Tuvalu's Views on the Possible Security Implications of Climate Change to be included in the report of the UN Secretary General to the UN General Assembly 64th Session.

A: Security Implications of Climate Change for Tuvalu

Tuvalu's geography: Tuvalu is a series of nine small coral atolls spread over 750,000 square kilometres of the central Pacific. The total land surface of Tuvalu is 26 sq kilometres and the highest point above sea level is around 4 metres. On average it is less than 2 metres above sea level.

During the many thousands of years that Polynesian people have inhabited Tuvalu, Tuvaluans have faced many climatic threats ranging from cyclones to droughts. Tuvaluans have developed many strategies to cope with these climate threats. Today, however Tuvalu is faced with an unprecedented threat created by human-induced climate change. Tuvalu is now one of the most vulnerable countries in the world to the impacts of climate change. The implications of climate change affect the nation as a whole and therefore have serious implications for its national security and statehood.

There are many existing and potential impacts that climate change have and will have on Tuvalu's ability to feed its nation.

I. Resource Scarcity

a. Food Security

The diet of Tuvaluans is primarily based around the marine environment and a limited number of food crops. These will be seriously affected by climate change. There will be a number of impacts that will affect the food security of Tuvalu. These include:

(i) Coral Bleaching: Many coral species are highly vulnerable to heat stress. Scientists suggest that a 1 deg Celsius increase in average water temperature will cause coral reefs to die – a process know as coral bleaching. Tuvalu is experiencing a small amount of coral bleaching and this is expected to rise. The Intergovernmental Panel on Climate Change predicts that in the next 30 to 50 years coral bleaching events will occur every year. With coral dying, Tuvalu will lose its fish stocks - a principle source of protein for island communities like Tuvalu.

ii) Ocean Acidification:
Increased levels of carbon dioxide (CO_2) in the atmosphere are also causing more carbon dioxide to be dissolved in the ocean and hence acidifying the ocean. Acidic sea water causes coral reefs to weaken and become more vulnerable to severe weather events, like cyclones. Recent studies suggest that even if atmospheric CO_2 stabilizes at the current level of 380 parts per million (ppm), fewer than half of existing coral reefs in the world will remain. If the levels stabilize at 450 ppm, fewer than 10% of reefs may survive. Weaker coral reefs will exacerbate the problem of coral bleaching and will have a serious affect on food security.

Acidic seawater will also weaken the shells of various shell fish and threaten their survival. This could further limit food sources for Tuvaluans.

iii) Saltwater Contamination through Storm Surges:

VI. Disease/Pandemic

Poor nutrition as a result of climate change related loss of food production, contamination of freshwater supplies and possible drought will all place a serious toll

4. World leaders who attend the Summit on Climate Change at the UN Headquarters in September this year should form the catalyst for a commitment for a meaningful and legally binding outcome in Copenhagen. Leaders should also support the measures on security and climate change within the Security Council as prescribed in paragraph 3 above.

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