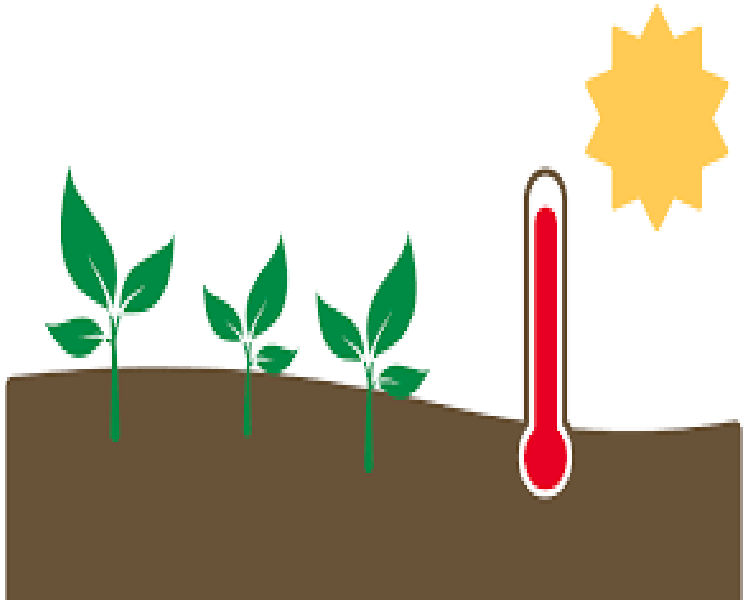
Case Study: Tomato



Tackling Climate Change Workshop

Case Study Group Presentation

22/6/18

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What is our system of interest?

Open-field tomato cultivation in the North of Island of Mauritius

What is our development goal?

To maintain tomato production during rainfall season and drought period

Assessing the risk and defining the need for action

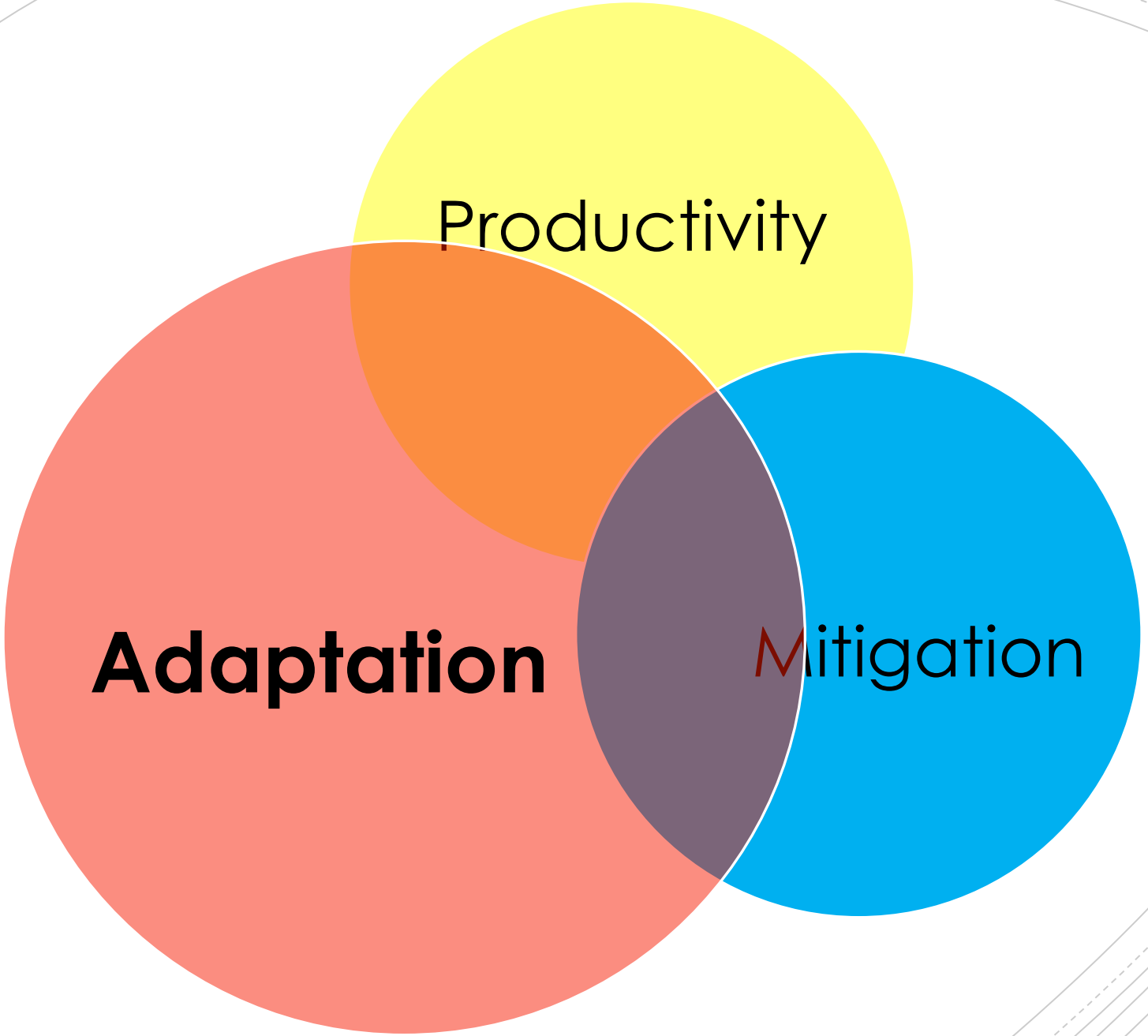
What are the climate hazards to which tomato cultivation in the North is exposed to?

- (i) Heavy rainfall
- (ii) Flooding
- (iii) Drought
- (iv) High summer temperature

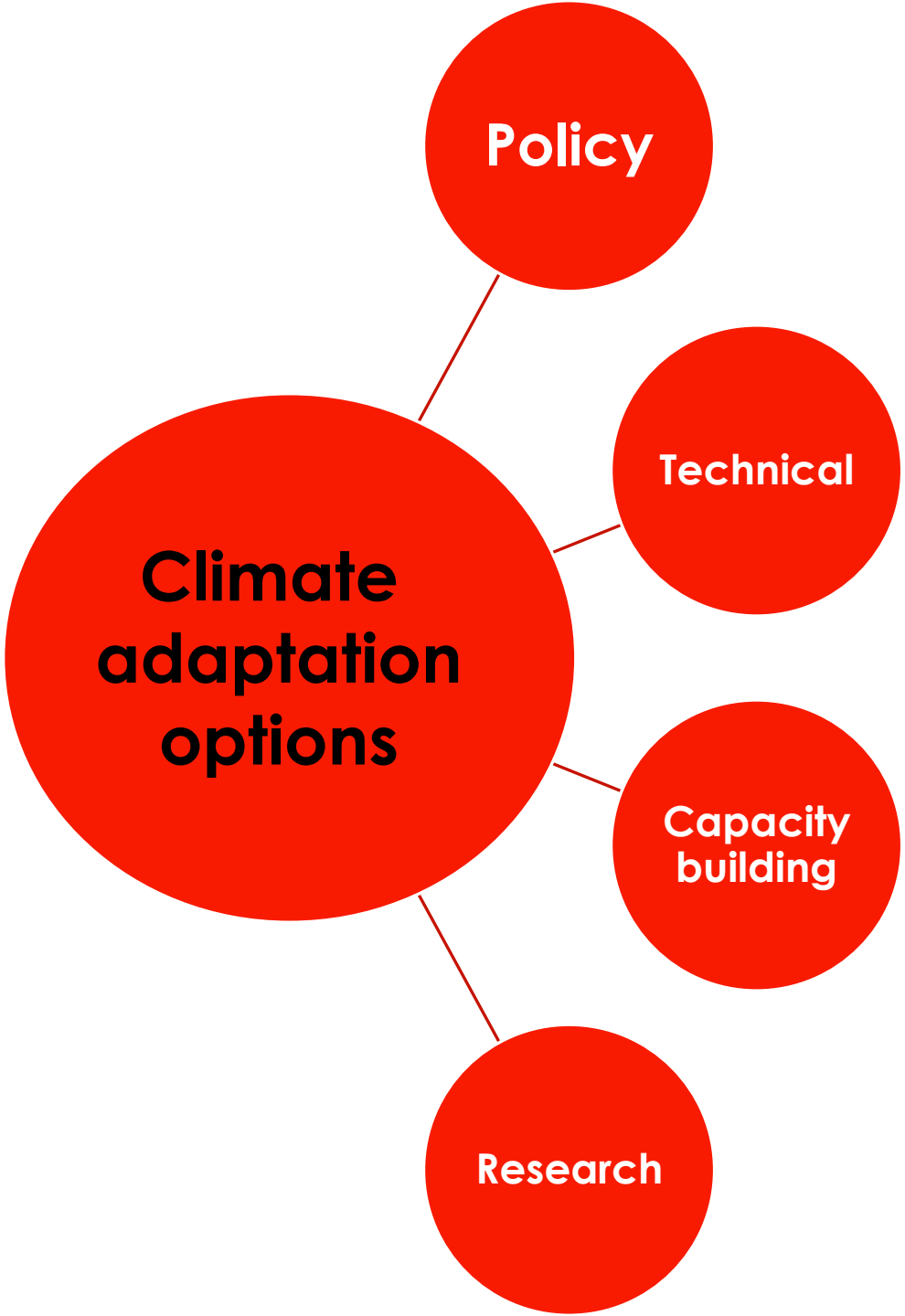
What are the high risk impacts on tomato cultivation in the North?

- **Biophysical damage:**
  - Leaching of nutrients to aquifers and water bodies
  - Eutrophication of water bodies → Harmful algal blooms
  - Heavy crop damage
  - Impairment of tomato quality
- **Socio-economic damage**
  - Severe yield decrease
  - Loss of farmers' income

Can climate-smart agriculture approaches be adopted for the tomato crop?



What are our adaptation options?



All possible adaptation options!

Policy	**Scheme for farmers to adopt sheltered farming**	**Scheme/incentives to implement efficient drainage system in-field**	
Technical	**Adoption of heat-tolerant variety of tomato by growers**	**Provision of an agro-meteorological mobile application for farmers**	**SMS (Short messaging Service) Alert**
Capacity-building	**Training on sheltered farming including sheltered structures, cultivation practices, irrigation and fertigation**	**Training on roof-top and surface rain-water harvesting**	**Training on tomato processing** **Empowering women for value-addition of tomato**
Research	**Genetic engineering to develop drought- and heat-tolerant tomato varieties**	**Research and development on smart cooling system**	

What are the best adaptation options for tomato cultivation in the North?

Short-listed adaptation options	Effectiveness	Cost	Feasibility	Regret/No regret	Overall evaluation	Mitigation potential (+/0/-)
Scheme for farmers to adopt sheltered farming	5	2	3	5	15/20	0
Scheme/ incentives to implement drainage efficient system in fields	4	3	3	5	15/20	0
Adoption of drought & heat-tolerant varieties	4	4	5	5	18/20	0
SMS (Short messaging service) Alert	4	4	5	5	18/20	0

Best adaptation options	Effectiveness	Cost	Feasibility	Regret/No regret	Overall evaluation	Mitigation potential (+/0/-)
Training on sheltered farming including cultivation practices, irrigation and fertigation	4	4	5	5	**18/20**	0
Training on rain-water harvesting	4	4	5	5	**18/20**	0
Training on tomato processing	4	4	5	5	**18/20**	0
Empowering women for value-addition of tomato	4	4	5	5	**18/20**	0

So, why should GCF fund this project?

- Climate change effects on our crop cultivation are unavoidable and already palpable!
- Tomatoes feature among the four main foodcrops in Mauritius in terms of volume of supply on the local market.
- Tomato cultivation is negatively affected by the following climatic variables: (i) precipitation and (ii) temperature
- The main climatic hazards for tomato cultivation in the North are (i) heavy rainfall, (ii) flooding, (iii) drought and (iv) high temperature

So why should GCF fund this project?

- In order to climate-proof tomato cultivation and maintain the same level of productivity under adverse climatic conditions, we need to invest in a multi-pronged adaptive approach
- This four-pronged approach involves investing in technical measures and research, putting in place an enabling policy for tomato growers and building in capacity in all actors involved in the tomato value chain.


Thank you for
your attention