Chenopodium quinoa
10 years of its introduction to Rhamna Region
Challenges and opportunities toward a sustainable adoption.

Managing water scarcity in river basins: innovation and sustainable development

Manal Mhada
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Chenopodium quinoa
10 YEARS OF ITS INTRODUCTION TO RHAMNA REGION.

Value chain evaluation for better understanding and meaningful actions
A BIT OF HISTORY FOR A BETTER UNDERSTANDING

What?
When?
How?
Where?
WHAT?
WHEN?

- 1999 first introduction
- 2008 second introduction
HOW?
WHERE?

- Introduce alternative crops
- Khenifra, Rhamna, Abda….
WHY?

Let's see the big picture

- Water scarcity and geopolitical issues

Water risk: map and data via Guardian
WHY?
WHY?
RISKS AND CHALLENGES FACING SMALL FARMERS

- Climate change (Impact on agriculture, Foods, Security and Peace)
- Land degradation and persistent biotic and abiotic stresses
- Poor mechanisation
- Inadequate or weak environment policy
- Poor infrastructure
WHY?

Different region
Different time
Different partners

Same Vision and Drivers

Climate is changing… People too
SCALING UP QUINOA VALUE CHAIN TO IMPROVE FOOD AND NUTRITIONAL SECURITY IN THE RURAL/POOR COMMUNITIES OF MOROCCO

PARTNERS: UM6P – ICBA – IDRC
### 1 - Diagnostic

1.1. Socio economic survey
1.2. Determine gaps and weaknesses in the existing quinoa value chain
1.3. Identify opportunities for quinoa value chain development and actors
1.4. Identify upgrading strategies and develop a plan to address the identified gaps and weaknesses to enhance the existing value chain business model in Rhamna.

### 2 - Upgrade

2.1. Introduce high yielding cultivars and best practices for optimal productivity
2.2. Develop quinoa based products that fit within the Moroccan context
2.3. Upgrade production
2.4. Assess the demand for quinoa product and develop marketing and pricing strategy
2.7. Assess the impacts and performance of the upgraded business model and develop scaling up strategy.

### 3 - Upscale

3.1. Establish seed production system
3.2. Generate demand for quinoa products
3.3. Create a conducive policy environment for a national quinoa program

### 4 - Exchange

4.1. Establish linkages between value chain actors including governmental entities, farmers, women cooperatives and private (OCP, Start-up)
4.2. Develop and deliver training packages to all value chain actors (extension services, farmers, women cooperatives… etc)
4.3. Generate awareness concerning quinoa and its benefits through dissemination of project results
Trials at the Experimental farm of the UM6P

Field evaluation in farmers lands
Training

Field training
• Best practices of quinoa production
• Importance of crops diversification
• Nutritional value
Visits to the University and the Experimental farm
DIAGNOSTIC
SOCIO-ECONOMIC SURVEY
VALUE CHAIN EVALUATION
SOCIO-ECONOMIC SURVEY
AREA OF STUDY

Map of Morocco – Drought variation 2003/2017

Map of Rhamna Province
Surveys distribution on the province

The men's Survey

<table>
<thead>
<tr>
<th>Commune</th>
<th>Number of men</th>
</tr>
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<tbody>
<tr>
<td>Ait Hemmou</td>
<td>15</td>
</tr>
<tr>
<td>Ait Taleb</td>
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</tr>
<tr>
<td>Bouchane</td>
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<tr>
<td>Bourrous</td>
<td>23</td>
</tr>
<tr>
<td>Jââdate et Ras El Ain</td>
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</tr>
<tr>
<td>Lebrikiyine</td>
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</tr>
<tr>
<td>Lemharra</td>
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<tr>
<td>Oued Imloul</td>
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<tr>
<td>Ouled Amer Tizmarin</td>
<td>20</td>
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<tr>
<td>Ouled Hessoun</td>
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<tr>
<td>Sidi Abdellah</td>
<td>46</td>
</tr>
<tr>
<td>Skhour Rhamna</td>
<td>23</td>
</tr>
<tr>
<td>Total général</td>
<td>318</td>
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</table>

The women's Survey

<table>
<thead>
<tr>
<th>Commune</th>
<th>Effectif de femmes</th>
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<tbody>
<tr>
<td>Ait Hemmou</td>
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<tr>
<td>Bouchane</td>
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<td>Oued Imloul</td>
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<tr>
<td>Sidi Abdellah</td>
<td>19</td>
</tr>
<tr>
<td>Skhour Rhamna</td>
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<tr>
<td>Jââdates</td>
<td>2</td>
</tr>
<tr>
<td>Total général</td>
<td>181</td>
</tr>
</tbody>
</table>

= 499 cases / stories / experiences....
SOCIO-ECONOMIC SURVEY
DESCRIPTIVE ANALYSIS

Age ranges

Farms size distribution

Education level
Exploring farmers’ attitude toward diversification and adoption of new crops

- Farmers perceived problems - general

### Challenges

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Production technique** | Training on production techniques  
|                 | Less work forces                                                            |
|                 | Technical and local supervision and Follow-up                               |
|                 | Viable seeds                                                                |
| **Funding**    | Facilities to start the compagne                                            |
| **Profitability** | Yield higher than other crops                                               |
|                | Interesting price and revenue                                               |
| **Market**     | An existing market                                                          |
|                | Easy marketable product                                                     |
| **Uses**       | Fodder                                                                      |
|                | Auto consumption                                                            |
BIG PROBLEMS = HUGE OPPORTUNITIES
Drivers for adoption of quinoa

- Researchers perceived Solutions

<table>
<thead>
<tr>
<th>Solutions</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Production technique** | Training on production techniques  
                       Technical and local supervision and Follow-up  
                       Viable seeds  
                       Mechanization |
| **Funding**     | Facilities to start the compagne                                             |
| **Profitability** | Yield higher than other crops  
                       Interesting price and revenue |
| **Market**      | An existing market  
                       Develop easy marketable product  
                       Develop contract with B2B |
| **Uses**        | Multi uses - Fodder  
                       Auto consumption |
The ambition to cultivate quinoa

Number of farmers who know about quinoa

Number of farmers does not know about quinoa and their interest expression
Potentiel areas

Localization 1:
- Presence of production and processing association of quinoa.
- Existence of a well-organized local by INDH.

Localization 2:
- Region highly affected by cochineal = abundance of agricultural land.
- Existing cooperative.
- Women very involved in Income Generating Activities

Localization 3:
- Existence of a well-organized local by INDH.
- Women very involved in Income Generating Activities
- Abundance of agricultural land

Localization 4:
- Irrigated area.
- Possibility of using quinoa in an intercropping system with young olive plantations.
- Existence of a well-organized local by INDH.

Map of Rhamna Province
Value chain evaluation for a better understanding and meaningful actions

- **Problems identification**
- **Know how evaluation**
- **Discussion arround the suggested solution**
- **Ideation**

- **Screening of adapted species / varieties**
- **Technical itinerary**
- **Living lab as a platform to show results to scientific community and farmers.**

- **Inclusive business**
- **Launch business in a specific area**

- **Trainings in specific area**
- **Empower farmers, women and leaders**

- **R&D**
  - Business
  - Training
  - Survey (Socio-Economic)
  - Technical itinerary

**Value chain evaluation for a better understanding and meaningful actions**
SDGs: to get everyone on board to unite the vision and accelerate the process.

To bring other players to support not only small initiatives... but to accelerate a movement that we are co-creating around the World.
THANKS TO:

- Partners:
  UM6P
  IDRC
  ICBA
  La province de Rhamna
  Local Authority
  DPA, ONCA

- Students:
  Oumaima Rami
  Amira Fetouab
  Fatima Azaykou
  Youssef Bentata
  Mouhssine Sallami
Thank you

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