

# Implementing Disaster Risk Reduction at the local Level

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The Aqaba city Model  
“An integrated approach “  
A Case Study of Urban Risk Management  
*Sharing the experience and good practices*  
*Tabarka, Tunisa, 26, July 2017*



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- **ASEZA SOCIO-ECONOMICAL PROFILE;**
- **LOCAL HAZARD PROFILE;**
- **DRR PRACTICE, TOOLS AT THE LOCAL LEVEL;**
- **KEY CHALLENGES**

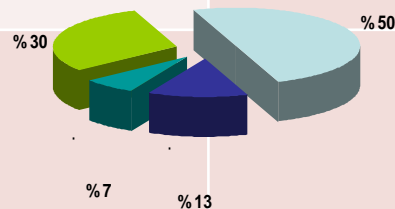
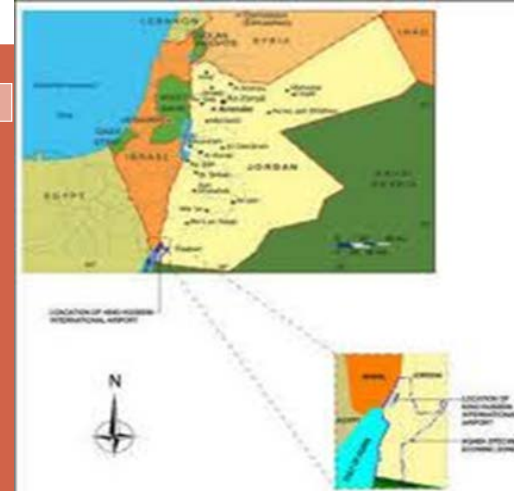
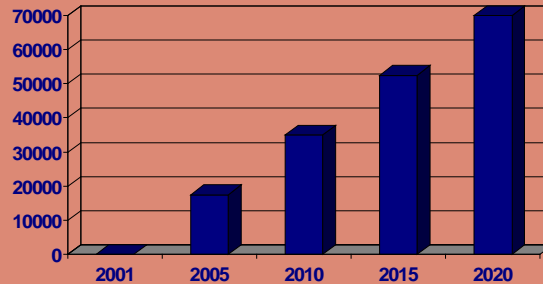
## The City of Aqaba

- Located at the northern tip of the Gulf of Aqaba
- Jordan's only outlet and sea port to the open sea
- In 2001 the city was transferred into a Special Economic Zone namely after (ASEZ)



## The Socio-Economic Profile

- **Area 357 km<sup>2</sup>**
- **Population = 10300**
- **Duty free flat tax rate**
- **One –stop –shop**
- **An engine of growth at the national level**
- **Administered by a decentralized local government Authority (ASEZA)**





# Values of the city of Aqaba

Economical

Historical and  
Cultural,  
Social values

Recreational  
values



## THE VISION

The Aqaba Special Economic Zone is a world class Red Sea business hub and leisure destination enhancing the quality of life and prosperity of the region and a driving force

## Hazards profile

**Earthquakes**

**Flashfloods**

**Sandstorms**

**Technological hazards**



# Hazard profile (Fact sheet)

## Earthquakes

- ❑ The last earthquake hit the city was in 1995
- Earthquake
- 6.2 magnitude
- Lasted for 40 sec
- No casualties
- Small damages to the buildings and infrastructures



## Hazards profile (Fact sheet)

### Flashfloods

- Feb.2006 FF
- High panic  
Last flash flood  
hit was in 2006
- Six people died  
and 25 affected

#### Oct. 2012 FF

- Two casualties
- Substantial  
Damage to  
infrastructures



## ASEZA DRR Governance modality

ASEZA and other related  
agencies

response

Recovery

emergency

*“Implementation  
of Essential 1  
In line with  
Sendai  
framework”*

ASEZA Role in DRM

mitigation

preparation

Build  
capacity



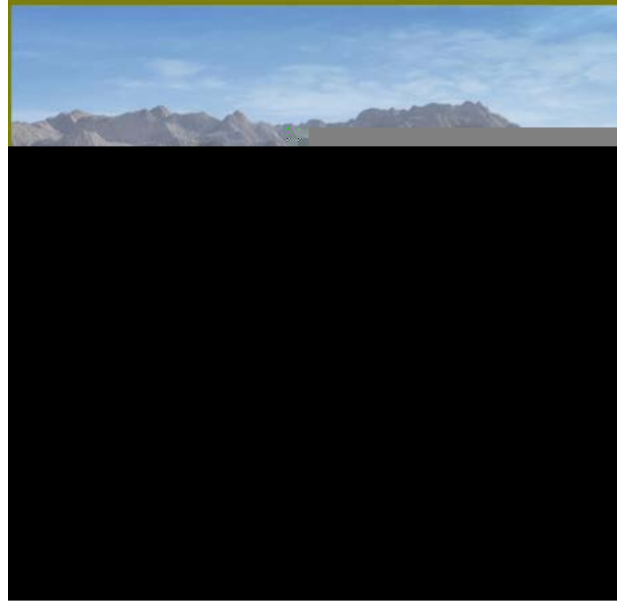
## Why DRR in the city of Aqaba ?

Protecting investments

Minimizing losses and damages form Hazards

Building local capacity

Build back better during recovery



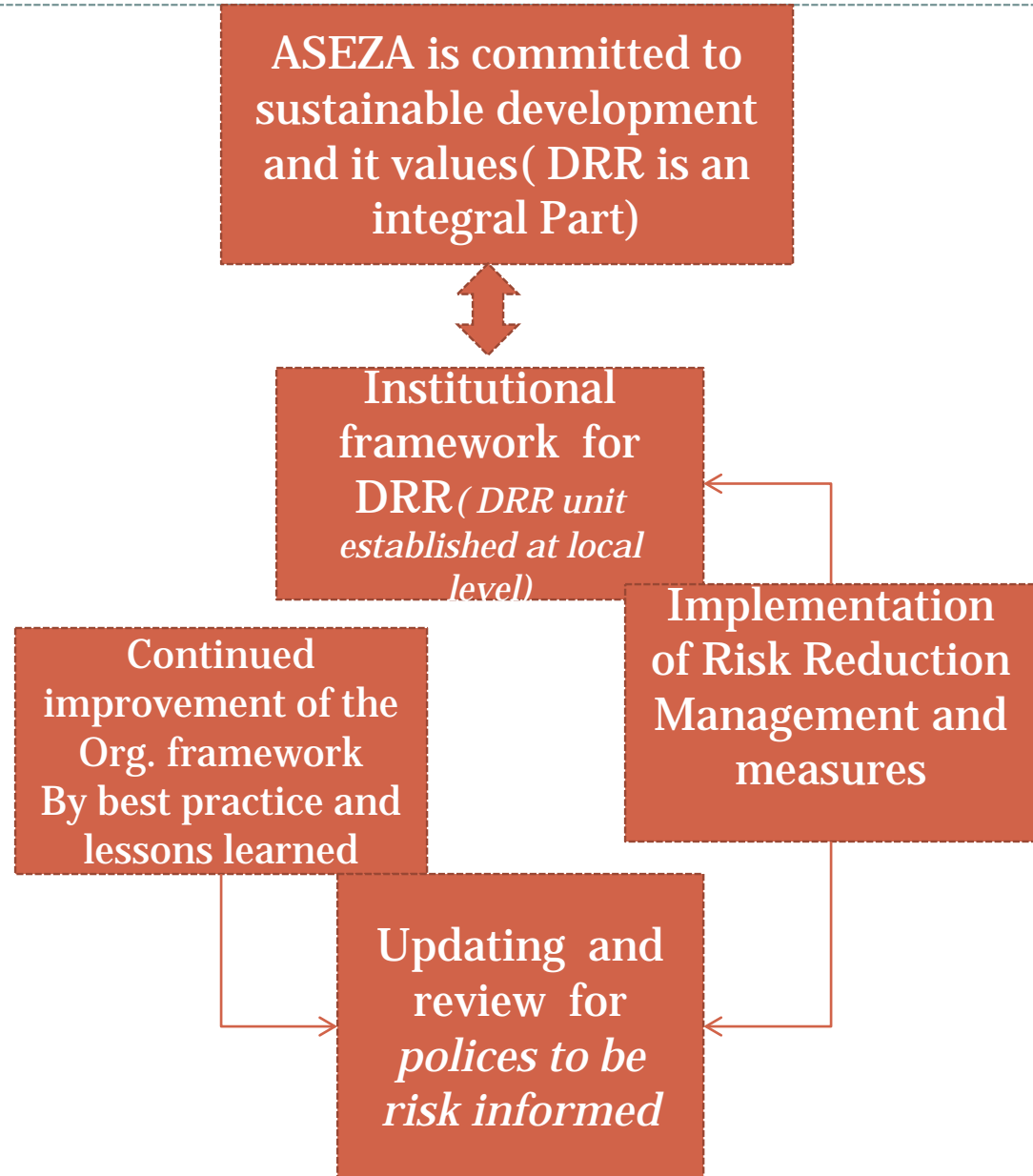
## How we do it?

By Integrating  
DRR into  
Development  
process

Through ASEZA's  
and institutional  
and legal  
Frameworks

Processes for  
Disaster Risk  
Reduction ( land  
use planning and  
climate change  
adaptation

**Essential 1**





## AESZA DRR Practice

### Implementing HFA-1 at the local level and now the post 2015 -2030 Sendai Framework

*Essential 1*

HFA-1 Ensuring DRR is a local priority with strong institutional basis for implementation

4 DRR tasks at the local governance level(HFA Priority-1 related) were implemented by ASEZA

- **Engaging in a multi-stake-holder dialogue to form basis for DRR**
- **Strengthening Mechanisms for systematic DRR coordination**
- **Assess and develop the Institutional & Legal basis for DRR**
- **Prioritize DRR and Allocate Appropriate Resources**

## **ASEZA'S Tools for DRR**

**for the  
Institutionalization  
of DRR into the  
Governance System**

**Task 1. Engaging  
in a multi-stake-  
holder dialogue to  
form basis for  
DRR**

*Essential 1*

**Political Commitment**



**Functional multi stake-  
holder platform**

## ASEZA legal arrangement for DRR at the local level

### for the Institutionalization of DRR into the Governance System

- Establishing the context for DRR practice locally  
Legal & legislative contexts (*what we are trying to do*)

*Essential 1*

The Civil Defense law 1999  
ASEZA Law No. 32 year 2000

Local Defense Committee chaired by the Governor

ASEZA DRR Established Unit

ASEZA DRM Committee established by the Governor

International Standards

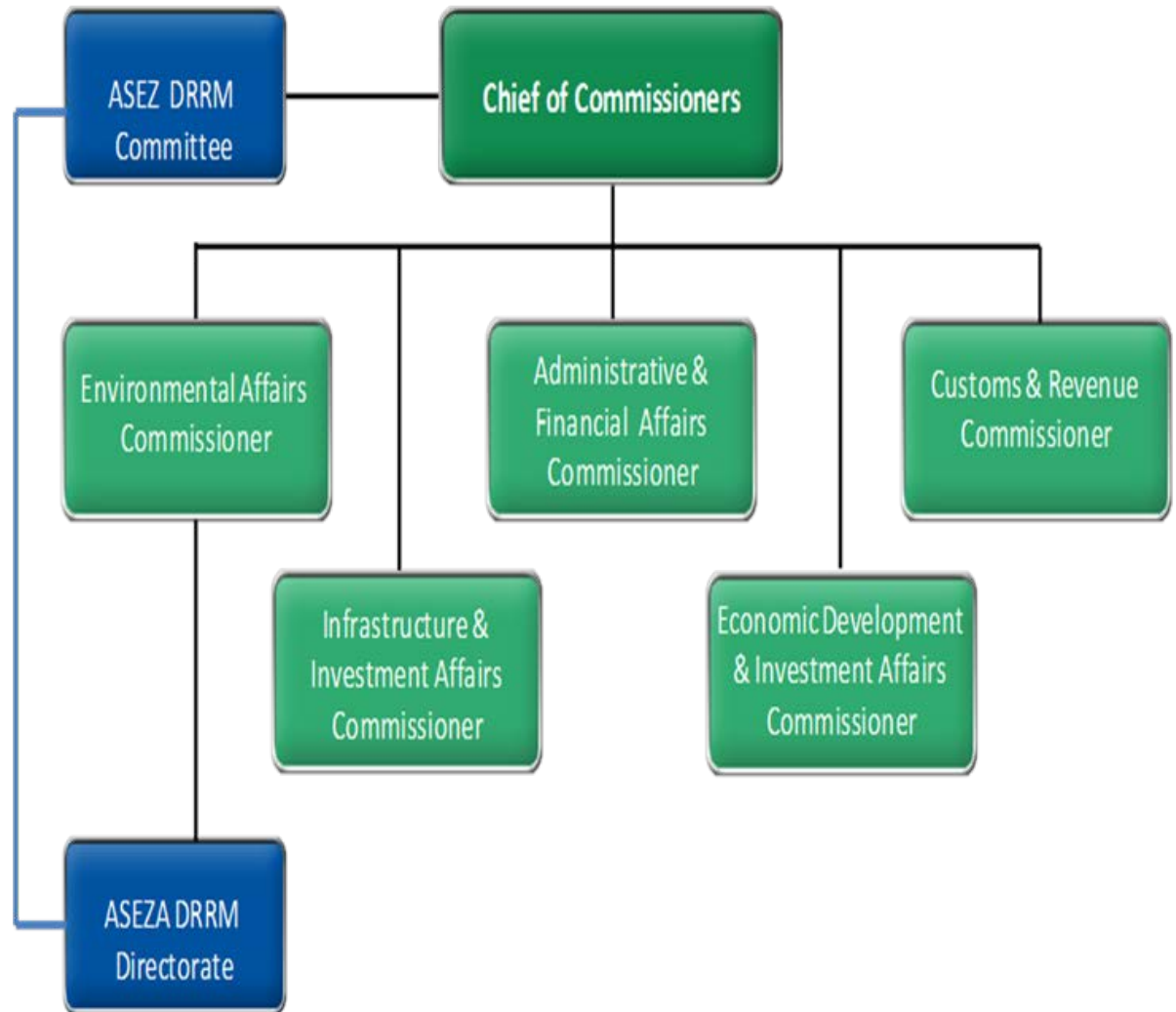




## DRR Practice

# ASEZA's institutional arrangement for DRR at the local level

### *Essential 1*



## ASEZA'S Tools for DRR

**Institutionalizing  
Disaster Risk  
Reduction into  
ASEZA Governance(  
Risk Governance)**

**Task 4 :  
Prioritize DRR  
and Allocate  
Appropriate  
Resources**

***Essential 1&2***

Support to the National Capacity Building to Reduce Disaster Risk Reduction project

Risk  
identification

Risk Analysis

Risk  
Evaluation

Accepting the risk by ASEZA and  
acting Accordingly

Enhancing the Institutional Capacity to Reduce Disaster Risk and integrate Climate Change in Jordan Project( planning for the DRR measures)

DRR unit  
administrative  
Setup

Revise  
planning  
process

piloting DRR  
projects

allocate resources ASEZA annual Budget



## MDG & SDGs Activities

### Local \city – level DRR Tasks

### Vulnerability Reduction Tasks to enhance

### urban Resilience

*Essential 3,4,5*

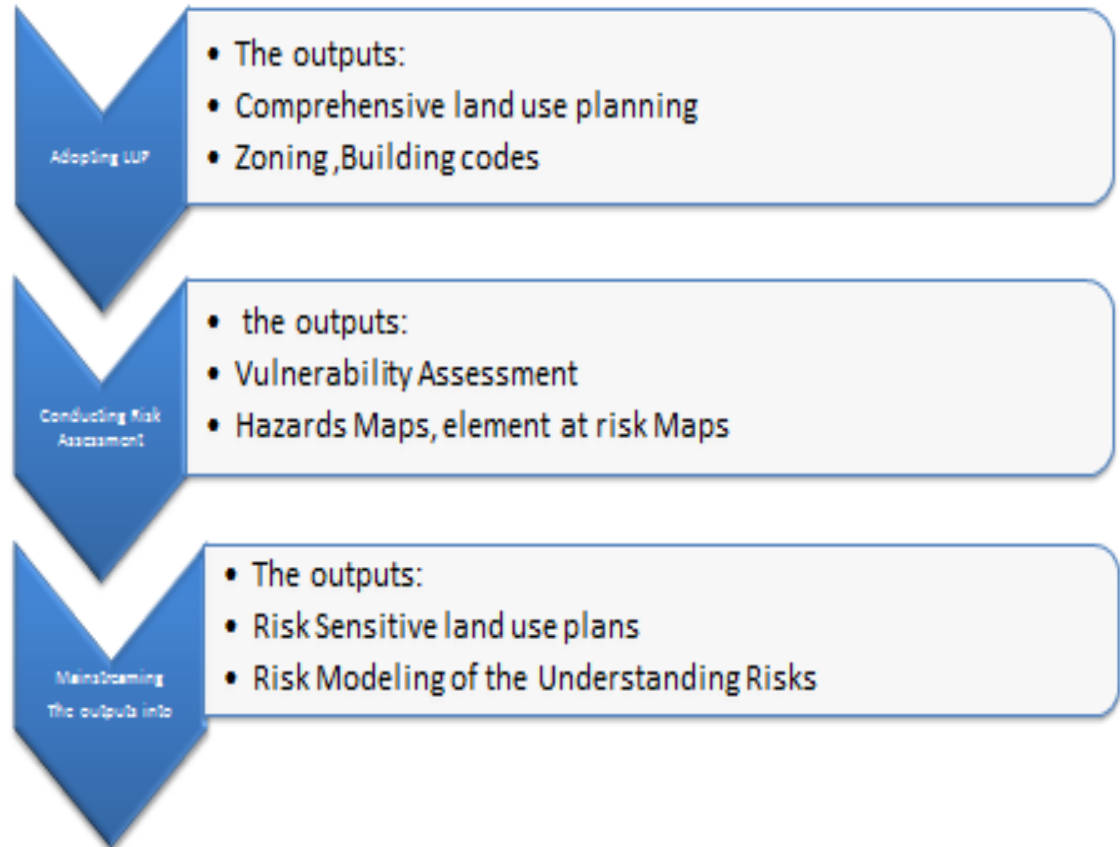
- ASEZA is mainstreaming DRR into the following tasks to reduce vulnerability and adapt to climate change at the local level
- ✓ The Physical planning process adaptive land use planning and risk informed policies
- ✓ Environmental Management(ICZM) and SDG 14
- ✓ Economical development
- ✓ Building safety and codes
- ✓ Economical instruments (CBA)
- ✓ Gender mainstreaming into Climate change adaptation and implementing the national (ccGaps) with respect to DRR initiatives.



# Risk Sensitive land use planning

## Urban Risk Management

### Steps for effective LUP in DRR



Seismic micro-zoning enables identification of earthquake-prone areas at a local scale. This can be used to maintain low levels of building density or to avoid development in such areas. Micro zoning has proved to be particularly effective in establishing setback distances from active fault lines within which building is prohibited

**land use planning and earthquake**

Flood mitigation is an important issue in land use planning. Remote sensing could provide timely and low-cost information on floods and land use status whereas GIS is an excellent tool in handling information in land management and flood mitigation. This

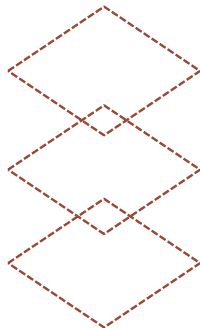
Land-use planning at the local or municipal level can be a useful tool in reducing future flood damages. Consideration should be given to ensuring that there are conforming uses in flood-prone areas as part of master plans. The land along a river is highly desirable for parks and recreational uses, as well as for ecological reserves. Supportive infrastructure such as washrooms, picnic facilities and changing rooms can be flood proofed. Private development of conforming uses such as golf courses can also be considered. The important point here is to integrate the land-use planning for flood prone lands into the broader plans for the urban and surrounding area.

## **Land use planning for flood mitigation**





Geo-statistical & GIS



Crit. infrastruct

Land use

population

Economic sectors

Income source

Exposure

susceptibility

Coping capacity



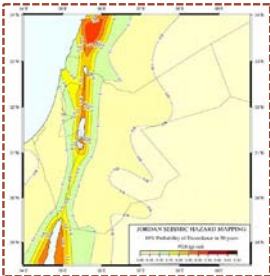
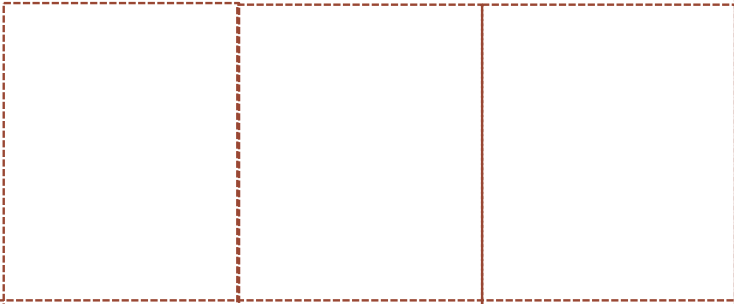
Geo-Statistical & GIS Analysis(uncertainty Assessment

Risk Products

Hazards Assessment

Risk maps, probability of social and economic loses  
Uncertainty , crisis information, Early warning

Hazards prpacity zones



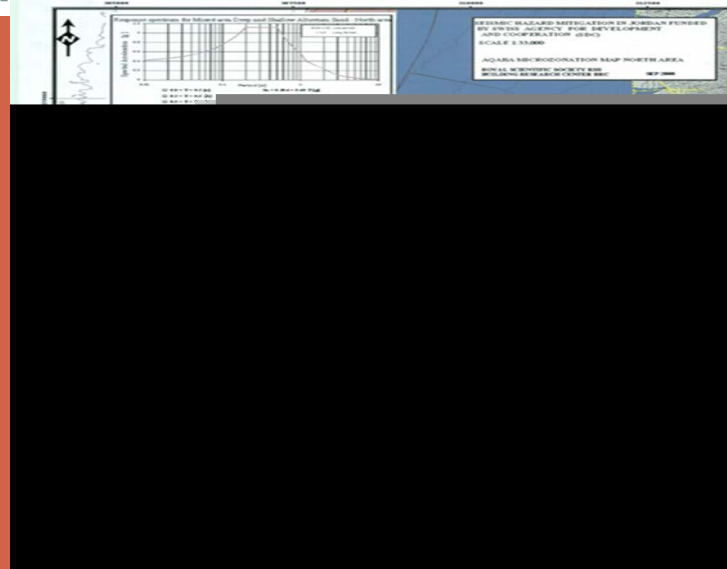
## ASEZA's shift from DRR to resilience

Planned translocation  
of elements at risk(  
the south Shallah  
case)

Smart , controlled  
Urban Growth

The integrated  
approach in planning  
& Management to  
reduce vulnerabilities

*Essential 2,3,9,10*



## ASEZA'S Tools for DRR

The 10 essentials of “My city is getting ready”

Are used by ASEZA as a self assessment tool to monitor its progress in DRR at the local level

Institutional & Administrative Framework

• DRR unit administrative set up

Financing & Resource

• Funded NEX projects

Multi-hazards Risk Ass.

• Knowing the risk (ADRRMP)

Infrastructures Protection, upgrading

• Flood protection plan

Protect Vital Facilities

• Critical Facilities maps

Building Regulation & land use planning

• ASEZA Master plan, Bldgs. Regulations

Training, Education, Public Awareness

• NDV'S Approach

Environmental protection

• ICZM, EIA

Effective Preparedness, Early warning

• FF EW System

Recovery & rebuilding Communities

• Build back Better after FF

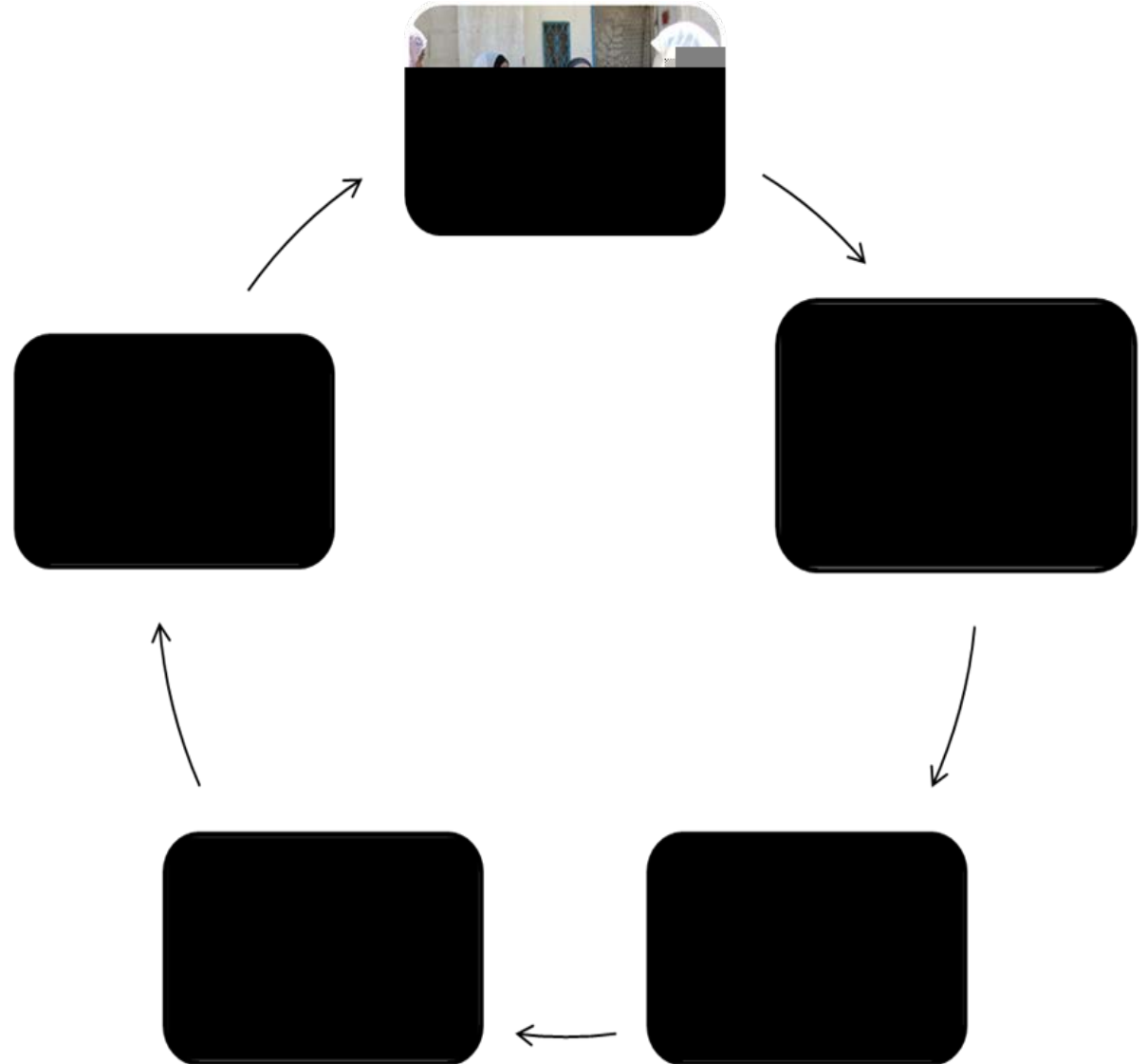




# ASEZA'S DRR Tools

Outreaching and communicating the risks among locals;

Public awareness campaigns to communicate non –structural approaches



## **ASEZA'S DRR tools and Practice**

Sharing the  
experience and  
lessons learned  
from the Aqaba  
Case Study

### **In conclusion:**

- **Political Support and Interest of policy makers in DRR is very essential for Successful institutional and legal frameworks and for having a risk informed policy**
- **Building local capacity and competency in DRM and urban risk Management**
- **Public awareness in DRR to built the prevention culture among society**
- **Involve the Civil Societies and NGO's and the private sector in process and advocate DRR locally**
- **Allocate resources and funding's for DRR**
- **DRR is both top-to bottom(governmental ) and down-up approach (Community-based)**
- **Mainstream Gender in to DRR activities for more effective implementation and climate change adaptation**

# Key faced challenges

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- **AWARENESS ,CAPACITY BUILDING IN DRR**
- **CLIMATE CHANGE ADAPTATION**
- **INTEREST AND PARTNERSHIP WITH PRIVATE SECTOR IN DRR PRACTICE**
- **FUNDING AND SUPPORT FOR RESEARCH AND MONITORING**
- **INFORMATION KNOWLEDGE MANAGEMENT FOR DRR AND BRIDGING THE GAB BETWEEN SCIENCE AND POLICY MAKING**
- **NATIONAL AND REGIONAL COORDINATION MECHANISMS**

## The way forward ....

- Testing local indicators for the new ten essentials ( **done** )
- Updating and building DRR and Data base and making it accessible for public; (**ongoing**)
- Updating ASEZ Risk Assessment profile;(
- Enhancing ASEZ Preparedness capacity and **EWS(ongoing)**
- Mainstreaming DRR into tourism attraction Strategy at local level.
- Enhance Risk Governance
- Adopt and implement Aqaba Resilience strategy and action plan





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## THANK YOU FOR YOUR ATTENTION

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