Project of Adaptation to Climate Change – Oases Areas PACCZO
SUMMARY

• Objectives
• PROJECT SUMMARY
• Operational planning
• Project components
• Achievements
The objective of the project is to help reduce the vulnerability of people and oasis agro-ecosystems in Morocco to climate change by increasing the adaptive capacity of local actors, increasing the resilience of the target ecosystem and by disseminating knowledge management.
## PROJECT SUMMARY

- **5 years**
  - Start: 2016

- **$ 9,970,00**

- **Localization**
  - Morocco

- **Implementation**

<table>
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<tr>
<th>Milestones</th>
<th>Expected Dates</th>
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<tr>
<td>Start of Project Implementation</td>
<td>2016</td>
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<tr>
<td>Mid-term Review</td>
<td>2018</td>
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<tr>
<td>Project/Programme Closing</td>
<td>2020</td>
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<tr>
<td>Terminal Evaluation</td>
<td>Dec 2020</td>
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</table>
**PROJECT SUMMARY**

5 years  
Start: 2016

$9,970,000

Localization: Morocco

Implementation

**Source:** Adaptation to Climate Change Fund.

**Type of Funding:** Donated.

- Total Project cost: USD 8,315,990
- Project execution cost: USD 872,950
- Implementing Fee: USD 781,060
**PROJECT SUMMARY**

- **5 years**
  - Start: 2016
- **$ 9,970,00**
- **Localization**
  - Morocco
- **Implementation**
PROJECT SUMMARY

5 years
Start : 2016

$ 9,970,00

Localization
Morocco

Implementation

- **National Implementing Entity**: Agency for Agricultural Development (Agence pour le Développement Agricole – ADA)

- **Executing Entity**: National Agency of Development of Oases and Argan Tree Zones (ANDZOA).
The project is built on five main components, namely:

1. Improving adaptive capacities of the water sector.
2. Diversifying income sources and improving the living conditions of populations vulnerable to climate change in the targeted areas.
3. Improving the ecosystems’ resilience in response to climate change and variability.
4. Improving stakeholder awareness though the management and exchange of knowledge.
5. Strengthening the capacities of participants in the design and implementation of adaptation measures.
ACHIEVEMENTS

Component 1: Improving adaptive capacities of the water sector
Component 1: Improving adaptive capacities of the water sector

<table>
<thead>
<tr>
<th>Construction of groundwater replenishment structures</th>
<th>Construction of Structures for perimeter protection</th>
<th>Feasibility studies for the exploitation of deep water resources</th>
<th>Rehabilitation of irrigation networks</th>
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<tr>
<td>21 Khetaras &amp; Undergrounds Dams</td>
<td>7 protective walls</td>
<td>3 Studies</td>
<td>Construction of 23 irrigation canals</td>
</tr>
<tr>
<td>4640 ml</td>
<td>1230 ml</td>
<td>✓ 2 Explorations</td>
<td>9520 ml</td>
</tr>
<tr>
<td></td>
<td></td>
<td>✓ 4 Piezometer</td>
<td></td>
</tr>
</tbody>
</table>
Achievements

Component 1: Improving adaptive capacities of the water sector

Construction of groundwater replenishment structures

21 Khetaras & Undergrounds Dams

4640 ml

How khettara works?
ACHIEVEMENTS

Component 1: Improving adaptive capacities of the water sector

Construction of groundwater replenishment structures

- 21 Khetaras & Undergrounds Dams
- 4640 ml
Component 1: Improving adaptive capacities of the water sector

Construction of groundwater replenishment structures

21 Khetaras & Undergrounds Dams

4640 ml

Cleaning works of a khettara
ACHIEVEMENTS

Component 1: Improving adaptive capacities of the water sector

Construction of groundwater replenishment structures

21 Khetaras & Undergrounds Dams

4640 ml

Rehabilitation works of a khettara
ACHIEVEMENTS

Component 1: Improving adaptive capacities of the water sector

Construction of groundwater replenishment structures

21 Khetaras & Undergrounds Dams

4640 ml

Implementing Entity Director on an « Khettara Access Shaft »
Achievements

Component 1: Improving adaptive capacities of the water sector

Construction of groundwater replenishment structures

21 Khetaras & Undergrounds Dams

4640 ml

Undergrounds Dams

Slowing water flow

Infiltration of water


**Component 1:** Improving adaptive capacities of the water sector

**Construction of Structures for perimeter protection**

- 7 protective walls
- 1230 ml

*Protection wall (protection structure) of a palm grove*
**Achievements**

**Component 1**: Improving adaptive capacities of the water sector

- **Construction of Structures for perimeter protection**
  - 7 protective walls
  - 1230 ml

*Perimeter protection structure*
Component 1: Improving adaptive capacities of the water sector

Feasibility studies for the exploitation of deep water resources

3 Studies
- 2 Explorations
- 4 Piezometers

Location: Ait Boudaden (N: 30° 52’ 12.47’’ - W: 5° 41’ 23.02’’)

Carry out an exploration/reconnaissance study through drilling for deepwater resources
ACHIEVEMENTS

**Component 1**: Improving adaptive capacities of the water sector

Feasibility studies for the exploitation of deep water resources

- **3 Studies**
  - ✓ 2 Explorations
  - ✓ 4 Piezometers

**Monitoring the groundwater level by the Piezometer**

- Data base
- Statistics
- Monitoring
**Component 1**: Improving adaptive capacities of the water sector

Feasibility studies for the exploitation of deep water resources

- **3 Studies**
  - ✓ 2 Explorations
  - ✓ 4 Piezometers

**ACHIEVEMENTS**

- Data base
- Statistics
- Monitoring

**Monitoring the groundwater level by the Piezometer**

Measurement and communication of piezometric levels
Achievements

Component 1: Improving adaptive capacities of the water sector

Feasibility studies for the exploitation of deep water resources

3 Studies

✓ 2 Explorations
✓ 4 Piezometers

Location: TZARINE (N: 30° 46’ 44.34” - W: 5° 34’ 5.34”)

Monitoring the groundwater level by the Piezometer
**Component 1:** Improving adaptive capacities of the water sector

**Feasibility studies for the exploitation of deep water resources**

- 3 Studies
  - ✓ 2 Explorations
  - ✓ 4 Piezometers

**Achievements**

**RECORDED DATA**

- Piezometric level
- Temperature
- Conductivity
- Density of water
- The total concentration of substances dissolved in water

*Monitoring the groundwater level by the Piezometer*
Achievements

Component 1: Improving adaptive capacities of the water sector

Rehabilitation of irrigation networks

Construction of 23 irrigation canals

9520 ml

Restore the vulnerable infrastructure allowing the improvement of water distribution efficiency
Achievements

Component 1: Improving adaptive capacities of the water sector

- Rehabilitation of irrigation networks
- Construction of 23 irrigation canals
- 9520 ml

Location: Tizra (N: 31; 31; 31.08 - W: 5; 0; 30.33)

Restore the vulnerable infrastructure allowing the improvement of water distribution efficiency
ACHIEVEMENTS

**Component 1**: Improving adaptive capacities of the water sector

**Component 2**: Diversifying income sources and improving the living conditions of populations vulnerable to climate change in the targeted areas.
**ACHIEVEMENTS**

**Component 2**: Diversifying income sources and improving the living conditions of populations vulnerable to climate change in the targeted areas.

- **Improve livelihoods of families due to the development of more resilient small scale agriculture**
  - 344 Farmers (objective 800)
  - Women: +20%

- **Develop non-agricultural economic activities & help increase resilience of the Oasis population**
  - 21 projects (Objective 20)
  - Women & young: +25%
Achievements

Component 2: Diversifying income sources and improving the living conditions of populations vulnerable to climate change in the targeted areas.

- Carry out studies on the experiences already undertaken in the zone or in similar zones abroad.
- Train new farmers on the conservation techniques and promote their circulation.
- Support producers in the certification process for their products.
- Promotion of oasis agricultural products.
- Carry out a study on endemic species and their uses.

Improve livelihoods of families due to the development of more resilient small scale agriculture

344 Farmers (objective 800)
Achievements

Component 2: Diversifying income sources and improving the living conditions of populations vulnerable to climate change in the targeted areas.

- Improve livelihoods of families due to the development of more resilient small scale agriculture

  **344 Farmers**  
  (objective 800)

- Development of small scale agriculture
**Achievements**

**Component 2:** Diversifying income sources and improving the living conditions of populations vulnerable to climate change in the targeted areas.

Improve livelihoods of families due to the development of more resilient small scale agriculture

344 Farmers  
**(objective 800)**

Development of small scale agriculture
ACHIEVEMENTS

Component 2: Diversifying income sources and improving the living conditions of populations vulnerable to climate change in the targeted areas.

- Improve livelihoods of families due to the development of more resilient small scale agriculture
  - 344 Farmers (objective 800)

Study on the use of Acacia Gum
**Component 2**: Diversifying income sources and improving the living conditions of populations vulnerable to climate change in the targeted areas.

- Develop non-agricultural economic activities & help increase resilience of the Oasis population
- 21 projects (Objective 20)
- Women & young: +65%

**Support small-scale local economic projects (2016 and 2017)**: USD 300 000,00
Component 2: Diversifying income sources and improving the living conditions of populations vulnerable to climate change in the targeted areas.

Develop non-agricultural economic activities & help increase resilience of the Oasis population

21 projects (Objective 20)

Women & young + 65%

Support small-scale local economic projects / Women’s Cooperative (more than 30 women)
Component 2: Diversifying income sources and improving the living conditions of populations vulnerable to climate change in the targeted areas.

Develop non-agricultural economic activities & help increase resilience of the Oasis population

- 21 projects (Objective 20)
- Women & young + 65%

Support small-scale local economic projects
Collective laundry (protection of the environment)
**Component 2:** Diversifying income sources and improving the living conditions of populations vulnerable to climate change in the targeted areas.

- **Develop non-agricultural economic activities** & help increase resilience of the Oasis population

  - 21 projects (Objective 20)

  - Women & young + 65%

**Support small-scale local economic projects**
Handicraft (Women project)
Achievements

Component 2: Diversifying income sources and improving the living conditions of populations vulnerable to climate change in the targeted areas.

Develop non-agricultural economic activities & help increase resilience of the Oasis population

21 projects (Objective 20)

Women & young + 25%

Support small-scale local economic projects
Handicraft (Women project)
Component 2: Diversifying income sources and improving the living conditions of populations vulnerable to climate change in the targeted areas.

- Diversifying economic activities
- Increasing resilience of the Oasis population

- 21 projects (Objective 20)
- Women & young + 65%

Support small-scale local economic projects
Solar Energy for pumping
ACHIEVEMENTS

**Component 1**: Improving adaptive capacities of the water sector

**Component 2**: Diversifying income sources and improving the living conditions of populations vulnerable to climate change in the targeted areas.

**Component 3**: Improving the ecosystems’ resilience in response to climate change and variability
**ACHIEVEMENTS**

**Component 3**: Improving the ecosystems’ resilience in response to climate change and variability

- **Fight against desertification**
  - 50 ha (objective 40 ha)
  - Achievement: +100%

- **Development of techniques for environmental cleanup**
  - 4 internships & study trips
  - Women & young + 50%
Achievements

Component 3: Improving the ecosystems’ resilience in response to climate change and variability

Fight against desertification

50 ha
(objective 40 ha)

Achievement: +100%
**Achievements**

**Component 3**: Improving the ecosystems’ resilience in response to climate change and variability

**Fight against desertification**

- **50 ha**  
  (objective 40 ha)

**Achievement**: +100%

*Fight against desertification*
Component 3: Improving the ecosystems’ resilience in response to climate change and variability

**Trainings and Internships**

- Pollution control and water treatment techniques.
- Phyto-purification techniques.
- Recycling techniques.
- Organization of guided visits to sewage treatment plants in Ouarzazate, Agadir, Tinjdad and Fez.
Component 3: Improving the ecosystems’ resilience in response to climate change and variability

Developement of techniques for environmental cleanup

- 4 internships & study trips
- Women & young + 50%

Trainings and Internships: For youth
Pollution control and water treatment techniques.
**Achievements**

**Component 3**: Improving the ecosystems’ resilience in response to climate change and variability

**Development of techniques for environmental cleanup**

- 4 internships & study trips
- Women & young + 50%

**Trainings and Internships**: For women

Recycling techniques.
Achievements

**Component 1:** Improving adaptive capacities of the water sector

**Component 2:** Diversifying income sources and improving the living conditions of populations vulnerable to climate change in the targeted areas.

**Component 3:** Improving the ecosystems’ resilience in response to climate change and variability

**Component 4:** Improving stakeholder awareness through the management and exchange of knowledge
### Achievements

**Component 4**: Improving stakeholder awareness though the management and exchange of knowledge

<table>
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<tr>
<th>Organize public debate on water and climate change</th>
<th>Support and develop local initiatives for communication</th>
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<tbody>
<tr>
<td><strong>Achievement</strong> : +100%</td>
<td><strong>More than 19 press releases</strong></td>
</tr>
<tr>
<td>6 regional thematic conferences (objective 6)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+ 5 Mass communication (objective 4)</td>
</tr>
</tbody>
</table>

**Organize public debate on water and climate change**

- 6 regional thematic conferences (objective 6)
- Achievement : +100%

**Support and develop local initiatives for communication**

- + 5 Mass communication (objective 4)
- More than 19 press releases
Component 4: Improving stakeholder awareness though the management and exchange of knowledge

6 Regional thematic conferences

- Setting up a Documentary Fund
- Elaboration of charter on water and Climate change in the oasis environment
- Organization of thematic conferences on water and climate change
- Development of a Communication Strategy and organization of Awareness Campaigns
- Climate Change Awareness Conferences
- Awareness conferences: Preservation and saving of water resources
**Component 4**: Improving stakeholder awareness through the management and exchange of knowledge

- **Support and develop local initiatives for communication**
  - + 5 Mass communication (objective 4)
  - More than 19 press releases

- **More than 19 press releases**
  - Tv / Radio
  - Newspapers
  - Internet
  - Conferences
**Achievements**

**Component 1**: Improving adaptive capacities of the water sector

**Component 2**: Diversifying income sources and improving the living conditions of populations vulnerable to climate change in the targeted areas.

**Component 3**: Improving the ecosystems’ resilience in response to climate change and variability

**Component 4**: Improving stakeholder awareness though the management and exchange of knowledge

**Component 5**: Strengthening the capacities of participants in the design and implementation of adaptation measures
**Component 5**: Strengthening the capacities of participants in the design and implementation of adaptation measures

- **Consolidate and develop adaptive capacities for climate change**
  - 6 Training workshop + 10 Study trips (objective 12)
  - Beneficiaries: 401
    - Women: +12 %

- **Strength coordinated management capacities for climate change projects**
  - 26 workshops (objective 24)
  - Beneficiaries: 1562
    - Women: +15 %
Component 5: Strengthening the capacities of participants in the design and implementation of adaptation measures

Consolidate and develop adaptive capacities for climate change

6 Training workshop & 10 Study trips (objective 12)

Beneficiaries: 401
Women: +12%

6 Training workshop & 10 Study trips

- Governance of water and sanitation services in the oasis
- Integrated water resources management
- Project Cycle Management
- Project financing
- Participatory approach applied to adaptation measures
- Mediation & Conflict Management
**Component 5**: Strengthening the capacities of participants in the design and implementation of adaptation measures

- **Consolidate and develop adaptive capacities for climate change**
  - 6 Training workshop & 10 Study trips
    - (objective 12)
  - Beneficiaries: 401
    - Women: +12%
**Component 5**: Strengthening the capacities of participants in the design and implementation of adaptation measures

**Strength coordinated management capacities for climate change projects**

- 26 workshops (objective 24)

**Beneficiaries**: 1562
- Women: +15%

**26 workshops**

- Training (for operators and beneficiaries) in the designing and financing projects (*772 people*)
- Training (for operators and beneficiaries) on the implementation and joint management of projects (*790 people*)