(Risk-Informed Investments for Local Resilience)

Dubai Resilience Center

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Introduction

- Investment should be based on the magnitude of the risk a city may face in the future, not on the magnitude of the current problem.

- Traditional investment may focus on population size, current demand, political and developmental priorities, project cost, and direct financial return, while risk-based investment focuses on how every Dollar invested can minimize risk and maintain essential services.

Dubai's Risk-Based Investment Approach

- Dubai defines this concept as "directing financial, public, and private resources towards projects, assets, and communities that achieve the greatest possible risk reduction, taking into account the future probabilities of risk and the economic, social, and environmental returns of investment."

- This definition aligns with the approach of the United Nations Office for Disaster Risk Reduction (UNDRR), which considers investment in disaster risk reduction as one of the four key pillars of the Sendai Framework and calls for redirecting financial flows towards prevention and resilience.

Dubai's Risk-Based Investment Approach

- Dubai's Risk-Based Investment Approach is based on:
- What risk do we need to reduce? → What are the potential losses? → System Focus → Historical Data + Future Scenarios → Interconnected Resilience → Economic + Social + Environmental Returns + Resilience → Prevention, Preparedness, and Proactivity
- The question is not "How much does resilience cost?" but "How much risk does the investment reduce?"

Dubai's Risk-Based Investment Approach

Why is this approach particularly important for Dubai?

- ✓ High population, tourism, and economic density
- ✓ Strong and interconnected infrastructure
- ✓ Heavy reliance on the continuity of electricity, water, transportation, and communications
- ✓ Highly centralized aviation, ports, and logistics
- ✓ Economy based on tourism, trade, services, and the financial sector
- ✓ Increased exposure to climate risks, especially extreme heat, heavy rainfall, flash floods, and sandstorms
- ✓ Growing reliance on digital systems

Dubai's Risk-Based Investment Approach

- The most important point for Dubai is that the risk is not limited or localized; rather, there is a high degree of interdependence and close interrelationship between sectors.
- For example: A power outage affects cooling, affects health, affects buildings, affects businesses, and affects transportation and communications.

Resilience investment must consider interdependencies

Risks directing investments in Dubai

Risk	Affected assets	Investment type
Extreme Heat	Health, electricity, buildings, workers	Cooling Resilience
Heavy Rain	Roads, tunnels, airports, neighborhoods	Drainage
Power outage	All vital sectors	Redundancy / Storage / Microgrids
Supply chain disruption	Food, industry, services	Diversification / Local Capacity
Cyber Security	Government, Transportation, Services	Cyber Resilience
Epidemics	Health, economy, schools	Preparedness Capacity
Compound Risks	Infrastructure and services	Integrated Resilience

Risks directing investments in Dubai

Example – Heavy Rainfall – Flash Floods

- Sometimes the best evidence of the value of a risk-based investment is one that begins before a risk becomes a recurring crisis.
- A drainage project in Dubai, announced following the exceptional rainfall in April 2024, is a clear example of turning lessons learned from a severe event into a long-term investment in resilience.
- Dubai announced a AED 30 billion investment to enhance its stormwater drainage network, aiming to increase the system's capacity by approximately 700% and handle more than 20 million cubic meters of water daily. The project is to be completed in phases until 2033.

How does Dubai prioritize investment?

We don't just measure financial returns. Investing in resilience might not be attractive if we only consider the Resilience Return on Investment (RROI) in purely financial terms. It also encompasses:

- Financial benefits, such as avoiding losses, reducing repair costs, and minimizing business downtime;
- Social benefits, such as protecting the population, safeguarding vulnerable groups, and ensuring the continuity of essential services;
- Economic benefits, such as protecting economic, jobs, and investments;
- Environmental benefits, such as reducing heat, managing stormwater, and utilizing nature-based solutions; and
- Strategic benefits, such as enhancing investor confidence, maintaining Dubai's competitiveness, and supporting economic security.

How does Dubai prioritize investment?

- Dubai's resilience depends not only on building stronger infrastructure, but also on making smarter investment decisions.
- Every dirham invested today based on a risk assessment can save many times that amount from losses tomorrow.

From Risk Assessment → to Risk-Informed Investment → to Resilient Dubai

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A case study from Dubai - the "Tasreef" program for upgrading the stormwater drainage system in Dubai

- The Tasreef program is a strategic initiative led by Dubai Municipality to develop, rehabilitate, and expand the stormwater drainage system in the Emirate of Dubai, transforming it into a unified, integrated, resilient, and scalable system.
- The program's total announced value is approximately AED 30 billion (US$8.15 billion), and it aims to increase the stormwater drainage system's capacity by about 700%. It is considered the largest unified stormwater collection project in the region.
- This program aligns with the Emirate's vision to build infrastructure that is more resilient to climate change and future urban growth.

A case study from Dubai - the "Tasreef" program for upgrading the stormwater drainage system in Dubai

- This program (drainage) is not viewed as merely a drainage project, but as a strategic investment in the city’s resilience, the continuity of its services, and its economy.

References

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- Dubai Resilience Strategy – Government of Dubai
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- Dubai's Call for Action – UNDRR

Thank you

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