

THE BOUTMEZGUIDA EXPERIMENT: A RETROSPECTIVE ASSESSMENT

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SNAPSHOT OF PROJECT

2006

Launch of an observation period for evaluation of water potential in Boutmezguida

2011

Validation of the results

June 2011 to June 2014

Launch of the pilot phase, with our German partners, Wasserstiftung, testing the new generation of fog-catching nets

November 2013

Construction of all piping and connection of all pilot villagers

From 2014 through 2015

Continued construction, trials, monitoring and fund-raising



March 21, 2015

Official inauguration of the project (large media coverage) and the beginning of access to drinking water from fog Starting this date, fog-water flows into the households

CONSTRAINTS

Technical, environmental and social constraints



▶ TORN NETS

The frailty of the structure, the necessity of fixing the nets following gales of wind

▶ INTERRUPTION OF WATER

Water shortage linked to the lack of precipitation and recurrent droughts

▶ Social context

Fog is not considered an asset, but a nuisance

Village	Number of households	Number of people	Number of women
Timtda	15	75	32
Id Achour	16	79	35
Id Soussan	38	143	76
Tamerout	6	31	19
Agni Ihyia	14	68	32
Total	89	396	194

CONSTRAINTS

Technical, environmental and social constraints



▶ TORN NETS

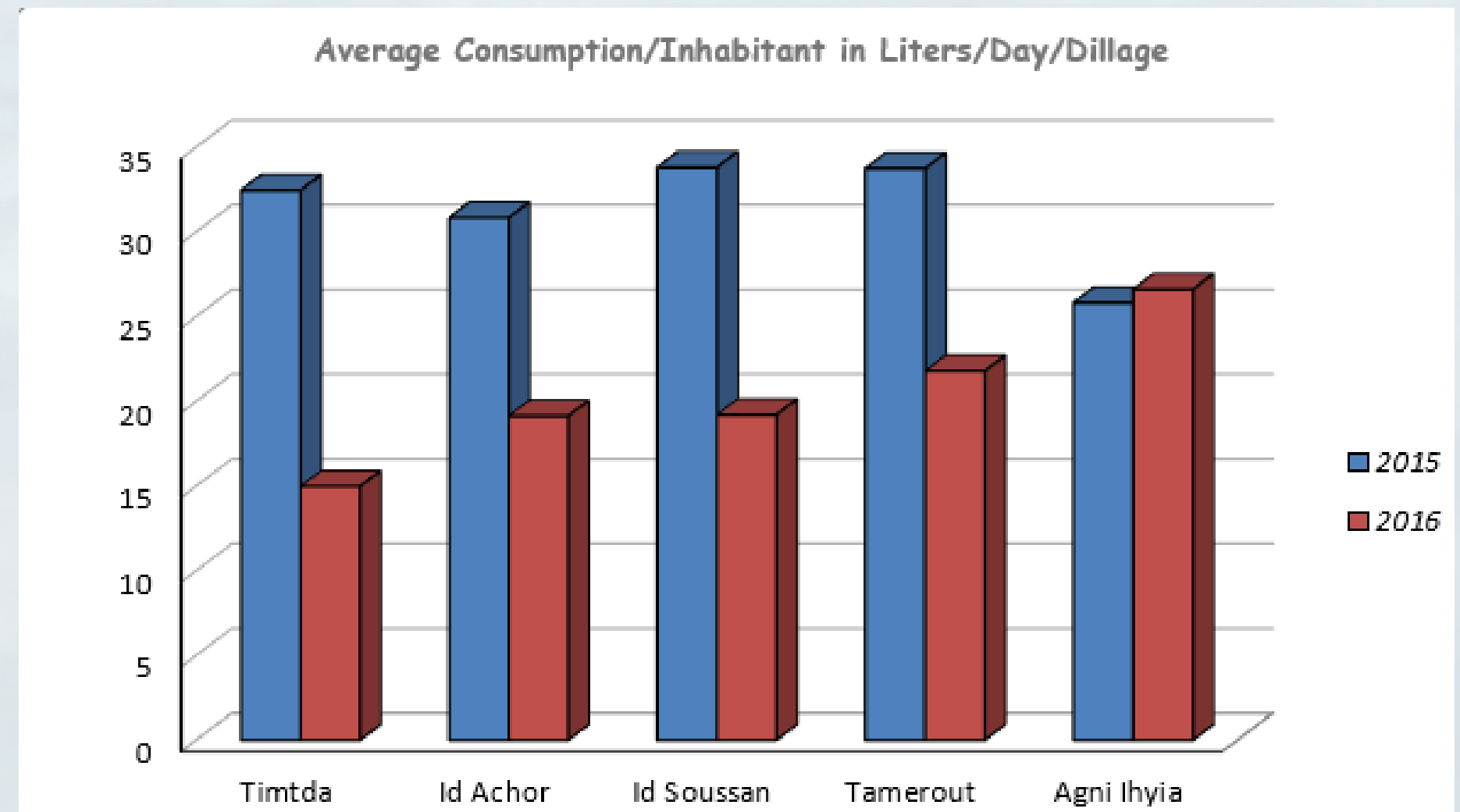
The frailty of the structure, the necessity of fixing the nets following gales of wind

▶ INTERRUPTION OF WATER

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LAUNCH OF COOPERATION

- Funded by the Munich Re Foundation, The Technical University of Munich & Wasserstiftung launched in November 2013 - Scientific research & validation Dr. Vicky Marzol, U de la Laguna, Tenerife, Canary Island
- Completion of building and inauguration in November 2018 - Funded by Federal Ministry for Economic Cooperation & Development (BMZ)



MAJOR HURDLES ENCOUNTERED

- Excessive bureaucracy and customs for import of material
- The limited control on the machinery
- The demanding physical labor
- Extremely harsh climate conditions

LAUNCHING OF THE CLOUDFISHERS



October 2015

Finalizing of the pilot phase of the new generation of nets, dubbed CloudFisher by the Wasserstiftung

December 2015

Study and validation of results, launch fundraising

May 2016

BMZ (German Ministry for Economic Cooperation and Development) and the MunichRe Foundation grant funds to our German partners, the Wasserstiftung to expand the CloudFishers in the Boutmezguida site with 1700 m2

September 2016

Launching of the CloudFishers and the retiring of the Fog-Collectors

January 2017

Start of construction of CloudFishers, in all 16 villages to be supplied with drinking water - Ongoing engagement with the community, men, women and children and support from the County Tnine Amellou

November 2018

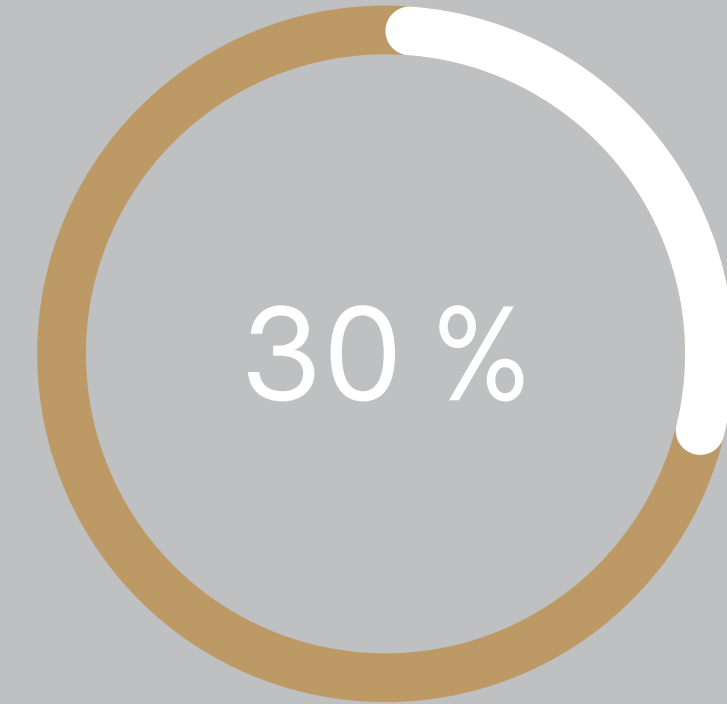
2nd official inauguration of CloudFishers with the participation of all of our German partners, the community, and local officials

Villages	Number of households	Connected homes	Connected schools	Connecte d mosque	Medarssa
Timtda	16	11		1	
Id Achour	16	14	1	1	
Aguejgal	16	4			
Agni Zekri	16	4	1		
Id Sator	16	9		1	
Agadir Id Lghachi	16	6			
Id Soussan	16	12			1
Tamerout	16	7			
Agni Ihyia	16	12			
Taraout	11	9			
Akerkour	8	5			
Taouinkhte	18	16		1	
Id Allal1	5	4		1	
Id Ben Saleh	6	6			
Id Ihyia	4	4			
Id Allal 2	6	3			
Total	202	126	2	5	1

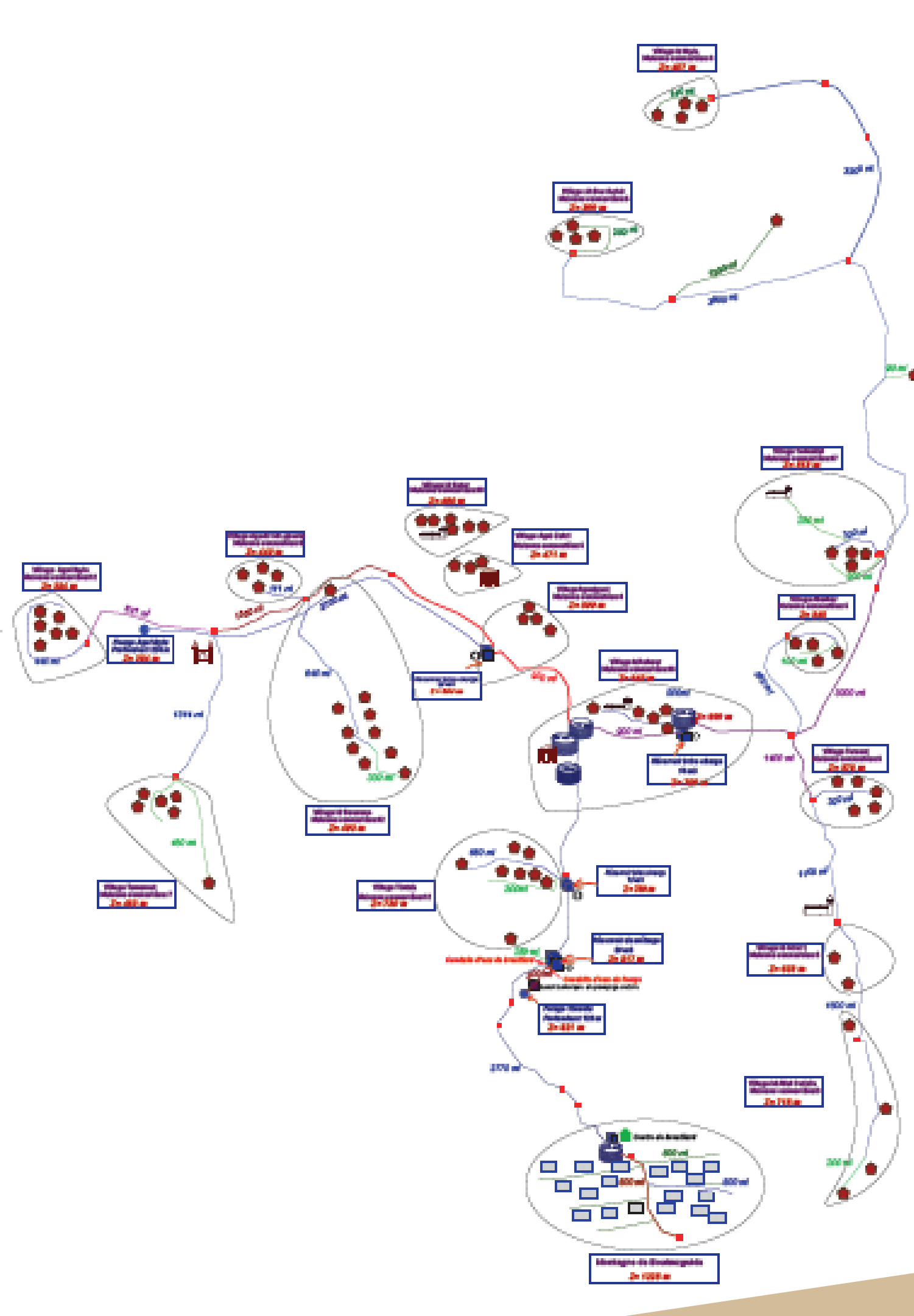
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2ND INAUGURATION

- ▶ From 2015 through 2018 we have built with Mr Trautwein, and thanks to the funds (BMZ) the CloudFishers on top of Boutmezguiza. All scientific validation with Dr. Vicky Marzol



- ▶ Through the years we were able to service 30% of Tnin Amellou Community



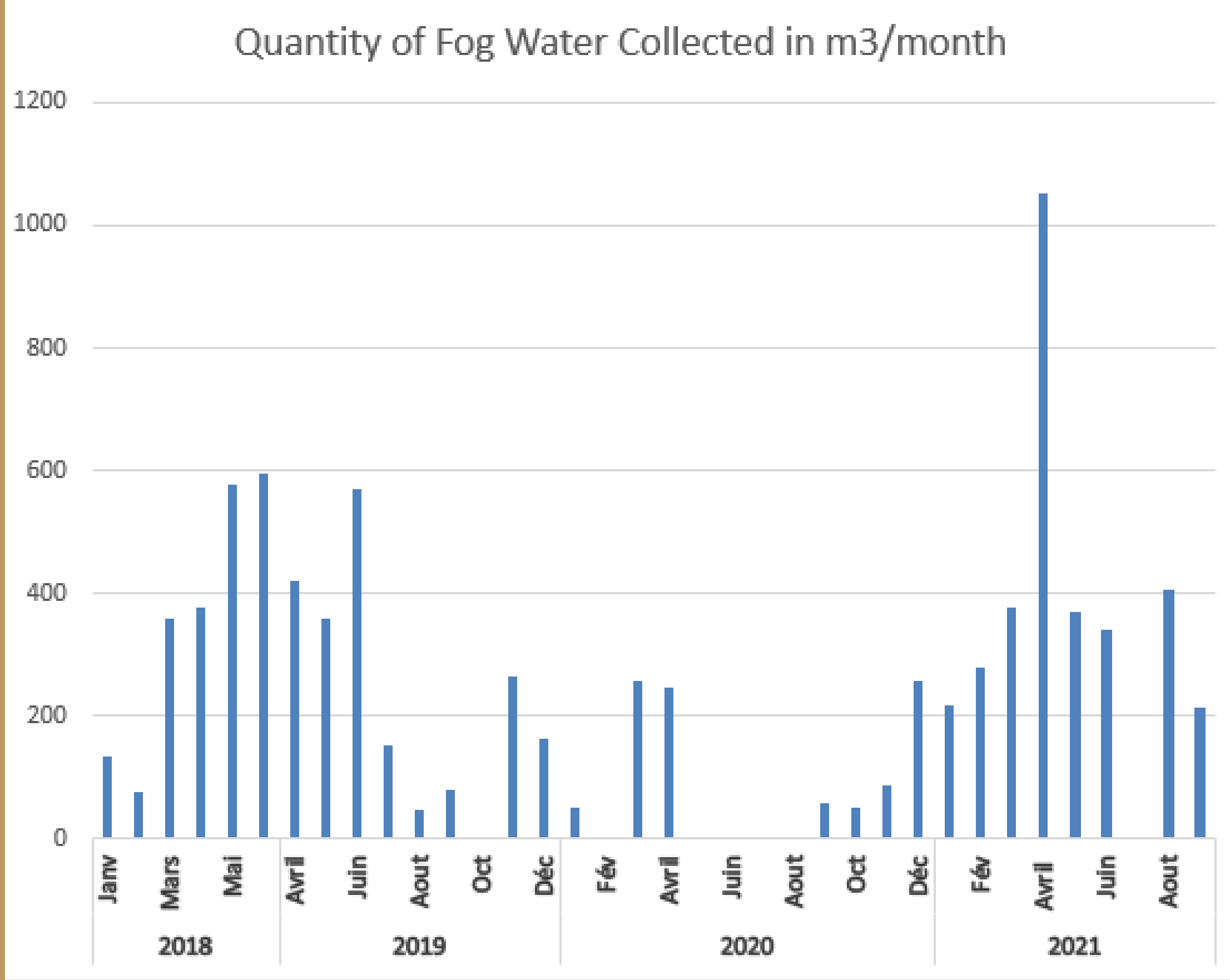
Data from: Publication of the Ministry of the Interior, General Directorate of Local Authorities, GENERAL MONOGRAPH, The Region of Guelmim-Oued Noun, Edition 2015

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IMPACT STUDIES

We inaugurated the project with our German partners in Nov 2018 and since then we've had sufficient water flows into the pipes and into the homes



- ▶ The transformation within the households IS RADICAL
- ▶ Improvements in: anxiety levels, health & hygiene, livelihood
- ▶ prior to Covid all children attended schools



How to disentangle this ??

Community perception



Association seen as a service provider. Mentality of water-users as consumers

Servicing and maintenance



Broken pipes, blockages because of lime-deposit - respecting the technical knowledge, especially water-tests as required by Morocco regulation, measurement of yields, leak fixing, mixing of ground water and fog water

Project sustainability



the issue of sustainability of the organization and the creation of dependency among the population

CHALLENGES

How to face up to the ingrained idea that ...



► ... that fog can only be a temporary solution until we have a more permanent, solid solution

► ... this a major belief we encounter in all fora: public and institutional - and among the beneficiaries

► ... is a challenge surrounding how to think and plan for the future of fog-collection when this belief is staunchly ingrained

THE COVID...

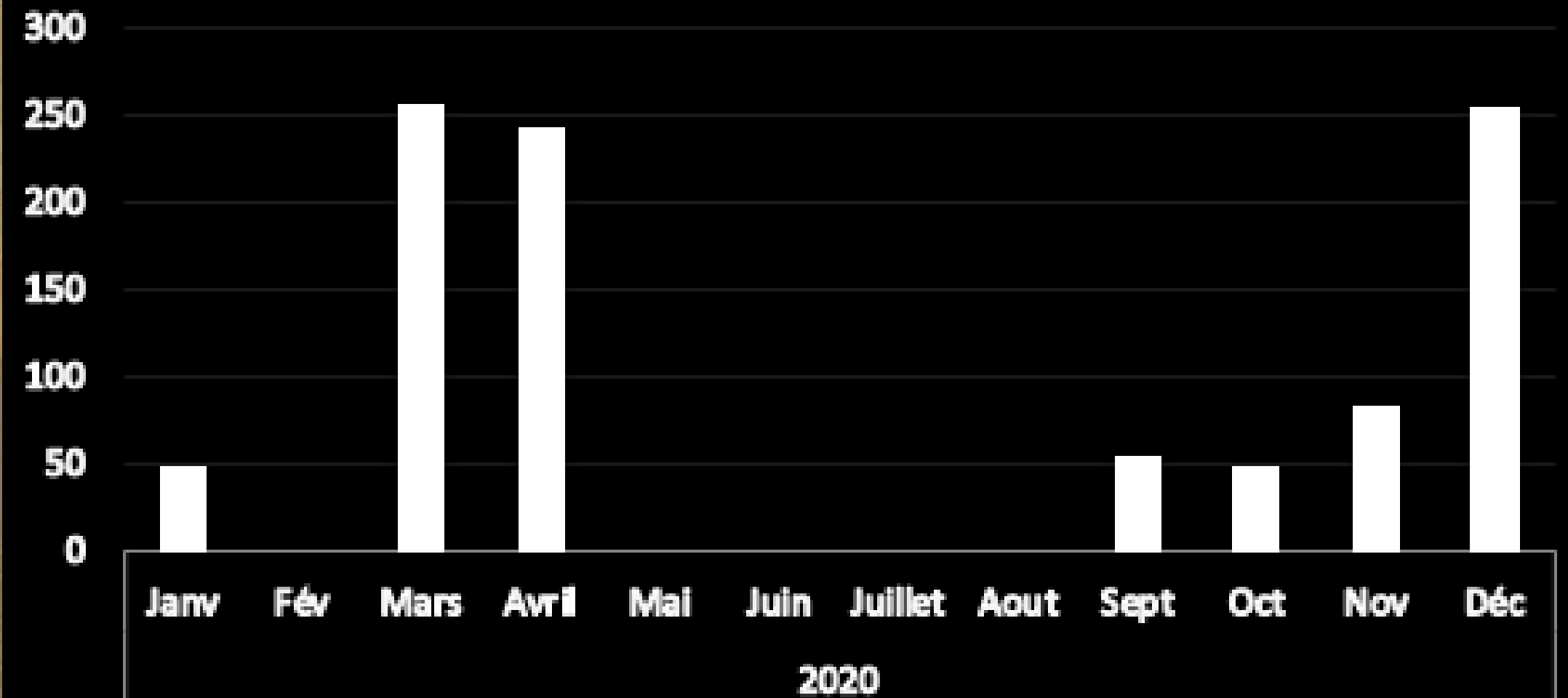
a moment of transition for the community

2nd, 3rd and 4th generations returned to ancestral land... running away from precarious living conditions in the towns & cities

The sources of livelihood for many were cut during the entire lockdown period

The demand became high — put the organisation in a precarious position. We were forced to buy water given the depletion of all stored fog water, and the no-fog events. This re-confirmed our labelling as a “water-provider”....

Quantity of Fog Water Collected in m3/month



- ▶ Availability of water
- ▶ The organization management and presence
- ▶ Acceptance of fog as a resource

- ▶ A process of “domestication” of an otherwise alien source of water
- ▶ Validation by local and state authorities

One solution is that of pre-paid water meters with specific amounts allotted to each household

THE ELEMENTS OF
SUCCESS



THE MEASURABLE IMPACTS

How this fog project has given long overdue visibility to a poor and marginal region of the country, it has put it back on the map



It has coalesced issues of climate change, droughts, migration, and livelihood together and permitted to clearly establish the connections



Fog-technology has made it possible to create an “oasis” of possibility, a horizon of what can be done with local resource

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THANKS



WASSERSTIFTUNG
WATER FOUNDATION



**Munich Re
Foundation**
From Knowledge
to Action



Dr. Bargach Jamila
ED Dar Si Hmad



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