



# Implementation Challenges for Adaptation



**GIZ experiences from mountain regions**

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## Outline

1. Climate Change and German Development Cooperation
2. Challenges
3. Climate Change Impacts
4. Approaches
5. Recommendations





## Climate change: an important topic for German development cooperation

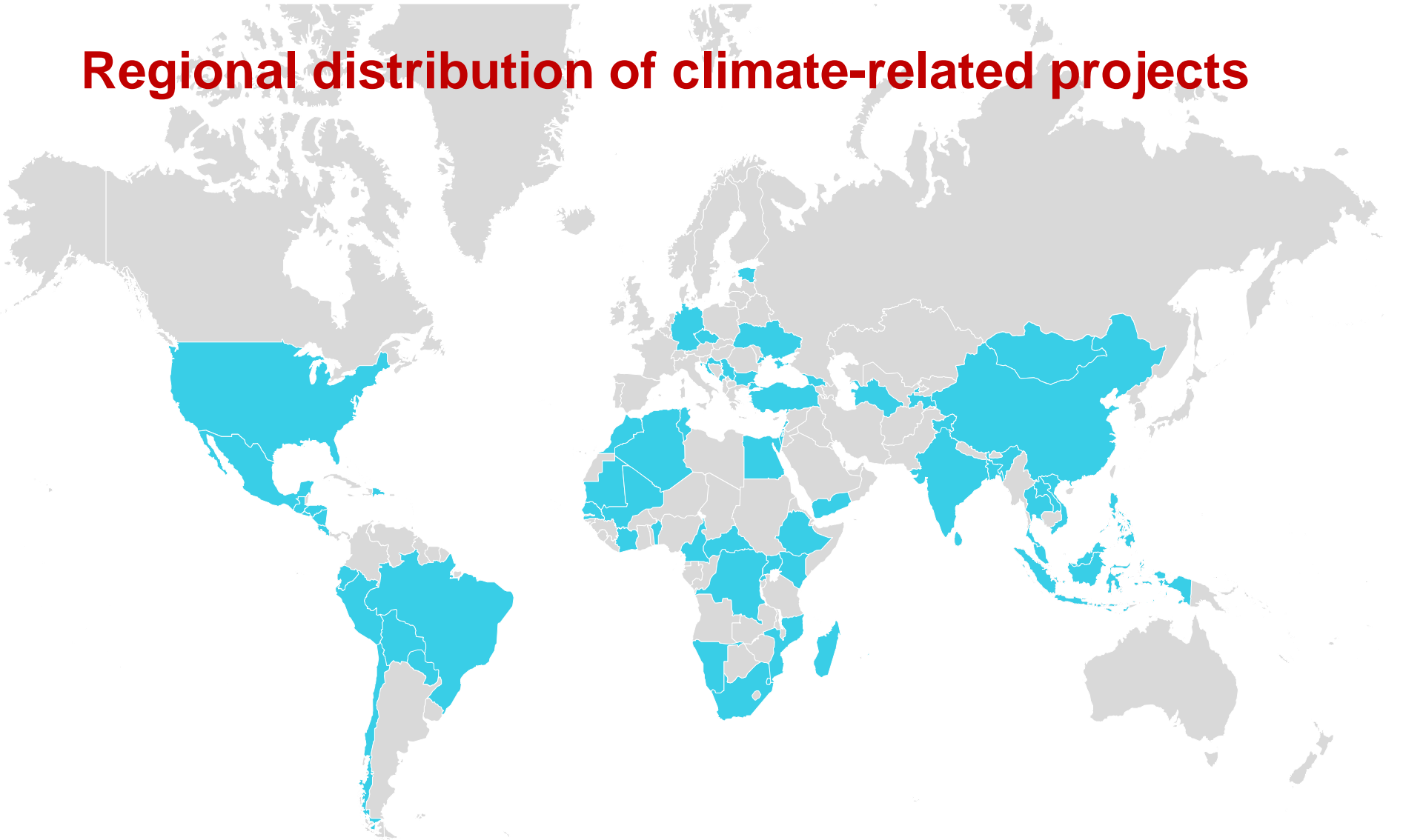
- The German Federal Ministry for Economic Cooperation and Development (BMZ) has increased funding for climate projects by 2/3 (2009-2011)
- 20% of GIZ projects have a direct focus on climate change

### GIZ activities in adaptation:

- Development and use of a **sound knowledge base**
- Establishment of an adequate **governance system**
- **Integration** of adaptation in national and sectoral policies, programmes and projects
- **Capacity development**
- Mobilisation of **resources**



## Regional distribution of climate-related projects





## Challenges for development cooperation in mountain regions

- **Complex environments** with diverse eco-systems
- **Insufficient data** and high uncertainties in climate scenarios
- **Regional and global importance of mountains**, e.g. as water towers
- Geographic **remoteness**; mountain regions **underrepresented** in national organisations
- Limited access to education, health care etc.
- initiate of **cross-border cooperation** (e.g. Himalaya)





## Climate Change Impacts

Climate change has become a critical factor for sustainable development in mountain regions:

- Loss of biodiversity
- Reduction of crop yield and available land: food security at risk
- Sufficient water supply is not ensured
- Increase of natural disasters
- Land degradation and erosion
- Roads and critical infrastructures at risk
- ...





# Approaches for adaptation in mountain regions

1

Climate proofing of value chains

2

Ecosystem-based adaptation

3

Community-based adaptation



## 1

## Climate Proofing of value chains

- **Challenge:** Connecting people's livelihoods and adaptation:

- Climate change threatens agricultural production of mountain communities
- Adaptation necessary to secure people's livelihoods

- **Example India:** „Climate Proofing“ of agricultural value chains:
  - Are farmer's crops & livelihoods threatened by climate change?
  - How to discuss impact of CC on important value chains and identify solutions?

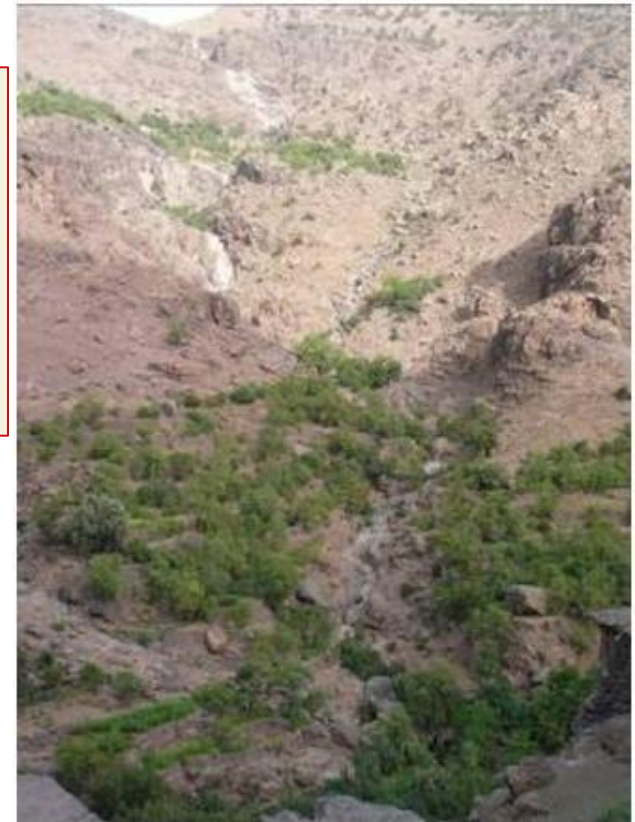




## 2

## Ecosystem-based adaptation

- **Challenge:** Strong interaction between mountain communities and ecosystems
  - Livelihoods rely on ecosystems, e.g. farmers and pastoralists
  - Community contributes to functioning ecosystems
  - Climate change affects ecosystems and biodiversity
  
- **Approach:** Use ecosystems as an alternative or complement to infrastructural adaptation measures
- **Example Morocco:** plant almond trees on farming terraces to fix soil





## 3

## Community-based adaptation

- **Challenges:** Mountain communities are often rather small, geographically marginalised, underrepresented in national organisation



**Bottom-up approaches**

### Example India:

- **Vulnerability assessments** with local community





## Recommendations

- High uncertainties about climate change impact on mountain regions; essential to **improve knowledge**
- „**Climate Proofing**“: Integration of adaptation into public investment schemes and value chains
- Strengthen local ownership through **capacity development**
- Ecosystem-based adaptation would be impossible without the **local mountain communities getting involved.**
- Establish adaptation as a **cross-cutting issue** in national development planning and adaptation strategies
- **Cross-border cooperation** vital (e.g. Himalaya)





# Thank you for your attention!

