

## **Coastal Defenses on Kosrae**

Building coastal defenses is often viewed as the solution to an eroding coastline. Unfortunately, such action is rarely the most effective solution. This summary attempts to clear up some of the misconceptions about the use and effectiveness of built coastal defenses, with particular reference to Kosrae:

### **Coastal defenses will not stop coastal erosion**

Only nature can stop long term erosion from occurring. Coastal defenses can only reduce the risk of loss of land immediately behind the defenses in the short term (10's of years).

### **Coastal defenses can cause erosion to increase**

Building coastal defenses on many parts of the coastline on Kosrae will cause beach erosion in other areas to increase, such as occurred at Sandy Beach. Increased beach erosion caused by building coastal defenses is a very common problem around the world.

### **Coastal defenses will not protect land from severe storms**

Typhoons and severe storms are rare events on Kosrae. However, they have occurred in the past and will occur in the future. No coastal defense on Kosrae will protect, the land, property or people from the effects of a major storm or typhoon.

### **Coastal defenses are expensive to build**

Effective coastal defenses are extremely expensive to build. The cost of the Tafunsak revetment was about \$4million to protect 3000 feet of coastline (about \$1,300 per foot). Coastal defenses are normally the most expensive form of coastal management (both in terms of initial cost and the cost to maintain them).

### **Coastal defenses are not a sustainable solution**

Coastal defenses can only be built to last a short time (20-30 years at best on Kosrae). The defenses at Finaupes have been built 3 times in the last 15 years. Future maintenance or upgrading of existing coastal defenses on Kosrae will be a substantial future drain on Government resources.

### **Will aid agencies provide funds for coastal defenses**

Very rarely. Other nations have realized that coastal defenses are a very expensive solution, and in most cases unlikely to be the most appropriate long term solution.

### **How much of Kosrae's coastline requires protection from built coastal defenses.**

Very little. Coastal management on Kosrae needs to concentrate on removing the need for coastal defences by: 1) ensure no new development occurs in areas at potential risk from coastal erosion or flooding, and 2) reducing existing development on high risk land close to the coastline. **This is the only effective generic solution for all coastal areas of the world – Kosrae is no exception.**

Only around Malem village, Finfukul and Sandy Beach is there a need for substantial new coastal defenses – these areas are being tackled. All other coast defense construction needs to concentrate on upgrading existing, and very much inadequate coastal defenses.