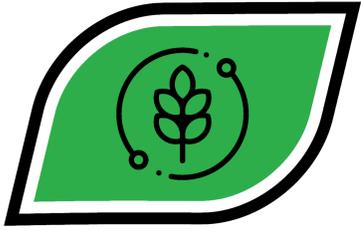


Effects of Soil on Seaweed Production



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Introduction

Seaweed has been one of Zanzibar's key export since the early 1990's. Zanzibar has historically been the third largest exporter for seaweed in the world, after Philippines and Indonesia (Msuya, 2006).

Seaweed farming is an important alternative livelihood activities that has been heralded as a development success story. It has advantage woman's improvement and economic liberation in coastal communities in Zanzibar. Seaweed from Zanzibar is exported to china, Korea, Vietnam, Denmark, Spain, France and United States of America, which are used to produce different products including soaps, perfumes, oils, medicines, shampoos, toothpastes, ice cream, milk shakes and yoghurts. Also, used as fertilizers and production of biogas. Usually, Seaweed grows very fast in the coastal areas of both Unguja and Pemba islands. It has proved to be one of the most important income generating activities in several villages mostly for women and children. The income generated by seaweed farming has enabled farmers to improve their standards of living by giving them income to pay school fees, buy uniforms and books for their children, improve the houses in which they live, and purchase clothes and food to meet their daily needs (Eklund and Pettersson 1992; Mshigeni 1992; Msuya 2006) reported that ownership of items such as radios, clothes (mostly khanga, which are the traditional cloths worn by women), kitchenware, bicycles, motorcycles, furniture and so on was significantly different before and after seaweed farming began.

Method

In order to collect information and opinions on how soil affect the growth of seaweed we did

questionnaires to the farmer and observation from the farming areas.

Phase 1

In the first phase of our project, questionnaires were issued to famers in selected areas. 100 famers from 4 village were randomly selected to ensure that the results obtained are not biased. The questionnaires which were distributed contain 4 questions, of which each inquired on the farmer's attitude and opinions

Phase 2

This phase involves two steps a. Selection of different areas depends on nature of soils include muddy soil, sand soil and rock soil. Then two types of seaweed (Cottonii and Spinosum) were planted.

The aim of this project is to examine the effect of soil on seaweed production by consider the nature of soil.

Research question

Question 1: What kind of seaweed were planted? Cottonii Spinosum

Question 2: Which areas doe's farmer planted?
Rock soil , Muddy soil , Sand soil

Question 3: How longs you have been harvested seaweed from your areas?
One month , Less than a month , One month or more than

Question 4: At what areas you think the seaweed grow faster
Rock soil , Muddy soil , Sand soil

Results

Phase 1

Question 1: About 95% of the farmer from 4 village were planted Spinosum and 5% were planted Cottonii.

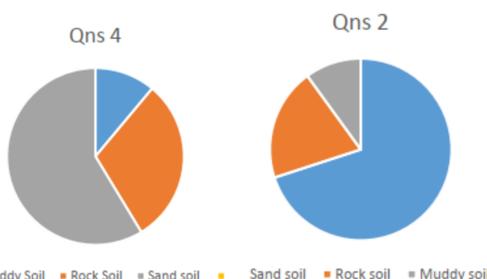
Question 2: 70% of farmer were planted on sand soil, 20% planted on rock soil and 10% planted on muddy soil

Question 3: About 65.8% who planted in sand soil was harvested about one month or more, 90.2% who planted in rock soil was harvested about one month or less and 99.3% who planted in muddy soil was harvested about less than a month.

Question 4: Growth rate is about 58.67% at rock soil, 30.25% at sand soil and about 11.08% at muddy soil.



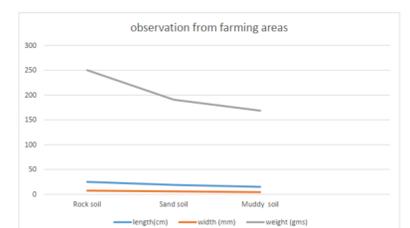
b. Observation on growth of seaweed at the selected areas were done per weeks (each 7 days) for one month.



Phase 2

Rate of growth per weeks

s/n	Instrument used	Areas/observation	Sand soil	Muddy soil	Rock soil
1	Meter rule	Length of seaweed (cm)	19	15.3	25
2	Micrometer screw gauge	Width of seaweed (mm) (diameter)	5.95	4.27	7.38
3	Beam balance	Weight of seaweed (gms)	210	175.5	250



Conclusion

From two phases of survey and various research which were conducted as parts of our project. It been evident that the seaweed production is highly produces in rock soil rather than muddy soil and sand soil, however various climatic stressors such as variable rainfall, temperature, level of sea water and tidal reduces seaweed growth and quality.

Given the current environmental and social-economic challenges, seaweed farming provide unreliable income Farmer should planted at rock soil due to high and quality production of seaweed in these areas. Individual short-time coping strategies such as intensification of tending to seaweed farmer unlikely to be affective in the long-time adaption methods that will requires adopting new technology for overcoming the effects of soil or nature of soil

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