

Prospects and Constraints of Seaweeds Farming along the West and South Coasts of Zanzibar

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Abstract: *Seaweed farming is among the strategies adopted by the coastal communities in Zanzibar in an attempt to alleviate poverty. The study involved seaweed farmers from the south coast of Unguja. Six shehia³ were purposeful selected and they included Paje, Bwejuu, Jambiani in the south and Bweleo, Dimani and Fumba for the west. Eighty seaweed farmers were randomly selected for interview. In addition five businessmen and some government officials who are supposedly to be working with seaweed farmers were interviewed. Various PRA tools including structured questionnaire, check list, focus group discussion and direct observation were used to collect the data.*

It was found out that majority of respondents were aged between 32-55 and 67% were married. 78% have been working as seaweed farmers for the past 6 years and mostly they produce spinosum type of seaweed. Selling of seaweeds is done individually and normally they sell semi-processed seaweeds. 90.2% of the respondents showed dissatisfaction with the current offered price of Tsh. 250/kg although 74.4% reported positive improvement in their livelihood resulting from engaging in seaweed farming. There was a general concern that the government have rendered little support to seaweed farmer especially in pricing and provision of inputs and to a large extent the price is controlled by few private buyers. Despite these challenges many women have opted to continue with the enterprise owing to absence of alternative income generating activities.

Key words: Seaweed farming, constraints, Zanzibar, marketing, pricing

INTRODUCTION

Historically Zanzibar has been depending on cloves as a cash crop to earn foreign currency - and more than 80% of the Zanzibar GDP came from cloves. Prior to 1980s, Zanzibar was the major producer and exporter of cloves. Thereafter, other players came into the business and created a caucus of competitors against Zanzibar. The government opted for other sources of foreign earning including tourism and cultivation of other spices (Sheriff, 1987).

While men took advantage of the opportunities, women were left behind and for those in coastal areas they engaged in petty works including but not limited to

³ *Shehia* is the smallest administrative unit in the government structure in Zanzibar, led by a local leader appointed by the president. This local leader is called *sheha*.

making coir ropes, sea shell collection and fishing in shallow waters close to their homesteads.

The late 1980s witnessed the introduction of seaweed farming, which became the main activity of women along the Zanzibar coast, especially at the south and south west coasts of the island. Many women moved from rope making activity to seaweed farming. By July 1990 more than 1000 farmers had joined seaweed farming, after having realised that the returns in seaweed farming were higher compared to other activities that were traditionally performed by coastal women (URT, 2005).

While Zanzibar has a population of 981,750 (SMZ 2002), only less than 5% are employed by the government. The larger part of the Zanzibaris do engage in agriculture (for those living in rural and semi-rural areas) and businesses – both big and petty (for those living in towns). For communities living along the coastal areas, seaweed farming and fishing seemed to be an alternative income generating activity, whereby women became dominant actors in the seaweed enterprise. In addition to being a source of income, Msuya (1998), views seaweed farming in Zanzibar as an alternative way of reducing pressure on marine resources and coral reefs.

Apart from benefiting individuals the farming of seaweeds equally benefits the government. Statistics have it that while 3 percent of the Zanzibar population is engaged in seaweed cultivation, the product provides 20 percent of Zanzibar's export earnings. Zanzibar exports more than 30 000 tones of dry weight seaweed that is produced annually (Anderson 2005).

The study therefore assesses the constraints faced by farmers and the role of various stakeholders in input supply, production, processing and marketing of seaweed.

METHODOLOGY

The study was conducted in Zanzibar and it involved seaweed farmers from the south coast of Unguja, South Region and West District. Six *shehia* were purposefully selected and they included Paje, Bwejuu, Jambiani in the South and Bweleo, Dimani and Fumba for the West. Eighty seaweed farmers were randomly selected for interview. The study also involved 5 businessmen who were engaged in seaweed business and Government officials who were supposed to work with seaweed farmers. Various PRA tools including structured questionnaire, check list, focus group discussion and direct observation were used to collect the data.

Data were analysed using SPSS (Statistical Package for Social Science) and responses were summarized to obtain means and frequencies. Information from focus group discussion and direct observation were analysed through content analysis.

RESULTS AND DISCUSSION

Respondents Characteristics

The results show that all age categories from 19 to 73 years were engaged in seaweed farming and the majority were in the range of 32 to 49 years (Table 1). Most of the seaweed farmers were women (97.6%), of whom 54% were married. In terms of education level about 50% of the respondents had secondary level education while a quarter (24.7%) had primary level education and the remaining 25.9% had informal education. Despite, seaweed farming being labour intensive, more women were engaged in it since the enterprise was less riskier than fishing, an activity that was mainly performed by men. Proximity of the seaweed farms also allowed women to have spare time to tend their families, which is traditionally regarded as their sphere.

Table 1: Respondents Characteristics (%)

Variable	Percent
Age	
19-25	3.7
26-31	6.2
32-37	23.5
38-43	17.3
44-49	23.5
50-55	16.0
56-61	6.2
68-73	3.7
Sex	
Female	97.6
Male	2.4
Marital Status	
Single	3.7
Married	65.9
Divorced	13.4
Widow	17.1
Educational Level	
Informal education	25.9
Primary education	24.7
Secondary education	49.4

Source: Field data

Sea Weed Production

Three quarter of the farmers (75%) produce *Spinosum* type of seaweed while 7% produce *Cotonii* alone and the remaining (18%) produce both *Cotonii* and *Spinosum* (Figure 1). The reason advanced for favouring *Spinosum* was due to poor performance of *Cotonii* in shallow waters. *Cotonii* grow well in deep waters, fetches more income per unit but, requires special swimming gears as well as the ability to swim in deep waters in which women are disadvantaged.

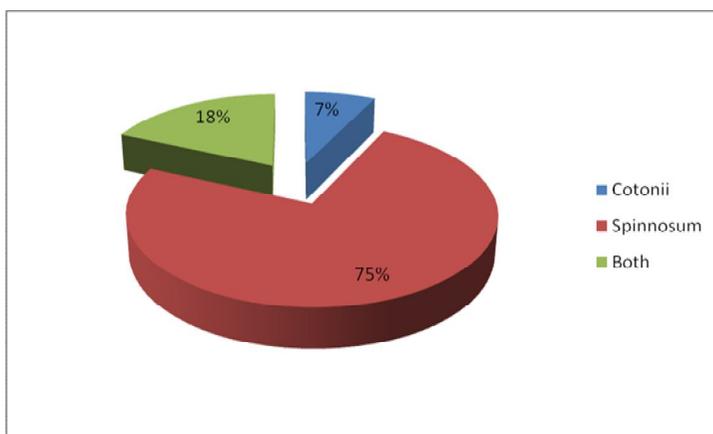


Figure 1: Type of sea weed

Seaweed Marketing

The results shows that all farmers interviewed sell their seaweeds to private companies as they are the only buyers available. ZANEA Company was the biggest buyer as reported by 47.1% of respondents followed by C-WEEDS Company (14%). Nonetheless, 2% of respondents did not know who they are selling their seaweeds to (Table 2). Majority of respondents (93.9%) sold their seaweeds individually after semi-processing it (drying it first) while, only 6.1% do sell their seaweeds as a group.

Almost all semi processed seaweed bought is exported due to unavailability of large-scale infrastructure needed to process seaweed into various products. Therefore the product is shipped abroad in its raw form (Fellow, 2010). The raw algae are exported to countries such as Denmark, Chile, France, Vietnam, Malaysia, China and the United States of America. Seaweed is used in production of agar, toothpaste, cosmetics, lip-shine, food salad and juice (McHugh, 1987).

Although, most of the seaweed is sold to middlemen, there was great dissatisfaction on the current price offered by the buyer. Slightly over 90% of respondents were of the opinion that the price is too low given the efforts expended in producing a kilo of seaweed which is sold at Tsh. 250. According to Shimba (2010) the low price of seaweed is mainly attributed to the presence of few buyers who dictate the price and control the cartel. Presence of few buyers limits price competitions. Some buyers do provide inputs on condition that the produce will be sold to them. For poor farmers

such contracts limit their negotiating power especially on the price of the final product.

Table 2: Sea Weed Selling (%)

Variable	Percent
The buyers	
ZANEA	47.1
Zanzibar shells	7.8
C-weed Cooperation	27.5
Free market	2.0
Chamber company	3.9
Kai Traders	2.0
ZASCOL	7.8
I do not know	2.0
The sellers	
Individually	93.9
As a group	6.1
Satisfaction with current price	
Yes	9.8
No	90.2

Source: Field data

Contribution of Sea Weed Farming to Farmer's Livelihood

Generally, seaweed farmers acknowledge to have benefited from seaweed farming as reported by 74.4% of respondents in spite of the complaints on low price. A small percentage (4.9%) of respondents were of the opinion that their life has worsened while 7.3% of respondents, registered that there were great improvement in their livelihood after engaging in seaweed business (Figure 2).

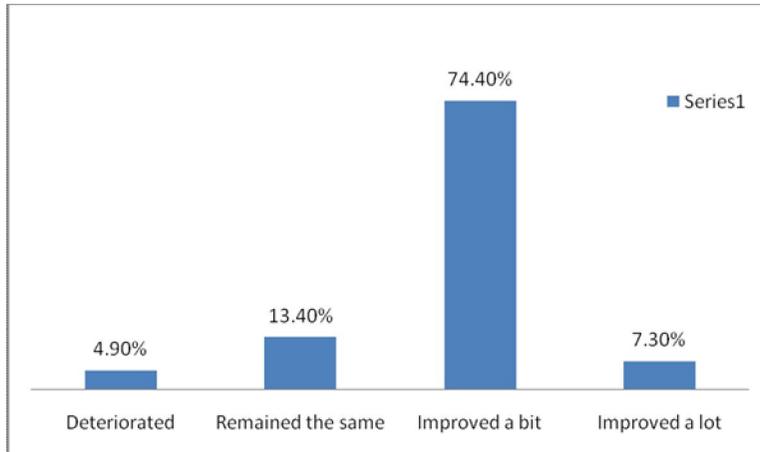


Figure 2: Contribution of Seaweed Farming on Farmer's Livelihood

On overall, the industry has also changed the living standards of the farmers and their communities. Studies have shown that women, who had previously depended on the men for household supplies, now contribute significantly to the basic family needs including paying for school fees, buying clothes for themselves and other members of the family (Msuya, 2010).

As such there were indications that most of the respondents (72.5%) have intention to continue to be seaweed farmers although 26.2% intend to stop in the near future (Table 3). For those who reported to continue to be seaweed farmers, 55.6% reported to continue only because there are no any other profitable jobs to turn to, though 20.6% still finds it a profitable business if they get enough farm implements.

Table 3: Response on Future of Seaweed Farming

Variable	Percent (%)
Whether will continue to be seaweeds farmer	
Yes	72.5
No	26.2
I do not know	1.3
Why continue to be seaweed farmer	
No any other profitable jobs to be done	55.6
It is better than staying idle	14.3
It is profitable activity if there are enough farming implements	20.6
To get the basic needs	9.5

Source: Field data

Seaweed farmers are self-reliant despite their level of poverty. There was a general indication that these farmers have had little support from the government. About one third of the respondents (65.8%) have never sought or received direct assistance from the government. Some respondents said that they do not know where to start when it comes to requesting assistance from the government, or they would not take trouble to know because at the end of the day assistance would not be forthcoming. This call for strengthening of the groups and more support from various financial institutions. Since, the government earn foreign currency through export; they also have the duty to extend their support. It is only 29.3% of the respondents who acknowledged to have had direct support from the government in terms of inputs through the local council. These apparently appeared to be those who started open beach algae farming since the 1980s when the farming was introduced.

Respondents did not rely solely on government for assistance, as 33.3% of respondents reported to seeking assistance from other sources like from companies which buy their sea weeds (buyers), where 91.7% reported to get assistance mostly planting materials (92.1%) as indicated in Table 4.

Table 4: Sources of Support for Seaweed Farmers

Variable	Percent
Sought government support	
Yes	34.2
No	65.8
Response from government	
I got assistance	29.3
I was refused assistance	2.4
No response	68.3
Sought assistance from source other than government	
Yes	33.3
No	66.7
Response from other sources	
I got assistance	91.7
No response	8.3
Kind of assistance received	
Planting material	92.1
Marketing	5.3
Training	2.6

Source: Field data

This implies that while the government distances itself from the business, private companies try to keep close relationship with the farmers. They give assistance on condition that farmers sell their products to those companies that had provided them with farming materials.

Challenges Faced by Seaweeds Farmers in Seaweed Farming

Seaweed farming has been practiced for about 20 years now and there are many challenges which these farmers face in their daily farming activities regardless of the period one have been practicing seaweed farming. Problems related to bad weather were reported by the majority (35.4%), followed by low prices (24.1%), lack of enough sea weed farming materials (17.7%) and those related to marine predators (11.4%). Some (7.6 %) reported to have faced challenges related to poor health (skin and eye related) emanating from lack of protective gears, especially those from Jambiani area.

Table 5: Challenges faced by sea weeds farmers in sea weed farming

Variable	Percent
Health related problems	7.6
Low prices	24.1
Bad weather related problems	35.4
Lack of enough sea weed farming inputs	17.7
Problem with investors who have invested in coastal areas where seaweed activities are conducted	1.3
Related to sea organism, fishes and shells	11.4
Stealing of seaweed by other farmers	1.3
Labour intensive activity	1.3
Total	100.0

Source: Field data

Despite these challenges 78% of the interviewed respondents had been working as seaweed farmers for more than six years indicating that although there are challenges, the enterprise is still profitable (Figure 2). Else, lack of alternative income generating activity has forced the people especially women to stick to the business. This is not surprising since over 21,000 people in Zanzibar are now engaged in seaweed production according to 2010 Agriculture census. This figure includes the farmers in the sister island of Pemba.

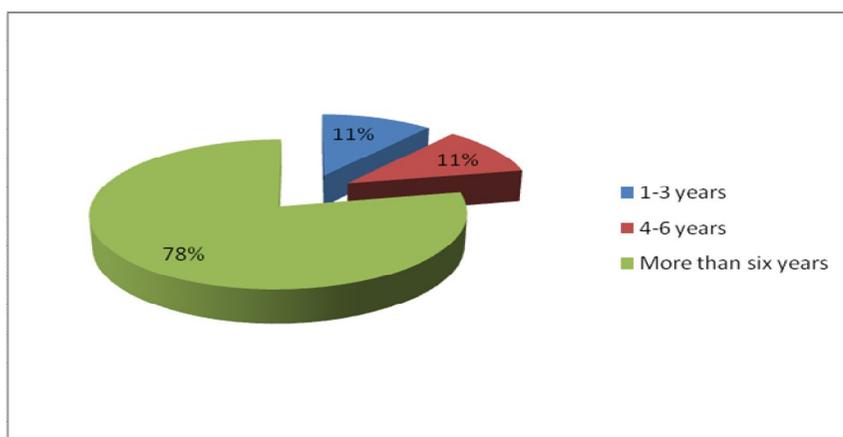


Figure 2: Respondents duration in sea weed farming

CONCLUSION

Seaweed farming is expected to benefit majority of farmers particularly women through increasing their economic purchasing power as well as creating more social empowerment and contribute to the governments' poverty alleviation programme. Unfortunately, the reality paints a different picture. Farmers have consistently been putting a lot of efforts in the production process despite the government's attempt to distance itself from the business. Data from the field suggest that the farmers do believe that they can benefit from the production of seaweed only when the government intervenes in the production, marketing and pricing processes. The government on its side has trusted the private companies to take full charge of the seaweed production, marketing, pricing and exportation without weighing the extent to which that decision might affects the farmers. The farmers on their part blame the government for its failure to intervene and hence leaving the farmers with no choice except falling in the trap of the private business people who buy their seaweed at low prices.

RECOMMENDATIONS

The paper recommends as follows:

- The Government should find a way of helping these seaweed farmers by providing inputs instead of relying to private companies which bind farmers to their own benefits.
- The Government should intervene in the pricing process as private companies are exploiting the poor farmers. Farmers lack the necessary capacity to get out of the yoke of the private companies which control the seaweed market.
- The Government - through its local leaders, *shehas*, and the Department of Sea Products should encourage farmers to form groups which shall enable them to solicit funds in the form of loans so that they can manage on their own in order to purchase farming materials and inputs.

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