OUR CHALLENGE

To support Mauritius in its adaptation to climate change with solutions to fight against floods

suez

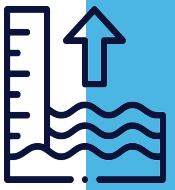
Fighting against floods in Mauritius Island thanks to a dedicated masterplan

Since he was young, Akshay has been playing football with his friends from the neighborhood.

As the match draws to an end, the sky is getting darker. Without even thinking, they all run home to take shelter.
Rainfall in Mauritius is heavy and can be dangerous... They already experienced it!

Moreover, the island's ageing infrastructure and the lack of maintenance of the land drains do not allow water to flow out anymore... it stagnates and causes floods which only make the situation worse.

As the rainfall phenomenon is more and more frequent and intense due to climate change, it is essential to find permanent solutions so that Akshay can have fun with his friends without risking injury.



Would you leave your home during a heavy rainy episode when the pipeline networks of Mauritius lack of maintenance?

Would you take the risk of opening a business by the sea with the rising waters?

Is a dedicated masterplan the best option to fight against floods on the island?

Discover the Land Drainage Masterplan solution in Mauritius

OBJECTIVE

Reduce population's vulnerability and maintain economic activities on the island with a dedicated land drainage plan

320 km² will be preserved

during the events of heavy rain and floods, caused by climate change.

The scope of our intervention

To support countries seeking technical assistance for the institutional, methodological and operational implementation of their commitment in relation with climate change, the French Development Agency (Agence Française de Développement - AFD), launched Adapt'Action.

In Mauritius, flooding is a major issue, affecting the population and economic activities. To respond to these challenges, **SUEZ Consulting teams have been commissioned by Land Drainage Authority to:**

- Realize an inventory and mapping of all the existing natural and man-made drainage infrastructures
- Identify vulnerable areas, including the impact of future land developments on potential flood prone areas
- Define a reference hydrology at the scale of each rainfall sub-catchment, based on new intensity-duration-frequency curves, with integration of climate change
- Elaborate flood mappings and associated vulnerability assessment
- Define national rules responding to land drainage issues in territorial development with the objective of flood risk reduction, while guaranteeing water quality and biodiversity preservation

SOLUTIONS

Through the development of a national guideline to stormwater management and flood reduction we proposed

⇛ The definition of...

- A reference hydrology at the scale of each sub-watershed, based on new intensity-duration-frequency curves integrating climate change
- A planning rules considering flooding and runoff risks, integrating No go zone and No expansion

⇛ The definition of a National Infrastructure Design Strategy including...

1. The elaboration of a stormwater management plan with governance recommendations and environmental conservation measures
2. An integrated approach "Ridge to Reef"
3. Hydrological references: return periods and free board (4 levels), peak flow calculation for drain design by rational and soil conservation service curve method
4. New land development obligations to ensure a sustainable urban drainage
5. Regulatory requirements for the use of nature based solutions, in particular to preserve flood expansion areas

DID YOU KNOW

10 WEATHER DISASTERS IN 2021 COSTED

$170 BILLION IN DAMAGES

Source: lapresse.ca

50 SEVERE FLOODS

EPISODES AROUND THE WORLD IN 2021

Source: 20minutes.fr

MAURITIUS IS AN ARCHIPELAGO OF **2 040** KM²

LOCATED **2 000** KM OFF THE EAST COAST OF THE AFRICAN CONTINENT

Source: visa-maurice.fr

THE MOST COMMONLY ENCOUNTERED 'HISTORIC' VERSION OF THE LAND DRAINS IS THE FIELD TILE - SO HISTORIC IT WAS STILL BEING USED IN THE **60s!**

Source: pavingexpert.com

And you, what actions have been taken to deal with the risk of flooding in your city?

Find out all our solutions to manage the risk of flooding in our territories on suez.com