

C H A P T E R - V I IL I N K A G E : :

Linkage between mango production and agriculture.

Linkage between sericulture and agriculture.

CHAPTER - VIIL I N K A G E:-

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VII.1. Linkage between mango production and agriculture:

In spite of increasing significance of other productive occupations : fishing, forest industries, mining, power production and manufacturing, grazing and farming together are leading occupations, products of ranches and farms provide 90 percent of the requirements in foods and beverages, the bulk of clothing fibres and large amounts of other raw materials.

Ever since man began to domesticate wild animals and to plant seeds and harvest crops, grazing and farming have always been significant activities. Although scientific research will certainly find new resources of food and fibres, the great majority of the people of the world will still continue to get the bulk of their food and clothing from grazing and farming.

Exclusive of persons engaged in personal and other services, grazing and farming account for nearly 60 percent of the gainfully employed population of the world.

The types of agriculture vary in response to many

physical conditions. The principal physical conditions affecting grazing and farming include relief, soils, temperatures and precipitation. (81)

The net area shown at Malda amounted to 6,40,000 acres. This amounted to 69.6 percent of the total area of the district.

#### VII.2. Three Zones of Malda:-

The area of the district may be divided into three Zones viz:

1) The Barind, (ii) The tal, (iii) The Diara.

1). The Barind lies to the east of the Mahananda river and is characterised by undulating ground which forms a part of the tract which stretches into West Dinajpur and Rajshahi (Bangladesh).

This area of the district is high and scemed with small water courses in the valleys. Here there are endless series of terraced slopes which become green for the growth of Aman Paddy during winter. In this Barind area the normal cutturn of Aman paddy is 18 maunds per acre on an average. But the valleys lying between the undulaties are naturally the most productive, as plenty of rain water accumulates, and they are the least likely to suffer from the effects of drought. The lowest level is locally known as Kandar, and is capable of producing more than 20 maunds per acre. The Barind region covers

81. Jones and Darkenwald : Economic Geography.

Habibpur, Bamongoba and Gazole Police Station of the district.

- ii). The Tal region is situated to the West of the Mahananda river. It is a low-lying area, subject to inundation with the rise of the rivers. The water comes in from the Ganges by the Kalindri river in the south and from the Mahananda from the North. The 'Tal' is almost entirely under cultivation. In Kharba Police Station and the northern part of the 'Tal', the principal crops are Jute and paddy, Mango gardens, which are not to be found in 'Barind', now become fairly common, and these are very large mango orchards specially in Ratua Police Station of this district. Harischandrapur is another important police station area of 'Tal' region of Malda district.
- iii) The 'Tal' area slopes gradually towards the south and west till it merges with 'Diara' region.

In the northern portion of this belt there was formerly a good deal of mulberry cultivation, but the lands are now given over to mango.

Between the main road leading from Englishbazar to the ruins of Gour and the belt of villages along the Mahananda the country is low-lying and Marshy. The soil is dark, consisting chiefly of clay, and producing Aman paddy and on the edges of BEELS boro paddy.

The principal features of this Central portion of this district are the mango groves, the mulberry lands and the

tanks. Mango gardens are to be found in every village and are particularly thick along the Kelindri and Mahananda rivers. Agriculture, that is, cultivation of different crops is also done within the vacant land of the mango orchards in this area of Malda district. The farmers who work in the agriculture on the plot of mango orchard, they also get the opportunity to be engaged as Watchmen and Care-takers of the same mango orchard during mango season (82) .

At the time of picking mangoes and packing them before loading for transportation to market these farmers get work for months together. Here lies the linkage between agriculture and mango production.

Moreover, they also get work in the mulberry lands during their leisure period for weeding the grasses and cutting the leaves for sale.

So there is the linkage between sericulture, agriculture and mango production.

If these things are done one after another or simultaneously with reasonable gaps for each work on a large scale throughout the 'Diara' and 'Tal' region of the district, the economic condition of the farmers of this district will be improved.

Specially the 'Diara' region which consists of Kaliachak, Englishbazar and Manikchak, Police Station being thickly populated offers this opportunity of linking agriculture, sericulture and mango production.

The farmers of this area produce 'Aus' paddy, Wheat, Barley, Mustard and Sugardane. The soil of this area is of a light variety, with a sandy appearance.

### VII.3. Linkage between mango production, Sericulture and Agriculture

As mango gardens and mulberry orchards are very common here, the same farmers who cultivate different agricultural crops can take part in mulberry plantation and mango production when they remain off just after the harvesting season. Even during cultivation of crops they can offer part time service in mulberry and mango orchard. Moreover, at home they can rear silk worms with the help of their family members with a view to producing Cocoons which may offer them a subsidiary income.

So there is the scope of getting employment of the farmers of this area of the district throughout the year having further scope of earning subsidiary income due to the linkage between agriculture, sericulture and mango production. But if this linkage is scientifically organised, this will play a remarkable role on the economic development of Malda district.

Moreover, this is one of the most important reasons for which the 'Diara' region of Malda district is most

thickly populated.

Kaliachak Police Station stands first regarding the highest number of population in comparison to other Police Station of Malda district. And this scope of linkage between agriculture, sericulture and mango production feed this maximum number of people. So, the improvements of these three sectors will also improve the economic conditions of the people of Kaliachak and other police station areas of Malda district. Of course, the entire 'Diara' region and some parts of 'Tal' region have such scope of improvement. Thus the economic development of Malda district cannot be properly understood unless and until we understand the proper linkage between agriculture, sericulture and Mango production of Malda district.

Although there is no scope of having alternative work except agriculture at 'Barind' region of this district. But the labourers come to 'Diara' region to have works during mango season.

Moreover, labourers from Kaliachak, Ratua, Haris-chandrapur Manikchak and Englishbazar also go to 'Barind' area for work during harvesting season.

Thus the economic condition of Malda district depends on agriculture, sericulture and mango production to a greater extent because of the absence of any large scale industry

in the district.

Agriculture is the art of raising plant life from the soil for the use of mankind. The object of agriculture is to raise stronger and more fruitful crops and plants, and to ~~raise stronger and more fruitful crops and plants~~ help their growth by improving the soil and supplying water, when necessary, by irrigation works.

In subsistence agriculture, the main purpose is to grow crops for the use of the growers and not for commerce. Such cultivation is common at Malda. In commercial farming the main purpose is to grow crops both for self-sufficiency and commerce.

Plantation ordinarily means tropical and sub-tropical agriculture which is engaged in producing planted trees or bushes which give yields over a period of years. These are the long-cycle crops. Mulberry and mango are the important plantation agriculture of Malda. A plantation requires a large unit or an estate so that production of a single crop can be raised on an extensive scale by different efficient methods and in standard form for the purpose of export.

The commonly accepted concept is that a plantation is a large unit, produces a single crop which is important for the economy and employs a large volume of labour.

Here lies the linkage between agriculture and sericulture. Sericulture requires quality mulberry leaves, huge skilled labours for rearing silk worms for the preparation of

**Cocoons.** It is an agro-based industry.

Moreover, tree-type mulberry outtings are planted and nurtured for leaves in such plots of land where mustard, maize or other cereals can be produced at a time. And from the same plot of land agriculturist can have food crops for himself and mulberry leaves for feeding silk worms. After harvesting the agriculturists can remain busy with the rearing of silk worms and preparing Cocoons as his subsidiary work.

From the stage of mulberry plantation upto the stage of preparing Cocoons, sericulture comes under the perview of agriculture. That is why it is said that sericulture is an agrobased industry.

Mango plantation is also the part and parcel of plantation agriculture.

Moreover, different agricultural crops, like wheat, barley, mustard, maize and even rice can be produced in the vacant land of mango orchard. During havesting season the agriculturists remain busy with the agricultural crops. And during mango season they remain busy with mango trade. So, this can also be treated as subsidiary work of agriculturist. Here lies the linkage between agriculture and mango production.

We know that population increase is a matter of much concern to the agriculturists. Because the average annual rate of increase in agricultural production has been only a

little greater than that in population growth.

In tropical areas where western science and technology have been applied it has been demonstrated that the quality of agricultural products can be improved greatly and also that yields on lands that have been used for a long time can be more than double (83). In spite of that people want to earn more and the linkage between sericulture, agriculture and mango production offers ample scope to the people of 'Diara' region of Malda regarding this.

#### VII.4. Position at Malda:-

At Malda there are several large mango orchards. Sericulture is very common specially in 'Diara' region where mango orchards and agricultural fields are also plenty.

However, the linkage between agriculture, sericulture and mango orchard (Production) creates the scope of employment of a huge number of workers of Malda district, throughout the year. If these 3 sectors are properly improved, there is scope of proper economic development of the district.

So, we can conclude that sericulture and mango production are linked with agriculture at Malda.

From the sample survey as shown in the annexure No. 5 we can come into a conclusion also that sericulture and

agriculture are done in the same plots of land by the same farmers. Sometimes bush type mulberry cuttings are planted in rows on the boundaries of the agricultural plots of land. Sometimes tree-type mulberry cuttings are also planted on the same plots of land where agricultural crops like maize, mustard etc. are cultivated. The leaves of mulberry trees are collected for feeding silk worms with a view to preparing Cocoons for silk yard and agricultural crops are harvested for feeding the agriculturists themselves. So, the farmers get the opportunity of subsistence farming and sericulture on the same plot of land.

Moreover, they get the opportunity of earning some extra income by selling their prepared household Cocoons. Generally, after harvesting season the farmers remain idle having no other works. But if a farmer can arrange mulberry plantation side by side, the production of agricultural crops, he will get full time work which will pay him more. It is only possible because of the linkage between agriculture and sericulture. Similarly the owners of the mango orchards can earn a lot by cultivating agricultural crops in his mango orchard side by side with his earning from seasonal mangoes.

It will not be difficult to find out such a plot of land at Diara area of Malda where mango orchard, sericulture and agriculture are prevailing side by side and one is compensatory to another in times of loss.

If any year due to climatic condition say, heavy shower or Cyclone the production of mango is hampered, that loss can be made good by increasing agricultural production or sericultural production.

On the other hand due to climatic conditions or for any other reason if the agricultural production is damaged, that may be compensated by the production of mangoes and Cocoons. So, it is hardly possible the economy of the district to be jeopardised due to non-availability of expected return from any of the three important sectors in any year. This is only possible due to the existence of good linkage between agriculture, sericulture and mango production of Malda district.

So, the importance of the existence of linkage between agriculture, agro-based sericulture and mango production of Malda plays a significant role in the economic development of Malda district.

Here is a concrete example of linkage between agriculture, sericulture - mango production collected from a farmer of Madanpur village of Amrity under Englishbazar Police Station.

Basudev Mandal, a small farmer of Amrity has 8 kathas of land. The details of which have been shown in the Table No. 7.1.

On that land he has 4 mango trees and some mulberry plants. Moreover, he cultivates turmeric on the vacant land in between mango and mulberry plant on the same plot.

Two adult sons offer regular labour for cultivation and rearing of silk worm and preparing of Cocoons of Bhaduri Jaistha, Agrahny and Chaitra. Besides their own mulberry leaves they are to purchase mulberry leaves from outside. From the Table No. 7.2, the Income and Expenditure account, the actual financial position of the family of Basudev Mandal will be more clear:

Thus the economic activity of the district Centres round two important things, viz. mango and sericulture, Malda is famous for mango production and silk worm rearing side by side agriculture. In the annexure No. 5 more cases of linkage between sericulture, mango orchard and agriculture have been shown.

From the above sample survey it is clear that a farmer can have agricultural crops, mango and mulberry from the same plot of land annually. Because soil and climatic condition are congenial to the production of mango, mulberry and other agricultural crops specially at the 'Diara' tract of Malda district.

So, the agriculturists of 'Diara' tract may be encouraged to cultivate agricultural crops within the mango orchard. On the other hand just on the boundaries of agricul-

tural land or mango orchard they may nurture mulberry plants.

If this plan can be made popular, the people of the entire Diara tract of Malda district will get full year employment and the economic condition of the district will be improved to a large extent by increasing the production of mango mulberry and agricultural crops.

There is one i.e., three economic activities can be done on the same plot of land. Producing mango, Cocoons and agricultural crops from the same plot of land the farmers of Diara tract of Malda district great some extra benefits which are not available in 'Tal' or 'Barind' area of Malda district.

Table - 7.1.Details of the family of Basudev Mandal.

Head of the family.	Basudev Mandal
Village.	Medanpur.
Post.	Amrity
Police Station	Englishbazar.
Block.	Englishbazar.
Acreage of land.	8 Kathas.
Family members.	8

Source : Field Survey.

Table - 7.2Income and Expenditure Account of Basudev Mandal  
for the year ended 31st March, 1985.

Expenditure	Rs.	Income.	Rs.
To cost of maintenance of trees and crops.	500.00	By receipts from Sericulture.	700.00
To family Expenditure	4000.00	By receipts from Mango orchards.	200.00
		By Receipts from agriculture.	100.00
		By earnings from own labour given elsewhere.	3500.00
	<u>4500.00</u>		<u>4500.00</u>

Source: Field Survey.