

and planning skills through the assistance from both government and non-government organization, rural folks and even the urban poor can make a "treasure hunt" of the gift of the sea.

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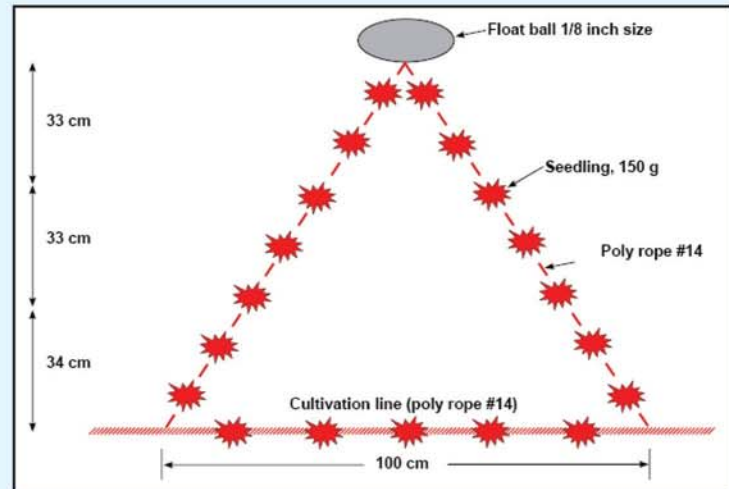
Modified Triangular Method of Seaweed Farming

Seaweed is an important component in the marine ecosystem along with mangroves and coral reefs. It is recognized not only of its ecological importance but its major contribution to the national economy in terms of production, trade and employment. Today seaweed farming is the answer of the government to poverty alleviation, rehabilitation of resources, and illegal fishing activities had been reduced to a significant level because more farmers are engaged in seaweed farming.



One of the methods used in seaweed farming is the **modified triangular (MT) method**. MT is an innovation of the traditional practice known as mono/multiple floating longline method. It is designed for culture of seaweeds in deeper waters and is flexible enough to withstand strong winds and big waves.

The technology is applied in coastal areas with five to 10 meters water depth and moderate current. With its application, seaweeds can be grown in non-traditional areas despite inclement weather.



Sketch of triangle (not drawn to scale)

Materials

The MT method uses polyethylene rope (no. 22) as anchor line and polyethylene rope (no. 14) as cultivation line fixed at the bottom through a steel bar, (1 ¼ inches x 5 ft) embedded into the seabed. A single band of plastic strap (25 mm) is used to construct a triangle. A float using styrofoam ball (1/8 inch size) or empty plastic bottle container of one liter capacity is provided at the triangle's tip to add more buoyancy. The seedling bundles of 150 grams each are tied at the side of the triangle at 15 cm apart.



The Technology Features

MT method of seaweed farming is most efficient in terms of harvest and cost of production compared with other methods of farming. The technology can accommodate 20 seedlings per triangle or 150,000 seedlings per hectare, a rate that is double compared to those of other methods.



The growth performance of *Kappaphycus alvarezii* and *K. cottonii* at different depths was determined in a 52-day culture period. The growth rate had a decreasing trend at 3% from depths of 0–0.5 m and was reduced to 2.6 and 2.2% at 0.5–1.0 m and 1.0–1.5 m, respectively.

The average actual production of 4,812 mt per 320 m² (4 x 80 m) per crop was realized. The yield per hectare per crop was computed to be 110.7 mt (fresh weight).

Based on assumptions, the MT method can realize a net profit of P180,742/hectare per cropping (52 days) with a return on investment of 78%.

The MT technology is cheaper compared to the traditional method. It is also technically feasible, socio-economically viable, and environment-friendly. It is now being applied by farmers in Zamboanga City and Zamboanga Sibugay.

Benefits of Using MT Method

- The technology has great impact on the seaweed industry. High quality seedlings or propagules significantly differ in production hence, seaweed farmers can opt for higher yield per unit area. This entails low production cost and provides higher return on investment.
- Seaweed farming using MT method is one of the most productive and environment-friendly aquaculture systems. The technology is very appropriate for coastal communities with farm site located in 2–10 m depth with moderate current. The site should be sheltered from strong winds and big waves.
- The technology could provide a good insight for more advance research that will develop the present technology in order to maximize production, increase farmer's income and maintain the country's top position as leading supplier of carrageenan in the world.
- MT method of farming seaweed fits very well into the traditional and cultural values of the country's coastal inhabitants. With good management