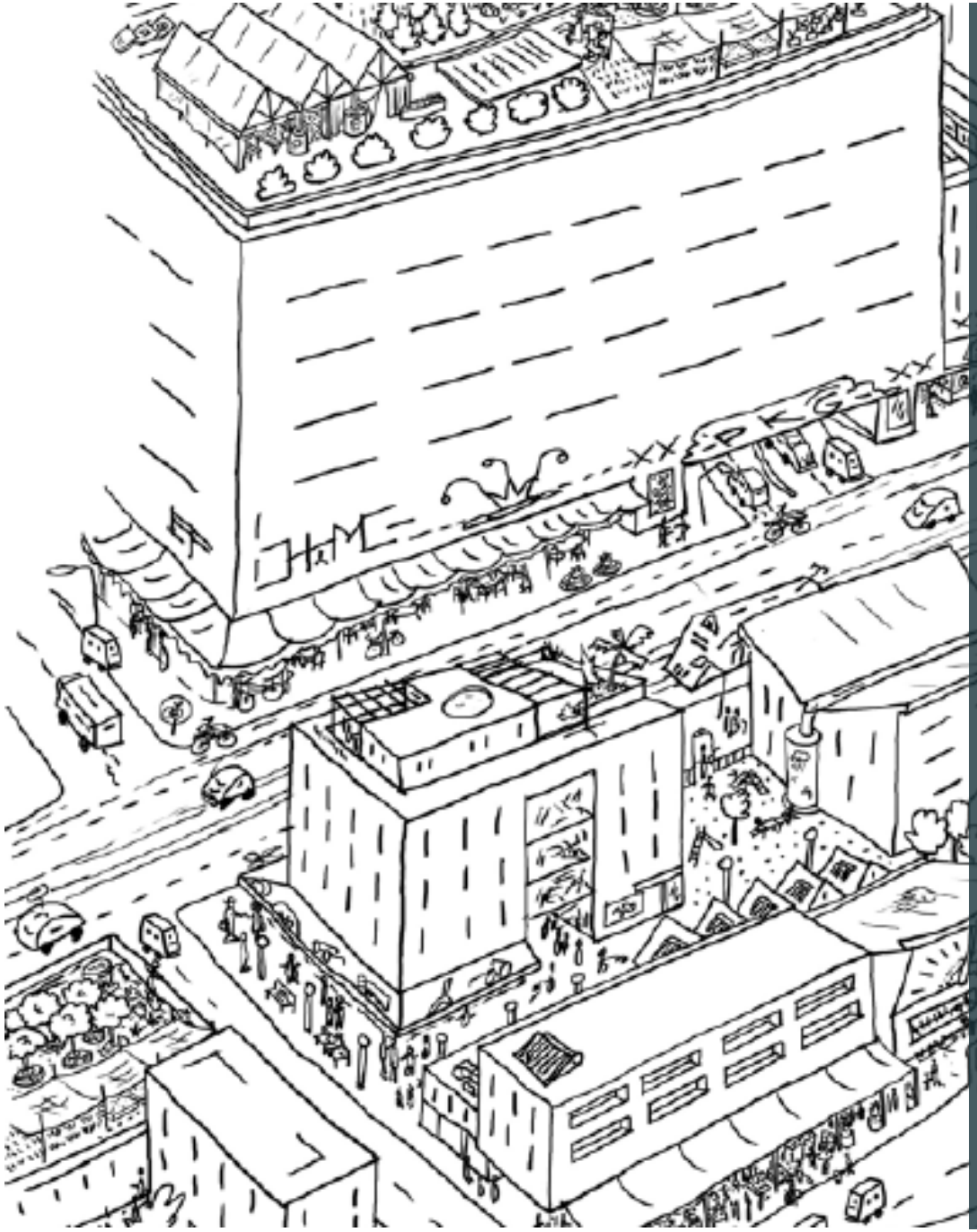
URBAN DISASTER RISK MANAGEMENT

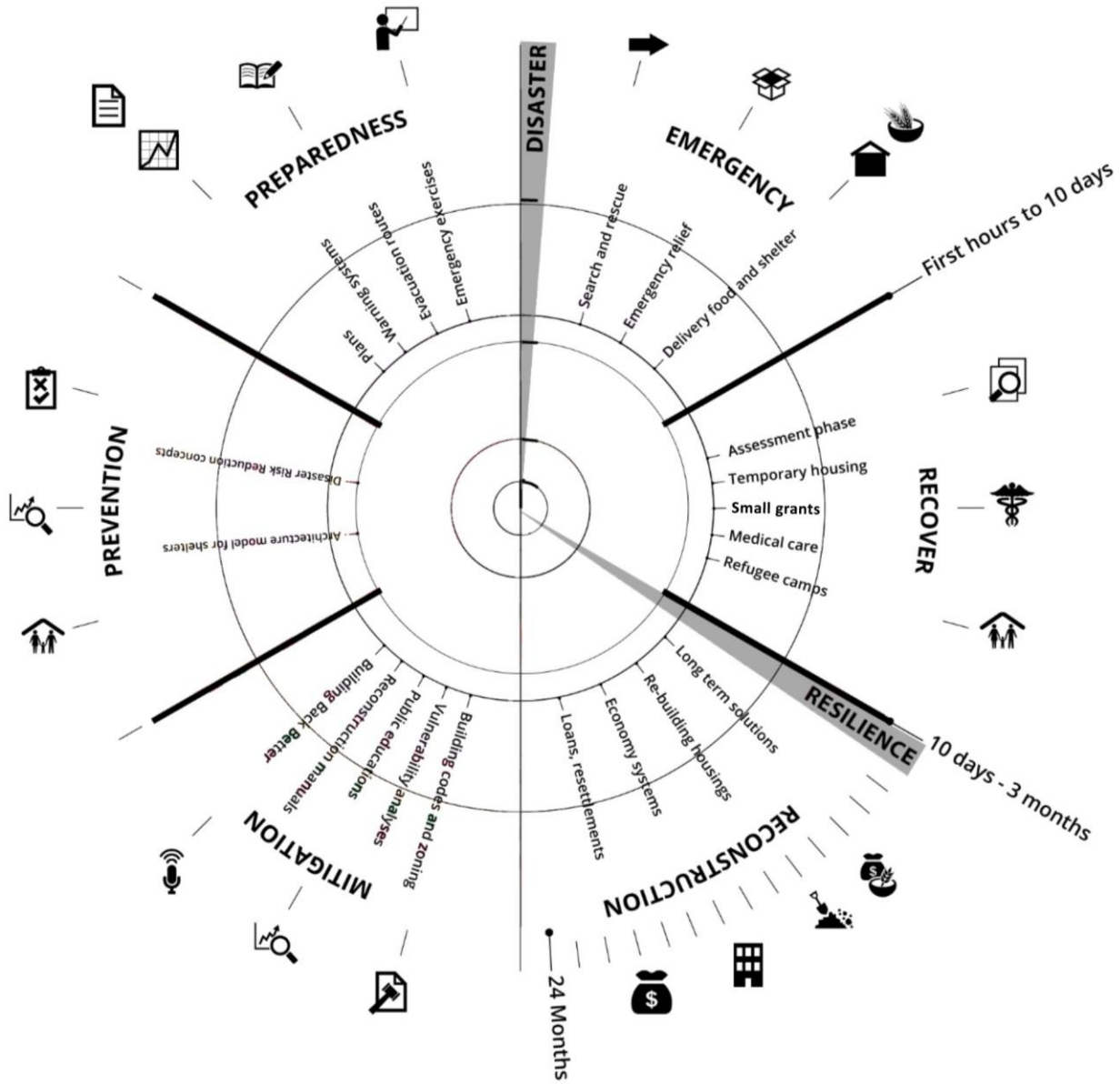


Urban disaster risk management refers to knowledge, capacities, processes and systems in place to effectively anticipate, prevent, respond to, and recover from the impact of hazards.

URBAN DISASTER RISK MANAGEMENT

- Risk awareness and knowledge
- Prevention
- Preparedness and Response
- Recovery and Reconstruction
- Adaptation
- Mitigation

THE EMERGENCY CYCLE



INCREASE RISK KNOWLEDGE & AWARENESS

1 Evidence based risk **identification and assessment** are a crucial basis for more efficient prevention, preparedness and response to hazards

2 A **better informed and more risk-aware** population has increased capacity to cope with all kinds of shocks and stresses

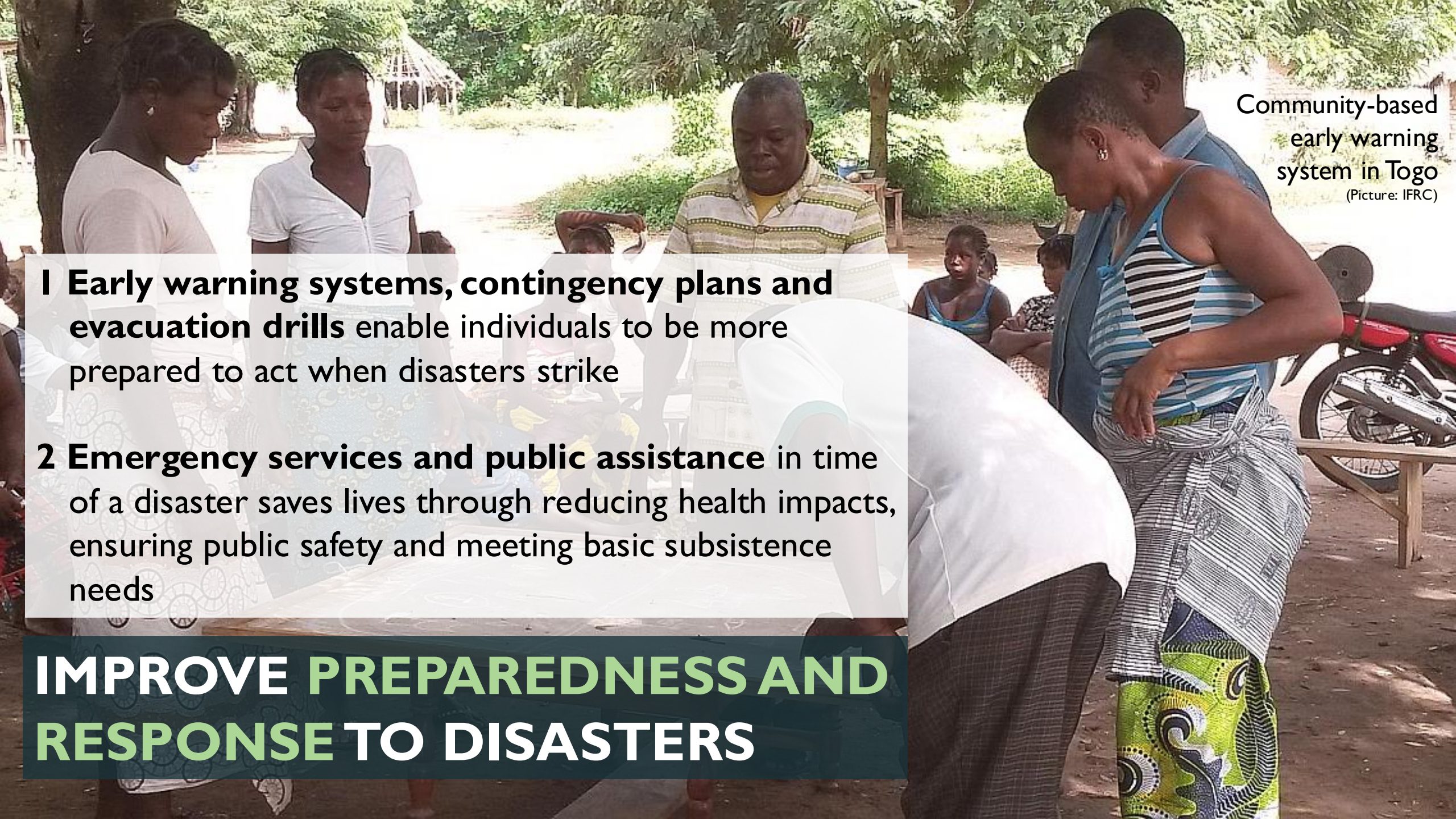
3 Consulting and including the **most vulnerable** population is important to reduce risks and reinforce resilience

Risk mapping exercise at community level in Vilankulo, Mozambique

AWARENESS RAISING MATERIALS

Sharing knowledge of disaster risks with all stakeholders in society is an important step for improving the efficiency of disaster response

The "River Game" promotes awareness of risks and adaptation strategies through a simple and didactic language



Community-based early warning system in Togo
(Picture: IFRC)

1 **Early warning systems, contingency plans and evacuation drills** enable individuals to be more prepared to act when disasters strike

2 **Emergency services and public assistance** in time of a disaster saves lives through reducing health impacts, ensuring public safety and meeting basic subsistence needs

IMPROVE PREPAREDNESS AND RESPONSE TO DISASTERS

MAIN MECHANISMS TO INCREASE PREPAREDNESS

EARLY WARNING SYSTEMS

Enable individuals, communities and organizations to act appropriately by issuing timely warnings through television, radio, internet or telephones

MAIN MECHANISMS TO INCREASE PREPAREDNESS

EMERGENCY PLANNING

Plans and processes that put in place provisions in advance to respond in a timely, effective and appropriate manner by considering possible scenarios and effects caused by disaster situations

MAIN MECHANISMS TO INCREASE PREPAREDNESS

EVACUATION DRILLS

- Know what to do and how to react in an emergency
- Become familiar with evacuation procedures and the emergency escape route

SUSTAINABLE RECOVERY AND IMPROVED RECONSTRUCTION

1 Services, facilities and livelihoods need to be **recovered and restored** timely and appropriately to ensure safe living conditions and transition from crisis to sustainable urban development

2 Recovery and reconstruction processes offer the opportunity to improve practices and facilities to make cities more disaster resilient through the **building back better** approach.

On-the-job training for Building Back

PREVENTION MEASURES TO REDUCE DISASTER IMPACTS

1 **Structural measures** such as **gray** infrastructure (dyke, rainwater collection systems) or **green** (parks) or **blue** (aquifers)

2 **Non-structural** measures such as laws and regulations (building codes)

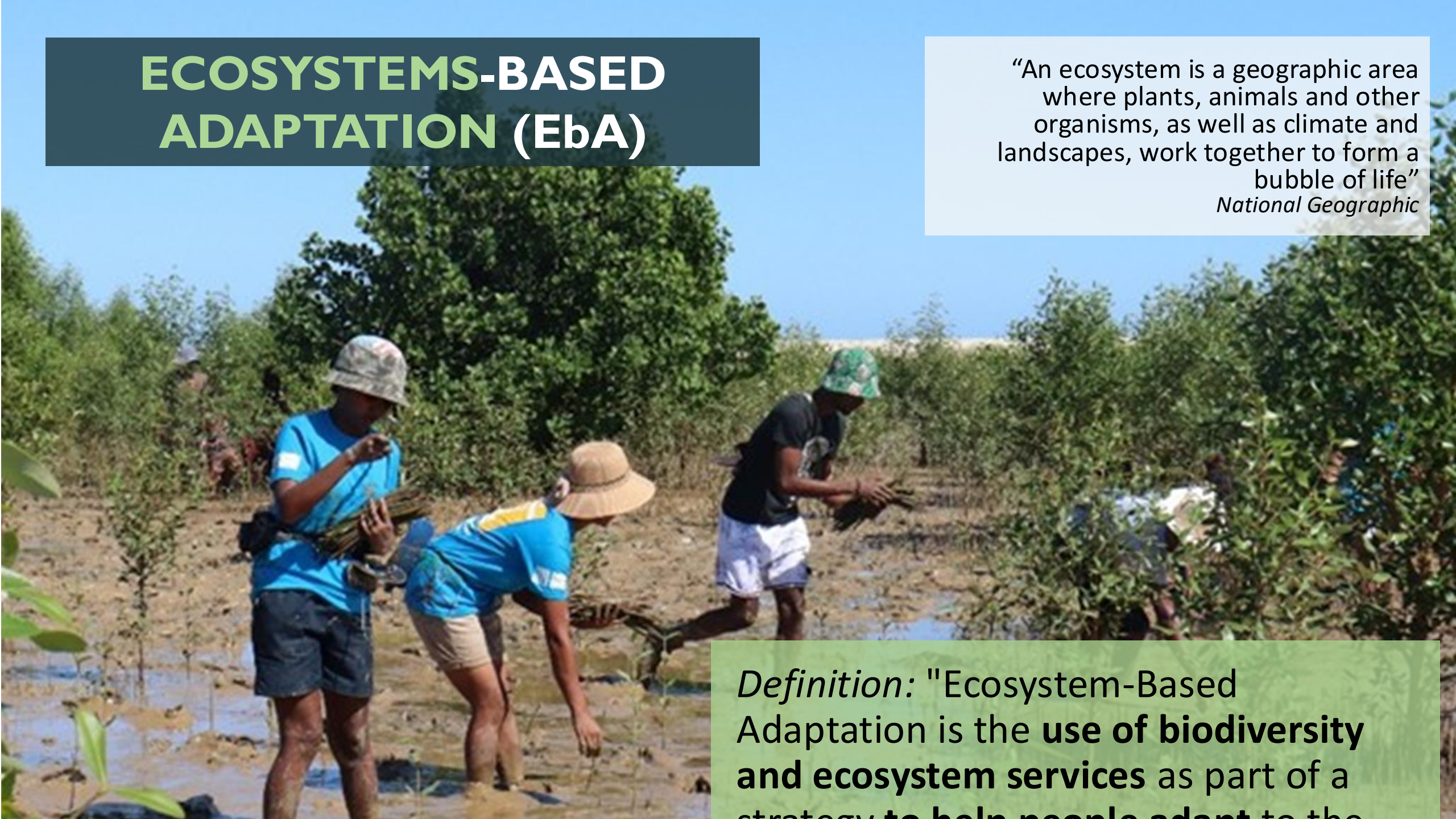
3 **Ecosystem-based DRR** and **Nature-based solutions (NbS)** = actions that promote the **relationship between biodiversity and human well-being**. They use existing natural resources to achieve results and improve a situation. (mangrove afforestation, wetlands restoration as flood buffer zones, planting indigenous crops and trees to better withstand droughts)

Some other examples…?

ouses built in an
osion-prone area in
acala, Mozambique

ECOSYSTEMS-BASED ADAPTATION (EbA)

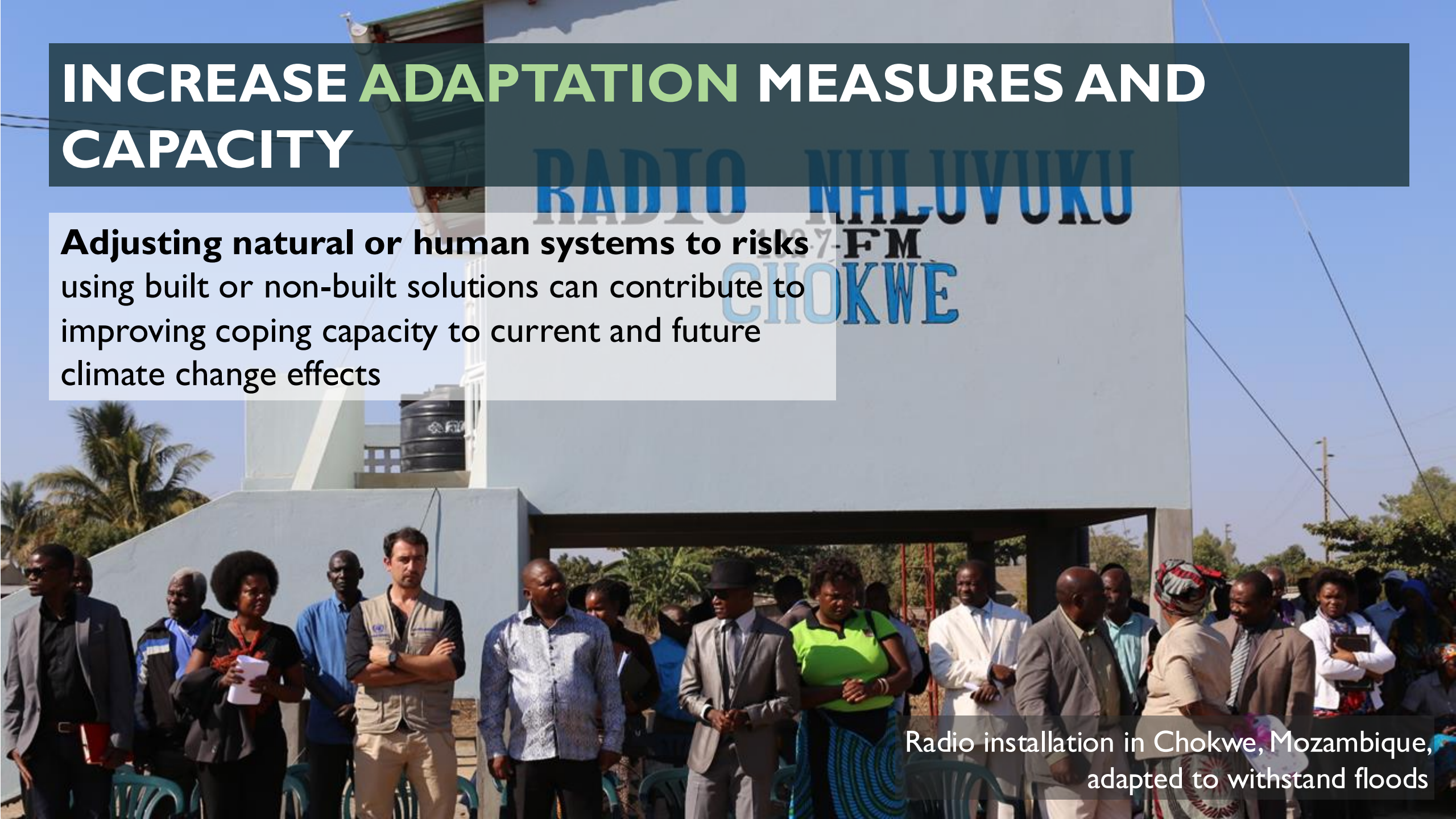
"An ecosystem is a geographic area where plants, animals and other organisms, as well as climate and landscapes, work together to form a bubble of life"
National Geographic



Definition: "Ecosystem-Based Adaptation is the **use of biodiversity and ecosystem services** as part of a

INCREASE ADAPTATION MEASURES AND CAPACITY

Adjusting natural or human systems to risks using built or non-built solutions can contribute to improving coping capacity to current and future climate change effects



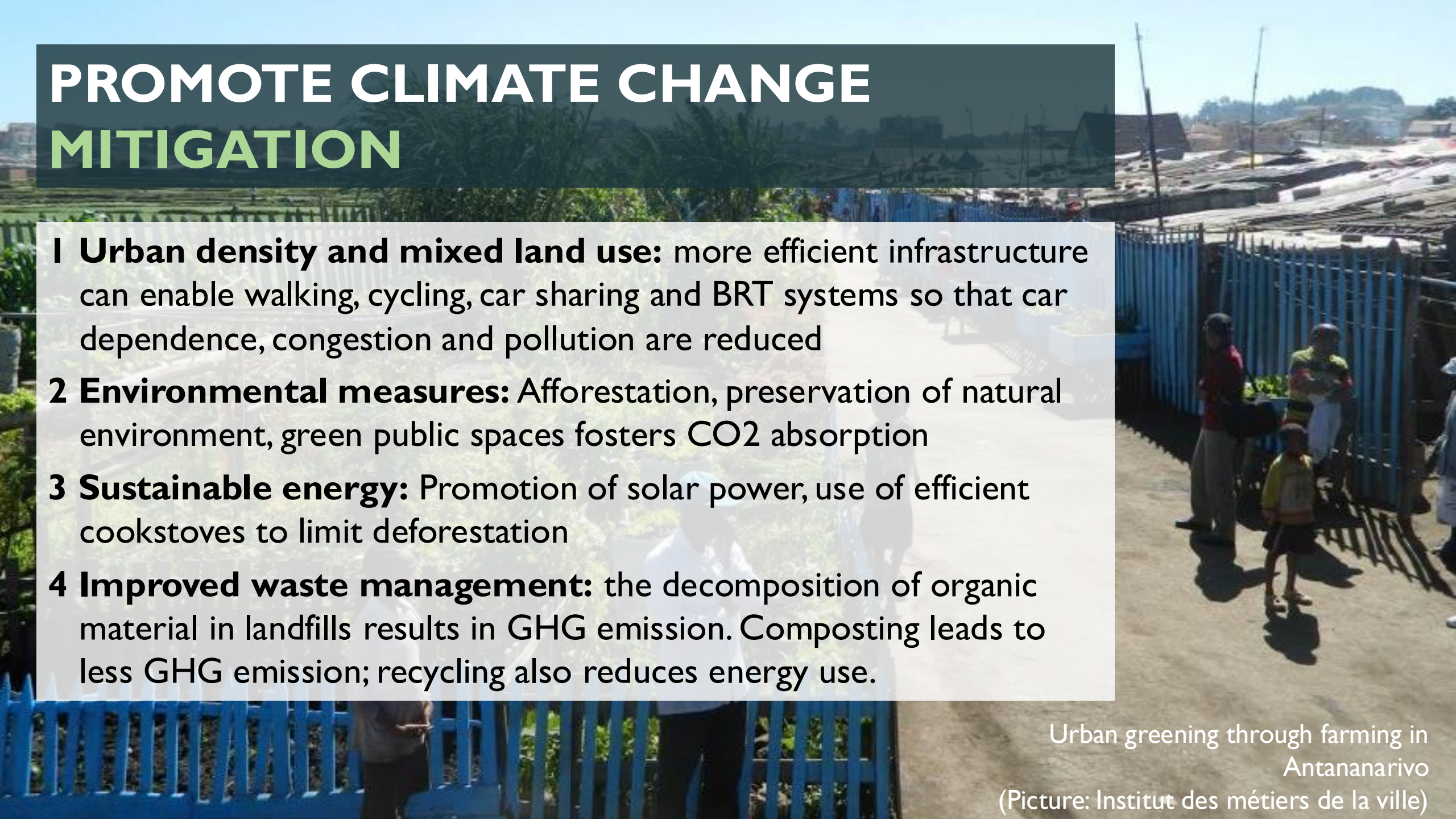
Radio installation in Chokwe, Mozambique, adapted to withstand floods

INCREASE ADAPTATION MEASURES AND CAPACITY – some examples

- **Land use planning and zoning** to only permit housing in non risk areas
- **Adapt building codes** to future climate conditions and extreme weather events
- Mainstream **adaptive architecture** and train local artisans
- Make **drainage systems wide enough** to contain maximum capacity needed/projected, and organize maintenance of drainage to avoid it be clogged with waste (possibly with community involvement)
- **River training interventions to prevent flash floods** and undertake **flood control** to protect critical infrastructure and communities. For instance: Spurs, bank revetment, gabion baskets, guide banks, check dams, retention walls
- **Afforestation** to avoid erosion and land degradation in times of floods; introduce tree species and forestry practices less vulnerable to storms

PROMOTE CLIMATE CHANGE MITIGATION

1. **Urban density and mixed land use:** more efficient infrastructure can enable walking, cycling, car sharing and BRT systems so that car dependence, congestion and pollution are reduced
2. **Environmental measures:** Afforestation, preservation of natural environment, green public spaces fosters CO2 absorption
3. **Sustainable energy:** Promotion of solar power, use of efficient cookstoves to limit deforestation
4. **Improved waste management:** the decomposition of organic material in landfills results in GHG emission. Composting leads to less GHG emission; recycling also reduces energy use.



Urban greening through farming in Antananarivo
(Picture: Institut des métiers de la ville)

LET'S DISCUSS!

Is this house well adapted to potential current or future hazard threats ?
Why?