

Enhancing Adaptation to Climate Change in Industrial Areas

Focus on the Agricultural and Fishing Industry (GIZ-ASPCC Pilot Project Morocco)

Summary

Rising temperatures, erratic rainfall, excessive floods and falling groundwater tables are the most pressing climate change impacts in Morocco. These phenomena not only put the region's agriculture and fisheries in danger, but also pose a threat to the associated industrial sector. The GIZ-ASPCC (Adaptation du Secteur Privé au Changement Climatique) pilot project in the region Souss-Massa-Drâa in Morocco is tackling these urgent issues. The project aims to raise awareness among the private sector about the risks and opportunities associated with climate change and boost the adaptation capacities of industrial areas, making them more resilient. This project belongs to the group of 'Innovations on Trial'.

Challenge

Climate change can have a direct impact on businesses in the form of damage to buildings or disruptions to production processes, for example machines overheating or staff falling ill more frequently. It can also affect firms indirectly as resources such

as water and energy become scarce or more expensive, supply chains are disrupted, and sales markets change.

Production processes, procurement and sales policies, business strategies and investment decisions are all being adversely affected by subtle changes in the climate and the increasing frequency in extreme weather events. Erratic rainfall, excessive floods, rising temperatures, and falling groundwater tables are the most pressing consequences of climate change in Morocco (Fig. 1, 3 & 4).

They significantly affect the region's agriculture and fisheries, but also pose a threat to the associated industrial sector. Raising awareness of the scarcity of water, a resource that is directly and indirectly required for both the industrial processing of agricultural products and their cultivation/production, presents a major challenge for the region, heavily affecting its overall economic and environmental welfare. The vast majority of employment and income-generating opportunities are offered by small and medium-sized enterprises (SMEs) in the retail and manufacturing industries. These SMEs also play a key role in supplying goods and services to the population.



Fig. 1 (l): Flooded wadi near Ouarzazate blocking an overland road

Fig. 2 (r): Flooded street in Ait Melloul Industrial Park in November 2014



Fig. 3 (l): Souss-Massa-Drâa Region in Morocco

Fig. 4 (r): Inundation damage in Tanger Moghogha (2008)

The GIZ programme **Strengthening Private Sector Capacity to Adapt to Climate Change (PSACC)** works together with GIZ field projects to further develop instruments for awareness-raising and advisory services for the private sector, adapt these to different sectors and actors, and test them out. The project is developing instruments in the following areas to help the private sector adapt to climate change:

- a. **Raising awareness:** One of the greatest hurdles in the adaptation process is a lack of awareness of the impact that climate change has on individual enterprises. Consequently, the project is putting together public relations materials such as films and publications.
- b. **Advising the private sector on adaptation:** The project is developing manuals and training concepts and training mediators and multipliers such as chambers of commerce, business associations and private-sector service providers on how to offer the same kind of training and advisory services themselves.
- c. **Providing advisory services on adaptation financing:** Adapting to climate change requires investment and brings with it financial challenges for companies. Consequently, advisory concepts are being developed for the private sector covering the use of financial and insurance products in the adaptation process.
- d. **Disseminating knowledge:** The project is working to strengthen dialogue and cooperation in effective approaches.

Setup

The global GIZ programme PSACC, together with the Association of Investors for the Industrial Zone of Ait Melloul (ADIZIA), the Regional Centre for Investment of Souss-Massa-Drâa (CRI-SMR) and the Regional Observatories for Environment and Sustainable Development (OREDD), is participating in the pilot project (Fig. 3). The project commenced in 2014 and project activities will be conducted until 2017. It collaborates closely with the GIZ project in Morocco ‘Adaptation to Climate Change/Implementation of the Nagoya Protocol (ACCN)’.

GIZ is implementing PSACC on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). The goal of the programme is to assist SMEs in partner countries in assessing climate-related risks and opportunities more effectively and developing adaptation strategies (see box).

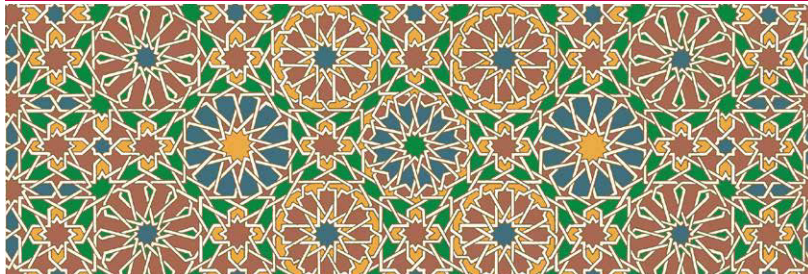
Opportunities

Adaptation to climate change is a huge challenge for SMEs in the Middle East and North Africa (MENA) region. These firms have few resources and limited expertise and are unaware of both the **risks and opportunities** of the phenomenon. In most cases, chambers of commerce, business associations, consultancy firms and state institutions are not able to advise SMEs on adaptation measures. If SMEs in MENA countries are left exposed to the risks of climate change, then these already weak nations will become even more vulnerable, jeopardising the development progress they have already made.



Fig. 5 (l): Changes in marine ecosystems affect fishing and the fishery sector in Morocco

Fig. 6 (r): Citrus production is affected by temperature rises, heat stress, higher evapotranspiration rates and increased pests and diseases



Ms Angelika Frei-Oldenburg;
angelika.frei-oldenburg@giz.de
(Germany)
Mr Mohammed Rahoui;
mohammed.rahoui@giz.de
(Morocco)

The GIZ PSACC pilot project in the region Souss-Massa-Drâa in Morocco is targeting these urgent issues. Souss-Massa-Drâa extends over 360 kilometres of coastline and therefore plays an important role in the country's **fisheries** (Fig. 5); it also provides 40% of the national production of **citrus fruits** (Fig. 6).

The project aims to raise awareness among the private sector about the risks and opportunities associated with climate change and boost adaptation capacities in industrial areas, making them more resilient. A first step is a climate change risk analysis and the exploration of adaptation measures, particularly to find solutions to tackle water scarcity.

Training concepts and **manuals for managers of industrial parks** will be designed to improve the resilience of these parks and enable them to advise enterprises locally. Trainers will be trained and tools for **conducting vulnerability assessments** and case studies will be made available to SMEs. The project will also provide advisory services on financing adaptation measures and preparing for potential policy adjustments relating to climate change adaptation.

Outlook

Lessons learned: The private sector in many MENA countries is facing the impacts of climate change and looking for suitable adaptation measures. The goal of the GIZ project in Morocco is to provide information, build capacity and implement measures to improve the resilience of the private sector in the face of climate change. This includes resource efficiency, protection against calamities and improved competitiveness.

Approaches and instruments that prove particularly effective are made available to stakeholders in the industrial sector in other MENA countries as well as to German and international development cooperation actors, for example via the interactive online portal www.climate-expert.in.

Decision makers in MENA countries dealing with adaptation of the private sector to climate change impacts are invited to make use of the range of tools developed for this purpose by GIZ or turn directly to the PSACC programme for advice.

المركز الجهوي للإستثمار - سوس ماسة درعة
Centre Régional d'Investissement - Souss Massa Drâa



Published by	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH Registered offices Bonn and Eschborn, Germany Adaptation to Climate Change in the Water Sector in the MENA Region Office Eschborn Room 22084 T +49 6196 7924 87 matthias.bartels@giz.de www.giz.de	Project Partners	Association of Investors for the Industrial Zone of Ait Melloul (ADIZIA); Regional Centre for Investment of Souss-Massa-Drâa (CRI-SMR); Regional Observatories for Environment and Sustainable Development (OREDD)		
Responsible / Editor	Dr. Matthias Bartels / Prof. Dr. Dieter Prinz	On behalf of	Federal Ministry for Economic Cooperation and Development (BMZ)		
Layout	Jokhosha Design Eschborn	Addresses of the BMZ offices	<table border="0"> <tr> <td style="vertical-align: top;">BMZ Bonn Dahlmannstraße 4 53113 Bonn, Germany T +49 228 99 535 - 0 F +49 228 99 535 - 3500</td> <td style="vertical-align: top;">BMZ Berlin Stresemannstraße 94 10963 Berlin, Germany T +49 30 18 535 - 0 F +49 30 18 535 - 2501</td> </tr> </table>	BMZ Bonn Dahlmannstraße 4 53113 Bonn, Germany T +49 228 99 535 - 0 F +49 228 99 535 - 3500	BMZ Berlin Stresemannstraße 94 10963 Berlin, Germany T +49 30 18 535 - 0 F +49 30 18 535 - 2501
BMZ Bonn Dahlmannstraße 4 53113 Bonn, Germany T +49 228 99 535 - 0 F +49 228 99 535 - 3500	BMZ Berlin Stresemannstraße 94 10963 Berlin, Germany T +49 30 18 535 - 0 F +49 30 18 535 - 2501				
As at	January 2016				
GIZ is responsible for the content of this publication.					
			poststelle@bmz.bund.de www.bmz.de		