FREE FLOATING SUDD ISLANDS
A PROBLEM FEATURE ON THE SEPIK RIVER SYSTEM

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INTRODUCTION

Sudd islands are free floating islands of semi-aquatic and aquatic vegetation formed on a substrate (base) such as a floating mat of *Pistia* plants (water lettuce), salvinia, or debris of logs and dead plant materials. These islands are a common feature of many lakes and lagoons on the Sepik River.

The number of sudd islands has increased since the *Salvinia molesta* infestation between the early 1970's and 1980's. After salvinia was eradicated, most of the islands developed another substrate, made up of dead plant material with various aquatic creepers holding it together. The increase in sudd islands has created severe problems in many of the lagoons. Since the islands are mobile, they are easily blown by wind, blocking water channels, and therefore preventing free movement between villages. They also disrupt fishing habits. They can carry fishing nets away and they hinder the growth of underwater plants, so creating an unfavourable environment for water life.

WHAT ARE SUDD ISLANDS MADE OF?

A wide variety of vegetation forms a stable free floating island. First of all there must be a substrate. This can be made up of the following:

in most cases -
Salvinia molesta;

some times -
water lettuce (*Pistia stratiotes*);
bladder wort (*Utricularia* spp),
water velvet (*Azolla pinnata*),
Duckweed (*Lemna perpusilla*),

less frequently -
water lilies such as *Nymphaea* spp. and *Nelumbo nucifera*.

The substrate is then invaded by creepers such as *Ludwigia adsendens*, *Ipomaea aquatica* (kang kong) and *Clitoria ternatea*, which bind the mat together.

The next stage includes the invasion of grasses and sedges such as -

Scirpus grossus,
Polygonum alternuatum,
Cyperus cephalotes,
Cyperus platystylis,
Thalictoroides spp. fern,
Hanguana malayana,
Thoracostachyum sumatranum, the hack saw grass
Acrostichum aureum
Phragmites karka reed,
saccharum robustum, the predominant wild sugar cane,

less frequently,
the pitcher plant *Nepenthes mirabilis*
numerous water orchids.

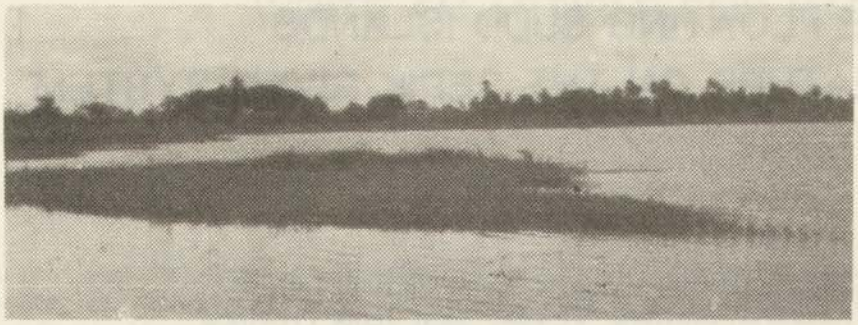
If the island does not float out of the lagoon or lake to the main Sepik River where it is not such a problem it will eventually be colonised by big trees and palms such as *Pandanus* spp. and sago palm *Metroxylon sagu*.

CONTROL MEASURES

The following methods can be used to control the islands.

1. Physical control

The island can be cut up and either



Floating vegetation bound together by aquatic creepers to form a stable floating mat

Floating islands colonised by grasses, sedges and wild sugar cane

A floating island colonised by a tree

floated out to the main Sepik or turned upside down and sunk. This method is suitable when dealing with small early colonised islands. The method is tedious or impossible when dealing with large numbers of fully colonised islands.

2. Mechanical control

Sudd islands can be isolated at one end of a lagoon by means of boom constructions. Booms made of steel cable can be anchored at either side of the lagoon or lake concerned. Continuous pieces of logs with chicken wire can be tied onto the cable to form a floating fence. This method is good when there is a suitable anchorage site at both ends of the lagoon or when dealing with small sized ox-bow lagoons. Sometimes the logs get water logged and regular maintenance is needed.

3. Chemical control

Chemicals such as paraquat (Gramoxone) can be used to spray such islands. Later the dead and dry vegetation can be burnt, leaving a soggy substrate which easily sinks. This method of control is fast and effective. However some of the islands are colonised by palms or big trees. These must be resprayed because of the different levels of canopy. Also, handspraying can only be carried out on small young islands. Large islands with much bigger plants can only be properly sprayed by air. Using chemicals and aerial spraying can be very expensive.

CONCLUSION

Sudd islands have always been a feature of many Sepik lagoons. The villagers have lived with these islands for generations. The increase in number only makes villagers realize that they can be a nuisance and a danger. Where there is a severe problem it is up to the villagers to cut up and destroy the islands wherever possible. If this is not possible, then provincial authorities should be prepared to assist in removing the islands using one of the measures indicated above.

FURTHER READING

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