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Coastal City Adaptation Project

Disaster Resilience Scorecard: Quelimane Baseline Assessment

February 2015



Executive Summary

- Ten Essentials for Making Cities Resilient is a framework for helping cities understand key drivers of ability to cope with natural disasters
- Consultants and CCAP team members conducted assessment through stakeholder interviews and review of secondary sources
- Overall average score for Quelimane is 2.0 (out of 5), which indicates achievements in certain areas but more capacity and institutional commitment required to improve
- Highest scores are in education/health infrastructure and availability of training in disaster preparedness
- Lowest score is in financial planning for disasters (including contingency funds, insurance, and financial incentives for disaster resilience)



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Ten Essentials for Making Cities Resilient*

- 1 Engage, share understanding, and coordinate
- 2 Create financing and incentives
- 3 Identify and understand perils, probabilities and impacts
- 4 Make critical infrastructure disaster resilient
- 5 Make education and healthcare infrastructure disaster resilient
- 6 Apply risk-aware planning, land use and building codes
- 7 Build public awareness and capacity
- 8 Enhance and protect ecosystem services
- 9 Create warning systems and rehearse preparedness
- 10 Learn and build back better

*Developed by UNISDR as part of “Making Cities Resilient” campaign; the ten essentials align with the Hyogo Framework for Action 2005-2015; see <http://www.unisdr.org/campaign/resilientcities/toolkit/essentials>



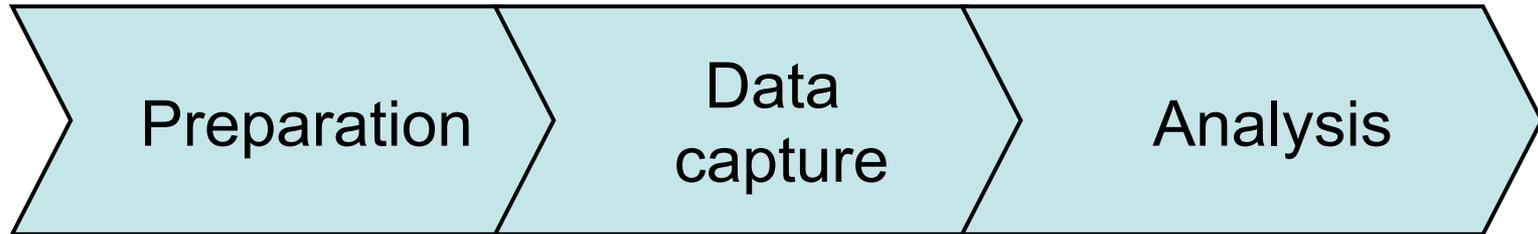
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Disaster Resilience Scorecard Objectives

- Help Quelimane better understand its ability to mitigate potential disasters and identify gaps
- Serve as a guide to city stakeholders to set priorities for achieving short- and long-term goals
- Establish baseline for one indicator that CCAP will use to monitor the impact of its activities (follow-up assessments will be conducted at project mid-point and before the end of the project)



Methodology



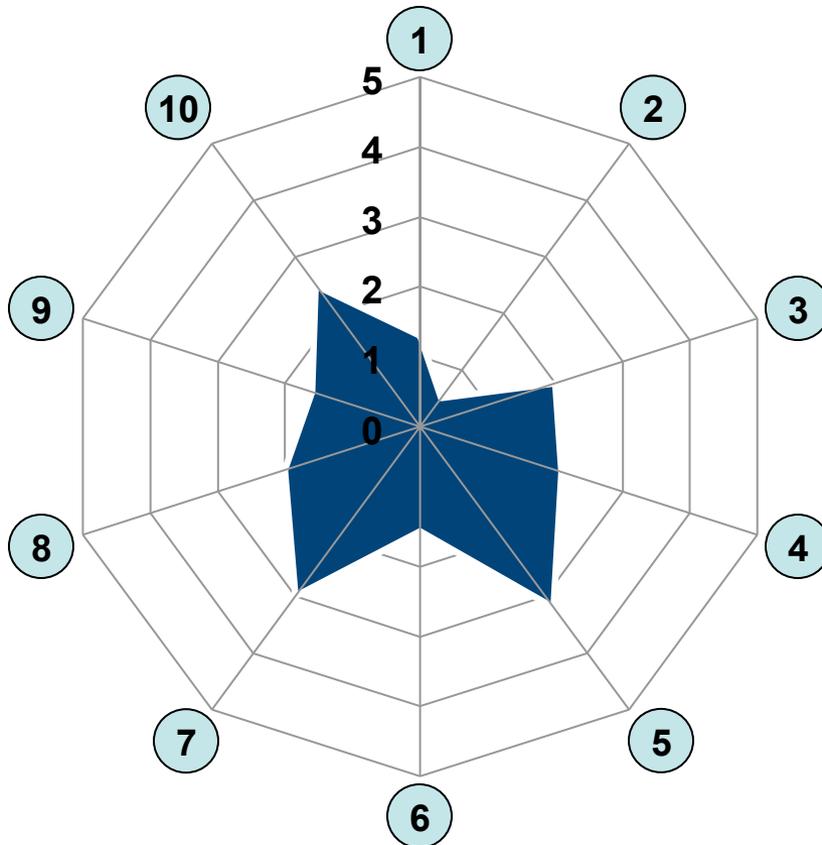
- Review existing assessments
 - Develop interview guide
 - Identify stakeholders and data needed to complete assessment
- Interview national-level stakeholders
 - Interview city-level stakeholders
 - Review secondary information sources
- Complete scorecard and calculate scores
 - Share results with stakeholders



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Summary of Scores for Quelimane

Average score = 2.0



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Description of scores

5 - **Comprehensive achievement** has been attained, with the commitment and capacities to sustain efforts at all levels.

4 - **Substantial achievement** has been attained, but with some recognized deficiencies in commitment, financial resources or operational capacities.

3 - There is some institutional **commitment and capacities to achieving disaster risk reduction** but progress is not comprehensive or substantial.

2 - Achievements have been made but are **incomplete**, and while improvements are planned, the commitment and capacities are limited.

1 - Achievements are **minor** and there are few signs of planning or forward action to improve the situation.



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Detailed Scores by Essential

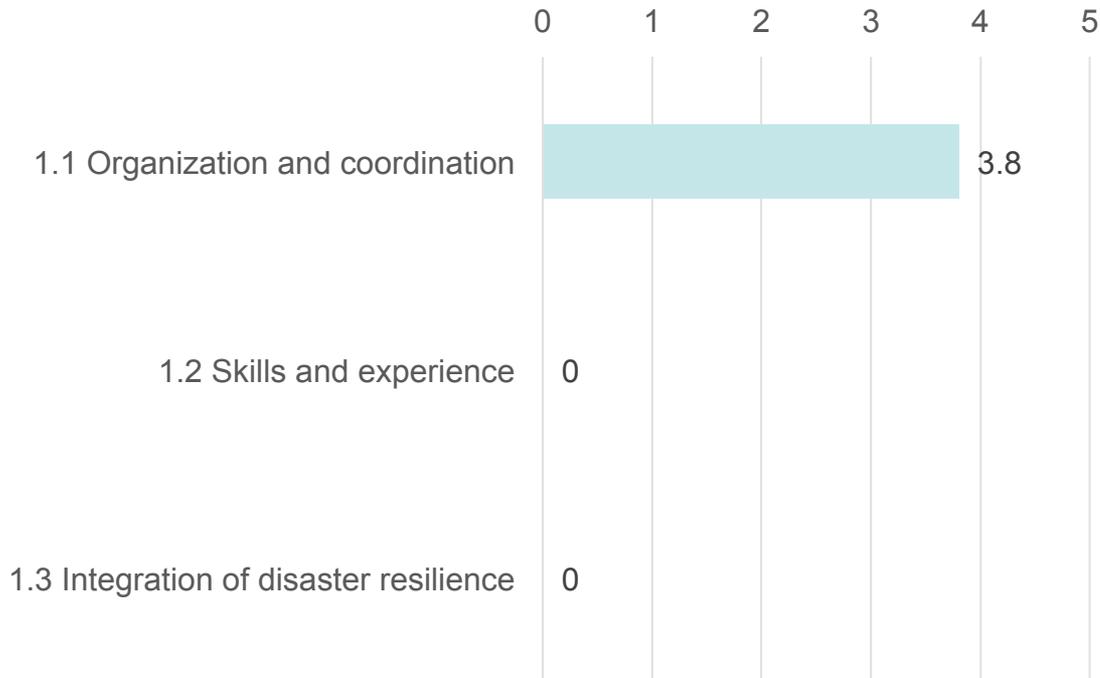
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Essential 1: Put in place organization and coordination to understand and reduce disaster risk, based on participation of citizen groups and civil society. Build local alliances. Ensure that all departments understand their role in disaster risk reduction and preparedness.

Average score = 1.3



Key findings

- Emergency Operations Center (COE) and role of INGC in coordinating and planning disaster response is well established, including participation of relevant local government officials and provincial line ministries
- Less than 50% of neighborhoods are covered by Comitês Locais de Gestão de Risco de Calamidades (CLGRCs) or Red Cross volunteers and training may not be adequate to cover all needs
- No comprehensive inventory (or gap analysis) of key skills, experience, and knowledge required for resilience to disasters or climate change
- No explicit stage in budget approval process to evaluate disaster or climate change impacts of projects

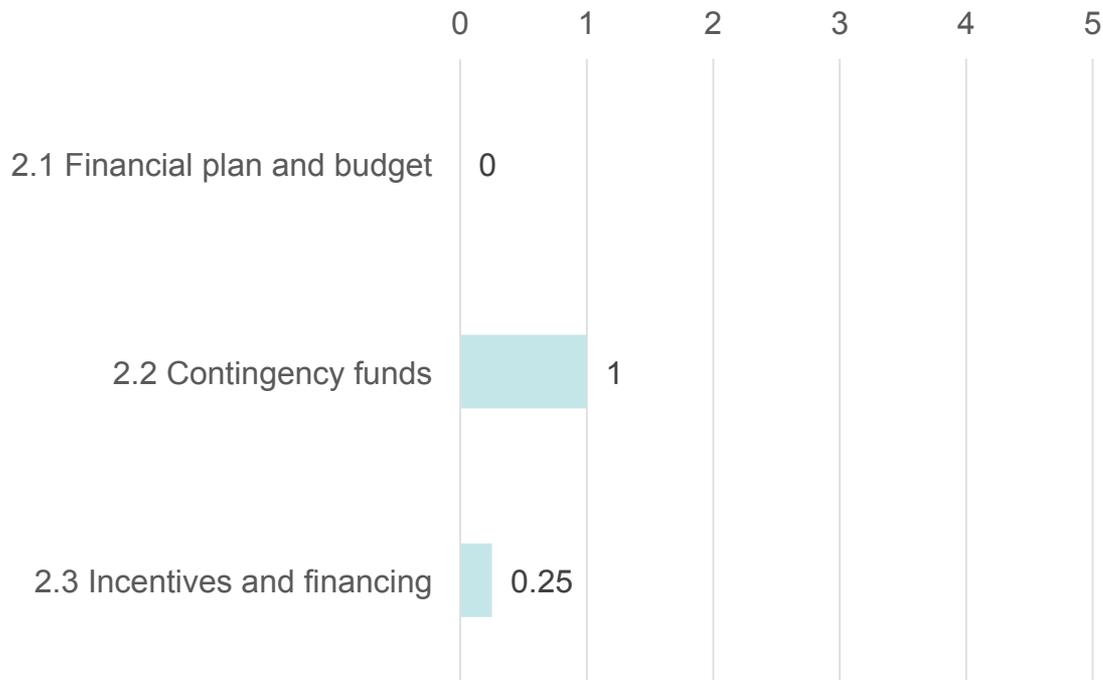
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Essential 2: Assign a budget for disaster risk reduction and provide incentives for homeowners, low-income families, communities, businesses and public sector to invest in reducing the risks they face.

Average score = 0.4



Key findings

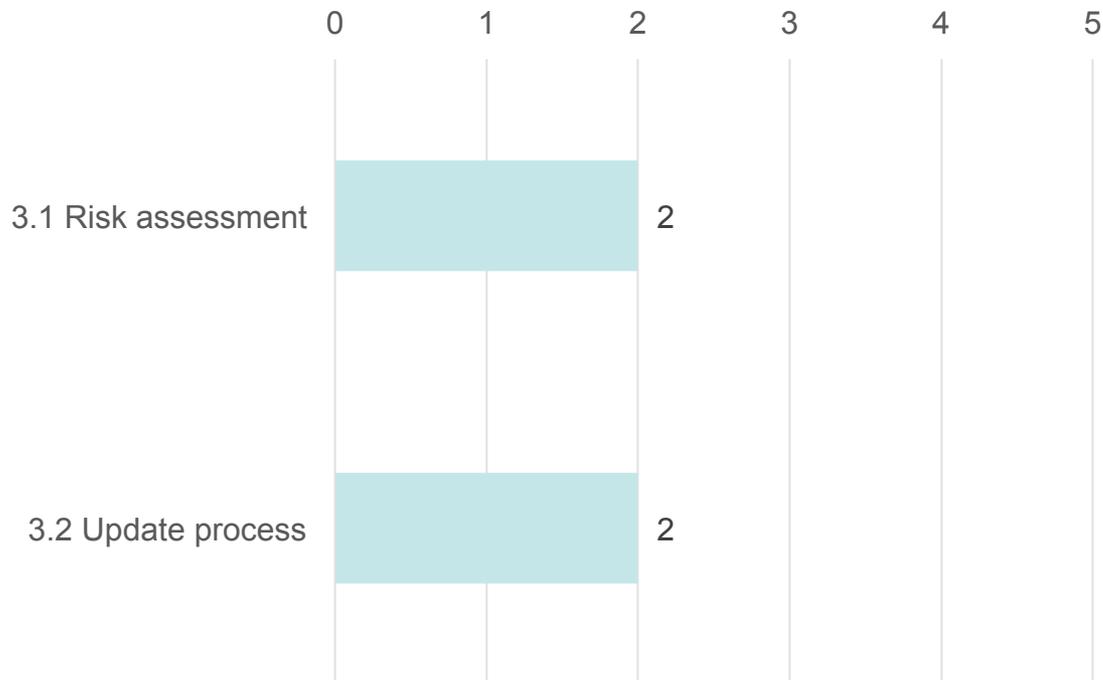
- Financial plans for city (whether driven by provincial line ministries or municipal officials) do not explicitly take into consideration disaster resiliency or climate change
- National and municipal contingency funds are not sufficient to cover expected losses due to most probable disaster scenario
- Financing to achieve disaster-resilient housing is virtually non-existent
- Insurance penetration for homes/businesses is negligible, particularly for most vulnerable populations



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Essential 3: Maintain up-to-date data on hazards and vulnerabilities, prepare risk assessments and use these as the basis for urban development plans and decisions. Ensure that this information and the plans for your city's resilience are readily available to the public and fully discussed with them.

Average score = 2



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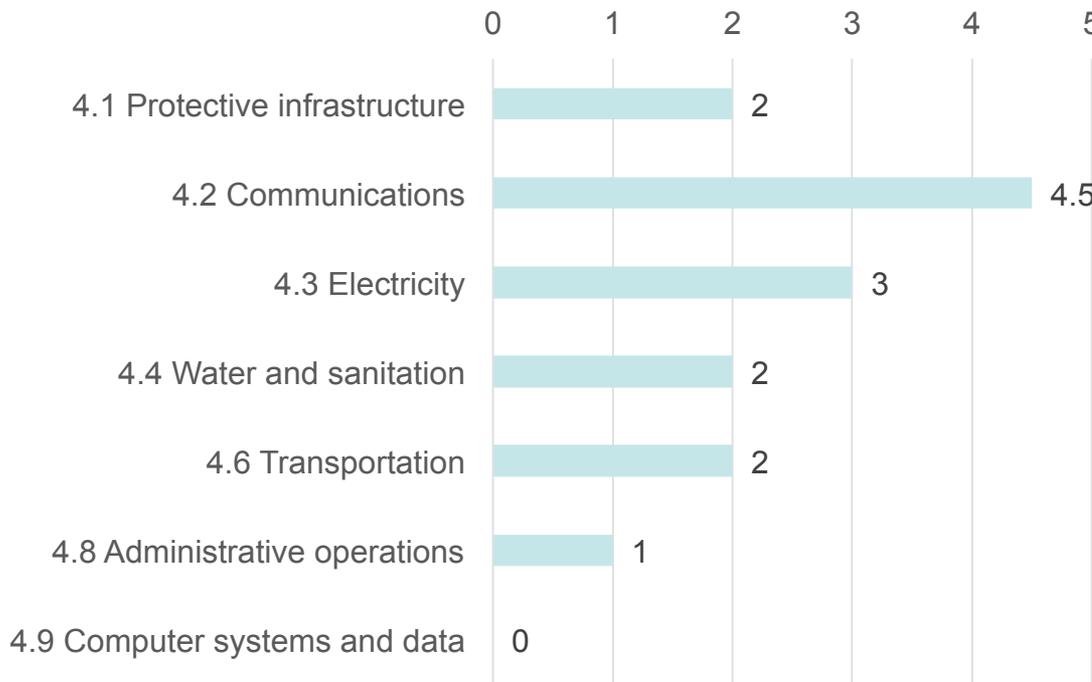
Key findings

- Natural hazards are well known, and updated every year by INGC
- Hazards are categorized into three scenarios by severity
- Provincial contingency plan does not include vulnerability and risk assessments
- Although INGC's Phase II report details city's vulnerability to climate change, no process to update information exists
- Critical assets are unknown, and impact of natural hazards on housing, commercial buildings, economic activities, among other important assets are unknown



Essential 4: Invest in and maintain critical infrastructure that reduces risk, such as flood drainage, adjusted where needed to cope with climate change.

Average score = 2.1



Note: 4.5 (Gas) utility was not assessed as Quelimane does not have a piped gas network; 4.7 (Law & order, first responders) was not assessed as we did not speak to police or defense forces

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Key findings

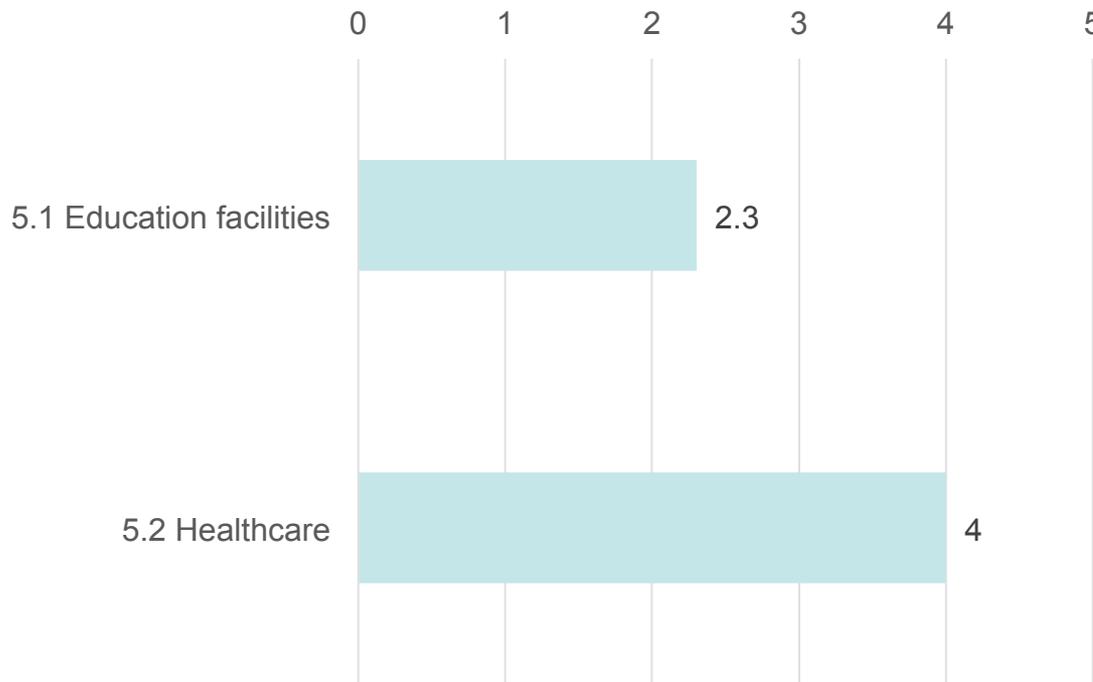
- MCA funded drainage system has minimized risk of floods but does not cover all neighborhoods. Also, trash and debris block water flow in multiple areas.
- Communication services are fairly resilient given underground fiber optic cable network and connection to back up systems in Beira and Nampula
- Nearly 13 percent of residents could lose power for up to 72 hours under the most probable disaster scenario
- About 35,837 meters of road are situated in areas designated as “high risk” or “unplanned”
- Significant disruptions to administrative municipal functions (48 hours or more) would occur under the most probable disaster scenario
- High risk of disruptions to government operations since systems and records are largely paper-based



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Essential 5: Assess the safety of all schools and health facilities and upgrade these as necessary.

Average score = 3.2



Key findings

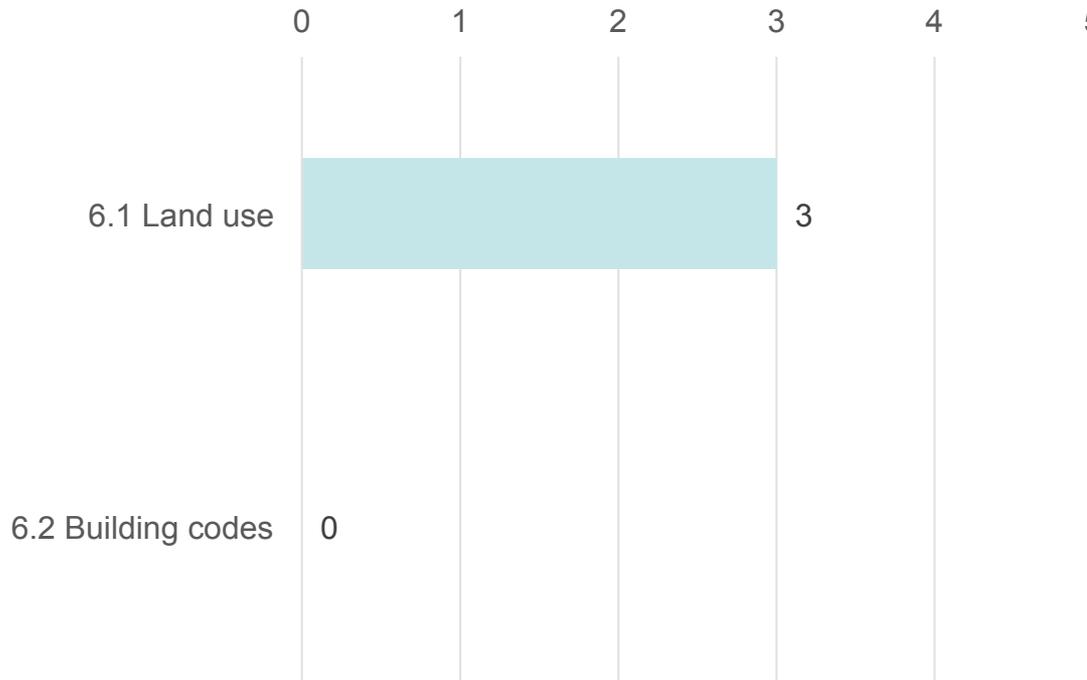
- Estimated 10% of education facilities are damaged by weather events annually; schools receive a small annual budget for minor repairs
- On average children lose about a month of school per year due to disaster-related events
- Critical education data routinely saved at provincial and national levels, able to be accessed post-disaster
- All provincial healthcare services are concentrated in Quelimane and likely to be unaffected under most probable disaster scenario
- Critical health data are routinely transferred from district level to provincial and central government levels where they can be accessed post-disaster
- Topographical surveys and building code assessments are performed before health centers are built



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Essential 6: Apply and enforce realistic, risk compliant building regulations and land use planning principles. Identify safe land for low-income citizens and develop upgrading of informal settlements, wherever feasible.

Average score = 1.5



Key findings

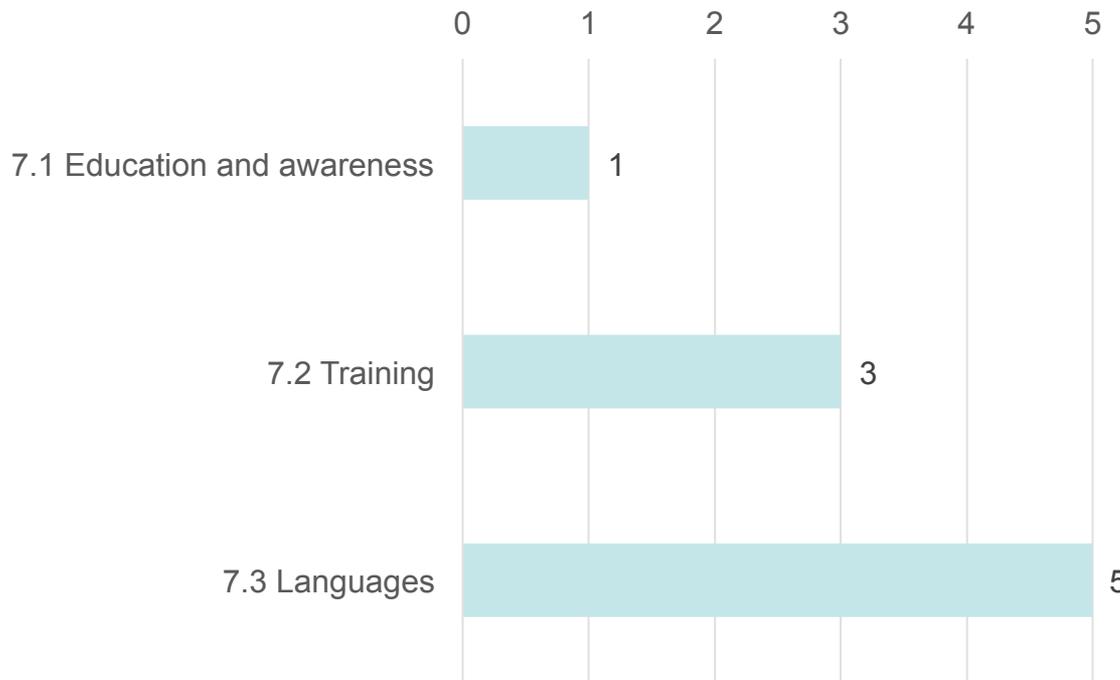
- Absence of structural plan for Quelimane is a significant barrier to achieving effective zoning and city planning
- Land use enforcement mechanisms are weak, exacerbated by lack of structural plan, since it is legal basis for zoning
- Only 2% of the population is at risk of being displaced due to floods or heavy rains based on INGC estimates
- Building codes do not take into account extreme weather events and may not be applied consistently: 77% of structures are at risk of damage based on location in informal and/or high risk areas



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Essential 7: Ensure education programs and training on disaster risk reduction are in place in schools and local communities.

Average score = 3



Key findings

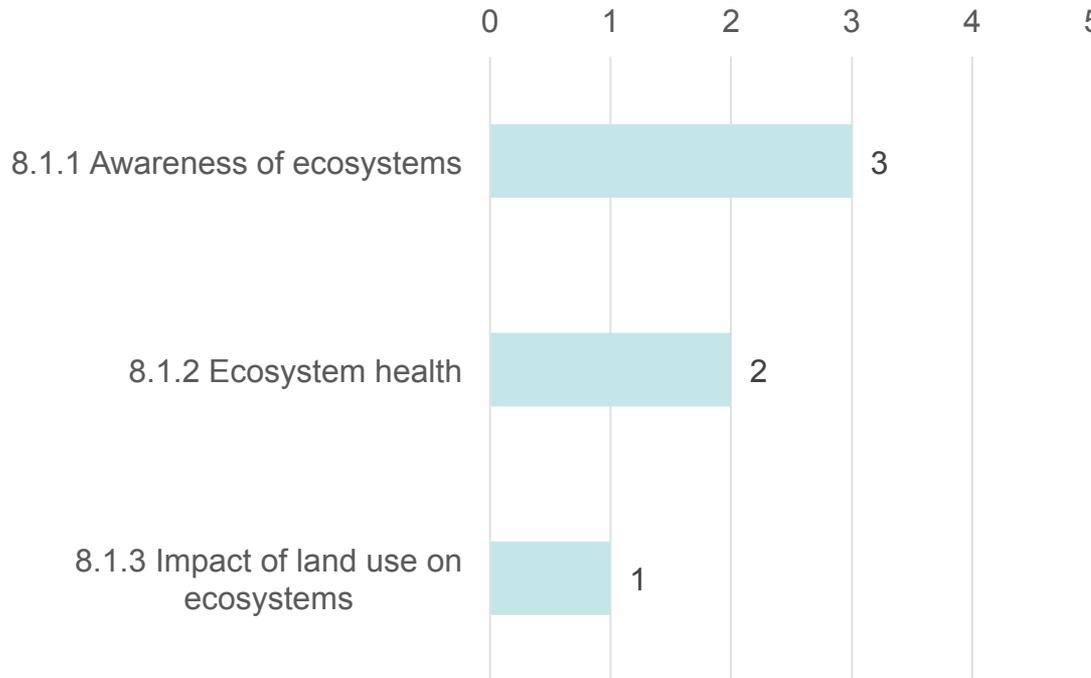
- Efforts to educate general public and increase awareness on disaster risk reduction and disaster resilience are ad-hoc and most schools do not teach disaster-related topics
- Training on disaster preparedness is provided by a few organizations, but topics covered are not coordinated and volunteers receive varying information
- Provincial INGC staff and other key officials participate in disaster response training annually
- Training and messages are delivered in Portuguese and local languages, providing critical information to all residents



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Essential 8: Protect ecosystems and natural buffers to mitigate floods, storm surges and other hazards to which your city may be vulnerable. Adapt to climate change by building on good risk reduction practices.

Average score = 2



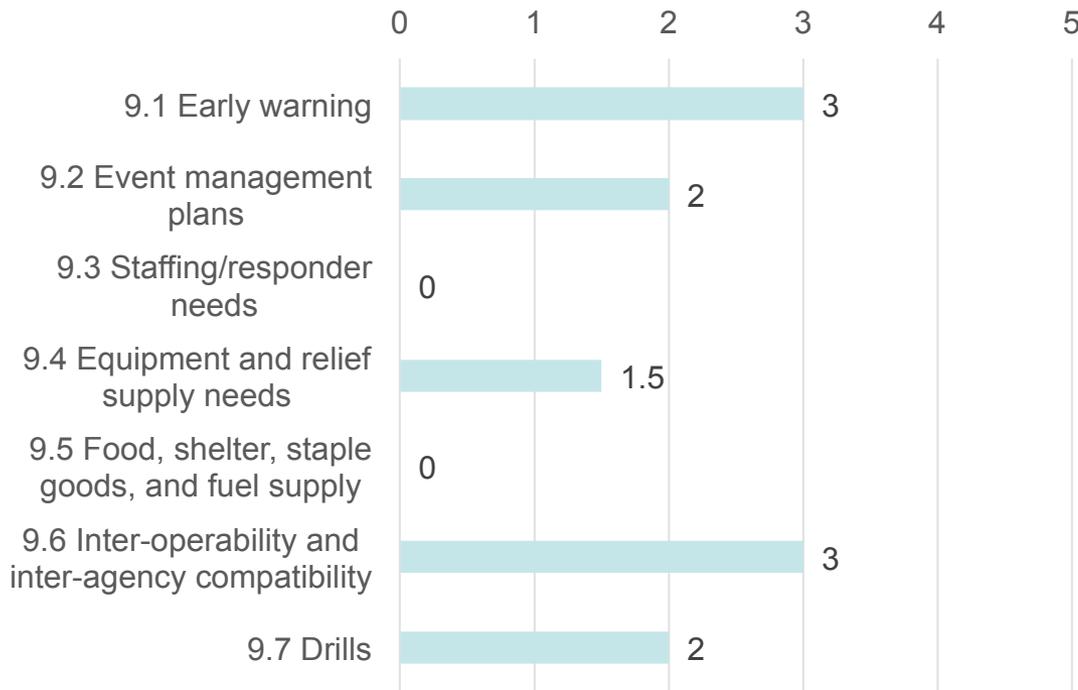
Key findings

- Critical ecosystems identified by local environmental institutions are mangroves, the Bons Sinais river, and wetlands, but no real attempt to monitor ecosystem health over time
- Human activities contribute significantly to mangrove degradation, but environmental institutions have few resources to protect mangroves and other critical ecosystems
- Urban growth is unplanned, which contributes to ecosystems' degradation, and city does not have development or land use plans needed to control urban growth



Essential 9: Install early warning systems and emergency management capacities in your city and hold regular public preparedness drills.

Average score = 1.6



Key findings

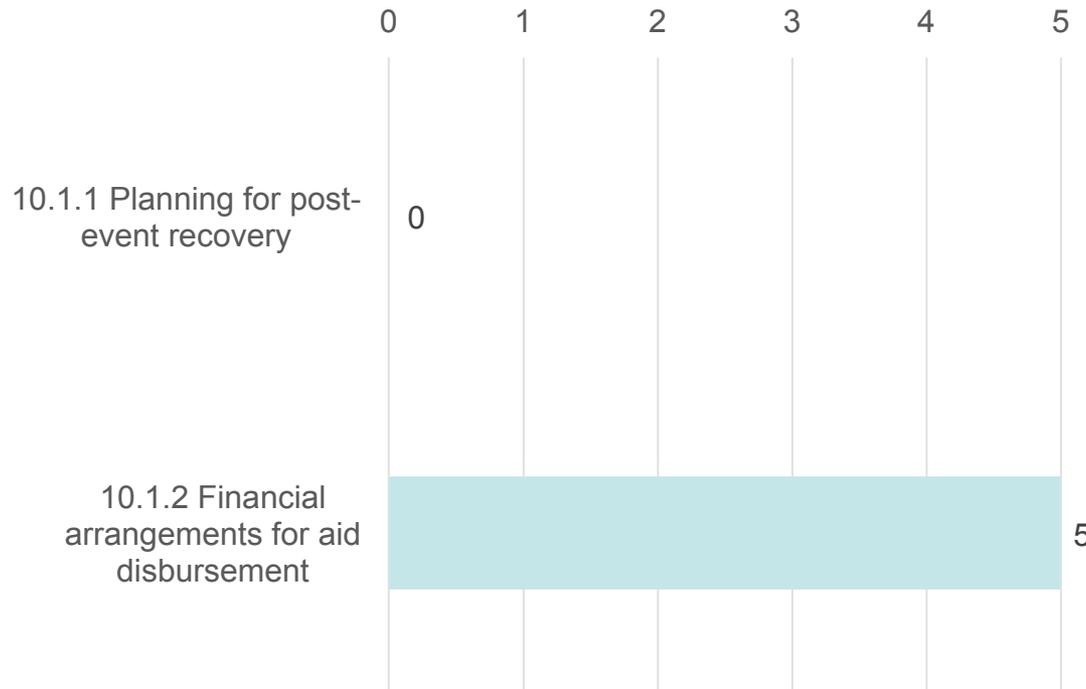
- Early warning system exists (primarily for cyclones) but no data on reach and effectiveness
- National and Provincial Contingency Plans for the 2014/15 Rain and Cyclone Season provide framework for emergency response and contain some information on resources and gaps, but are missing operational details
- Available resources are generally insufficient to cover expected needs
- Inter-agency coordination is clear (in theory) but has not been tested regularly (last simulation was conducted in 2013)



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Essential 10: After any disaster, ensure that the needs of the survivors are placed at the center of reconstruction with support for them and their community organizations to design and help implement responses, including rebuilding homes and livelihoods.

Average score = 2.5



Key findings

- Specific recovery plans are not drafted in advance of disasters
- INGC's Office for Coordination of Reconstruction, Ministry of Planning and Development, Ministry of Public Works, and Ministry of Finance play roles in post-event recovery
- Mozambique has more than a decade of experience managing donor funds for post-disaster reconstruction
- e-SISTAFE public financial management system ensures transparency in use of funds



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Appendices

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List of individuals interviewed

Local Government Stakeholders

Administração de Infraestruturas de Água e Saneamento: Júlia Warela

Balcões de Atendimento Único (BAU): Fernando Matosinho

Center for NGO Hygiene, Water and Sanitation (CECOHAS):

Marcos de Amaral

Cruz Vermelha de Moçambique: Simon Bonate

Direcção Provincial de Coordenação de Acção Ambiental:

Agostinho

Becas

Direcção Provincial de Educação: Armindo Primeiro

Direcção Provincial de Saúde: Bernarda Bernardo, Epifanio

Mahagaja

Direcção Provincial do Plano e Finanças de Zambézia: Graciano

Francisco

Electricidade de Moçambique: Maria Fernanda Quipico

Escola Superior de Ciências Marinhas e Costeiras: Fialho

Nehemas

Fundo de Investimento e Património de Abastecimento de Água:

Lony Binda, Maura Dias

Friends in Global Health: Marcia de Sousa

Instituto Nacional de Estatística: Zuraida Khan

Instituto Nacional de Gestão de Calamidades: Paulo Tomas

Instituto Nacional de Meteorologia: Dulce Luis Jafete, Sergio Mugoa

Telecomunicações de Moçambique: Abu Satar, Gimo Mabanga, Helena Castro

United Nations Children's Fund (UNICEF): Eva Duarte

Vereação de Ambiente e Mudanças Climáticas: Jacinto Antonio Alfandega, Elsa Cabá, Joao de Brito, Sergio Brito, Zaida António

Vereação de Educação, Saúde, Mulher e Acção Social: Casimiro Pedro, Jorge Fernandes, Lucia Angelica, Paula Maria Maquile

Vereação de Finanças: Joao Mario

Vereação de Urbanização e Infraestrutura: Aida Lingula, Antonio Filipe, Armando Jorge, Nicol Dinis

National Government Stakeholders

Conselho Nacional para o Desenvolvimento Sustentável (CONDES):

Eng. Celestino Salencia, Dr. Isidro Fote

Ministério da Planificação e Desenvolvimento (MPD): Julio Fillimone

Ministério para a Coordenação da Acção Ambiental (MICOA): Dr. Wetela John

Instituto Nacional de Gestão de Calamidades (INGC): Ana Cristina

Joao Manuel, Casimiro dos Santos Teresa Abreu, Joao Tiago

Meneses Machado Ribeiro,

United Nations Development Programme (UNDP): Manuela Muianga, Nadia Vaz



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