



ADAPTATION FUND



## **PARSACC PROJECT**

### **Enhancing Resilience of Communities to the Adverse Effects of Climate Change on Food Security in Mauritania (PARSACC)**

## **PROJECT COMPLETION REPORT**

March 2020

## Table of Contents

List of Acronyms.....	4
List of Figures.....	5
List of tables.....	5
I. HISTORY OF THE PROJECT.....	6
II. CONCEPT OF THE SETTING UP OF THE PROJECT.....	7
III. PROJECT INTERVENTION AREAS.....	8
IV. IMPLEMENTATION STRUCTURE OF THE PROJECT.....	10
<i>IV.1. The Project Steering Committee.....</i>	<i>10</i>
<i>IV.2. The Technical Advisory Group.....</i>	<i>10</i>
<i>IV.3. Multilateral Implementing Entity.....</i>	<i>11</i>
<i>IV.4. The Project Management Unit (PMU).....</i>	<i>11</i>
<i>IV.5. Regional teams.....</i>	<i>11</i>
V. INTERVENTION APPROACH AND INVOLVEMENT OF PARTNERS.....	12
VI. PROCESS FOR IMPLEMENTING PROJECT ACTIVITIES.....	12
VII. SUMMARY OF PROJECT ACHIEVEMENTS.....	13
<i>VII.1. Capacity building review.....</i>	<i>13</i>
<i>VII.1.1. Institutional capacity building.....</i>	<i>13</i>
<i>VII.1.2. Strengthening the technical capacities of partner institutions.....</i>	<i>14</i>
<i>VII.1.3. Community technical capacity building.....</i>	<i>15</i>
<i>VII.2. Assessment of adaptation measures to combat desertification and land degradation.....</i>	<i>16</i>
<i>VII.2.1. Fight against sand advancing.....</i>	<i>16</i>
<i>VII.2.2. Village plantation for firewood.....</i>	<i>17</i>
<i>VII.2.3. Setting up community pastoral reserves.....</i>	<i>18</i>
<i>VII.2.4. Restoration of degraded land.....</i>	<i>19</i>
<i>VII.3. Assessment of adaptation measures to diversify and strengthen the most vulnerable population livelihoods.....</i>	<i>20</i>
<i>VII.3.1. The fruit tree promotion program.....</i>	<i>20</i>
<i>VII.3.2. The poultry promotion program.....</i>	<i>21</i>
<i>VII.3.3. Support for market gardens establishment.....</i>	<i>22</i>
<i>VII.3.4. Beekeeping promotion.....</i>	<i>24</i>
<i>VII.3.5. Income Generating Activities (IGAs).....</i>	<i>24</i>
<i>VII.3.6. Support for access to water.....</i>	<i>26</i>
<i>VII.3.7. Promotion of the use of improved stoves.....</i>	<i>26</i>
VIII. PROJECT IMPACTS ASSESSMENT.....	27
<i>VIII.1. Impacts on institutional capacity building.....</i>	<i>27</i>
<i>VIII.2. Participatory development.....</i>	<i>28</i>
<i>VIII.3. Ecological impacts.....</i>	<i>29</i>
<i>VIII.4. Impact on community's food security and living conditions.....</i>	<i>30</i>

VIII.5. Impacts on livestock.....	31
VIII.6. Improved access to water.....	31
VIII.7. Gender approach and empowerment of women.....	32
IX.    LESSONS LEARNED .....	32
IX.1. Methodological aspects .....	32
IX.2. Adaptation measures and food security.....	33
IX.3. Social approach based on gender integration and social cohesion .....	33
IX.4. Technical aspects.....	33
IX.5. Innovations .....	33
IX.6. Capacity development and partnership promotion .....	34
IX.7. Scaling .....	34
X.    PROJECT CONTRIBUTION TO ADAPTATION FUND OBJECTIVES .....	35
XI.   FINAL EVALUATION CONCLUSIONS.....	37
XI.1. Recommendations of the final evaluation mission for a possible consolidation project.....	37
XII.  COMMUNICATION AND KNOWLEDGE SHARING .....	39
XIII. EXPENDITURES .....	40
XIV.  BIBLIOGRAPHY.....	42
XV.   XV. APPENDICES.....	43
APPENDIX 1: Central Project Team.....	43
APPENDIX 2: Regional project team .....	44
APPENDIX 3: Implementing partners .....	45
APPENDIX 4: List of the intervention villages of the project.....	46

## List of Acronyms

CCA	Climate Change Adaptation (CCA)
IGA	Income Generating Activity (IGA)
UNFCCC	United Nations Framework Convention on Climate Change (UNFCCC)
VMC	Village Management Committee (VMC)
SWC	Soil and Water Conservation
PSC	Project Steering Committee
RCESD	Regional Council for Environment and Sustainable Development
CSA	Commissioner for Food Security
NPD	National Project Director
DRASEF	Regional Directorate for Social Affairs, Children and Women
DRCSA	Regional Directorate for the Commissioner for Food Security
DRDR	Regional Directorate for Rural Development
DREDD	Regional Directorate for Environment and Sustainable Development
DRHA	Regional Directorate for Water Sanitation
AF	Adaptation Fund
FAO	World Food and Agriculture Organization
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
MASEF	Ministry of Social Affairs, Childhood and the Family
MDR	Ministry of Rural Development
MEDD	Ministry of the Environment and Sustainable Development
SDG	Sustainable Development Goal
NGO	Non-governmental Organization
NBM	National Bureau of Meteorology
WHO	World Health Organization
AAP	Adaptation Action Plan
WFP	World Food Programme
NADP	National Agricultural Development Programme
PARSACC	Project of Enhancing Resilience of Communities to the adverse effect of Climate Change on Food Security in Mauritania
ABWP	Annual Budget Work Plan
UNDP	United Nations Development Programme
PPR	Project Performance Report
TFPs	Technical and Financial Partners
IRAS	Institutional Review of the Agropastoral Sector
ARGSPS	Accelerated Regional Growth and Shared Prosperity Strategy
EWS	Early-Warning System
M&E	Monitoring and Evaluation
SNEDD	National Environment and Sustainable Development Strategy
SNSA	Stratégie Nationale pour la Sécurité Alimentaire
SMART	Standardized Monitoring and Assessment of Relief and Transitions
EU	European Union
PMU	Project Management Unit
USD	United States Dollar
WFP	World Food Programme

## List of Figures

- Figure1: Southern shift of Precipitation bands between 1961 and 2001  
Figure2: Map with rates of malnutrition and food insecurity  
Figure3: Distribution map of the municipalities targeted by the project.  
Figure4: Project implementation structure  
Figure 5 : Number of people trained by type of structure and by gender  
Figure 6 : Number of people trained and supported by area and by gender  
Figure 7 : Number of people trained and supported by area and by gender  
Figure 8 : Part of area of village reforestation by Wilaya  
Figure 9 : Part of areas of pastoral reserves by Wilaya.  
Figure 10 : Area (ha) restored by Wilaya  
Figure 11 : Summary of achievements and beneficiaries of activities to combat desertification and land degradation  
Figure 12 : Percentage of fruit plans distributed by Wilaya.  
Figure 13 : Number of traditional and semi-intensive chicken coops by Wilaya  
Figure 14 : Number of market gardens per Wilaya.  
Figure 15 : Percentage of beehives distributed by Wilaya.  
Figure 16: Number of Income Generating Activities per Wilaya

## List of tables

- Table 1: Number of targeted villages by wilaya  
Table 2: Distribution of improved stoves by wilaya  
Table 3: Comparison of Adaptation Fund indicators with PARSACC results

## I. HISTORY OF THE PROJECT

Climate change amplifies threats to food security, hunger and malnutrition. It is expected to increase the frequency and intensity of natural disasters such as floods and droughts, as well as heat waves that disrupt livelihoods.

In the Sahel region, the frequency of climate-related disasters such as floods and droughts has increased in recent decades (from the 1980s), with significant negative impacts on livelihoods and food security resulting from destruction of crops, critical infrastructure, key community assets and water availability.

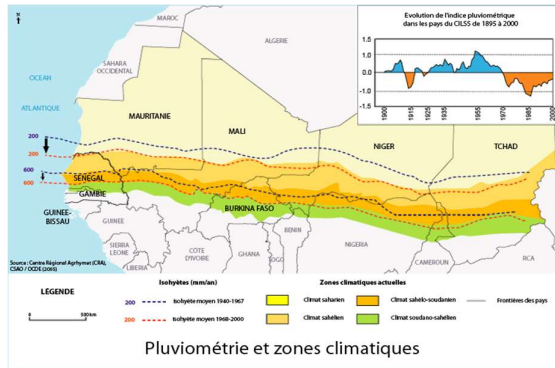
Since 2000, the Sahel region has experienced four serious food and nutritional crises. These phenomena are estimated to recur every three to five years and are expected to become more frequent due to climate change. Effects of climate change on food security include impact on food production (reduced yields and limited availability of productive land for agriculture), access to food and livelihoods (higher prices, lower income due to the fall in agricultural production, etc.) The most vulnerable people (smallholders, women, landless farmers and day laborers) are the most affected by these impacts linked to climate change. Improving their resilience depends on their ability to adapt to these changes.

In this context, the weak capacity for disaster risk preparedness and adaptation to climate change risks in rural communities, combined with the low capacity to use climate information for the management of climate risks, food security and diverse livelihoods remain major obstacles.

Faced with this global and regional situation, the Islamic Republic of Mauritania has made significant progress in reducing poverty thanks to sustained economic growth spurred on by mining, commercial and construction sectors (average growth rate of 4, 5% per year between 2001 and 2015). Nevertheless, the country's economy remains largely dependent on fishing, agriculture and animal husbandry, which record low production levels and justify high import levels (70% of its food needs).

The National Zero Hunger Strategic Review undertaken in 2017 provides detailed information on the path proposed by Mauritania to reach this ambitious goal by 2030. However, the achievement of the Sustainable Development Goals, in particular SDG 2, faces significant structural challenges related to shocks, described below.

Mauritania continues to face multidimensional humanitarian and development challenges. Widespread vulnerability, seasonal peaks in food insecurity, malnutrition and gender inequality are accompanied by rapid population growth and frequent climate-related shocks, including land degradation and desertification. This situation is exacerbated by the current instability of the security context in the Sahel region, which leads to forced population displacements.



Compared 1941-1970 to period, the isohyet 150 mm, calculated over the decade 1977-1987 has moved considerably south by around 200 km, thus positioning itself at the height of the former isohyets 250 mm. In Mauritania, the average annual temperature has increased by 0.9 °C since 1960 (0.19 °C per decade). By 2060 and 2090, the average annual temperature should increase by 1.3 to 3.8 °C and 1.8 to 6.0 °C, respectively. The second national communication from Mauritania indicates that precipitation will decrease by at least 20%.

Figure 1: Movement of precipitation bands to the south between 1961 and 2001

More than half of the Mauritanian population lives in areas affected by desertification and depends on agriculture and livestock-related livelihoods. Among the latter, around 60% are small agro-pastoralists and 20% are seasonal workers without land or livestock (PARIIS, 2013).

Local cereal production is irregular and has increased on average by 1% per year in recent decades. Smallholder farmers, seasonal workers and unpaid workers (especially women), are among the most vulnerable to food insecurity. They are the most exposed to land degradation, natural shocks and climate change, as well as other challenges such as:

- unequal access and control of land (especially for historically disadvantaged ethnic groups, young people and women) and the fragmentation of agricultural plots;
- the high level of post-harvest losses, reaching around 30% of production;
- poor processing and conservation capacity, due to the dispersion and poor condition of rural infrastructure;
- inadequate agricultural practices, due to lack of capacity.

## II. CONCEPT OF THE SETTING UP OF THE PROJECT

In 2011, the Government of the Islamic Republic of Mauritania, represented by the MEDD, requested assistance from WFP for the preparation of a project proposal to the Adaptation Fund (AF) of the Framework Convention on United Nations on Climate Change (UNFCCC). This project, entitled "Improving the Resilience of Communities and their Food Security Facing the Adverse Effects of Climate Change in Mauritania (PARSACC)", was approved in July 2012 and implemented over a period of 5 years, with a budget of 7.8 Million USD. The project is proposed as a key element of the National Adaptation Plan of Action. It aims to strengthen the resilience and food security of vulnerable agricultural, pastoral and agro-pastoral communities, faced with the effects of climate change. It has benefited from the efforts and achievements of several existing natural resource management initiatives, while focusing more closely on the impacts of climate change, resource degradation, food insecurity as well as on the capacity of communities to adapt to these effects.

The general approach of the project is focused on the empowerment of regions and communities. This is in line with the government's decentralization plan, and more specifically the MEDD's desire to accelerate the local implementation of the national adaptation strategy through its regional branches; DREDDs.

The project was executed through 3 components:

**Component 1:** Support technical services and the communities they serve to better understand climate risks, their impacts on resources and food security; and facilitate decentralized and participatory planning for adaptation.

**Component 2:** Design and implement concrete adaptation measures identified in the context of community adaptation planning which aim to combat desertification and land degradation.

**Component 3:** Design and implement concrete adaptation measures identified as part of community adaptation planning that aim to diversify and strengthen the livelihoods of the most vulnerable populations.

The overall objective of the project is to strengthen the resilience of communities to harmful effects of climate change on food security, by strengthening the capacities of State services to support these communities in developing local adaptation plans and implementation of concrete adaptation measures promoting natural resources safeguarding and the livelihoods diversification of different target groups to better cope with harmful effects of climate change.

### III. PROJECT INTERVENTION AREAS

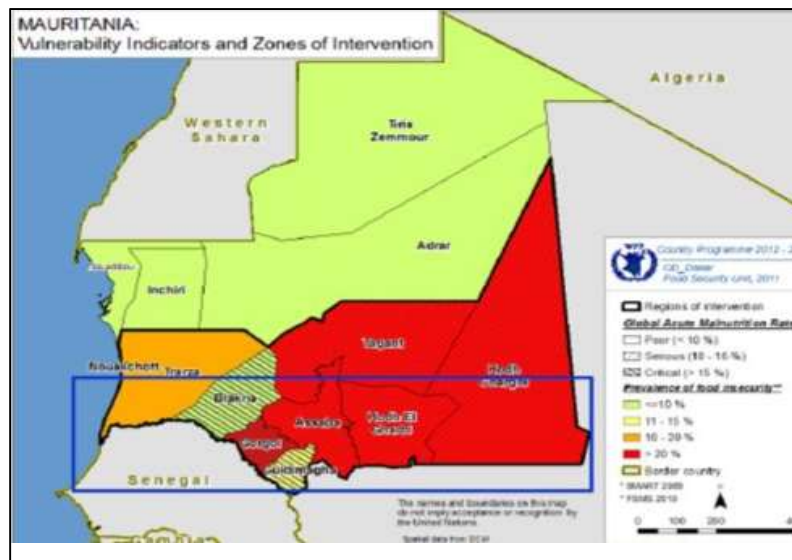


Figure 2: Map with malnutrition and food insecurity rates / project area

The main beneficiaries of the project are communities of the wilayas covering a strip extending from East to West in the south of the country, which includes the regions of Trarza, Brakna, Gorgol, Tagant, Assaba, Guidimakha, Hodh El Gharbi, and Hodh El Chergui (Fig. 2). The choice of these wilayas is strongly justified by the social, economic, environmental and production characteristics of agro-ecological zones to which they belong.

The consultation process initiated at project inception helped refine the targeting of the project intervention areas within each Wilaya. Target sites (municipalities and villages) have been



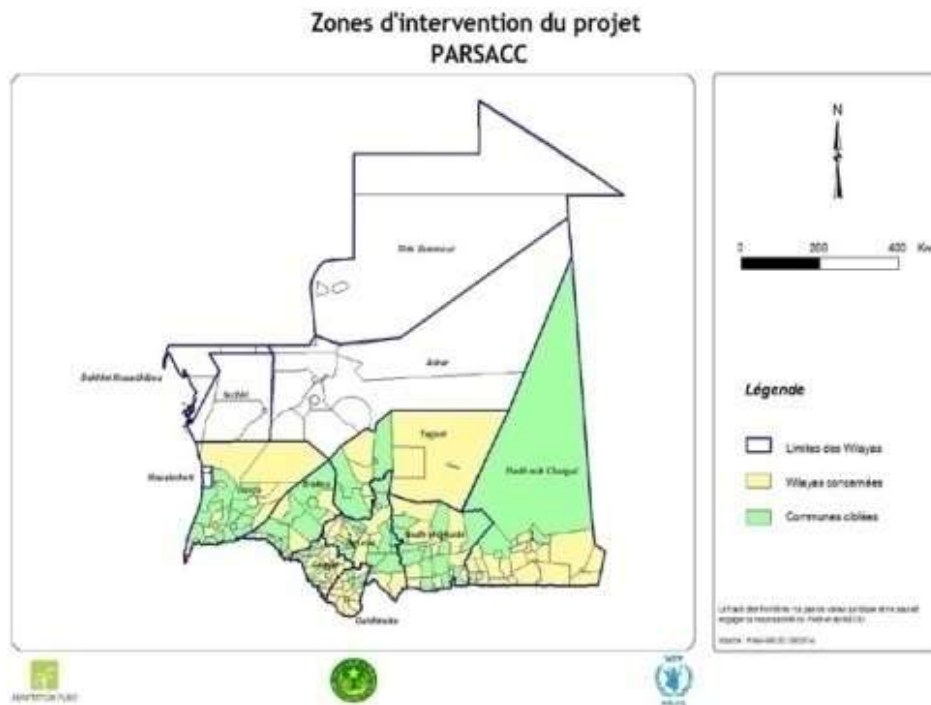
prioritized in the framework of regional technical workshops, validated by CREDDs and approved by the Project Steering Committee.

They correspond to predominantly pastoral, agro-pastoral and rain-fed agricultural production areas. In total, 100 villages spread over 75 municipalities (Refer to Table 1) were selected in a first stage of intervention of the project. They cover an area of almost 39,417 km<sup>2</sup>.

The choice of intervention sites was the subject of a multi-criteria analysis which combined the presence of other projects on the site, the level of food insecurity, the observed and expected impacts of climate stress and the level of social organization through the presence of dynamic basic structures on the site. The implementation of this approach made it possible to select a hundred sites classified as very vulnerable.

Wilaya	Number of municipalities	Number of villages
Assaba	14	12
Brakna	10	12
Gorgol	7	10
Guidimakha	4	10
Hodh El Chergui	6	16
Hodh El Gharbi	13	14
Tagant	5	9
Trarza	16	17
<b>Total général</b>	<b>75</b>	<b>100</b>

*Table 1: Number of targeted villages by wilayas*



## IV. IMPLEMENTATION STRUCTURE OF THE PROJECT

In order to implement the project, the following structure has been put in place:

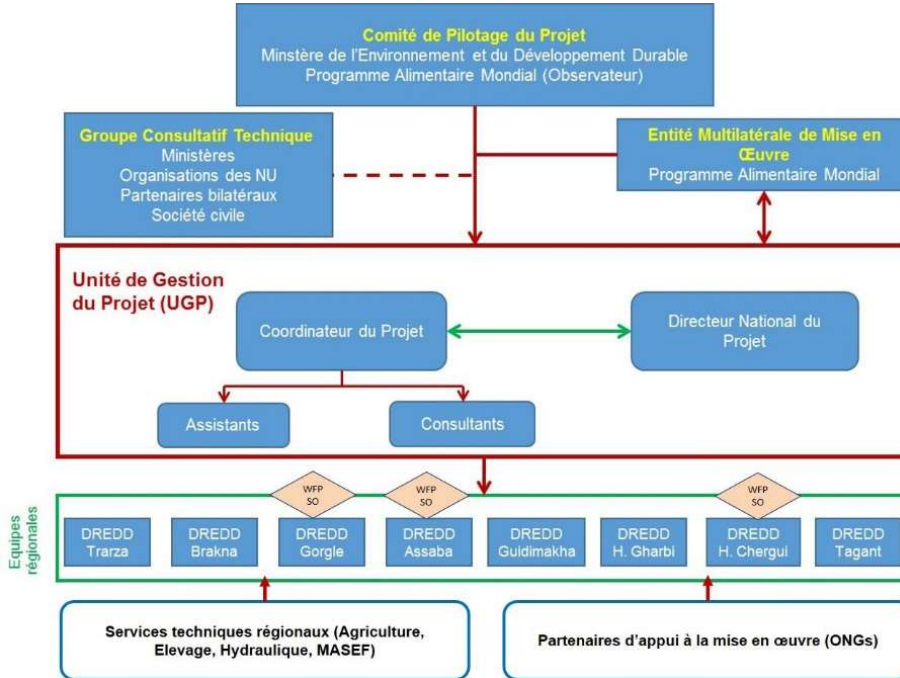


Figure 4: Implementation structure of the project

### IV.1. The Project Steering Committee

The steering committee is composed of representatives from several Technical Directions of the MEDD and WFP as observers. The chairman of the steering committee is the General Secretary of the MEDD. The other participants of the ministry in the steering committee are the technical departments concerned, namely: the Directorate of Nature Protection (which includes the fight against desertification), the Directorate of Planning, intersectoral coordination and data, and the Department of Pollution Control and Environmental Emergencies. It is the highest decision-making body in the project, and as such, it led the overall implementation of the project. It met every year for its regular sessions, and in extraordinary session at the request of its president.

### IV.2. The Technical Advisory Group

It is composed of the Ministry of Rural Development, the Commissioner for Food Security (CSA), United Nations Organizations, including FAO and UNDP, relevant bilateral partners, including GIZ and civil society organizations with local and international experience. The responsibilities of the technical advisory group include:

- Share information and experiences acquired in order to optimize learning, coordination and harmonization between the various relevant projects and programs;
- Participate in annual workshops where annual activity reports and draft action plans will be presented and discussed, and where recommendations to the Steering Committee will be made;
- Contribute with its experience and skills to all questions relating to the successful implementation of the project and the achievement of sustainable results;
- Participate in project evaluation and preliminary workshop to discuss past experience of climate change adaptation projects and lessons learned, including best practices for communities to adapt to climate change.

### *IV.3. Multilateral Implementing Entity*

It is the World Food Program which is accredited by the AF as a multilateral implementing entity.

WFP was responsible for providing the Fund Adaptation Board with the main reporting, monitoring and evaluation functions for the project. These included:

- The project inception report, submitted one month after the launch workshop to the AF for approval,
- Annual project performance reports (PPR) on the state of implementation of the project, including disbursements made. PPRs are submitted to the AF two months after the end of each project year. They were produced by the WFP project coordinator with the help of the National Project Director and the PMU team. A total of 5 PPRs were prepared and submitted to the AF Secretariat.
- The mid-term evaluation report. It was prepared two years after the start of the project.
- The final evaluation report. It was prepared by an independent external evaluator chosen by WFP.
- The project completion report.

### *IV.4. The Project Management Unit (PMU)*

It is the central structure for coordinating and managing the project. It is made up of the Project Coordinator recruited by WFP who provides overall supervision of the PMU, the National Project Director (MEDD) and a small team composed of a technical assistant to the Project Coordinator, an administrative assistant, an accountant, an M&E specialist and a driver. This team was supported as needed by consultants who are recruited on an ad hoc basis to assist the regional teams with technical guidance and training.

### *IV.5. Regional teams*

For the execution of activities in each region, Regional Technical Teams were set up between February and March 2014 by decision of the Walis (Governors) of each region, on a proposal from the MEDD. These teams are chaired by the DREDDs and made up of representatives from the following regional technical services:

- Regional Directorate for Rural Development (DRDR),

- Regional Directorate for Water and Sanitation (DRHA),
- Regional Directorate of the Food Security Commission (DRCSA),
- Regional Directorate for Social Affairs, Children and Women (DRASEF).
- Representatives of civil society.

These regional technical teams were later supported by NGOs recruited by WFP to support the implementation of project activities in the 8 wilayas. The WFP sub-offices at Kaédi (Gorgol), Kiffa (Assaba) and Bassikounou (Hodh El Chergui) played a role in supporting and monitoring project activities in the concerned regions.

## **V. INTERVENTION APPROACH AND INVOLVEMENT OF PARTNERS**

The project adopted a participatory and partnership approach built around the mobilization, awareness and training of the community and key actors in order to plan and implement the actions and activities selected. This approach gives local populations a central place in the concerted planning system. It seeks to involve communities in all stages of the implementation process in order to make them responsible for the management of their resources and their territories in the context of climate change. Thus, the beneficiaries and the other key stakeholders of the project find themselves engaged in the management of natural resources, the satisfaction of social needs and the sustainability of the gains. For its implementation, the project adopted from the outset a strategy based on strengthening institutional and technical capacities for the benefit of partners and beneficiaries; and this throughout his life and according to the needs felt at the various stages. This step was crucial for the preparation of climate change adaptation plans which are innovative and gender sensitive. They aim to identify the best adaptation options based on the knowledge and know-how of local populations, amended, if necessary, by realistic technical and technological innovations achievable in the Mauritanian context. These options, which form the basis of the action plans to be implemented, are subject to a multi-criteria prioritization process that accepts iteration.

It is therefore a step-by-step, progressive and iterative consultation process which has enabled the construction and validation of territorialized action plans that the project has implemented during the project period. The originality of this approach lies in the way of inserting the adaptation options selected in territorialized action plans, adapting them to local conditions and dimensioning them according to the forms and levels of vulnerabilities observed and the importance companies and territories to target.

## **VI. PROCESS FOR IMPLEMENTING PROJECT ACTIVITIES**

Project interventions were multi-year in nature in the same targeted villages in order to maximize the impact and build real resilience in the targeted communities. The implementation process adopted is based on the involvement of the target populations at all stages. Communities are systematically engaged to ensure most of the physical achievements on the ground.

Two main stages mark this process. This is a communication and capacity building step which was followed by the implementation of the achievements.

The first step was devoted to:

- The revitalization of the MEDD Regional Delegations (DREDD), in particular by enabling them to acquire almost non-existent means of mobility which have helped them to better meet their obligations in the field of environmental management and sustainable development and oversee the implementation of the project in the 8 Wilayas considered.
- Capacity building of technical services (MEDD, MA, ME, MASEF, MH, CSA, etc.) at central and regional level, of civil society and beneficiary communities in the area of planning for adaptation to climate change and food security. Support for the development and validation of community and participatory adaptation plans that have enabled the local populations involved to identify concrete adaptation measures aimed at protecting natural resources and diversifying their livelihoods.

The second step consisted in implementing the adaptation plans previously designed and validated. The diversity of activities contained in the 85 action plans are grouped here in two main groups:

The activities forming part of the FFA (food for assets) framework and which concerned measures to combat desertification and land degradation: Fixing of dunes, village reforestation, protection and improvement of pastoral defenses, conservation water and soil.

All of these activities were supported by a cash transfer providing immediate assistance to poor households to cover their immediate food needs, while allowing them to invest in the (re) construction of houses and community goods.

The livelihood diversification activities of target communities to increase income and improve household food security. These are Income Generating Activities which have touched on several aspects such as the promotion of market gardening, semi-intensive poultry farming, beekeeping, fruit growing, the production and distribution of improved stoves as well as other activities, particularly geared towards women (Community shops, butchers, bakers, fatteners, artisanal cuckoo-making units, sewing / weaving / dyeing, grain mill, etc.).

## **VII. SUMMARY OF PROJECT ACHIEVEMENTS**

### *VII.1. Capacity building review*

#### *VII.1.1. Institutional capacity building*

1. Reinforcement of the Eight (8) Regional Delegations for the Environment and Sustainable Development concerned by the project with 4WD cars, office equipment and IT equipment which enabled them to better meet their obligations in the field of environment and sustainable development management and ensured the supervision of the project implementation in their regions of intervention.
2. Strengthening of the Coordination Unit of the National Climate Change Program (CCPNCC) with a 4WD car, office equipment and IT equipment to improve its working conditions.
3. Strengthening Radio Mauritanie and its network of Local Radios in the 8 intervention regions through the acquisition of IT, reporting and communication equipment, as part of a partnership aimed at raising awareness in rural communities by Mauritania on the challenges of climate

change on natural resources, livelihoods and food security and the dissemination of good practices capitalized on by the project.

4. Support establishment of a Community Early Warning System through the creation of a partnership between Radio Mauritania, the National Meteorological Office and agrometeorological services with the aim of setting up an operational mechanism. The aim is to disseminate climate information to decision-makers at regional level and to rural communities in order to better prepare them for possible difficult years and direct them towards the most suitable solutions, taking into account seasonal forecasts in particular.

In this system, Radio Mauritania network will act as a relay to communicate and disseminate information to a very large audience, including at community level.

### *VII.1.2. Strengthening the technical capacities of partner institutions*

1. Training 80 managers, including 8 women representatives of Regional Delegations for the Environment and Sustainable Development as well as regional technical services (Agriculture, Livestock, Hydraulics, MASEF, CSA, WFP and representatives of civil society) in the 8 Wilayas where the project intervenes. The training focused on the basic concepts of climate change and the integration of climate change adaptation into local development planning.

2. Training 61 members, including 10 women, representatives of 50 NGOs operating in the 8 Wilayas where the project operates, on the basic concepts of climate change and technical preparation for the implementation of adaptation measures.

3. Training 40 high-level executives, including 4 women representing the main ministerial departments and institutions at the central level, United Nations agencies as well as technical and financial partners. The training focused on integrating climate change adaptation into development planning.

4. Support the development of climate change adaptation action plans at 85 sites in the 8 Wilayas involved in the project. The work was led by the DREDDs with the support of the PMU. It involved all the regional technical services and civil society who had benefited from training on integrating CCA into local planning and the participation of targeted local communities.

5. Training the Eight (8) DREDDs on the project monitoring and evaluation system as well as the administrative and financial procedures for project management.

6. Training 47 participants, including 6 women representing 16 NGOs and Consortium of NGOs recruited as support partners for the implementation of the project on CC and planning for Climate Change Adaptation at community level.

7. Training 42 participants representing 16 NGOs and Consortium of recruited NGOs as support partners for the implementation of the project on M&E and reporting.

8. Training 25 journalists from the Radio Mauritanie network (National Radio, Rural Radio and Local Radios) in the field of environment, climate change and food security.

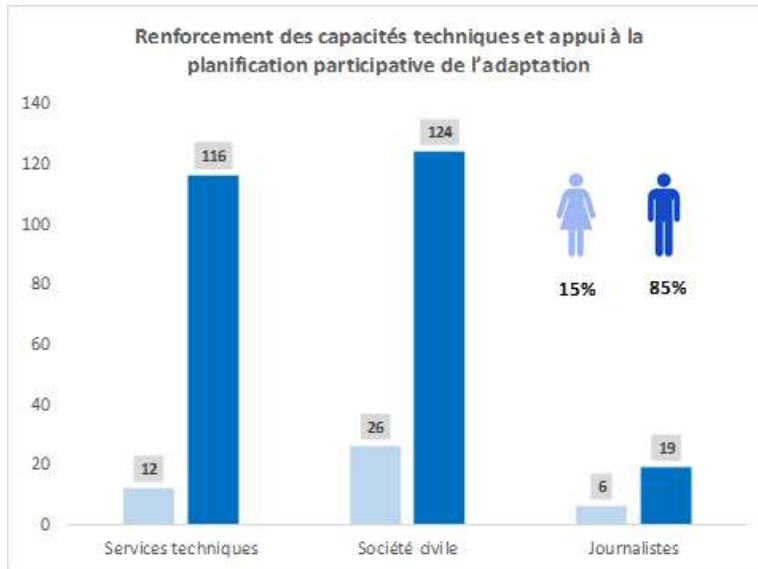


Figure 5 Number of people trained by type of structure and by gender

### VII.1.3. Community technical capacity building

In terms of strengthening technical capacities of the communities, the project carried out the following activities:

1. Training 80 community members (28 Women / 52 Men) on the management of Vegetable Cooperatives within the framework of the partnership with Boghé Training Center of Rural Producers (CFPR).
2. Training and equipping 89 community members (84 Women / 5 Men) on vegetable drying and preservation techniques, as part of partnership with Boghé Training Center for Rural Producers (CFPR).
3. Practical on-the-spot training of 8,728 participants in market gardening techniques.
4. Training of 560 cooperative members (448 Women / 112 Men) on the techniques and management of semi-intensive and traditional poultry farming.
5. Initiation of 517 people (284 Women / 233 Men) on the basic principles of beekeeping with the aim of raising their awareness of a new activity not widely known in Mauritania.
6. Training 1275 community members on techniques for producing seedlings in nurseries.
7. Training 3,888 community members on mechanical dune fixing techniques (wattle-fence).
8. Training 5,553 community members on planting techniques.
9. Training 1,148 community members (564 women / 584 Men) on water and soil conservation techniques.



10. Training and equipping of 65 veterinary assistants (2 women / 63 Men) in order to provide farmers with a minimal local veterinary service.
11. Training 179 scrap metal craftsmen and young volunteers in manufacturing of improved stoves.
12. Training 60 members of Management Committees for Pastoral Reserves, dune fixing sites and village reforestation on the rules for managing these areas.
13. Training 5,806 community members (4802 women / 1004 men) on the management of income-generating activities.

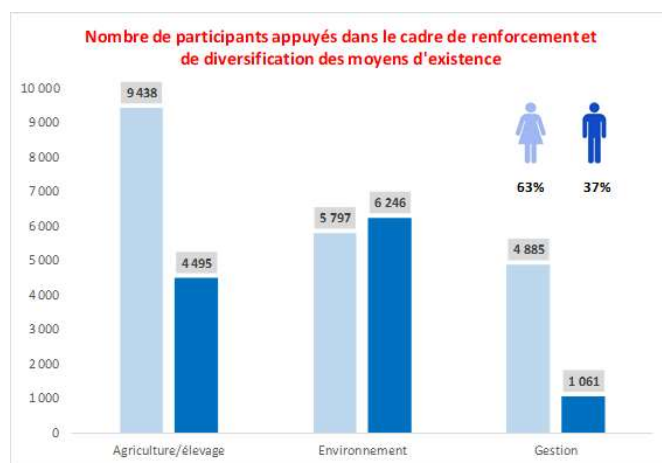


Figure 6: Number of people trained and supported by area and by gender

## VII.2. Assessment of adaptation measures to combat desertification and land degradation

### VII.2.1. Fight against sand advancing

995 ha of dunes have been stabilized at 36 project sites, exceeding the initial target of 900 ha. Mechanical fixing, which is the first step in the stabilization process of the sand dunes, covered 707 km of clay. The goal is to protect homes, water infrastructure and farmland from sites threatened by sand advancing.

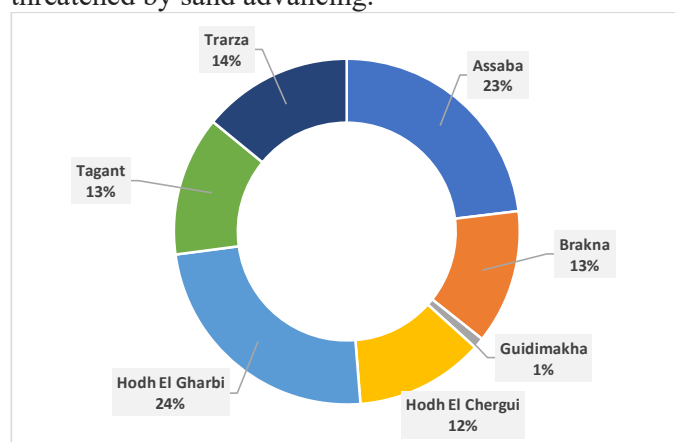


Figure 7: Proportion of dune areas fixed by Wilaya



This activity involved a total of 7,370 participants, representing 44,392 beneficiaries. Participants received cash incentives in the order of 17,648,383 MRU (~ US \$ 490,000) and 95 tons of food helping to cover some of their households' immediate needs.

7,370 participants  
 44,392 Direct beneficiaries  
 17,648,383 MRU of cash incentives  
 95 Tons of food

### VII.2.2. Village plantation for firewood

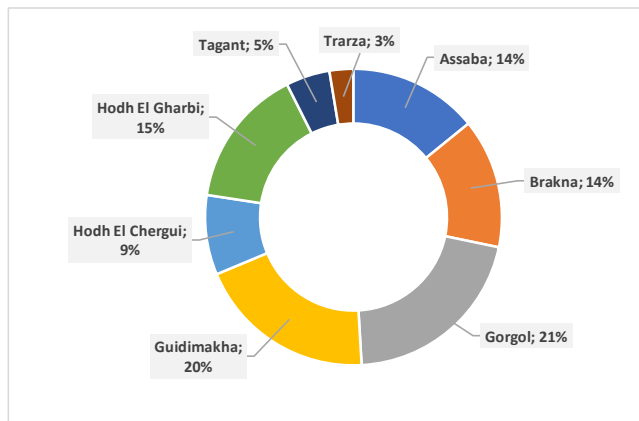


Figure 8: Proportion of area of village reforestation by Wilaya.

The project planted trees for energy use on a total of 460 ha of collective land ranging from 5 to 10 ha in 37 villages. The objective set at the start of the project was 400 ha.

This will allow in the medium term to provide communities with a space where they can extract their firewood, thereby preserving existing natural resources already weakened by over-exploitation, overgrazing and the increasingly felt effects of climate change. These spaces are managed by a simple operating regulation which meets certain rules ensuring their sustainable exploitation by the Village Management Committee.

This activity is closely linked to the program to promote improved stoves that the project implemented, and which made it possible to manufacture and distribute more than 20,000 improved stoves for the benefit of households in the target communities. This activity involved a total of 1,618 participants, representing 8,777 beneficiaries. Participants received cash incentives in the region of 2.122.191 MRU (~ 59,000 USD) helping to cover part of their households' immediate needs.

1618 participants  
 8,777 Direct beneficiaries  
 2,122,191 MRU of cash incentives

### VII.2.3. Setting up community pastoral reserves

The project set up 25 protected community pastoral reserves of 25 to 50 ha totaling 1000 ha, thus achieving the objective set at the start of the project. Pastoral improvements and planting of local fruit trees have been implemented by planting suitable local species in order to replenish the vegetation and improve the forage balance of these reserves which will play an important role for these communities, particularly during the years of drought and lean periods when pastures will not be sufficient to cover the needs of livestock all year round.

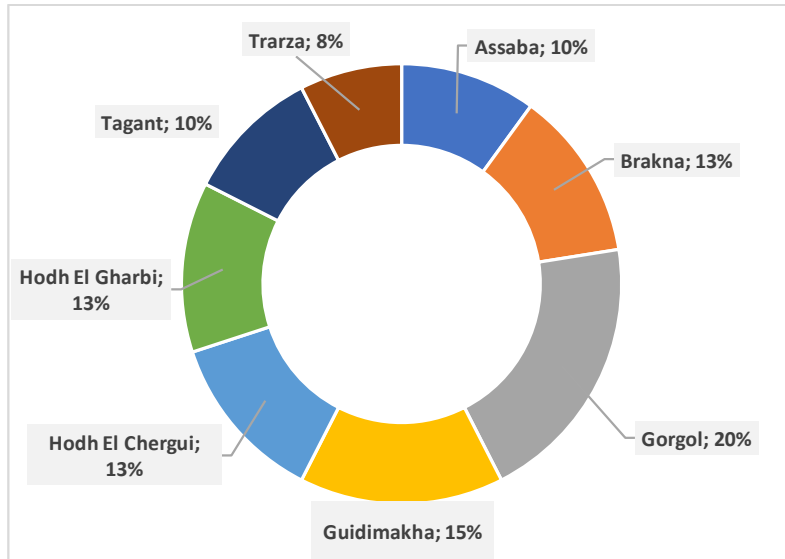


Figure 9: Proportion of areas of pastoral reserves by Wilaya.

The choice and setting up pastoral reserves are made in a concerted manner and approved by the technical services and the administrative authorities of each region.

These spaces are ruled by an operating regulation system enforced by the Village Management Committee in order to allow them sustainable management.

After two to three years, the Management Committees began to earn money from the sale of straw and / or from the access of livestock to the reserve. This money is used in particular to maintain the fence, pay for security, make pastoral improvements and feed the village community fund.

This activity involved a total of 1,998 participants, representing 12,224 beneficiaries. Participants received around MRU 3,679,457 (~ USD 102,200) cash incentives helping to cover some of their households' immediate needs.

1,998 participants

12,224 Direct beneficiaries

3,679,457 MRU of cash incentives

*"The deferment is very useful. For example, last year, which was a difficult year for the cattle, the hay of the reserve made it possible to feed the cattle of the village for one month and this saved us the purchase of the feed raket which is very expensive for poor people "*

#### VII.2.4. Restoration of degraded land

Restoration of degraded land and water and soil conservation activities are among the most important activities supported by the project.

The project supported the construction of 18 water retention structures in 6 villages in Guidimakha and 4 villages in Gorgol.

The objective is to improve the resilience of farmers by recovering new land and increasing crop yields.

Three types of simple techniques have been chosen:

**Earth bunds:** this is a technique mainly used to capture rainwater and / or limit damage to the soil and crops due to its runoff.

**The filtering dam:** It is a mechanical work made up of loose stones or gabions, built opposite a gully.

**Stone cords:** These are mechanical structures made up of rubble stones (large stones) aligned along the contour lines of the area of concerned land.

These structures improve the water balance of the soil and reduce the lack of water caused by the effects of climate change. These works, which were carried out by community members under the technical control of a design office, made it possible to restore and rehabilitate approximately 440 ha of land, of which 370 ha were secured with fences and cultivated by the beneficiary communities in from the 2018 crop year.

Type of structure	Restored area (ha)
Earth bunds	29 ha
Filtering dam	202 ha
Stone cords	209 ha
<b>Total</b>	<b>440 ha</b>

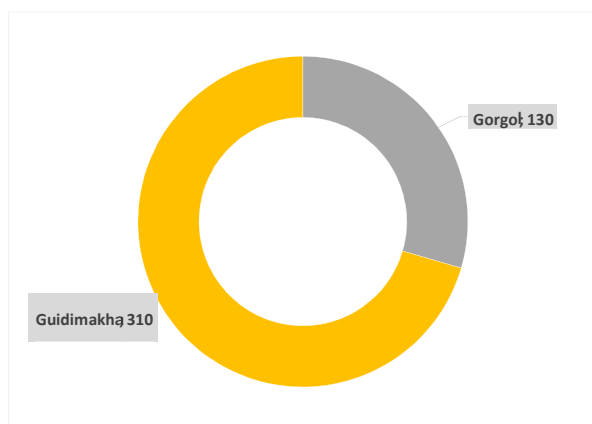


Figure 10: Area (ha) restored by Wilaya.

These restored lands have helped to expand cultivable areas and improve crop yields, thereby helping to improve food security in the targeted areas.

This activity involved a total of 1,084 participants, representing 6,504 beneficiaries. The works were carried out by participants. These ones were paid up to 8,366,988 MRU (~ 231,583 USD) helping to cover part of their households' immediate needs.

1,084 participants

6,504 Direct beneficiaries

8,366,988 MRU of cash incentives.

The following table gives an overview of the achievements and beneficiaries of adaptation measures relating to the fight against desertification and land degradation.

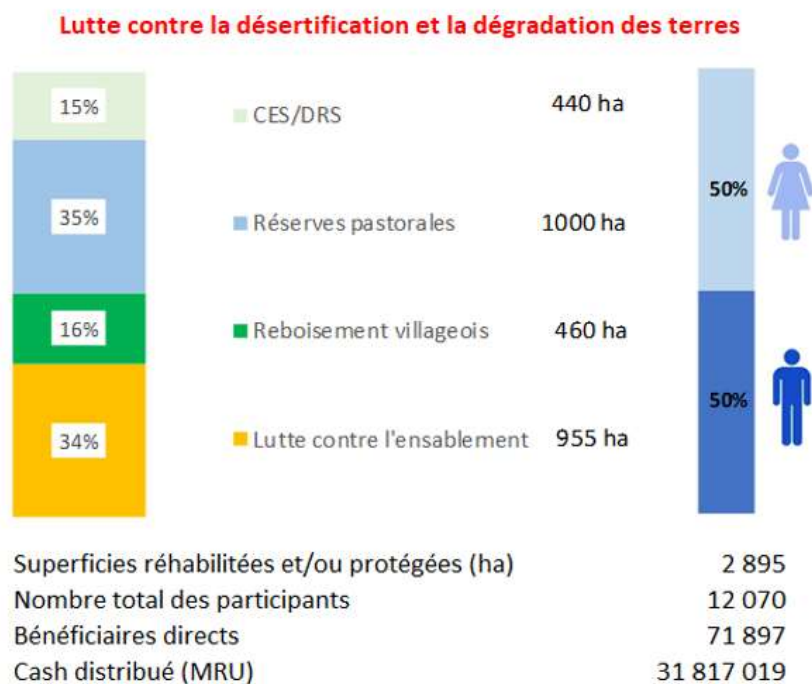


Figure 11: summary of achievements and beneficiaries of activities to combat desertification and land degradation.

### *VII.3. Assessment of adaptation measures to diversify and strengthen the most vulnerable population livelihoods*

#### *VII.3.1. The fruit tree promotion program.*

A total of 3,973 households (23,838 direct beneficiaries) benefited from project support in 19 villages. In the first phase, the project provided 9,330 fruit trees (mango, jujube, lemon, mandarin, grapefruit, orange, guava and banana).

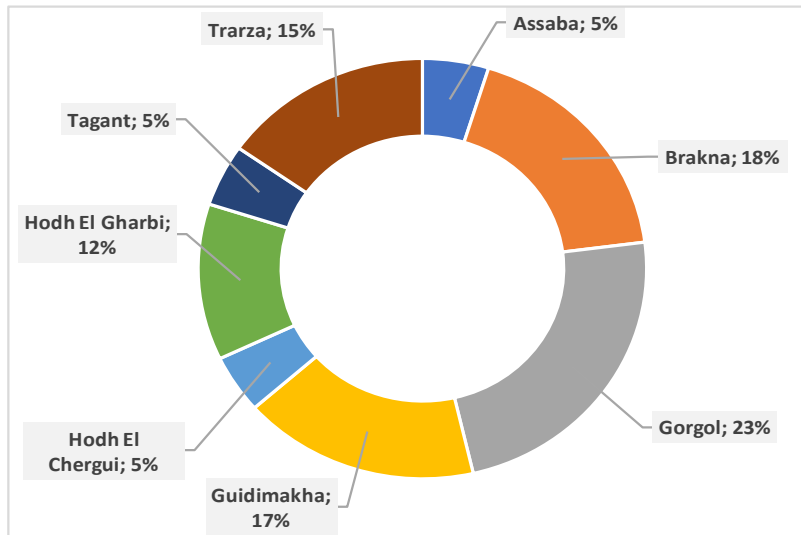


Figure 12: Percentage of fruit plans distributed by Wilaya.

This program was implemented with the support of the Center for Agronomic Research and Agricultural Development (CNRADA) and targeted two types of farms:

**The family farms** where the project distributed and helped plant fruit trees in each household at the rate of 3 to 5 trees per household. This operation was very successful because the trees were inside the courtyard and daily attention was paid in terms of watering and maintenance by the beneficiaries.

**Collective farms** are fenced areas covering areas ranging from 0.5 to 2 ha which have been fitted with basins and drip irrigation systems to ensure regular and water-efficient irrigation.

This program has been extended to the planting of local fruit trees adapted to the harsh climatic conditions of the region such as *Acacia Senegal*, *Zizyphus mauritiana* and *Balantines aegyptiaca*. Their production (gum, fruits) in the medium term will provide significant source of income for targeted communities.

Nearly **280,000 trees** have been planted in the 25 protected sites.

### *VII.3.2. The poultry promotion program*

This program was carried out in two phases. A first phase in 2016 which involved the establishment of 10 semi-intensive chicken coops and 40 traditional chicken coops. The project fully funded the construction of the 50 equipped chicken coops. It provided a follow up and support to beneficiaries until they became independent.

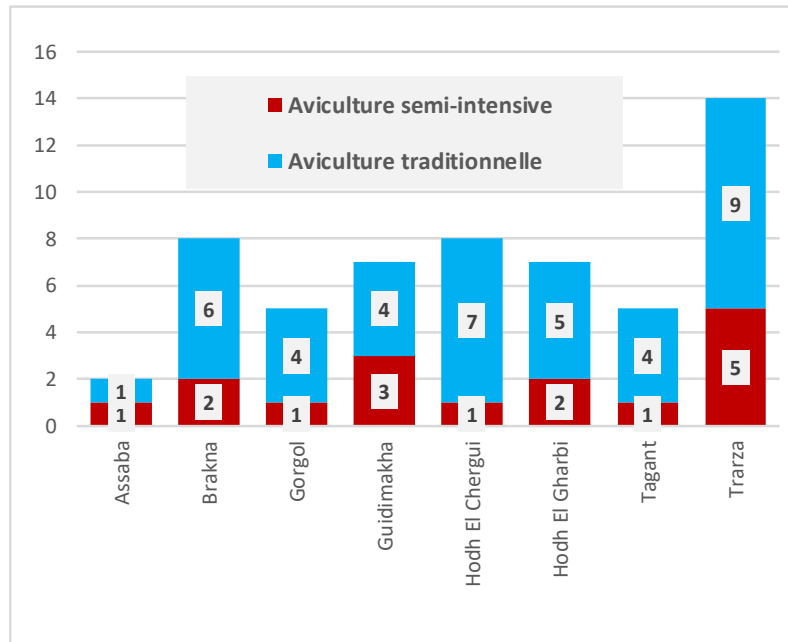


Figure 13: Number of traditional and semi-intensive chicken coops by Wilaya.

Unlike the traditional poultry program, which experienced difficulties, the semi-intensive program was a real success. After project funding of their first campaign, the 10 semi-intensive poultry production cooperatives are now financially independent and have led their own up to 6 broiler production campaigns. In addition, two cooperatives in the Wilaya of Trarza have reinvested part of the profits to increase the production capacity of their chicken coops, generating even more profits and ensuring the supply of a larger community.

Beyond the supply of white meat to the community, which improves food security and nutritional quality in general, this activity has made it possible to make profits for the benefit of these cooperatives, some of which have reinvested in other income-generating activities helping households cope better with crisis situations.

In terms of economic profitability, the net profit made by 10 women who produce a flock of 500 chickens is 41,000 MRU (1,139 USD). The income per flock and per woman is approximately 4,100 MRU (114 USD) and the income per woman per day is 136 MRU (3.7 USD). Given the strong demand formulated by the beneficiary communities for a semi-intensive poultry farming program, the project launched a second phase which made it possible to set up six additional units which have just started production in February 2019. Overall, this program benefited 560 participants (80% women / 20% Youth) representing 3,360 direct beneficiaries.

### VII.3.3. Support for market gardens establishment

The vegetable gardening activity has been identified as the main activity in the adaptation action plans, expressed particularly by women. The project supported a total of **42 cooperatives** to set up their market gardens in the 8 Wilayas involved in the project. This activity targeted **8,728 participants (80% female / 20% male)** representing more than **52,000 beneficiaries**.

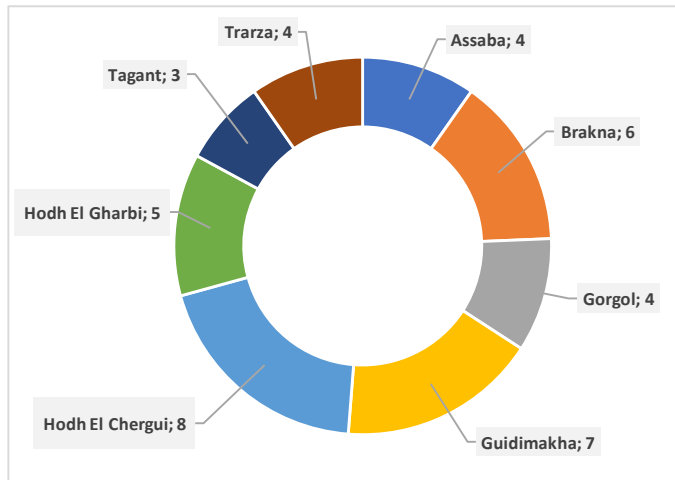


Figure 14: Number of market gardens by Wilaya.

In addition to theoretical training, local support and technical supervision was also provided during the two campaigns 2016 and 2017 to transmit to these cooperatives all the know-how and prepare them to become autonomous in the management of their market gardens without no external support to ensure the sustainability of the activity.

Economically, during the 2018-2019 campaign, **70 ha** of vegetable gardens were cultivated, totaling a production of **189,919 Kg** of vegetables with an average yield per hectare of around **2,713 Kg**. Each Cooperative has on average **consumed 30%** of its production and **sold 70%**. Average revenue per cooperative has been estimated at **51 198MRU (~ 1422 USD)**.

With the revenue recorded following the sale of surplus vegetables, these gardens have enabled members of these cooperatives to have fresh vegetables for a fairly long period of the year, thereby improving the nutritional quality of their meals. Also, the proximity of these gardens has enabled other members of the community to have fresh, good quality vegetables on site at affordable prices.

Furthermore, the project provided training and equipment for 90 women to master simple techniques for preserving and drying surplus production of vegetables from their gardens. This allowed them to ensure an additional **2-3 months** of vegetable availability at the household level.

In addition to self-consumption and the financial revenue generated, a dozen market gardening cooperatives, without external support, have reinvested part of their profits to finance the establishment of new income-generating activities (IGAs) such as butchers, community shops or fishmongers. This can be seen as a direct effect of the project on improving the food security and living conditions of the targeted beneficiaries.

At the end of the project, **37 cooperatives are autonomous** and continue to practice market gardening based solely on their own means, attesting to the appropriation of the beneficiaries of this achievement which will certainly ensure its sustainability.

*The importance of vegetable gardening in Cham does not lie in the sale of products and therefore income. We are not used to selling vegetables. Its importance lies in the use of vegetables in the food consumption of families. The last campaign lasted three months. Its impact on food, nutrition and food security should be strongly mentioned. " Testimony of a member of the Cham Community, Wilaya of "Brakna*

#### VII.3.4. Beekeeping promotion

This activity constitutes a pilot experience introduced by the PARSACC project for the first time in Mauritania.

The project called upon a Mauritanian company specializing in the field of beekeeping, which carried out a study leading to the selection of the best sites where this innovative activity can be introduced from an ecological and socio-economic point of view. Eight (8) Sites were selected meeting the criteria set. Beneficiaries participated in training sessions and support provided by the company on the management and operation of apiaries.

This program benefited **72 participants** (37 women and 35 men) and 432 direct beneficiaries.

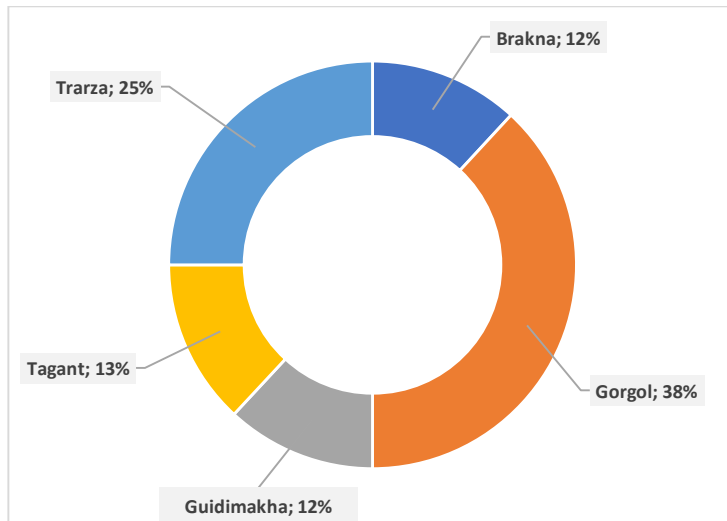


Figure 15: Percentage of beehives distributed by Wilaya.

The project provided **340 full beehives** with rises, the beekeeping equipment necessary to ensure the proper management of the apiary (combinations, smokers, knives, extractors, ripeners, beehives, wax embossing machines, etc.) and provided training for participants. in the management and operation of apiaries.

After 2 years of follow-up, the result was mixed in 4 of the selected sites. This is largely due to the year 2017 which was very difficult characterized by a large rainfall deficit and therefore a drought which greatly affected the apiaries, some of which died and lost their bees.

Being a pilot experiment, the project therefore decided to abandon these 4 sites and put all efforts on the 4 sites where the results are quite promising.

This experience is being finalized and its results will be documented and disseminated for possible scaling up in the context of other projects and initiatives.

#### VII.3.5. Income Generating Activities (IGAs)

With the support of implementing partner NGOs, the project identified and funded the establishment of **97 IGAs** in **55 villages**. These IGAs particularly benefit women in the targeted villages with a view to their empowerment and the reduction of gender inequalities. The project has implemented:



- 22 butchers
- 06 bakeries
- 34 community stores
- 01 vegetable marketing unit
- 09 couscous production units
- 02 sewing units
- 03 fattening units for small ruminants
- 02 livestock feed stores
- 14 grain mills
- 04 dye units.

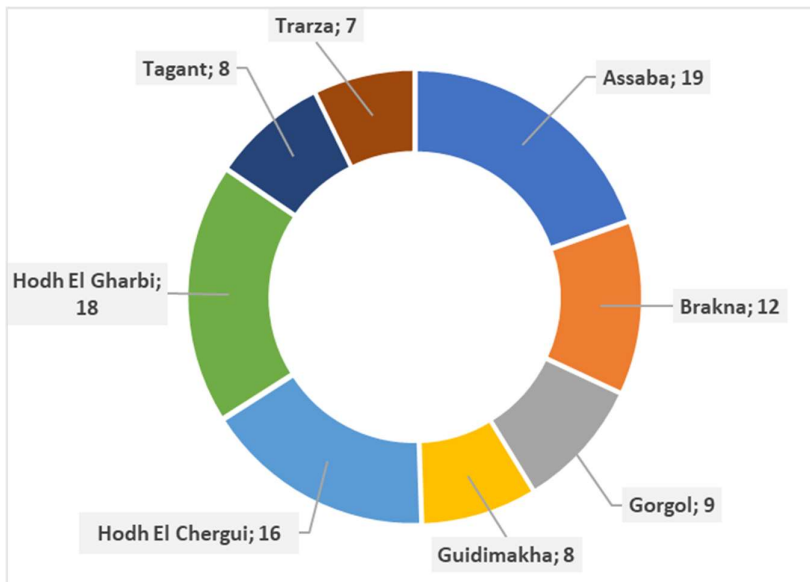


Figure 16: Number of Income Generating Activities IGA per Wilaya

Support and training on the management of all these IGAs was carried out with NGOs.

These IGAs are managed by the Village Management Committee.

The operation is rotary cyclically benefiting a group of women / men for a given period who pass the hand to another group and so on:

- Capital is maintained or increased
- The group is paid
- The rest of the profits go to a community fund.

Beyond the availability of several basic food products for the community, the beneficiary will gain a share of the benefits which they can exploit in improving the living conditions of the household or invest it in other IGAs.

These activities benefited approximately **5,808 participants (4,802 women and 1,004 men)** representing **34,848 direct** beneficiaries.

### *VII.3.6. Support for access to water*

Access to water is the first constraint faced by most communities we have worked with.

According to the communities, helping them to solve the water problem is providing them with the key element of life on the spot, encouraging them not to leave their village and to work the land to improve their food security and made their income.

The project has made a great effort in this direction. Initially, it solved the problems of 29 sites by digging or deepening wells and boreholes, installing solar pumping equipment or motor pumps, setting up drip irrigation networks and the installation of water storage tanks, etc.

At the end of this first phase and in view of the encouraging results obtained, other villages strongly expressed the need to benefit from this activity. In response to these expectations, the project programmed a second phase which involved 17 additional sites where solutions were found, consisting of the installation of solar pumping systems linked to storage tanks with a capacity of 10 m<sup>3</sup> raised. In some sites, deepening of wells and / or rehabilitation of wells and boreholes has been carried out.

The inhabitants of the villages which benefited from this activity make various uses of the water thus mobilized: drink, toilets, vegetable gardening, watering of the cattle, etc. This comfort, now made possible by the proximity of the water source, has reduced the burden on women, who have freed up time for other social and / or economic activities for the benefit of households or the community.

### *VII.3.7. Promotion of the use of improved stoves*

The objectives of this action are:

- Improvement of the living conditions of vulnerable households and mainly that of women by improving energy yields in households and consequently reducing the time reserved for collecting wood and cooking meals and its investment in family and children benefit,
- Reducing deforestation and land degradation. As a preparation and support activity for the activity considered here, the project reforested 460 ha of collective land with trees for fuelwood in 37 villages. In the same vein, the project also carried out capacity building and the necessary supports for the benefit of 179 young volunteers and artisans. It intends to make them key players in the manufacturing and distribution chain for improved stoves in Mauritania. The usefulness of these fireplaces was demonstrated and appreciated by the participants and other partners following a real experience of comparing the energy efficiency of three models of fireplaces. Through these activities, the project manufactured and disseminated 20,600 improved stoves for the benefit of households at 73 project intervention sites in the 8 Wilayas.

<b>Wilaya</b>	<b>Number of concerned sites</b>	<b>Number of benefiting households</b>
Assaba	11	1 194
Brakna	07	1 899
Gorgol	09	2 340
Guidimakha	11	4 760
Hodh El Chergui	10	2 750
Hodh El Gharbi	12	1 622
Tagant	06	3 990
Trarza	07	2 045
<b>Total</b>	<b>73</b>	<b>20 600</b>

*Table 2: Distribution of improved stoves by wilaya.*

This mission was entrusted to 179 artisans and volunteers supported by partner NGOs, with the guarantee of buying back the manufactured stoves that the project was responsible for distributing free of charge to vulnerable households in its intervention areas.

## **VIII. PROJECT IMPACTS ASSESSMENT**

The overall and detailed assessments of the project, components, actions and activities made during the mid-term evaluation, the various monitoring-evaluation missions carried out by the PMU and the final evaluation of the project lead to the observation that the implementation of PARSACC has brought about significant changes both at the institutional level and at the level of the target communities.

### *VIII.1. Impacts on institutional capacity building*

PARSACC has played an essential contributing role in strengthening and developing the organizational and intervention capacities of the MEDD and other institutional actors. This has resulted, among other things, in the following impacts:

- Reinforcement of the operational capacities of MEDD and its regional delegations by the supply of office and computer equipment as well as new all-terrain vehicles.
- Reinforcement of monitoring and supervision capacities by providing DREDDs with operating budgets to carry out supervision and monitoring missions under the best possible conditions.
- Development of human capital and technical capacities of institutions through training, retraining in different areas.
- Improvement of strategic planning capacities by improving processes for collecting and using strategic information and data, supporting planning processes and developing reporting capacity.

In addition, the project also focused on strengthening the capacities of the technical service executives of its central, regional and local partners, NGOs and communities. It took care to make them understand, according a tailored approach, the climate risks, their impacts on resources and food security in order to facilitate the stage of the decentralized and participative planning of the adaptation which he plans to achieve.

This work has been completed as agreed and the expected impacts are largely achieved. The project acted mainly through the organization of a substantial number of theoretical and practical training sessions which targeted, in each case, a target group. These training courses are carried out as needed and adapted to the knowledge levels of the learner audience. Once the transfer of skills has been carried out, the project has set up networks of local partners mainly composed of NGOs which it has entrusted with providing targeted and local coaching for the benefit of the beneficiaries, in particular for new activities and / or for which new technological or benchmark packages are to be disseminated. One of the greatest successes of the project lies in the broad partnership commitment with the various structures of the Administration, civil society and other national and international operators. The mid-term evaluation mission gives a very satisfactory score to this aspect and recommends the continuation of the efforts undertaken for a better consolidation of the methodological achievements. The strong

involvement of Non-Governmental Organizations (NGOs) in the process of implementing actions, monitoring and assisting achievements is also a strong point of the project. For this, he selected NGOs that he assisted to set them up at operator level and entrusted them with specific tasks defined according to terms of reference.

NGOs were responsible for:

- Sensitize communities on the objectives of the project, the challenges of climate change on natural resources, the appropriation and sustainability of the achievements,
- Mobilize communities by working for their structuring, organization and mobilization around the implementation of activities,
- Support the review of community adaptation action plans,
- Support in spatial and socio-economic targeting: identification of reforestation sites and participants in activities, supervision of communities and support in the distribution of cash,
- Supervise the execution of income-generating activities,
- Supervise the program to promote improved stoves,
- Contribute to monitoring and reporting.

By supporting implementation, NGOs have experimented with approaches and strengthened their capacities in the areas of community development and adaptation to climate change:

- Support, facilitation and animation,
- Participatory approaches and techniques,
- Community communication and awareness,
- Social mobilization techniques,
- Familiarization with climate change and resilience issues,
- Data collection and management and mastery of reporting tools.

### *VIII.2. Participatory development*

The degree of satisfaction noted is partly explained by the implementation approach characterized by the use of the participatory approach, the development of spaces for dialogue around the project and the enhancement of local socio-organizational capital. The start-up phase of the project was marked by a sustained effort of communication and information on the program, its objectives, its implementation methods, its eligibility conditions, etc. This awareness-raising work affected the administrative authorities, municipal authorities, community leaders and the populations.

The participatory approach of the project is generally well appreciated. The village management committees (VMC) set up with the support of PARSACC constitute new spaces for dialogue and discussion on project interventions and on local community issues. In addition, they strengthen social cohesion.

PARSACC as a development approach required significant efforts of communication and dialogue between the populations and the project, between the project and the administrative and social authorities and between the project and the regional and departmental technical services. Sustained work has been done in this direction and this work has fostered institutional and social support and the support of the populations and institutional actors for the project.

### *VIII.3. Ecological impacts*

Demonstrating the viability of the role of communities in climate change adaptation strategies is an important strategic achievement and it has a positive impact on the perception of institutions, capacities and contributions of populations. One of these prejudices consists in considering that the practices of the communities are ineffective in the face of these new climatic and environmental challenges because of the difficulty in problematizing the effects of these changes. However, by initiating experiences and solutions experienced by the populations, the challenge of PARSACC is to prove that these initiatives implemented are really able to provide responses to the perceived effects of climate change and variability. Indeed, the actions undertaken (the restoration of degraded soils, the development of sustainable agricultural practices, defenses, reforestation, protection of crops and plant species) are good options for adapting to climate change.

Quantitatively, in relation to the activities in favor of improving the conservation of natural resources and their management methods in the land of the 85 Villages of the 08 most vulnerable Wilayas in the South and South / East of the country, the project was able to carry out the objectives set at the start. In fact, 100% of these objectives were achieved for the fixing of the dunes, the reforestation of the villages and the establishment of defensive zones. The target for the restoration of degraded land has been reached at 88%.

The implementation of these activities involved members of the targeted communities in the achievements thus generating additional income through the methods of monetary transfer adopted by the project, given as incentives to compensate for the efforts made by these participants.

Reforestation and environmental protection should allow the reconstitution of woody formations limiting wind erosion which leads to the loss of soil and its nutrients, other consequences of climate change. Reforestation increases plant diversity and cover, organic matter and soil moisture. These effects have significant positive impacts on the increase in agricultural production and the diversification of income sources which will reduce the vulnerability of farmers to poverty and climatic hazards.

Most of the practices and activities supported by PARSACC tend to curb ecological constraints but also have a positive impact on the environment. Thus, the project promotes approaches based on the valuation of natural capital, environmental protection, the adoption of practices that improve soil fertility, reduce erosion and promote the regeneration of natural resources by optimizing their use. The energy-saving technologies use such as improved stoves has the immediate ecological effect of reducing the consumption of wood.

Even if this impact is still limited, the demonstrative effect associated with the diffusion of these technologies may induce greater scaling in the future.

Reforestation and natural regeneration will lead in the more or less long term to a restoration of the plant cover which has a significant impact on soil fertilization. The woody formations stabilize the soils, improve their texture, strengthen the above and below ground biomass and fight against wind erosion. Fertilized soils lead to better agricultural yields, thus helping to reduce the poverty of the populations who depend mainly on agriculture.

#### *VIII.4. Impact on community's food security and living conditions*

The project has contributed satisfactorily to advancing operational solutions to improve food security, increase the standard of living of communities and the households' incomes, especially the most vulnerable. It has thus created an appreciable local economic dynamic and made households safer by promoting Income Generating Activities (IGAs), in particular for women and young people. The forecasts are sometimes beyond the realization capacities, but the impact is visible on the increase of the incomes and the improvement of the food security of the poorest households.

The cash transfer to the participants of the villages within the framework of FFA (Food for Assets) activities for the protection of the environment played a particularly positive role in improving living conditions and food security in the villages. The use of cash seems to be primarily intended for the purchase of food products and therefore plays a primary role in food security.

The available data clearly indicate that the main physical, production and / or development actions have allowed to increase directly or through paid work, household incomes thus contributing significantly to the improvement of their food security.

The project also made a real contribution to increasing agricultural production (vegetable gardening and poultry farming) and improving food security in the targeted villages. Excess production after self-consumption are marketed locally or in the region. They have enabled cooperatives or households to generate sometimes substantial additional income.

*"With the support of PARSACC, we have carried out five market gardening campaigns and the productivity is excellent. Market gardening has had very significant results and greatly increased the income of women. For example, I make an average profit of 25,000 MRU per campaign. The production is good, what is missing is marketing. In addition, market gardening has saved families money on food. Before, we bought vegetables from those of us who produce them." Testimony of a beneficiary of the Oum El Koura cooperative, Trarza.*

The pivotal nature of the investment, which is that a cooperative that has completed its action and marketed its products can keep the profits and pass the capital on to another cooperative that will do the same.

It is a form of social solidarity and equity that is greatly appreciated by the inhabitants of the localities considered by the project. It is also a way of putting cooperatives in a logic of fair competition where each seeks to achieve the best results.

Indeed, some cooperatives that benefited from these funds not only made profits but invested them in other income-generating activities of their choice.

The recourse to the conservation and the transformation of agricultural products, following the participation in a technical training in the field, allowed the women to face the cyclical problems of marketing of the products. Households have now gained up to two additional months of availability of fresh vegetables in the villages in question.

Certain testimonies collected in the village of Tichoutine du Brakna claim a reduction in the costs of purchasing fresh vegetables by almost 50%, that is from 60 MRU to less than 30 MRU per kg at present.

On the other hand, the production of semi-intensive chicken coops, after only 45 days, contributes significantly to the nutrition in meats of the villages concerned with an affordable sale cost of 150 to 200 MRU per kg of meat (Ndjadjibeni village in Gorgol).

The success of this component, directly linked to the pressing needs of the poor (IGAs, in particular), indirectly contributed to reducing the pressure on fragile natural resources and developing the spirit of protection among users.

*"In addition to providing basic necessities, the store generates income for women and makes a profit. Its management is based on a rotating system and early in the two months, the management is entrusted to two women. The last time accounts were taken, profits were almost 20,000 MRU. 50% of this amount goes to women managers and 50% to the cooperative". Testimony of the beneficiaries of Oum El Koura, Trarza.*

### *VIII.5. Impacts on livestock*

Actions in the field of pastoralism have had significant impacts which are clearly perceived by the populations. They have contributed to reducing the mobility of livestock for the search for pastures, the costs linked to the keeping of animals and the generation of income for the villagers.

The qualitative component confirms the findings of the quantitative component relating to the improvement of the animal health situation following training actions for veterinary assistants. This improvement is reflected in the availability of veterinary services on site and a reduction in expenses related to animal health.

*"The defent is very useful. For example last year which is a difficult year for the cattle, the hay of the reserve made it possible to feed the cattle of the village for one month and this saved us the purchase of the feed raket which is very expensive for poor people". Testimony of the beneficiaries of Cham, Brakna.*

### *VIII.6. Improved access to water*

Access to water is the basic need of poor rural communities that are sometimes landlocked or difficult to access. Investing in the water supply of these localities by digging and rehabilitating wells and boreholes and their equipment by solar pumping systems, building water tanks, etc. is certainly one of the interventions with high health, nutritional and economic impact.

*"The project has solved a crucial problem for us, the supply of drinking water. Before this installation we had difficulties to have water to drink and to water our cattle with that implies in terms of displacement, disorganization of our activities and costs. Today there is a borehole and a water network which supplies drinking water in quantity and in quality".*

*Testimony of the beneficiaries of Legdeim, Tagant.*

Access to water has particularly benefited the women and girls who are responsible for fetching water and has had a major effect on reducing the drudgery of this task.

Equipping water sources with pumping systems has reduced the burden on women and girls, freeing them for other household or productive tasks and girls for school.

*"The motor pump for irrigation has had many advantages. Before we carried buckets to the river and from the river to the perimeter to irrigate it. Fortunately, these painful spots are finished with motor*



*pump irrigation. We have dedicated a local person who is a pump attendant to take care of the regular maintenance of this motor pump. " Testimony of the beneficiaries of Dounguel Reo, Brakna.*

### *VIII.7. Gender approach and empowerment of women*

Taking into account the gender approach is one of the most promising impacts of the PARSACC experience.

It has been implemented in these different dimensions:

- Participation and empowerment of women in decision-making mechanisms and devices,
- Strengthening economic activities and women, empowerment
- Access to means of production and capacity building for women's organizations.

*"If there is a social group which participates and which constitutes the partner of the project, it is us women. The women carry out most of the activities here and the activities implemented mainly concern women, whether it be market gardening, the community shop or reforestation ". Testimony of the women of Oum El Koura, Trarza.*

In fact, in the area covered by the project, women are now represented in community structures and at the level of village management committees at least 50%.

They are also among the priority beneficiaries of project activities, especially for IGAs where they represent more than 80% of all beneficiaries.

Across all project activities, women represent 63% of the targeted beneficiaries.

The project particularly focused on empowering women and reducing their workload to have more time for family and children.

Facilitating access to water, supporting market gardening and agricultural activities, protecting crops, grain mills and improved stoves benefit women who, in the social distribution of work roles, take care of these tasks.

Analysis of the gender dimension in the implementation of adaptation strategies also reveals a diversity of actors and roles in the activities carried out. In most of the activities undertaken, those controlled by women are at the heart of the adaptation system. Women also play an important role in the system of governance. This position is all the more justified since women are among the groups most affected by climate change, notably through the drudgery of water and the collection of wood which is becoming scarce, the scarcity of good land which increases the competition generally to the detriment of women, reduction of economic opportunities, etc.

## **IX. LESSONS LEARNED**

### *IX.1. Methodological aspects*

By opting for village terroir as a homogenous socio-geographic unit, PARSACC has minimized social conflicts over the management of space and resources. The project has successfully implemented an approach that reconciles the management of fragile natural resources and the creation of local wealth opportunities, based on an analysis of the vulnerability of production systems to climate change. Concrete measures are identified and prioritized with community members and with ownership, ensuring their sustainability. This joint approach between adaptation and environmental protection measures and the promotion of income-generating



activities, valuing both local knowledge and the wealth available, is very relevant and operational in disadvantaged and vulnerable areas.

### *IX.2. Adaptation measures and food security*

In resilience and food security projects, activities should be implemented by the communities themselves. They often have the know-how to implement several activities which require only a simple development to be more effective. A short training on these techniques allows them to have a significant contribution.

The project has developed an adapted and diversified technical package with direct repercussions on the livelihoods of poor and vulnerable populations. The measures to promote semi-intensive poultry farming, fruit growing, the development of community vegetable gardening, the promotion of beekeeping and the diversification of income-generating activities have significantly improved living conditions and income of the populations and reduces the lean period. The mobilization and conservation of water, the use of solar energy, the use of pastoral reserves in times of scarcity have as many adaptation measures introduced and that the populations have implemented and conserved.

### *IX.3. Social approach based on gender integration and social cohesion*

The concertation, awareness-raising and community capacity-building process undertaken by PARSACC has led to the strengthening of social cohesion and the promotion of cohesive representative structures (CGV and cooperatives). This attitude and spirit of sharing and common management of community goods and services is illustrated in the community and rotating management of promoted IGAs. This is how community funds are created to manage grazing rights in pastoral reserves, the sale of market gardening products, and the profits from income-generating activities. The management of its coffers obeys rules, decided jointly within the communities and of which a part of the generated profits can relate to community actions (case of the village Ben Moura in Assaba and Moyasser 2 in Trarza, for example).

### *IX.4. Technical aspects*

In connection with concrete adaptation measures, a technical package has been developed. The capitalization of these measures currently constitutes a technical benchmark for the MEDD and other initiatives in the country. A compilation of these measures and their documentation is highly recommended.

### *IX.5. Innovations*

The project gradually forged strong ties with the communities by helping them to take care of themselves. The support provided for the resolution of certain recurrent community problems (access to water, pastoral reserves) and the promotion of IGAs has favored the generation of local initiatives for the management and appropriation of these investments. The case of setting up village funds, managed by members of municipalities in a collective and transparent manner, is a very promising initiative and one to follow closely. Modalities and rules of specific management according to the villages are implemented and which indicate a spirit of assumption of responsibility and reinforced social cohesion. In addition, PARSACC is one of

the first projects in Mauritania to materialize concrete adaptation measures to the effects of the CC with a participatory self-management approach.

### *IX.6. Capacity development and partnership promotion*

Among these parameters, the concern and the strategic objective of safeguarding the achievements and capitalizing on the results of the project as a good practice of social, formative and economic treatment of the effects of climate change is paramount. The PASRSACC constitutes an approach and a convincing experience as much by its vision, its methodological approach as by its induced impacts and effects. It has brought great added value to the improvement of methodological tools for planning, monitoring, organizational development and operating methods which enrich and strengthen national capacity and expertise in the areas of resilience and mitigation of effects of climate change. The concern for capitalizing on achievements is therefore amply justified, in particular in view of the new strategic and programmatic context of the country's development.

The training of project staff, partners involved and communities in the participatory diagnosis of the vulnerability of ecosystems to the effects of CC and the identification of concerted action plans affected more than 11,000 households and 303 managers and technicians at different levels, including representatives of the NGOs involved. Probably, awareness and training of local populations remains insufficient given the number of villages targeted.

### *IX.7. Scaling*

One of the lessons to be learned when implementing climate change adaptation measures that would be useful for the design and implementation of future projects / programs aimed at building resilience to climate change is intersectoral participation in the development of local adaptation action plans.

Recognizing that climate change is a cross-cutting issue, the key success factors for developing and implementing adaptation planning are linked to the close collaboration and participation of all sectoral institutions at the regional level.

PARSACC intervened in a very large area covering 8 Wilayas and 75 municipalities, which partially limited the impacts. Future projects / programs should be designed in more restricted areas in search of convergence and integration with other partners. The integration of several activities in the same village will help build real resilience to climate change. Also, in terms of time, future projects / programs aimed at building resilience to climate change should be spread over more than four years to maximize efficiency.

We also retain the reproduction and transposition at a larger scale of a large number of project interventions by the beneficiaries themselves in many project villages (traditional poultry farming, high plant production, construction structures for soil conservation and water...).

The PARSACC project is today considered to be the first climate change project initiated by the MEDD and many other environmental and climate change projects have taken it as a model and were inspired by its methodological, planning and implementation approaches.

## X. PROJECT CONTRIBUTION TO ADAPTATION FUND OBJECTIVES

Table 3 shows the results of the comparison of indicators for the objectives, results and effects of the Adaptation Fund with the results of PARSACC. We note that most of the indicators show an alignment and a positive contribution of the project to the objectives of the AF. This confirms that the achievements of PARSACC have contributed to improving the resilience of target communities to the negative effects of climate change and vulnerability.

The activities implemented by PARSACC had a particular impact on the expected results 3 and 5 and 6 of the logical framework of the AF. Communities have increased their awareness and knowledge of climate change and its effects on food security, as well as the adaptation strategies that will need to be adopted to deal with these harmful effects, which greatly contribute to outcome 3 of the AF.

On the other hand, the PARSACC project focused on a technical package prepared and implemented including concrete adaptation options aimed at combating desertification, soil erosion and land degradation, preserving resources natural and improving ecosystem services, largely contributing to AF result 5.

Finally, the implementation of adaptation measures aimed at reducing food insecurity through the diversification of livelihoods across a wide range of income-generating activities has made it possible to have a positive impact on expected result 6 of the AF.

*Table 3. Comparison of indicators for the objectives, results and effects of the Adaptation Fund with the results of PARSACC.*

Result/Effect AF	AF Indicator	PARSACC Indicateur
<p><b>Result 3.</b> Strengthening awareness and ownership of adaptation and reduction of climate risks at local level</p>	<p><b>3.1</b>Percentage of target population aware of the expected negative impacts of climate change and appropriate responses</p>	<p>More than 17,820 people (13,320 women and 4,500 men) have been made aware of the challenges of climate change on food security and adaptation and risk reduction strategies, representing approximately 10% of the target population.</p> <p>A draft of a Community Early Warning System aimed at helping communities to adapt better and reduce the risk of disasters.</p> <p>Thousands of people, including outside the project intervention areas, are made aware of the challenges of climate change on food security and adaptation strategies, through weekly broadcasts by local radio stations and rural radio, prepared on the basis of PARSACC's good adaptation practices.</p>

<b>Outcome 3:</b> Targeted population groups participating in adaptation and awareness-raising activities on risk reduction	<b>3.1.1</b> Number and type of risk reduction actions or strategies introduced at local level	87 villages have prepared their climate change adaptation action plans with the support of DREDDs and regional technical services, including civil society with adaptation strategies designed around the protection of natural resources and the diversification of livelihoods of vulnerable populations taking gender into account.
<b>Result 5.</b> Increased resilience of the ecosystem to climate change and to stress due to climatic variations	<b>5.</b> Ecosystem services and natural resources maintained or improved with climate change and stress due to climatic variations	85 PAACCs prepared and implemented included concrete adaptation options aimed at combating desertification, soil erosion and land degradation, preserving natural resources and improving ecosystem services.
<b>Outcome 5.</b> Vulnerable physical, natural and social resources enhanced in response to the impacts of climate change, including variability	<b>5.1.</b> Number and type of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type of asset)	More than 2,415 ha (955 ha of fixed dunes, 460 ha of planted forests, 1,000 ha of protected and improved pastoral reserves) with planting densities of 400 plants / ha contributed to increasing the plant cover in the territories of the targeted villages. more than 10% compared to the baseline situation (density: 67 plant / ha) allowing the reconstitution of the plant cover and the reduction of wind erosion which leads to the loss of the soil and its nutrients.
<b>Outcome 6.</b> Diversified and improved food and income sources for vulnerable populations living in targeted areas	<b>6.1.</b> Percentage of households and communities with (increased) access to a more secure resource base  <b>6.2.</b> Percentage of target population with climate resilient and sustainable livelihoods	

## XI. FINAL EVALUATION CONCLUSIONS

The conclusions of the final PARSACC evaluation are linked to the effective achievement of the results stated in the project design. It also includes conclusions on the process, the quality of the M&E system, the future sustainability of outputs, and alignment with the objectives of the Adaptation Fund and national strategies.

This evaluation came to the general conclusion that PARSACC has achieved a satisfactory result in terms of achieving the goals and objectives of the logical framework in which it was designed.

The results show that awareness of the effects of climate change on food security has not only improved among beneficiaries, communities and authorities, but also that an effective contribution has been made to reduce food insecurity and improve resilience to the effects of climate change in the communities targeted by the project.

It should also be noted, as a general conclusion that PARSACC, because of its innovative design and scope, can be considered as a pilot operation serving as a model which, in addition to its achievements, has brought important lessons for the country.

Finally, it is confirmed that the achievements of PARSACC are consistent with the objectives of the Adaptation Fund.

### *XI.1. Recommendations of the final evaluation mission for a possible consolidation project*

A possible consolidation phase of PARSACC, must be articulated around the following orientations:

- i. Spatial concentration and refocusing of the number of target regions and villages with a view to optimizing and rationalizing resources, seeking maximum impact and induced effects, reducing management costs and ease of monitoring effective. It is essential to be realistic about spatial targeting and to focus on a limited number of regions and villages to avoid the loss of resources and the fragmentation of activities. In this sense, priority must be given to efficient or semi-perforating villages whose experience has demonstrated the social and economic viability of the project. Clearly, it is a question of choosing success stories and convincing lessons to capitalize, reinforce and scale up.
- ii. The future phase must be more coherent (thematic convergence) and the effective translation of adaptation plans at the level of the territories of the target communities. This has the advantage of offering a package of activities that support and complement each other, likely to have more impact and results. In addition, this approach makes it possible to limit dusting and the choice of atomized activities without real effects. It should be emphasized that a package of integrated activities, responding to a significant part of local needs, is more likely to motivate people and promote their engagement rather than isolated action.
- iii. Improving existing community arrangements is perhaps the most appropriate, feasible and appropriate option. In most sites, the management committees are functional, representative and consensual. They manage infrastructure and IGAs. This presupposes the conduct of participatory institutional diagnoses of the committees. Each NGO must carry out a rapid, participatory institutional diagnosis of the management committees to identify weaknesses,

gaps and needs for rehabilitation and organizational development. Based on this diagnosis, an improvement action plan should be designed and implemented.

iv. The adoption of an implementation strategy and operating procedures, based on the development of partnerships, the inclusion and empowerment of actors according to their missions and their comparative advantages. Five main departments can play essential roles and contribute to the project. These are mainly MDR, MASEF, ME, CSA, Agence “ Tadhoun ”. These institutions must be involved, and their contribution valued within the framework of a multi-actor approach which brings added value for sustainability, the development of synergies and complementarities and the exploitation of the potential of the institutions according to their comparative advantages. and their missions. It is crucial to start a dialogue and coordination process with the sectoral ministries now to prepare them for succession and optimize their roles in sustainability. This process must be centered especially at the regional level to ensure the adhesion and institutional support of the regional services which have the competences and the statutory missions in the fields of agriculture, breeding and hydraulics. Sustainability cannot be achieved without their commitment and contributions in technical support, coaching and monitoring. Sustainable responses to climate change require the mobilization of all available knowledge. Thus, the adoption of a “multi-actor” approach involving several groups of actors, is a necessary approach for the consolidation of local strategies of effective, efficient and sustainable adaptation to climate change, which constitute a phenomenon multidimensional.

In this perspective, it is necessary to encourage exchanges and the sharing of experiences in order, on the one hand, to improve technical solutions and on the other hand to strengthen knowledge.

v. The anchoring of the second phase of the project in municipal development and the strengthening of the integration of project interventions in municipal planning, in particular municipal development plans and in regional planning (the regional SCAPPs). The process of consolidating regionalization and the establishment of regional councils offer opportunities for better consideration and integration of PARSACC actions in regional development instruments, particularly in the areas of scaling up, mobilization additional support and resources for safeguarding and extending the interventions implemented by the project. In addition, and for the sake of sustainability, it is fundamental to involve the municipalities and make them contribute both in the field of management and institutional organization as in that of programming and monitoring. Thus, the municipalities must be an observer member in the proposed arrangements. It is necessary to promote the positioning or the interest that municipalities can have in the continuity of activities related to the achievement of project objectives. Achievement of this objective contributes to the achievement of municipal and regional development objectives, but municipal and regional authorities must be convinced of this to guarantee their adhesion.

vi. Documenting PARSACC's experience and best practices as an integrated approach, for example the experience between PARSACC and Radio Mauritania in raising awareness and disseminating best practices on a large scale. In order to capitalize on, scale up, disseminate and develop strategic partnerships for the next generation, the documentation and dissemination of best practices and convincing experiences of the project are important strategic issues from a research perspective. sustainability. It is a question of reinforcing and capitalizing the acquired knowledge with a view to sharing on a larger scale by highlighting (i) the impacts (ii) inclusion and equity in the conduct of projects, taking into account vulnerable groups. , (iii) responsibility

and "accountability": each stakeholder has the responsibility to conduct the activities for which they are committed and the duty to report not only to other actors but also and above all to their own members .

vii. Capacity building of management committees. Investing in capacity building is one of the conditions for sustainability to enable communities to ensure the continuity of activities and their sustainability either through community groups or by key people. Achieving the empowerment goal requires ownership of the exit process, appropriate training and capacity building.

viii. The development and development of a technical repository for action to adapt to the effects of climate change with the identification of a training manual to be made available to managers and civil society.

## **XII. COMMUNICATION AND KNOWLEDGE SHARING**

From the start, the project created a website to document the processes, training, studies, monitoring reports on the implementation of the project. He has also developed a wide range of communication materials, which include lessons learned from project experience, good practices, audiovisual products that summarize the know-how of the implementation. Later, from 2018, the project called on a student intern who developed a communication strategy based on the dissemination of knowledge and good practices via social networks which greatly helped in promoting the visibility of the project. Also, through the partnership established between the project and Radio Mauritania, and following the strengthening of the capacities of journalists and local radios deployed in the 8 intervention Wilayas of the project, we succeeded in setting up a program schedule radios validated at the level of the various local radios and which broadcast programs around the challenges of climate change on food security and adaptation strategies, designed on the basis of the good practices of the project and the testimonies of the beneficiaries. These programs are broadcast on a weekly basis in the various local languages and reach thousands of people living even outside the project intervention areas. This has had very strong impacts in terms of raising awareness about the challenges of climate change and its implications for the various natural and human systems. Also, the end of the project was marked by the organization of an open day to inform the partners on the results of the project through a set of means of communication (Presentations, Reports, Brochures, Posters, open discussions, etc..).

This day allowed to:

- Discover the good adaptation practices capitalized on by the project and documented with a view to their application and scaling up in the context of future projects,
- Show the effects and positive changes brought by the different project activities on the beneficiaries,
- Disseminate testimonials from project beneficiaries in relation to project interventions for their benefit;
- Broadcast the progress of the JPO as well as interviews with the managers and partners of the project through National TV, Radio Mauritania as well as social networks.



### **XIII. EXPENDITURES**

Cumulative expenditures as included in the PPRs are reported in table 1 below. The final consolidated report from WFP accounting system highlighted two errors that need to be corrected:

1. A total amount of USD 19,215 was not reported in PPR3. The detailed allocation between outputs is reported below, the correct amounts for PPR3 have been reflected in the cumulative expenditures table.

<b>Output</b>	<b>Expenses not reported</b>
Output 2.1	10 441
Output 2.3	4 081
Output 3.1	1 613
Output 3.4	3 080
<b>Total</b>	<b>19 215</b>

2. In all PPRs, the WFP Indirect Support Cost (4%) -which is normally covered by the MIE fee - was included in the reported expenditures per output. This means that the actual expenditure for MIE fee is USD 270,625 (amount reported in the PPR for MIE fee) + USD 300,139 (4% of all expenditures) = USD 570,764



Table 1. Cumulative expenditures from PPRs

Ref. Output	Proposal	PPR1	PPR2	PPR3	PPR4	PPR5	Total	Difference (negative numbers = overexpendit ure)	percentag e total budget	Comments
1.1	990,842	259,268	55,558	121,633	227,356	376,945	1,040,760	- 49,919	-1%	
1.2	160,483	51,042	12,402	31,009	8,890	18,686	122,029	38,454	0%	
1.3	32,000	7,493	-	3,344	21,162	-	31,999	1	0%	
1.4	33,590	11,793	-	2,676	19,121	-	33,590	0	0%	
1.5	38,000	13,430	-	4,013	20,556	-	37,999	1	0%	
1.6	274,458	-	-	-	73,514	97,123	170,637	103,821	1%	
1.7	150,000	-	19,838	29,036	29,193	36,101	114,168	35,832	0%	
2.1	1,020,872	360,663	100,467	162,850	419,637	74,116	1,117,733	- 96,861	-1%	
2.2	455,415	134,301	136,339	139,775	39,682	7,886	457,983	- 2,568	0%	
2.3	371,113	-	59,954	83,535	118,842	52,076	314,407	56,706	1%	
2.4	674,700	-	8,687	123,151	514,407	55,607	701,852	- 27,152	0%	
3.1	410,300	-	28,828	104,466	118,257	159,476	411,027	- 727	0%	
3.2	298,632	-	35,166	59,174	90,774	-	185,114	113,518	1%	
3.3	623,789	-	52,402	114,784	68,389	590,163	825,738	- 201,949	-3%	
3.4	363,278	-	139,048	106,310	6,088	123,681	375,127	- 11,849	0%	
3.5	162,727	-	76,780	11,450	-	56,386	144,616	18,111	0%	
3.6	-	-	-	-	-	-	-	-	-	
3.7	296,440	-	-	-	39,602	310,014	349,616	- 53,176	-1%	
3.8	184,587	-	-	-	52,198	116,614	168,812	15,775	0%	
PMC	684,335	148,345	86,050	141,904	78,766	230,549	685,614	- 1,279	0%	
MIE fee	578,044	177,362	45,388	31,656	3,634	12,585	270,625	307,419	4%	WFP Indirect Support Cost (USD 300,139) included in the expenditures reported for each output. Actual total expenditure for MIE fee: USD 570,764
<b>TOTAL</b>	<b>7,803,605</b>	<b>1,163,699</b>	<b>856,907</b>	<b>1,270,766</b>	<b>1,950,068</b>	<b>2,318,008</b>	<b>7,559,447</b>	<b>244,158</b>		

	Amount in USD
Consolidated PPR	7,559,447
WFP System	7,559,447
Variance	0

## **XIV. BIBLIOGRAPHY**

- Community adaptation planning approach to CC
- PARSACC database
- Review of project achievements
- Summary map of project achievements
- Project document
- Sheet - Access to water
- Sheet - Income Generating Activities
- Sheet - Beekeeping
- Sheet - Fruit arboriculture
- Sheet - Poultry farming
- Sheet - Water and soil conservation
- Sheet - Fixing sand dunes
- Sheet - Improved stoves
- Sheet - Market gardening
- Sheet - Pastoral reserves
- Training Manual for Veterinary Auxiliaries
- Report on the establishment of a community early warning system
- Methodological note for prioritizing project intervention areas
- Annual project performance report N ° 1
- Annual performance report of project N ° 2
- Annual project performance report N ° 3
- Annual project performance report N ° 4
- Annual project performance report N ° 5
- Mid-term evaluation report
- ACC training report - Kaédi March 9-12, 2015
- ACC Training Report - Kiffa April 6-9
- ACC training report at central level - Nouakchott July 7-9, 2015
- Report of the training of Veterinary Auxiliaries
- NGO training report, Kaédi and Kiffa (June 8-12, 2015)
- Initial workshop report
- Report of the CES / DRS work evaluation study
- Report on the technical and financial study of the pilot program to promote poultry farming
- Report of the technical-financial study of the pilot program for the promotion of beekeeping
- Report of the technical and financial study of the pilot program for the promotion of fruit trees
- Quarterly Project reports (14)
- Management and operational rules of pastoral reserves, village reforestation and sand dune fixation

## XV. APPENDICES

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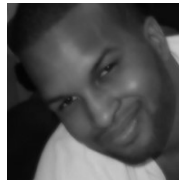
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### APPENDIX 3: Implementing partners

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Trarza	Lot 2	APGDE	Moustapha Mohamed	46412155	<a href="mailto:moustafa.med1@gmail.com">moustafa.med1@gmail.com</a>
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*APPENDIX 4: List of the intervention villages of the project*

N°	Wilaya	Moughataa	Commune	Village
1	Assaba	Kiffa	Elmelgue	Ain Ehl Hénini
2	Assaba	Boumdeid	Hsey tine	B'roude
3	Assaba	Kiffa	Kouroudjel	Ghoueisbou
4	Assaba	Guérou	Kamour	Glaguima
5	Assaba	Kiffa	Elmelgue	Guiguilh
6	Assaba	Kankossa	Blajmil	Kewalla
7	Assaba	Boumdeid	Leftah	Legdeim
8	Assaba	Boumdeid	Hsey tine	Lekhnegh
9	Assaba	Kiffa	Eghowratt	Rachid
10	Assaba	Guérou	Kamour	Taghada Iriji
11	Assaba	Boumdeid	Boumdeid	Ziré
12	Brakna	Maghtaalahjar	Dionaba	Achweiev
13	Brakna	Boghé	Dar El Barka	Cham
14	Brakna	Maghtaalahjar	Dionaba	Dionaba
15	Brakna	Bababe	HairéMbare	Dounguel Reo
16	Brakna	Bababe	Elvarea	Essaada
17	Brakna	Aleg	Cheggar	Kremi Rag
18	Brakna	Mbagne	DebayeHejaj	Ouled Yaré
19	Brakna	Maghtaalahjar	Maghtaalahjar	Tichoutine
20	Gorgol	Mounguel	Azgueilem	Azgueilem
21	Gorgol	Maghama	Maghama	Dar El Beidha
22	Gorgol	Kaédi	TifoundéCivé	Dimechgha
23	Gorgol	M'bout	Djadjibine Gandega	Djadjibine
24	Gorgol	Kaédi	Djéol	Ganki Djimodji
25	Gorgol	Kaédi	TifoundéCivé	Haddad
26	Gorgol	Mounguel	Bathamoït	Jatel
27	Gorgol	Mounguel	Azgueilem	Louguère
28	Gorgol	Mounguel	Bathamoït	Toueijile
29	Guidimakha	Selibaby	Ajar	Aguweinitt
30	Guidimakha	Ould yengé	Dafort	Baidiam
31	Guidimakha	Ould yengé	Dafort	Bouguerba
32	Guidimakha	Ould yengé	Bouilly	Bouilly
33	Guidimakha	Ould yengé	Dafort	Dafort
34	Guidimakha	Selibaby	Ghabou	Guemou
35	Guidimakha	Ould yengé	Leweinatt	Leweinatt
36	Guidimakha	Ould yengé	Dafort	Mbaidia Sagha
37	Guidimakha	Selibaby	Tachott	N'yeliba
38	Guidimakha	Ould yengé	Bouanze	Ndéo
39	Guidimakha	Selibaby	Ajar	Techtaya
40	Guidimakha	Ould yengé	Tektake	Tektake
41	Hodh El Chergui	Oualata	Oualata	Archane
42	Hodh El Chergui	Nema	Nema	Bir Ehel Sidi beye

43	Hodh El Chergui	Amourje	Adel Begrou	Civane
44	Hodh El Chergui	Nema	Achemime	El Ajne
45	Hodh El Chergui	Djiguini	HassiM'hadi	Hassi El Ghoudev
46	Hodh El Chergui	N'Beiket Lahwach	N'Beiket Lahwach	Libtanine
47	Hodh El Chergui	Oualata	Oualata	Mrayhim
48	Hodh El Chergui	N'Beiket Lahwach	N'Beiket Lahwach	N'Beiket Lahwach
49	Hodh El Chergui	Nema	Noual	Noual
50	Hodh El Chergui	Timbedra	HassiM'hadi	TalhaitNsour
51	Hodh El Chergui	Timbedra	Twil	Twil
52	Hodh El Chergui	Nema	Nema	Wad Nema Ouest
53	Hodh El Chergui	Djiguini	HassiM'hadi	Zeghnoun
54	Hodh El Gharbi	Tintane	Agharghar	Agharghar
55	Hodh El Gharbi	Tamchakett	Sava	Beissive
56	Hodh El Gharbi	Tintane	Hassi Abdallah	Benmoura
57	Hodh El Gharbi	Tintane	Hassi Abdallah	Bir Messoud
58	Hodh El Gharbi	Kobeni	Modibougou	Boumaiza
59	Hodh El Gharbi	Kobeni	HassiEhel Ahmed Bech	Chara
60	Hodh El Gharbi	Aioun	Oumlahyadh	Chlim
61	Hodh El Gharbi	Aioun	Bounemane	Hassi Hamadi
62	Hodh El Gharbi	Aioun	Tenhemade	Hassi Lemen
63	Hodh El Gharbi	Tintane	Ain Varba	Lenoir
64	Hodh El Gharbi	Tintane	Hassi Abdallah	Maham Jeireb
65	Hodh El Gharbi	Tamchakett	Tamchakett	Tamchakett
66	Tagant	Tidjikja	Tidjikja	Achouali
67	Tagant	Moudjeria	Soudoud	Achram
68	Tagant	Tidjikja	Tidjikja	Aréré
69	Tagant	Tidjikja	Tidjikja	Borelé
70	Tagant	Tidjikja	Tidjikja	Howeitatt
71	Tagant	Moudjeria	TamourtEnaaj	Legdeim
72	Tagant	Moudjeria	TamourtEnaaj	Nbeika
73	Tagant	Tidjikja	Tidjikja	Nimlane
74	Tagant	Moudjeria	Moudjeria	Selebou
75	Trarza	R'Kiz	Bareina	Bareina
76	Trarza	Boutilimit	Nebaghya	Boulenoir
77	Trarza	Mederdra	Mederdra	Charatt
78	Trarza	Mederdra	Mederdra	Hsey Rahahle
79	Trarza	R'Kiz	Boutalhaya	Kermody
80	Trarza	Mederdra	Mederdra	Moyasser 2
81	Trarza	R'kiz	Tekane	Nasra 2
82	Trarza	Mederdra	Tiguent	Nimjatt
83	Trarza	R'kiz	Tekane	Oum El Koura
84	Trarza	R'Kiz	Bareina	Rebine
85	Trarza	Mederdra	Taguilalet	Tewvigh