



Climate Change and Business in Egypt

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**Adaptation to Climate Change in the Water Sector in the MENA Region
(ACCWaM)**

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Presentation outline

- Introduction
- Climate Change – a case for business?
- Impacts of Climate Change & GHG emissions in Egypt
- Response & Opportunities
- Examples of Private Sector and Climate Change
- Global Initiatives and support



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About GIZ

Sustainable, innovative, effective

- „GIZ offers customised solutions to complex challenges. We are an experienced service provider and assist the German Government in achieving its objectives in the field of international cooperation. We offer demand-driven, tailor-made and effective services for sustainable development.“



About GIZ

Who we work for

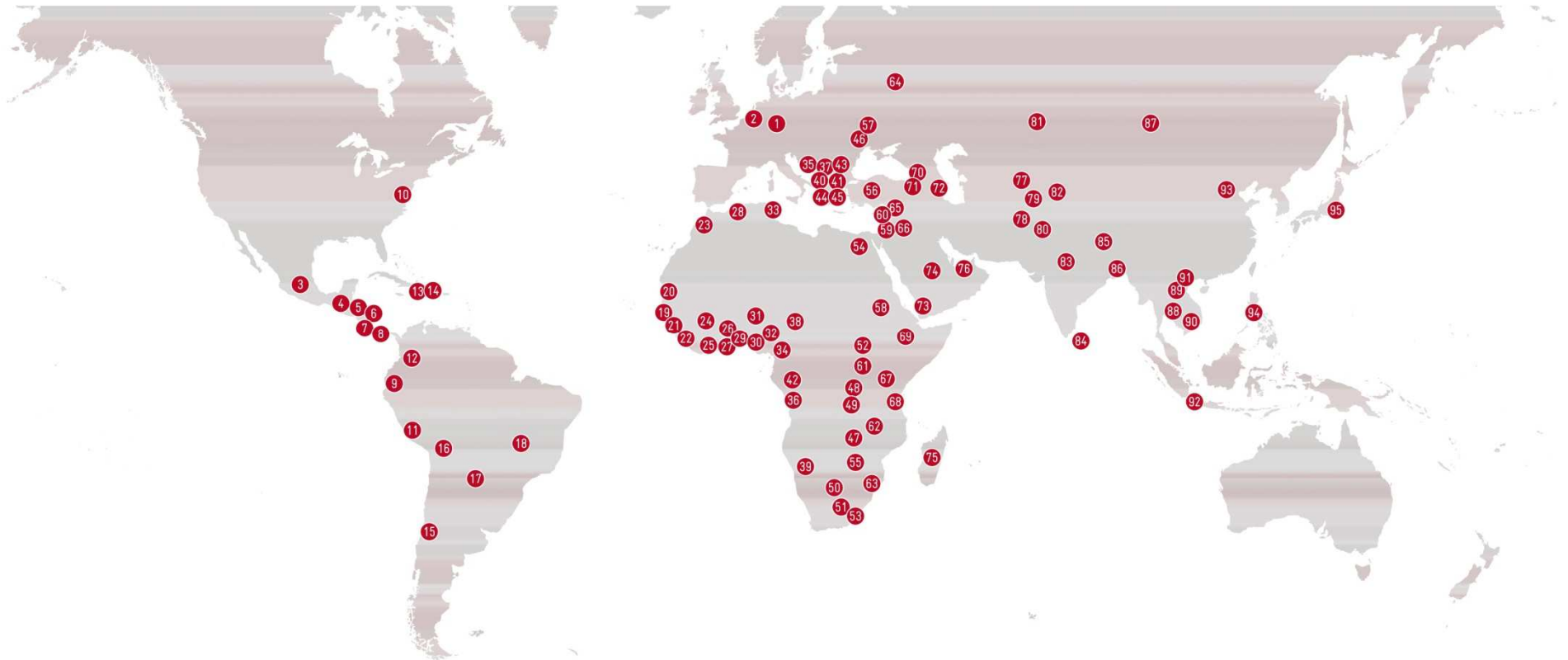
- German Federal Ministry for Economic Cooperation and Development
- Other German ministries (e.g. Federal Foreign Office, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety)
- Public and private sector clients in Germany and abroad (e.g. governments of other countries, the European Commission, the United Nations and the World Bank)

Global reach – the company at a glance

- GIZ operates throughout Germany and in more than 130 countries worldwide.
- More than 17,000 staff across the globe, some 70 per cent of whom are employed locally as national personnel.
- GIZ's business volume around EUR 2 billion. (31 December 2011)



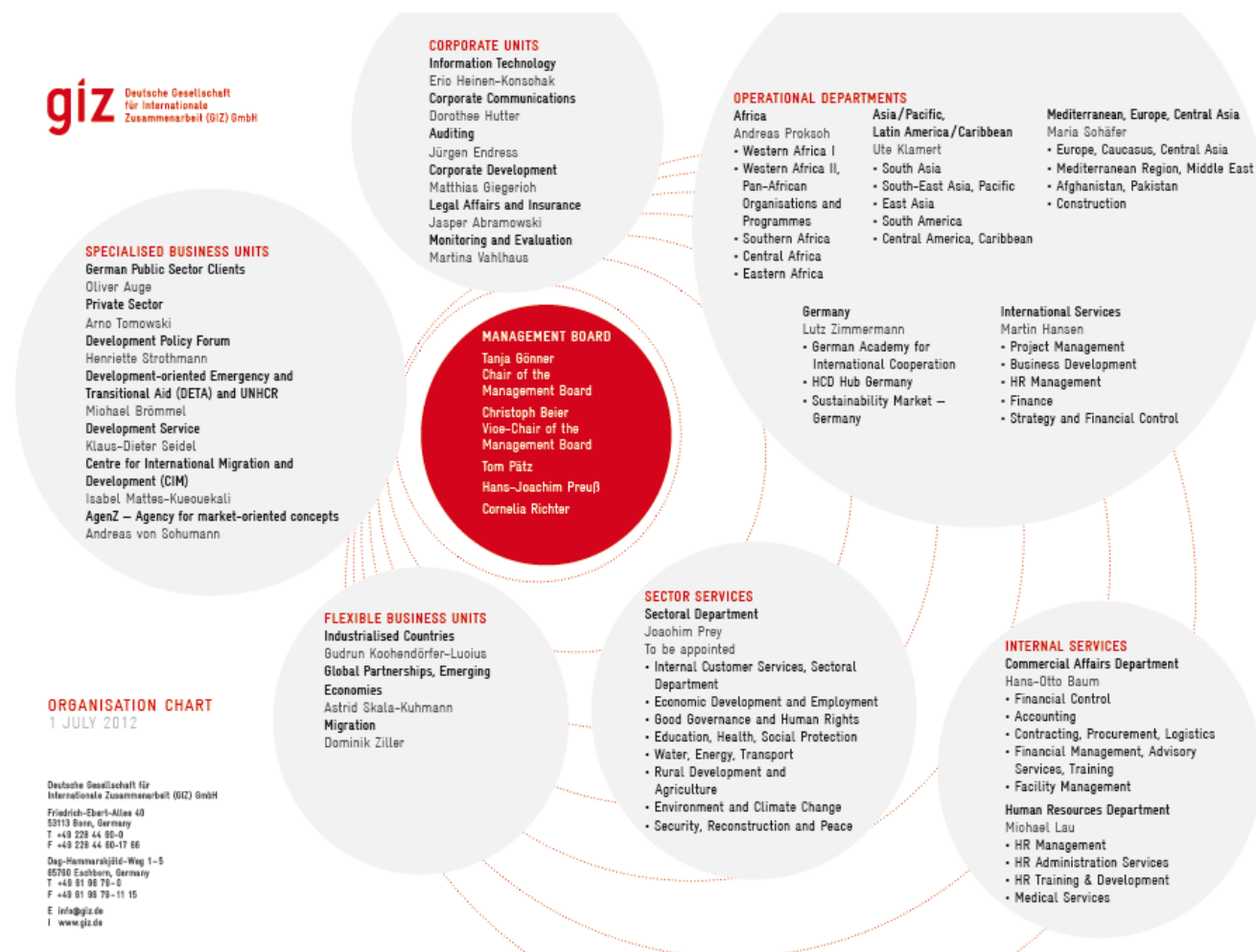
GLZ offices



- Registered German offices in Bonn and Eschborn (near Frankfurt am Main)
- Representations in Berlin and in Brussels
- About 90 offices around the globe



GLZ organisational chart





Climate Change – a case for business?

- ❑ Climate change is posing risks for supply chains and production processes

→ Adaptation

- ❑ Businesses are contributing to climate change

→ Mitigation

- ❑ New demands & Need for sustainability

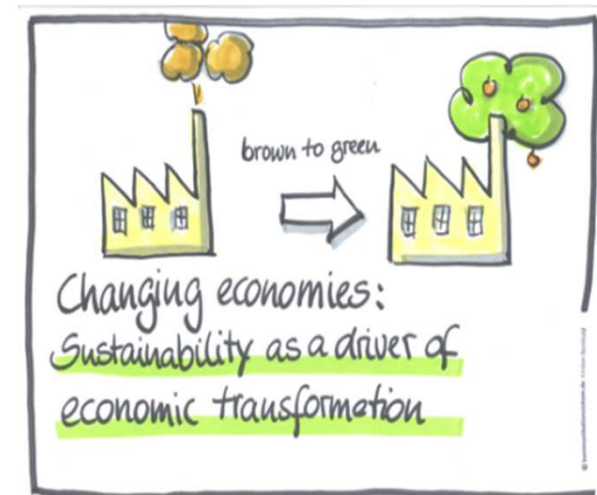
→ New markets & Opportunities

→ Green Growth

→ Jobs

→ No regret

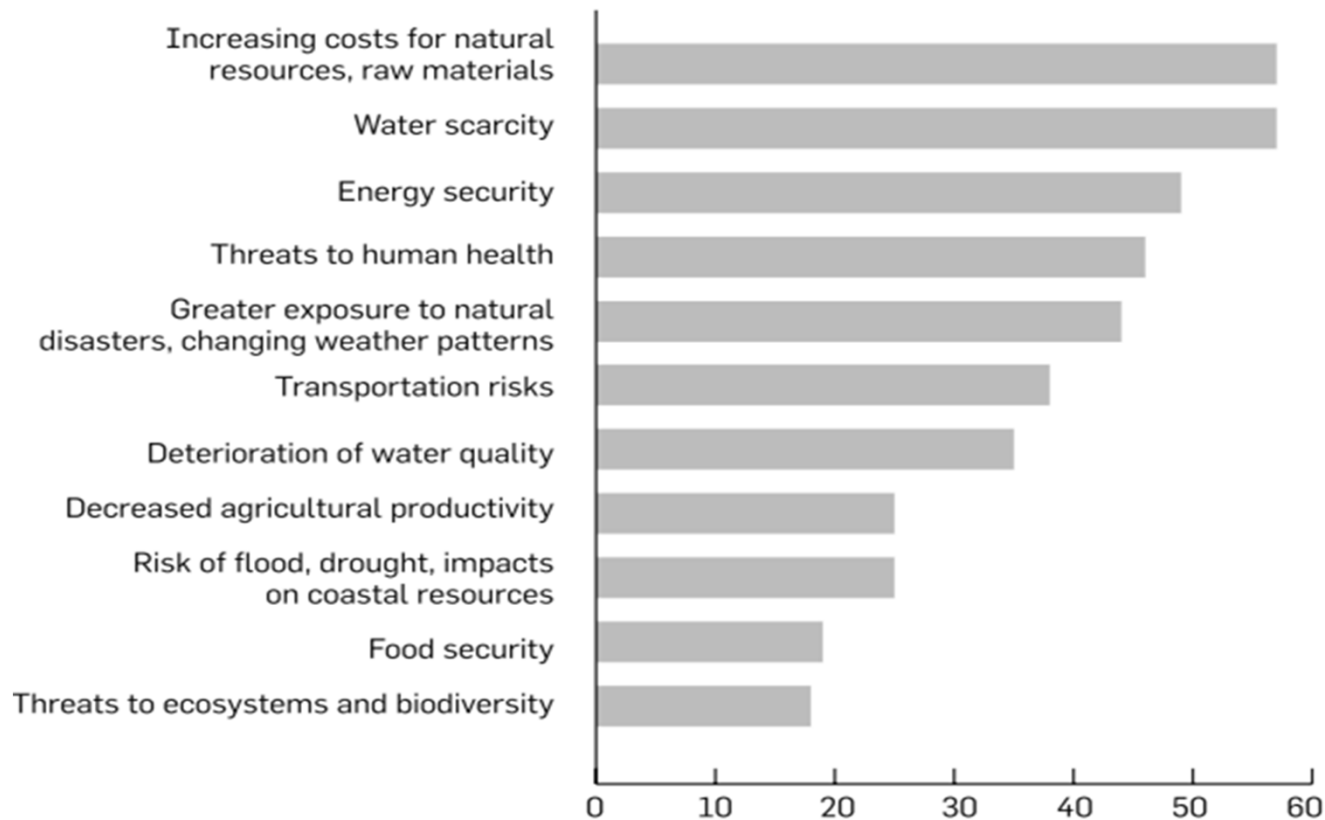
- ❑ Support by donors





Global: Expected changes for enterprises

Percentage of companies that consider risks as having “high” or “very high” impact on operations and strategy



Quelle: GC 2010



Anticipated impacts of climate change in Egypt

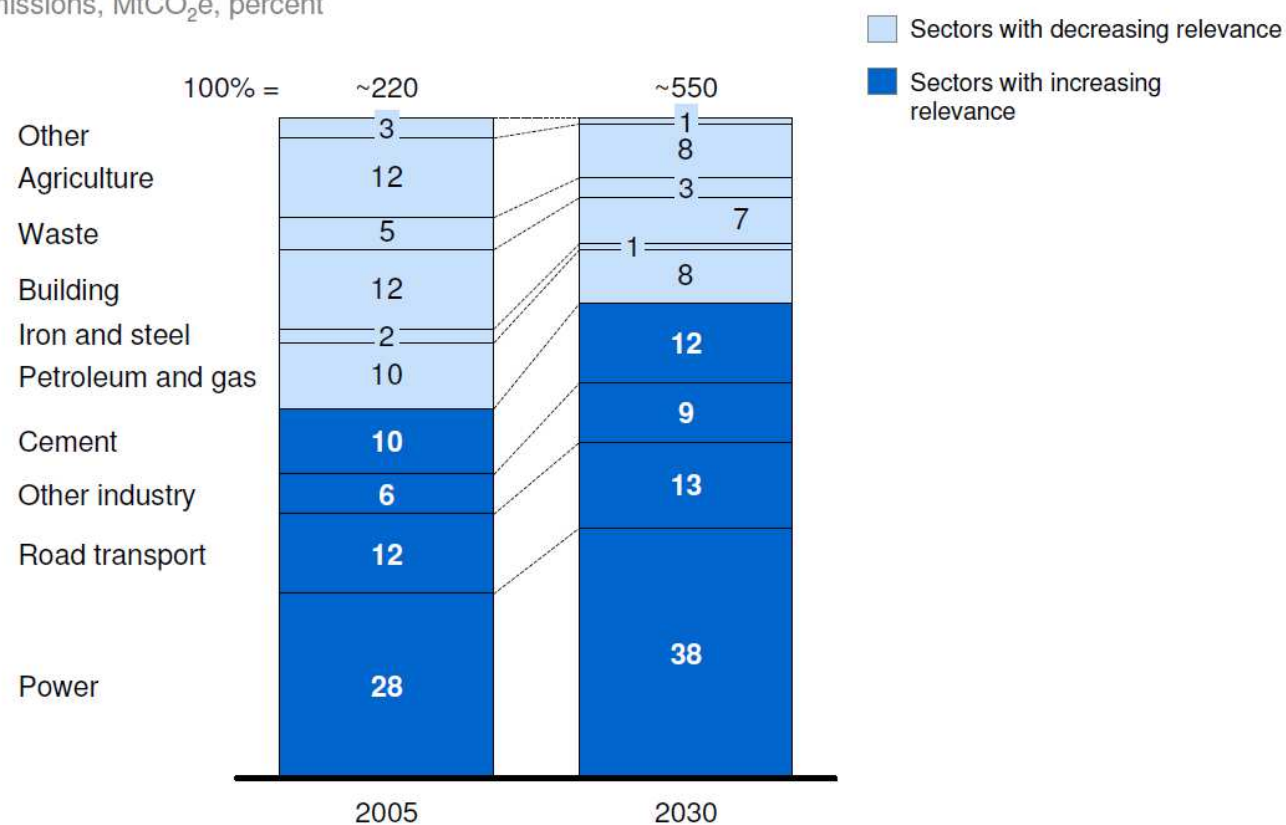
- Decrease in precipitation
- Increase in temperatures
- Sea level rise
- Increase of extreme events (floods etc.)





GHG emissions by sector in Egypt

Direct emissions, MtCO₂e, percent



SOURCE: CAIT database on Egypt; POLES projections; CIDIAC; Enerdata; IEA Egypt profile; Global Insight; McKinsey
 Global GHG Abatement Cost Curve V2.0; Loca experts interviews; team analysis



Relevant Sectors – some examples

	Adaptation needs	Mitigation potential/ Opportunities
Agriculture	Drought, water stress – yield reduction	GHG emissions through reduced tillage and fertilizer use
Tourism	Sea level rise threatens beaches & resorts Coral reefs diminish	Reduce the high use of resources (energy and water)
Industry	Shortage of water for production processes/ cooling Potential conflicts with other users	Reduce GHG Emissions and air pollution Energy and Resource use Efficiency
Transportation & Infrastructure	Extreme events or flooding destroying infrastructure, Drought (water ways)	Reduce GHG emissions through expansion of sustainable transportation Electrification
Settlements & Housing	Threatened by sea level rise, extreme events	Energy efficiency by improved isolation and construction material
Waste Management		Solid waste management to cut emissions Recycling



Steps to be taken

- Awareness rising
- Risk & Vulnerability assessment
- Value Chain Approach
 - Global value chains are increasingly integrated
 - Analyse each link across the whole value chain
 - Significance of local communities and ecosystems => improve their resilience to climate change
- Identify activities and opportunities
- Integration in business strategy and operations - Climate Proofing





Sustainable energy and resource management



- Multiple rationales
 - Reduce GHG emissions
 - Improve energy and resource security
 - Enhance sustainable economic growth
 - Reduce costs
- High demand in renewable Energies (Egyptian target: 20% by 2020)
 - High potential for wind and solar energy
- Need for improved energy efficiency and savings
 - Isolation of houses
 - Sustainable Transport
 - Fuel switching (Natural Gas, Biomass)
- Recycling and Resource Efficiency





Examples of Private sector and CC

Siemens

- A leading provider of climate-protection technologies for mitigating CC
- Profitable and environmentally friendly portfolio
- Products and solutions for an environmentally friendly energy supply
 - Modernizing coal-fired power plants
 - Offshore wind farms
 - Solar-thermal power plants
 - Energy-saving motors
 - Green data centers





Examples of Private sector and CC (cont.)

TetraPak

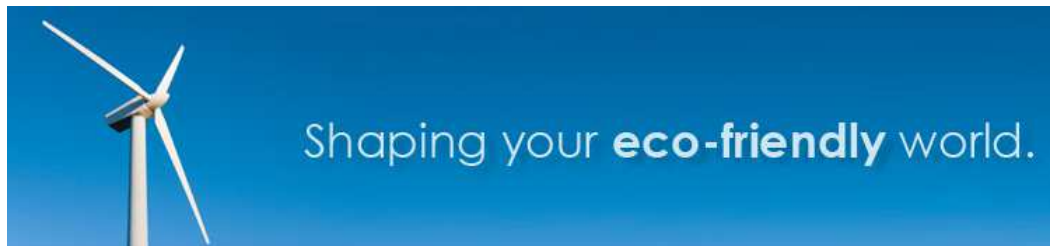
- Climate programme focus:
 - Favouring renewable materials and energy
 - Reducing energy needs and emissions
 - Engaging with transportation suppliers
- Energy Goal (since 2000) and Climate Goal (Since 2005) state commitment to reducing emissions
- Life Cycle Assessment of products
- Partners to the WWF Climate Savers programme since 2006



Examples of Private sector and CC (cont.)

Frienergy

- Established 2008 to “improve the Egyptian environment with the contribution of renewable energies, water treatment and organic waste disposal”
- Products e.g. photovoltaic modules, solar street lamps, solar thermal collectors, wind turbines
- Services include energy audit and site assessment, Market & Business Consultants
- “Vanguard in the Egyptian clean tech industry”
- Establishing further international partnerships





Examples of Private sector and CC (cont.)

Grundfos (multinational manufacturer of pumps and water application systems)

- *“When you can't count on the rain ... you can count on Grundfos”*
- Technology for wastewater treatment and reuse, irrigation, reduction of emission/air pollution etc
- Partnership with Wadi Environmental Science Centre for Youth Education
- Launch of “Water School website”
- CSR CO2 Reduction Award





Examples of Private sector and CC (cont.)

Green Star Hotel Initiative

- ...to create a national pilot for an environmentally-friendly label for hotels and resorts applicable to destinations throughout Egypt and the Middle East
- ➔ El Gouna on the Red Sea, Egypt
 - Sustainable development concept
 - Significant reduction of energy and water consumption (10-30%)
 - Increased use of renewable energy
 - Internal recycling and water treatment plants
 - „Green destination” as a unique competitive advantage among global tourist destinations“





Global Initiatives & Support

UNFCCC Private Sector Initiative (PSI)

“...aims to catalyze the involvement of the private sector in the wider adaptation community. “

- E.g. SEKEM Holdings Group Egypt





Global Initiatives & Support

Climate Investment Fund (CIF)

- **The Clean Technology Fund (CTF):** promote scaled-up financing for demonstration, deployment and transfer of low-carbon technologies with long-term greenhouse gas emissions savings
- Support for private sector projects of different size
- **E.g. US\$ 750 million for Middle East and North Africa Regional Concentrated Solar Power**





Guides & Tools

Global Adaptation Index

- The GAIN Index, a project of the Global Adaption Institute (GAIN), summarizes a country's Vulnerability to climate change + other global challenges and its Readiness to improve resilience
- → aims to help businesses better prioritize investments
- <http://index.gain.org/>

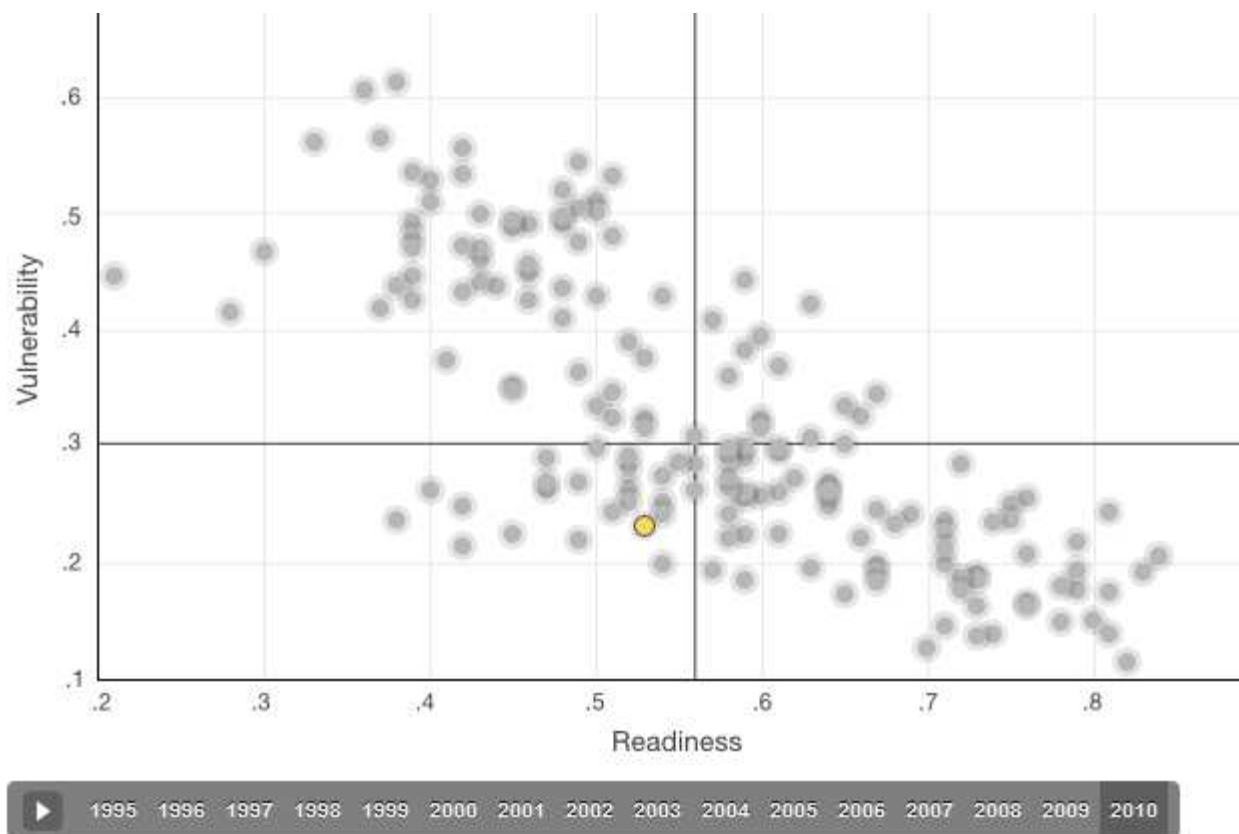
PACT

- an effective, quick and affordable way to assess how well an organisation is responding to climate change issues
- <http://www.pact.co>



Guides & Tools

GAIN Matrix - Egypt



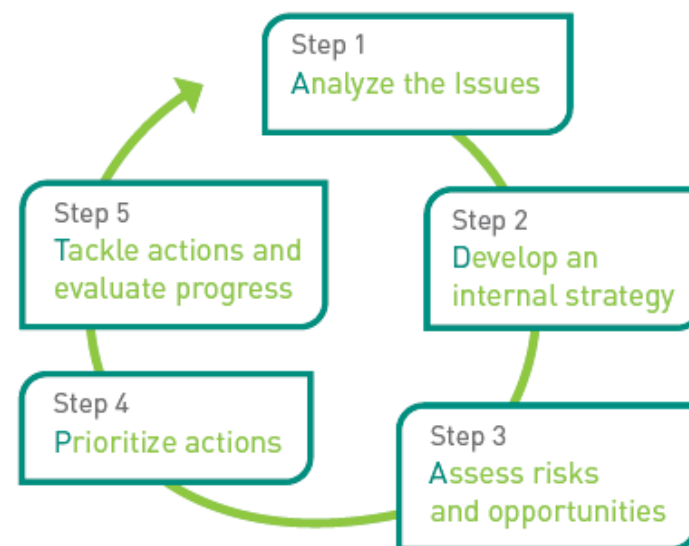
Egypt: GAIN Index: 70 (of 161), Vulnerability: 44 (of 187), Readiness: 31 (of 53)



Guides & Tools

- Partnership for Resilience and Environmental Preparedness (PREP): Value Chain - Climate Resilience, A guide to managing climate impacts in companies and communities

Business ADAPT: five-step guide to building climate resilience



<http://www.oxfamamerica.org/press/files/prep-value-chain-climate-resilience.pdf>



Guides & Tools

- UN Global Compact (*New York, 24 September 2012*): New Caring for Climate Web Portal to Advance Business Role in Climate Change - www.caringforclimate.org
- Global Compact (2012): Business and Climate Change Adaptation: Toward Resilient Companies and Communities

[http://unglobalcompact.org/docs/news_events/2012_CSF/16_June/PM_0400/Towards a Green and Resilient Economy Addressing the Climate-Water Nexus/materials/SE44 Business and Climate Change Adaptation.pdf](http://unglobalcompact.org/docs/news_events/2012_CSF/16_June/PM_0400/Towards_a_Green_and_Resilient_Economy_Addressing_the_Climate-Water_Nexus/materials/SE44_Business_and_Climate_Change_Adaptation.pdf)

- Network for Business Sustainability (2009): Case studies & Tools - A Systematic Review of the Literature on Business Adaptation to Climate Change

[http://www.ethicscan.ca/docs/Climate Adaptation Case Studies 2009.pdf](http://www.ethicscan.ca/docs/Climate_Adaptation_Case_Studies_2009.pdf)



Thank you!

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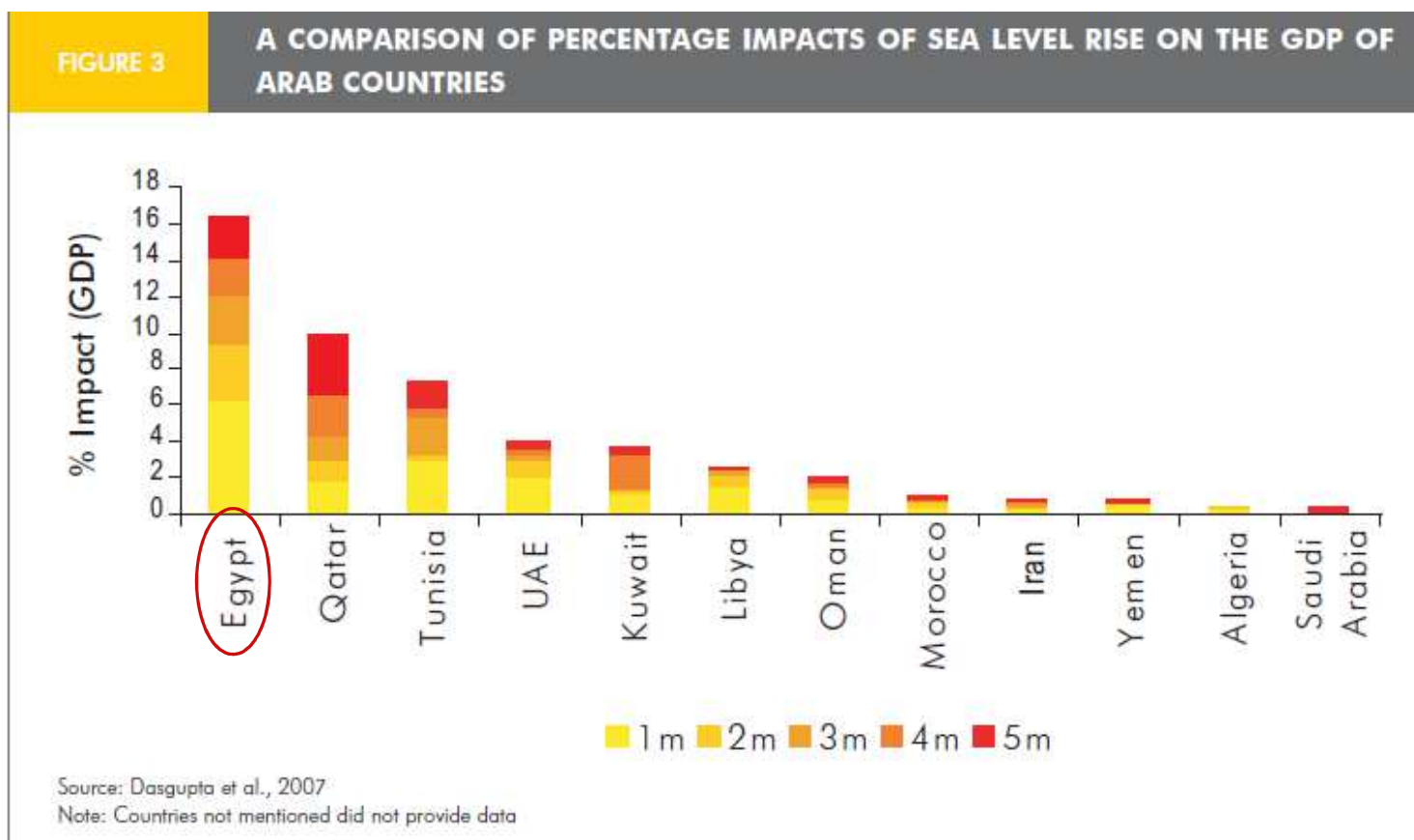


Egyptian Strategy for Green Economy

- Egyptian National Competitiveness Council (ENCC) - non-governmental organization to focusing on the issue of competitiveness in Egypt and the Middle East
- Sustainable Competitiveness Strategy for Egypt (2012)
- 7th Egyptian Competitive Report (2010): “Green Egypt – a vision for tomorrow”



Impacts of Sea Level Rise on GDP





Impact on crop production in Egypt

TABLE 1				PROJECTED CHANGES IN CROP PRODUCTION OF SOME MAJOR CROPS IN EGYPT UNDER CLIMATE CHANGE CONDITIONS	
Crop	Change in %		Sources		
	2050s	2100s			
Rice	-11%		Eid and EL-Marsafawy (2002)		
Maize	-19%		Eid et al. 1997b		
	-14%	-20%	Hassanein and Medany, 2007		
Soybeans	-28%		Eid and EL-Marsafawy (2002)		
Barley	-20%		Eid et al. 1997b		
Cotton	+17%	+31%	Eid et al. 1997a		
Fava bean	-4.4 to -6.6	+6 to +11%	Hassanein and Medany (2009)		
Potato	-0.9 to -2.3%	+0.2 to +2.3 %	Medany and Hassanein (2006)		
Wheat	-4.8 to -17.2	-26 to -38%	Eid et al 1992a, b, Eid et al 1993a, b, c, Eid 1994, Eid et al 1994a, b, and Eid et al 1995a, b		



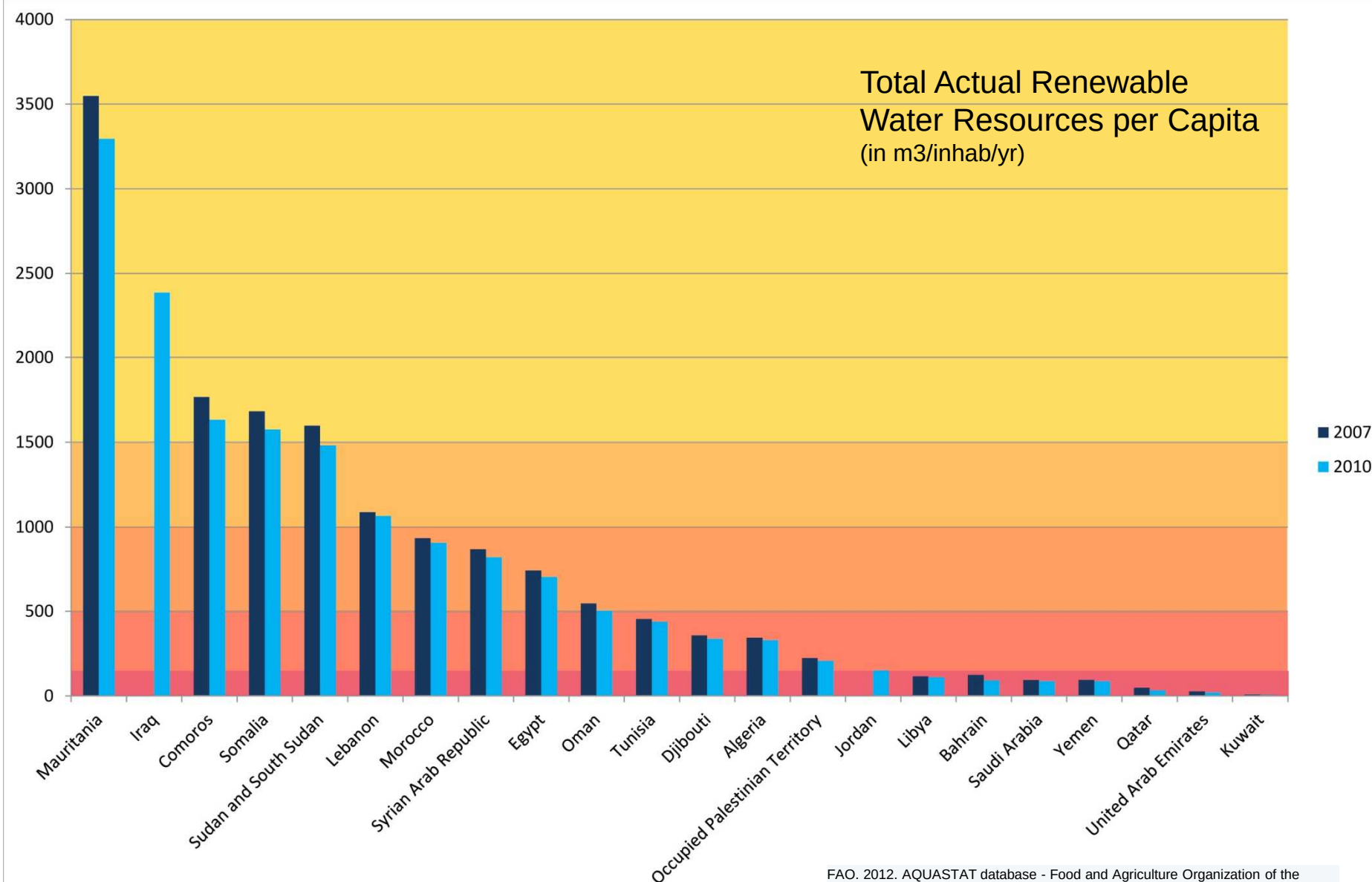
Impact on tourism in Mediterranean region

TABLE 2

EFFECTS OF CLIMATE CHANGE ON MEDITERRANEAN DESTINATIONS

Climate change effects at the place of destination	Implications for the destination	Possible reactions of the market
• Winters milder and wetter • Summers warmer and drier • Changes more pronounced in the Eastern Mediterranean • Increase of heat index • More days above 40°C • More arid landscapes • Impacts of sea level rise exacerbated by the low tides	• More severe risks of droughts and fires • Increasing water shortages • Increased personal exposure to heat • Beach degradation and loss of habitats due to sea level rise • More vulnerability to tropical diseases (e.g. malaria) • More flash flooding • Poor air quality in cities	• Improvement of summers in Northern Europe generates more domestic holidays • Less incentive to spend summer holidays in the Mediterranean • Increased incentive for spending holidays in the Mediterranean during the intermediate seasons • Increased incentive for southerners to travel to the North

Source: Adapted from Vereczi, 2007



FAO. 2012. AQUASTAT database - Food and Agriculture Organization of the United Nations (FAO). Website accessed on [10/07/2012 12:32]