

# THE EFFECTS OF AN INCREASE IN TROPICAL CYCLONE ACTIVITY ON TOURISM – THE CASE OF MAURITIUS

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## 1. *Critical Issues*

One of the several factors which in our study is found to influence tourism, and hence tourist arrivals, is extreme climatic variations tracked by tropical cyclone activity and their frequency in the South West Indian Ocean. Mauritius as a SIDS is highly vulnerable due to sea-level rise, risks of inundation and coastal degradation amongst others. Given that tourism constitutes a major pillar of the economy of Mauritius, an increase in tropical cyclone activity, as predicted by global warming, would have pertinent effects on:

- (i) tourist arrivals, tourism industry and its sustainability
- (ii) foreign exchange earnings
- (iii) level of employment
- (iv) overall economic activity due to direct and multiplier effects
- (v) public sector expenditure
- (vi) private sector investment (especially hotels)

## 2. *Policy Options*

Empirical findings pertaining to a choice exercise carried out in the paper clearly dictate that tourist arrivals depend positively on foreign GDP and fisheries biodiversity but negatively on tropical cyclone activity and average price paid by tourists to visit Mauritius. Partial derivatives corresponding to the explanatory variables are as follows:

$$\frac{\partial(TA)}{\partial P} = -1.6 \quad , \quad \frac{\partial(TA)}{\partial Y} = 0.45 \quad , \quad \frac{\partial(TA)}{\partial(bio)} = 28.1 \quad , \quad \frac{\partial(TA)}{\partial(TC)} = -125.3$$

(Where TA stands for Tourist Arrivals, P = Average Price of a Trip, bio = Fisheries Biodiversity Index and TC = Tropical Cyclone)

Therefore, the policy options to mitigate the adverse effects of climate change or an increase in tropical cyclone activity and that emanate from our study could be described as follows:

1. Since, from Mauritius, we cannot determine the world flow of income nor the incomes of countries from where our tourists come from, we could most probably opt for widespread publicity and advertising to capture the share of rising income in tourists' countries of origin. Furthermore, we would have to diversify our local tourist outlets and attractions to raise arrivals.
2. The negative coefficient on price requires that we need to make our tourist industry more competitive by finding ways and means to revisit the average cost of visiting Mauritius.
3. Since biodiversity of fisheries sector is found to promote tourism, it need be increased substantially to render our destination even more attractive.
4. Means and ways must be established to mitigate the negative effects of climate change on tourist arrivals. However, climate change is a global issue and we can do less about it in the short term and even then on a collective basis.

### ***3. Implications for other topic areas***

Increasing tropical cyclone activity would have serious implications for other topic areas. In brief, they can be listed as follows:

1. Coastal physical environment/coastal morphology (through damages due to storm surge, lost of land etc).
2. Public infrastructure and transport (through public investment in restoring and restructuring roads and public areas affected and review of environmental policies).
4. Regional trade strategies and diversification (through the new hotel marketing strategies to attract tourists at other times of the year or organizing regional tours).
5. Globalisation: approaches to reducing global warming as a long run strategy (through world conventions etc).
6. Promoting biodiversity and cultural diversity (promote tourist attractions).
7. Sustainable development (for the economy as a whole).
8. Implications for Fiscal and Monetary Policies in reducing inflation (to reduce the overall cost of visiting the island).

### ***4. Policy Recommendations***

1. Review international transport, air-links and international co-operation in attempt to minimize flight cancellation and allowing greater flexibility in traveling while taking into account the cost implications.
2. Improvements in ICT to facilitate the flow of information and providing travelers with a broader scope regarding the best time to travel, the cheapest means and overall publicity of the island.
3. Regional co-operation and new trade strategies: This will be to develop the best working strategy among countries in the region at particular periods to develop multiple-destinations packages, group packages and strengthen air-links. This would promote tourism in a way and would help to offset the adverse climate effects.
4. Trading between different items of public spending to deal with priority areas: The state has to reshuffle its expenditures to provide the very best mix of its involvement towards addressing coastal degradation and managing fragile eco-systems during

cyclones. Social expenditures would have to be revisited in this case and should be able to promote/protect our natural assets.

5. Biodiversity, sustainable tourism and cultural diversity to be promoted in all respect. These are expected largely to diversify our attractions or national assets. Would involve investment by both GOs and NGOs.

6. Review the infrastructure of hotels: Hotels would need to investigate how to improve their internal security and infrastructure such that tourists are least disturbed during their visits. A lot could be done about this to substitute indoor activity for its outdoor counterpart.