoring tools, fisheries resource dynamics monitoring sensors) (regulation and training): ANM, DESV, DAF, DHR, DP, DGT, CERD, DE	FF	1	10 000 000	10 000 000	56 268
A3.2 Acquisition (drones, mapping tools and satellite image processing software, differential GPS, plotting table, livestock dynamics monitoring tools, fisheries resource dynamics monitoring sensors) (regulation and training): ANM, DESV, DAF, DHR, DP, DGT, CERD, DE	FF	1	20 000 000	20 000 000	112 536
A3.3 Technical study and monitoring on the establishment of an aquaculture farm, a landing stage of a regional center of excellence in animal science (engineering-genetics) for arid and semi-arid areas in the context of climate change, national pilot seed center and landing stage	FF	1	25 000 000	25 000 000	140 670
A3.4 Creation of an aquaculture farm implementation centre + landing work	In the	1	95 000 000	95 000 000	534 546
A3.5 Creation of a regional centre of excellence in animal husbandry (engineering-genetics) for arid and semi-arid areas in the national pilot seed centre and two pilot demonstration centres for agricultural production of 5 hectares each (hydroponics must represent 5% of production)	In the	1	800 000 000	800 000 000	4 501 438
A3.6 Technical training for staff of aquaculture farm establishment centres, regional centre of excellence in animal husbandry (engineering-genetics) for arid and semi-arid areas in the context of climate change, national pilot seed centre	FF	1	10 000 000	10 000 000	56 268
A3.7 Support to the In vitro-CERD Laboratory	FF	1	150 000 000	150 000 000	844 020
A3.8 Acquisition of equipment for locust control	FF	1	40 000 000	40 000 000	225 072

COMPONENT B: SUPPORT FOR AGRIBUSINESS DEVELOPMENT				1 126 000 000	6 335 773
SUB-COMPONENT B1: FACILITATING ACCESS TO ADVISORY SERVICES, FINANCING AND MARKETS				971 000 000	5 463 620
B1.1 Feasibility study of the establishment of a credit system for small farmers and fishers;	FF	1	6 000 000	6 000 000	33 761
B1.2 Development of new financial services adapted to the financing of small farmers and fishers	FF	1	20 000 000	20 000 000	112 536
B1.3 Rehabilitation works of 60km rural roads (Ali-Sabieh & Daasbiyo and Tadjourah Ripta);	Km	60	14 000 000	840 000 000	4 726 510
B1.4 Technical studies + Supervision and control of rural road rehabilitation works.	FF	1	30 000 000	30 000 000	168 804
B1.5 Study/monitoring for the construction and equipment of small processing and marketing units for agricultural, dairy, fisheries and construction products and the equipment of community markets in large localities centres polarizing rural communities	FF	1	25 000 000	25 000 000	140 670
B1.6 Construction and equipment of small processing and marketing units for agricultural, dairy, fisheries products and construction and equipment of community markets in large localities centres polarizing rural communities	In the	5	8 000 000	40 000 000	225 072
B1.7 Identification/formation of exploitable potential according to areas (meat, milk, market gardening, fodder, honey, butter, cheese, fish, etc.)	FF	1	10 000 000	10 000 000	56 268
SUBCOMPONENT B2: SUPPORT FOR THE DEVELOPMENT OF ENTREPRENEURSHIP				20 000 000	112 536
B.2.1 Structuring, sensitization of communities on procedures for access to credit and financial management of activities (training)	FF	1	5 000 000	5 000 000	28 134
B.2.2 Training on marketing and business plan implementation	FF	1	5 000 000	5 000 000	28 134
B.2.3 Provides direct support to entrepreneurial initiatives for a line of credit that will finance 5 innovative entrepreneurship projects) = FPA participatory financial approach.	PROJ ECT	5	2 000 000	10 000 000	56 268
SUB-COMPONENT B3: PROMOTION OF NATIONAL BIODIGESTERS AND SOLAR ENERGY				135 000 000	759 618
B.3.1 Studies and Monitoring for the installation of a solar power plant in Bissidirou	FF	1	30 000 000	30 000 000	168 804

B.3.1 Installation of a solar power plant for the village and drilling of Bissidirou	FF	1	75 000 000	75 000 000	422 010
B3.2 Promote and develop the use of environmentally friendly and renewable energies and technologies to save wood as fuel: improved stoves; biomass programs; and alternative energy sources (geothermal, wind, solar, biogas);	FF	1	30 000 000	30 000 000	168 804
COMPONENT C: CAPACITY BUILDING FOR ADAPTATION TO CLIMATE CHANGE				754 000 000	4 242 605
SUB-COMPONENT C1: DEVELOPMENT OF CLIMATE SERVICES				40 000 000	225 072
C1.1 Technical study on the establishment of a climate data portal in partnership with ANM and CERD;	FF	1	10 000 000	10 000 000	56 268
C1.2 Establishment of an agro-climate forecasting service at national level.	FF	1	20 000 000	20 000 000	112 536
C1.3 3. Identification and training of an integrated early warning mechanism against drought, facilitate the transmission and exchange of information between all actors (technicians, decision-makers, civil society, community organizations)	FF	1	10 000 000	10 000 000	56 268
SUB-COMPONENT C2: STRENGTHENING THE CAPACITIES OF KEY AGROPASTORAL SECTOR STAKEHOLDERS IN DROUGHT-PRONE AREAS FOR CLIMATE CHANGE INTEGRATION AND MONITORING				349 000 000	1 963 752
C2.1 Studies and control of the rehabilitation works of the premises of the technical departments of the MAEPE-RH and the development of livestock infrastructures in the regions	FF	1	30 000 000	30 000 000	168 804
C2.2 Rehabilitation work on the premises of the technical departments of the MAEPE-RH and the development of livestock infrastructures in the regions	In the	13	8 000 000	104 000 000	585 187
C2.3 Acquisition of CERD/Laboratoire de Pédologie laboratory equipment (2 spectrophotometries, 2 centrifuges, 1 laser particle size, 2 electrical particle sizes, 2 liquid chromatography, 3 field analysis cases)	FF	1	20 000 000	20 000 000	112 536
C2.4 Acquisition of workshop trucks equipped with tools to troubleshoot drilling, tanker trucks and crane trucks	In the	6	15 000 000	90 000 000	506 412

C2.5 Acquisition of spare parts for large trucks and construction machinery, generators, solar panels, drill tubes, pumps and drilling equipment	FF	1	30 000 000	30 000 000	168 804
C2.6 Procurement of animal health laboratory products and instruments to be acquired for monitoring and evaluation of fisheries resources	FF	1	30 000 000	30 000 000	168 804
C2.7 Acquisition of tracking vehicles, office automation and computer furniture for the technical departments of MAEPE-HR (DHR, DGT, DESV, DAF, DP)	In the	5	6 000 000	30 000 000	168 804
C2.8 Training/Study Trips for managers and technicians of the CEP and the technical departments of MAEPE-HR (DHR, DGT, DESV, DAF, DP)	FF	5	2 000 000	10 000 000	56 268
C2.9 Feasibility studies for insurance mechanisms at macro-micro level	FF	1	5 000 000	5 000 000	28 134
SUB-COMPONENT C3: STRENGTHENING OPERATIONAL RESILIENCE CAPACITY				365 000 000	2 053 781
C3.1 Technical studies for the identification of generating activities of women and young people	FF	1	5 000 000	5 000 000	28 134
C3.2 Local construction work for AGRs	FF	10	2 500 000	25 000 000	140 670
C3.3 Acquisition of 1000 hens, equipment and food and veterinary products for one year	FF	10	2 000 000	20 000 000	112 536
C3.4 Training of actors in i) environmental and social assessment, ii) environmental monitoring of sub-projects (30% women and young people will be trained);	FF	1	5 000 000	5 000 000	28 134
C3.5 Acquisition of agricultural inputs and small tools for forage nurseries;	FF	1	80 000 000	80 000 000	450 144
C3.6 Acquisition of crossbred goats, including nutritional supplements and veterinary products;	FF	1	80 000 000	80 000 000	450 144
C3.7 Acquisition of veterinary inputs and livestock products;	FF	1	25 000 000	25 000 000	140 670
C3.8 Training of good practice techniques in agropastoral with a long duration dedicated to the beneficiaries of the project (Technical supervision for the regeneration of pastures, installation of irrigation systems, training on the cultural cycle ect ...);	FF	1	25 000 000	25 000 000	140 670
C3.9 Training Awareness/mobilization of populations (50% women) on the following themes: gender, hygiene, HIV-AIDS, nutrition, FGM, climate change.	FF	1	10 000 000	10 000 000	56 268

C3.10 Technical Assistant to the management of works (infrastructures);	FF	1	30 000 000	30 000 000	168 804
C3.11 Technical Assistant on Gender and Community Development	FF	1	5 000 000	5 000 000	28 134
C3.12 Technical Assistant in Environmental Assessment and Safeguarding;	FF	1	5 000 000	5 000 000	28 134
C3.13 Baseline study, mid-term review, and impact assessment (end of project);	FF	1	30 000 000	30 000 000	168 804
C3.14 Audit of the Project	FF	1	20 000 000	20 000 000	112 536
COMPONENT D: PROJECT MANAGEMENT AND CAPACITY BUILDING	FF	1	496 235 017	496 235 017	2 792 214
TOTAL PROJECT COST				6 220 235 017	35 000 000

10. Economic and Fiscal Analysis

11. Program Sustainability

The major priorities of the Government of Djibouti are the fight against food insecurity, the reduction of all forms of malnutrition and the fight against thirst. This commitment, which was confirmed in the choice of project options, is an essential guarantee for its sustainability. The participatory approach recommended in the choice and management of the works as well as the involvement of stakeholders (including the State Technical Services and beneficiaries) in monitoring the implementation of activities, are part of the concern for the sustainability of the achievements of the project and should facilitate the appropriation of the project's achievements by the beneficiaries. Actions to strengthen the capacities of the various actors on related themes are also envisaged.

The sustainability of the optimal system of agricultural production and pastoral management in Djibouti promoted by the project remains closely linked to the harmonization of conservation and pastoral lifestyle strategies and the resolution of the controversial problem of rangeland carrying capacity. To do this, the participatory approach deployed in the development of the project will have to continue throughout its implementation and when defining the mechanisms for the sustainability of the key activities of the project.

The regional nature of the project, with the envisaged adoption of common policies and strategies for the management of natural resources, is also a favourable element for its sustainability.

The following elements must be taken into account in the sustainability of the project:

- ✓ Effective participation of vulnerable groups, women and youth in the implementation of project activities;
- ✓ Direct involvement of project beneficiaries in the different stages of the project (formulation until the end of the project);
- ✓ Apply the participatory and inclusive approach and the labour-intensive method;
- ✓ The local community must take ownership of the project activities and manage the social infrastructure built or reaccustomed

12. Risks and Mitigation Measures

- Members of water user committees should come from people involved in irrigation demonstration plots that include mostly women. 1/3 of the members should be women in order to avoid user committees being dominated by men.
- Strengthen the capacity of women and youth to assume their new leadership roles on oversight committees through the development of training materials on good water management practices.
- There is a need to undertake value chain analysis through the integration of women into the value chain, including livestock marketing.
- Integrate women and youth into peace committees. In addition, promote the role of elders in discouraging youth from living a warlike lifestyle by citing the high likelihood of being caught and killed. Strengthening the role of traditional systems in conflict resolution and peacebuilding initiatives.
- Local governments in the five regions should engage the central government and parliament on the possibility of rationalizing land ownership and use at selected sites, including dams as containment zones, to allow unhindered access to resources by pastoralists for whom the built infrastructure is an important resource for their livelihoods and survival.

13. List of Program Goods and Services

ANNEX

Appendix 1: Work Plan

Table 1: Project Site Description

Watershed Characteristics	Beyya Perpetrator	Gaggade-Derela, Gobaad & Harou & Hanlé	Weima	Ambouli	Douda Damerjog Wéa
Region	Ali Sabieh	Dikhil	Tadjourah	Djibouti City	Art
Locations	Assamo & Ali-Addé & Holl-Holl & Oboley & Daasbiyo	Hanlé & As-Eyla & Harou & Mouloud & Arwo	Assa-Gaila, Adoyla, Guirrori ; Gaoura, Dafeynatou, Ripta ; Randa, Bankoualé, Terdo, Debné, Daimoli.	Ambouli area	Damerjog, Douda, Attar, Wéa et Ali The Father
Type	National	Cross border	Cross border	National	National
Surface	513 km ²	1060.8 km ²	1949 km ²	600 Km ²	850 Km ²
Average annual rainfall	300 mm	186.8 mm	125.6 mm	132 mm	150 mm
Pedology	Very fertile deep humiferous soils	Fluvisols: alluvial soils with loamy or sandy sandy sand textures	Stony soils and texture Sandy see sandy-loamy	Fluvisols: alluvial soils with loamy or sandy sandy sandy textures	Fluvisols: alluvial soils with loamy or sandy sandy sand textures
Type of vegetation	Mountain steppes	Grassy steppes	Steppes in Rhigozum Somalense	A few feet of date palm D' & Doum & Proposis	Grassy steppes, a forest of Proposis
Population estimation	6500	3500	1500		950
Interviewees	Local authorities (Prefects, and regional councils), Agropastoral cooperatives, Deputy Director of the Ministry of Agriculture, Women's Association, Youth, Other resource persons.				

Table 2: List of Sites

Annex 2: Composition of the Djiboutian expert team

NAME	POSITION	EMAIL	TELEPHONE
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Annex 3: Program Activities

List of activities proposed by the APHRM classified by Component and sub-component

ACTIVITIES SELECTED IN THE DRSLP II PROJECT

COMPONENT A: STRENGTHENING THE RESILIENCE OF DROUGHT-PRONE AREAS AND PASTORAL AND AGROSYLVOPASTORAL PRODUCTION SYSTEMS TO CLIMATE CHANGE

SUB-COMPONENT A1: SUPPORT FOR SUSTAINABLE AGROPASTORAL LAND MANAGEMENT

A1.1 Technical study on sustainable land management and implementation of a National SLM policy + Monitoring of works and awareness-raising/training of water and soil conservation techniques

A1.2 Creation of nurseries for the protection of endangered species and planting drought-resistant trees and shrubs in rangelands (acacias, laureates etc.) (HIMO work and accompaniment) SDSA+ DAF

A1.3 Construction of anti-erosion structures at the watershed level (gabion thresholds, stone barriers, etc.).

A1.4 Regeneration/enrichment/management of defensive courses, rotational management and load compliance.

SUB-COMPONENT A2: DEVELOPMENT OF CLIMATE-RESILIENT INFRASTRUCTURE.

A.2.1 Supports the implementation of a national policy for livestock, agriculture and fisheries (development of a strategy document + workshop + recruit a consulting firm + ...) = EVALUATION and actuliasé PINIASA.

A.2.2 Complete technical study of integrated infrastructure development on new BVs (Gobaad, Magalé, Darriyou, Assali) and reinforcement of the watersheds of DRSLP I and III (Weima, Beyya, Dadder, Beyya Adey, Dedey, Wein, Douda, Damerjog) and development of perimeters at the BV Ambouli Friendship Dam) (micro-dams and boreholes and access tracks) + Monitoring of works.

A.2.3 Construction/rehabilitation of water resources mobilization infrastructure: micro-dams, related infrastructure and boreholes.

A.2.4 Rehabilitation and equipment of existing irrigated perimeters (wells, solar pumps, reservoirs, irrigation kits, fences, etc.) and development of perimeters at the BV Ambouli Friendship Dam).

A.2.5 Maintenance work on existing hydraulic structures (excavation reservoirs, micro-dams, collinear lakes) + Development of drinking troughs, standpipes (downstream of threshold structures) for livestock EPA and grazing.

A.2.6 Technical studies for the construction and rehabilitation of distribution networks 4 large villages in rural areas including Karta-Layta (storage tank, water supply and distribution network inside the village) KARTA-LAYTA GARABTISAN-BALHO + Supervision of works.

A.2.7 Construction and rehabilitation of distribution networks in 4 large villages in rural areas, including Karta-Layta (storage tank, water supply and distribution network within the village) KARTA-LAYTA GARABTISAN-BALHO.

SUBCOMPONENT A3; PROMOTING CLIMATE-SMART TECHNOLOGIES AND INNOVATIONS

A3.1 Identification of innovative and intelligent technologies (drones, mapping tools and satellite image processing software, differential GPS, plotting table, livestock dynamics monitoring tools, fisheries resource dynamics monitoring sensors) (regulation and training): ANM, DESV, DAF, DHR, DP, DGT, CERD, DE.

A3.2 Acquisition (drones, mapping tools and satellite image processing software, differential GPS, plotting table, livestock dynamics monitoring tools, fisheries resource dynamics monitoring sensors) (regulation and training): ANM, DESV, DAF, DHR, DP, DGT, CERD, DE.

A3.3 Technical study and monitoring on the establishment of an aquaculture farm, a landing stage of a regional center of excellence in animal science (engineering-genetics) for arid and semi-arid areas in the context of climate change, national pilot seed center and landing stage.

A3.4 Creation of an aquaculture farm implementation centre + landing work.

A3.5 Creation of a regional centre of excellence in animal husbandry (engineering-genetics) for arid and semi-arid areas in the national pilot seed centre and two pilot demonstration centres for agricultural production of 5 hectares each (hydroponics should represent 5% of production).

A3.6 Technical training for staff of aquaculture farm establishment centres, regional centre of excellence in animal husbandry (genetic engineering) for arid and semi-arid areas in the context of climate change, national pilot seed centre.

A3.7 Support to the In vitro-CERD Laboratory.

A3.8 Acquisition of equipment for locust control.

COMPONENT B: SUPPORT FOR AGRIBUSINESS DEVELOPMENT

SUB-COMPONENT B1: FACILITATING ACCESS TO ADVISORY SERVICES, FINANCING AND MARKETS.

B1.1 Feasibility study of the establishment of a credit system for small farmers and fishers;

B1.2 Establishment of new financial services adapted to the financing of small farmers and fishers.

B1.3 Rehabilitation works of 60km rural roads (Ali-Sabieh & Daasbiyo and Tadjourah & Ripta);

B1.4 Technical studies + Supervision and control of rural road rehabilitation works.

B1.5 Study/monitoring for the construction and equipment of small processing and marketing units for agricultural, dairy, fisheries and construction products and the equipment of community markets in large localities centres polarizing rural communities.

B1.6 Construction and equipment of small units for processing and marketing of agricultural, dairy, fisheries and construction products and equipment of community markets within large localities centres polarizing rural communities.

B1.7 Identification/formation of exploitable potentials according to the areas (meat, milk, market gardening, fodder, honey, butter, cheese, fish, etc.).

SUB-COMPONENT B2: SUPPORT FOR THE DEVELOPMENT OF ENTREPRENEURSHIP

B.2.1 Structuring, sensitization of communities on procedures for access to credit and financial management of activities (training).

B.2.2 Training on marketing and business plan implementation.

B.2.3 Provides direct support to entrepreneurial initiatives a line of credit that will finance 5 innovative entrepreneurship projects) = FPA participatory financial approach.

SUB-COMPONENT B3: PROMOTION OF NATIONAL BIODIGESTERS AND SOLAR ENERGY

B.3.1 Studies and monitoring for the installation of a solar power plant in Bissidirou.

B.3.1 Installation of a solar power plant for the village and drilling of Bissidirou.

B3.3 Promote and develop the use of environmentally friendly and renewable energies and technologies to save wood as fuel: improved stoves; biomass programs; and alternative energy sources (geothermal, wind, solar, biogas);

COMPONENT C: CAPACITY BUILDING FOR ADAPTATION TO CLIMATE CHANGE

SUB-COMPONENT C1: DEVELOPMENT OF CLIMATE SERVICES

C1.1 Technical study on the establishment of a climate data portal in partnership with ANM and CERD;

C1.2 Establishment of an agro-climate forecasting service at national level.

C1.3 3. Identification and training of an integrated early warning mechanism against drought, facilitate the transmission and exchange of information between all actors (technicians, decision-makers, civil society, community organization).

SUB-COMPONENT C2: STRENGTHENING THE CAPACITIES OF KEY AGROPASTORAL SECTOR STAKEHOLDERS IN DROUGHT-PRONE AREAS FOR CLIMATE CHANGE INTEGRATION AND MONITORING

C2.1 Studies and control of the rehabilitation works of the premises of the technical departments of the MAEPE-RH and the development of livestock infrastructures in the regions.

C2.2 Rehabilitation of the premises of the technical departments of the MAEPE-RH and development of livestock infrastructures in the regions.

C2.3 Acquisition of CERD/Laboratoire de Pédologie laboratory equipment (2 spectrophotometries, 2 centrifuges, 1 laser particle size, 2 electric particle sizes, 2 liquid chromatographies, 3 field analysis cases).

C2.4 Acquisition of workshop trucks equipped with tools to troubleshoot drilling, tanker trucks and crane trucks.

C2.5 Acquisition of spare parts for large trucks and construction machinery, generators, solar panels, drill tubes, pumps and drilling equipment.

C2.6 Procurement of animal health laboratory products and instruments to be acquired for monitoring and evaluating fisheries resources.

C2.7 Acquisition of tracking vehicles, office automation and computer furniture for the technical departments of MAEPE-HR (DHR, DGT, DESV, DAF, DP).

C2.8 Training/Study Trips for managers and technicians of the CEP and the technical departments of MAEPE-HR (DHR, DGT, DESV, DAF, DP).

C2.9 Feasibility studies for insurance mechanisms at the macro-micro level.

SUB-COMPONENT C3: STRENGTHENING OPERATIONAL RESILIENCE CAPACITY

C3.1 Technical studies to identify the generative activities of women and young people.

C3.2 Local construction work for RMAs.

C3.3 Acquisition of 1000 hens, equipment and food and veterinary products for one year.

C3.4 Training of actors in i) environmental and social assessment, ii) environmental monitoring of sub-projects (30% women and young people will be trained);

C3.5 Acquisition of agricultural inputs and small tools for forage nurseries;

C3.6 Acquisition of crossbred goats, including nutritional supplements and veterinary products;

C3.7 Acquisition of veterinary inputs and livestock products;

C3.8 Training of good practice techniques in agropastoral with a long duration dedicated to the beneficiaries of the project (Technical supervision for the regeneration of pastures, installation of irrigation systems, training on the cultural cycle ect ...);

C3.9 Training Awareness/mobilization of populations (50% women) on the following themes: gender, hygiene, HIV-AIDS, nutrition, FGM, climate change.

C3.10 Technical Assistant to the management of works (infrastructures);

C3.11 Technical Assistant on Gender and Community Development.

C3.12 Technical Assistant in Environmental Assessment and Safeguarding;

C3.13 Baseline study, mid-term review, and impact assessment (end of project);

C3.14 Audit of the Project

COMPONENT D: PROJECT MANAGEMENT AND CAPACITY BUILDING

Lists of people met during the information & data collection and consultation meetings of the project

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Appendix 4: Methodology Guide for Data Collection

Appendix 5: List of data to be collected

Appendix 6: Inception Report

Appendix 7: Synthesis of Lessons Learned by PRSCR

Appendix 8: Method Matrix

Appendix 9: Feasibility Study Terms of Reference