

## **Horticulture crops potentiality, problem and its role to alleviate the poor economy of the hill district in Manipur with focus on tamenglong district**

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**ABSTRACT:** *The world today are facing a global climate change, mal-nutrition and mal-nourishment of women and children with ever rising and people are health conscious and their dietary pattern of food are moving close to chemical free plants material. So also, recently quite a large number of farmers commit suicide in India. The Fact of India, today is rural poverty are in grave situation. They have no option for engaging themselves in secondary and tertiary sector. This is happening because many people who are wealthy; even the government have paid a meagre attention to transform those rural India. Therefore, most people in rural villages carried on their Jhum cultivation and agricultural activities as a major source of livelihood. The technologies which have been in vogue in this primary sector are still primitive. My attention in this paper would elaborate an account of my research activities on horticulture crops; its potentiality, problem and it role for alleviation of rural poor and come up with intelligent use of the resources that is horticulture activities which are prime importance to green economy, global climate change and for better health and sustainability of the world and a way of life for employment creation and poverty alleviation of rural India. Many crores of rupees are spent for sustainable horticulture by Govt. of India and NHM in every five year plans yet this money and schemes does not reach the poor people in the rural India But with the little own saving and the little money of the individual household and the involvement of owned family members produces for self consumption and surplus for the market. Horticultural crops like fruits, vegetables and spices etc., are highly rewarding therefore, promoting horticulture is the best option to transform the rural economy of our country India.*

**Keywords—** *(horticulture, potentiality, problem, ignorant, surplus land, favourable , feasibility).*

### **I. WHY IS THE NECESSITY FOR HORTICULTURE**

The term *horticulture* has precisely been derived from the Latin word. Hortus means garden and cultus means tilling. It is also generally defined as the sub-division of agriculture dealing in gardening. In other word, we usually understood as the culture of growing garden plants. This subsidiary occupation are broadly divided into seven types viz.(1) Arboriculture (2) Floriculture (3)Landscape horticulture (4) Olericulture (5) Pomology (6) Post-harvest Physiology (7)Viticulture<sup>i</sup> To be more precis and brief, the D.K. Oxford Dictionary defines as ‘the art or practice of cultivating and managing Garden (2011, revised edition). So also the Concise Oxford English Dictionary defines as the art or practice of garden and management. (2010, edition)

Horticulture involves five areas of study. These areas are floriculture (includes production marketing of floral crops), landscape horticulture (includes production, marketing and maintenance of landscape plants), olericulture (includes production and marketing of vegetables), pomology (includes production of and marketing of fruits), and post- harvest physiology which includes maintaining quality and preventing spoilage of horticultural crops.<sup>ii</sup> W.Z. Zhou holds that the role of plants in the evolution of civilization goes beyond food, fibre, and medicines. All aspects of human culture are rich with references and meanings regarding plants since they have different cultural background and symbolic meanings which still greatly influences modern plants preferences and uses in our life. Horticulture is the industry and science of plant cultivation including the process of preparing soil for the planting of seeds, tubers, or cuttings. Horticulturists work and conduct research in the disciplines of plant propagation and cultivation, crop production, plant breeding and genetic engineering, plant biochemistry, and plant physiology. The work particularly involves fruits, berries, nuts, vegetables, flowers, trees, shrubs, and turf. Horticulturists work to improve crop yield, quality, nutritional value, and resistance to insects, diseases, and environmental stresses. Horticulture usually refers to gardening on a smaller scale, while agriculture refers to the large-scale cultivation of crops. The word is composite, from two words, ‘Horti’ meaning ‘grass’ originating in the Greek χοτρον, meaning the same (grass) and the word culture.<sup>iii</sup> As we move into the decades of environment, it is obvious that the garden plays an important role in environmental improvement. However, the value of the garden in our spiritual civilization will be paid more attention too, because the garden is an art to express the highest truths of religion, philosophy and has been used as a haven

for reflection by philosopher and as a source of inspiration and a symbol of virtue/vice by artists and poets. Plants and nature are woven into the unconscious mind of human and served as a source of spiritual renewals.<sup>iv</sup> To be very brief and precise, In the Holy Bible at Genesis chapter 2:8-9, God created garden called Eden in the east and he had put the first man Adam to watch over the garden, it is the Lord who made to grow every tree that is pleasant to the sight and good for food. So, love of God is to care and respect his creation. Loving plants is one way of loving God, from those times till today mankind cannot par away with the beauty of nature.<sup>v</sup> The fact is that man relationship with nature is divine and holy and hence is called holistic approach, even great civilization such as Mohenjo-Daro, Harappa and Egyptian civilization on their path to progress and development have already passed through the stages of being closed and depend on natural assets like water, land, plants and animals. In order to satisfy the unlimited want of humanity, optimal utilisation of the scarcity of resources to increase human welfare in a sustainable development is the challenges the entire world faces today. Therefore, the paper tries to bring about environment awareness, employment generation, rising standard of living, increasing per capita income and producing surplus for the market and to safeguard and protect the global warming (climate change) occurring due to rapid explosion of population especially in developing countries.

## **II. MAJOR ISSUES**

By 2050, the global population is expected to increase to 3 billion. The challenge of feeding a growing population is daunting while all the economic sectors depend to some degree on ecosystem services like agriculture and allied activity specially like that of horticulture. Horticulture help in maintaining healthy ecosystem, water regulation, pollination, erosion control, and climate and wind regulation so also world food security issues could have been solved by paying greater importance to the role of horticulture.

## **III. INDIA'S GROWTH IN HORTICULTURE**

In India the concern for horticulture is of very recent from 1950s to 1980 the Government focus its resources on cereal crops i.e rice and wheat; now that we have green revolution and we are self sufficient in food front. But the horticulture sector has started attention only from 1980 to 1992 we called it an era for golden revolution a period to talk about pulses, fruits, and vegetables. Only from 2005-06 When National Horticulture Mission was launched there have been tremendous improvement in this sectors India is second largest producers of fruits and vegetables next to China however if rural India is revitalized by horticultural expansion in its rural villages the scenario would have change. Hopefully, we can become a leader in near future.

## **IV. SURVEY REPORTS AND ANALYSIS OF TAJEIKAI PHUN VILLAGE AND PUILUAN (KAMBIRON VILLAGE) UNDER NUNGBA SUBDIVISION OF TAMENGLONG DISTRICT MANIPUR STATE.**

In these two villages 20 households each were purposively survey. The main finding were both the villages have enough land suitable for expansion of horticultural crops, every household in average received Rs 30000 to Rs 50000 as income to household by this occupation. Apart from this, 30 to 40 percent of the produces were kept aside for household consumption and the remaining were sold off in the rural market or petty traders. Most farm are at 1 or 2 acres and multi-cropping is the trends they cultivated. They grow timbers of various kind which is a I-class timber trees, fruits trees like oranges, citrus like lime, pineapple, parkia, banana etc., were heavily grown. Spices like king chillies and long chillies, ginger, turmeric and others were grown too. The common features in both villages were roads are un-surfaced both intra-village and inter-village road and are of narrow lane without black top (being Plastered). No proper storage facilities yet the household construct a small thatch house for keeping of the farm produce. The whole household whom I interview have not availed the help from Govt. and NGOs to promote this horticulture. It is solely the family own saving that is needed for their success of horticulture. The incomes so derived are spent for medical expenses, education of the children, for feasting and to meet daily expenditure for the family. One advantages of this farm is that people usually engaged for 4-5 months only and it is much more rewarding than jhuming. Not a bank was found and credit facilities were still their dreams. These horticultural activities were also solely depending on traditional tools and equipment. Not a single family is found using fertilizer, pesticides, and insecticides etc. The annual expenditure for raising a farm is at a cost of only Rs 5000 to Rs 10000. This is low because family work in exchange labour and family owned labour which needs no payment.

## **V. BACKGROUND INFORMATION OF THE SURVEY VILLAGES**

The two villages under Nungba sub-division which had been survey in last week of august 2012 reveal the wide prospect, potential, opportunities and challenges to uplift the rural community. The survey villages are inhabited by Rongmei (a Naga tribe) and all follows Christianity. They led a well culture and distinct life with less modern facilities and gadgets, the distance from districts headquarter is 63sq.km for Tajeikaiphun and 73sq.km for Kambiron. This is indeed small distance yet due to bad road condition it takes one day to reach the

district headquarters. The total household of both villages are 226 households. Most of the people depend on primary and agricultural activities to earn a livelihood.

In Tajeikaiphun a thick forest about 7sq.km is found where all kinds of bird and animal are still found, with so many timbers and log most of which are of A-Class. And the remaining areas consist of young forest of 5-10 years due to continue jhumming cultivation of the people. Whereas in Puiluan (Kambiron) no thick forest are found yet almost 80 percent of the land available are fit for horticultural crops and enough land are there for its expansion of the horticultural crops. The size of the villages is some 80 sq.km in areas of both the villages. Most exciting and challenging things is secondary and tertiary sectors which are totally nil, no post and telegraph, no banking facilities, no doctors and nurses, no hospital yet local doctors(practitioner) are normally found.

**Data below are horticultural income and non horticulture income of 40 households**

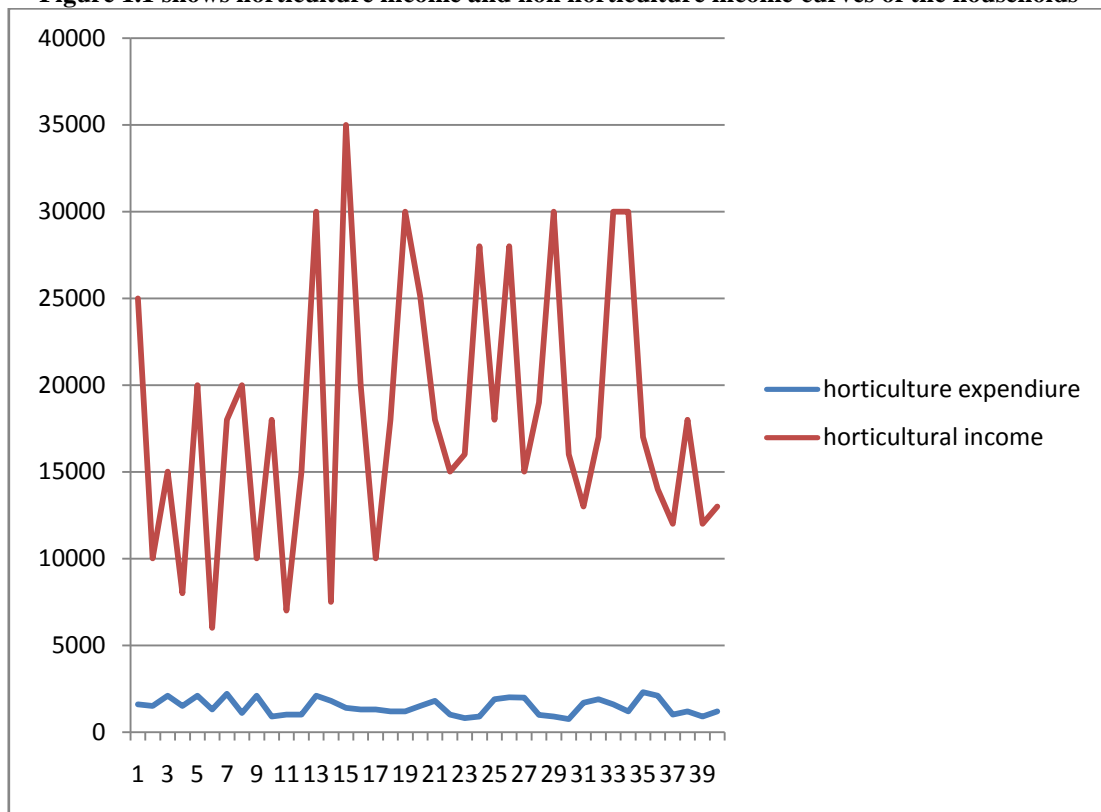
| <b>Table 1:sl.no hh</b> | <b>head hh</b> | <b>horticultural expenditure</b> | <b>horticultural income</b> |
|-------------------------|----------------|----------------------------------|-----------------------------|
| 1                       | jianchangdi    | 1600                             | 25000                       |
| 2                       | lungtan        | 1500                             | 10000                       |
| 3                       | lumtiplung     | 2100                             | 15000                       |
| 4                       | gongthuandai   | 1500                             | 8000                        |
| 5                       | kusinrei       | 2100                             | 20000                       |
| 6                       | hakampou       | 1300                             | 6000                        |
| 7                       | jalulung       | 2200                             | 18000                       |
| 8                       | daibuan        | 1100                             | 20000                       |
| 9                       | tassinlung     | 2100                             | 10000                       |
| 10                      | dikhiamlak     | 890                              | 18000                       |
| 11                      | bartaman       | 1000                             | 7000                        |
| 12                      | muhaipou       | 1000                             | 15000                       |
| 13                      | namsadai       | 2100                             | 30000                       |
| 14                      | kamphuna       | 1800                             | 7500                        |
| 15                      | r. asing       | 1400                             | 35000                       |
| 16                      | jamunliu       | 1300                             | 20000                       |
| 17                      | makujian       | 1300                             | 10000                       |
| 18                      | thailik        | 1200                             | 18000                       |
| 19                      | lungchui       | 1200                             | 30000                       |
| 20                      | Jahoilung      | 1500                             | 25100                       |
| 21                      | guijonpou      | 1800                             | 18000                       |
| 22                      | kuthairei      | 1000                             | 15000                       |
| 23                      | lankulung      | 800                              | 16000                       |
| 24                      | gongsinlung    | 900                              | 28000                       |
| 25                      | thuan          | 1900                             | 18000                       |
| 26                      | asing          | 2000                             | 28000                       |
| 27                      | dimdailung     | 1980                             | 15000                       |
| 28                      | sakuaklung     | 987                              | 19000                       |
| 29                      | thurei         | 900                              | 30000                       |
| 30                      | dunthanlung    | 750                              | 16000                       |
| 31                      | lungkhaopou    | 1700                             | 13000                       |
| 32                      | kaotoupou      | 1900                             | 17000                       |
| 33                      | kagundai       | 1600                             | 30000                       |
| 34                      | acham          | 1200                             | 30000                       |
| 35                      | khamgaipou     | 2300                             | 17000                       |
| 36                      | gongchungrei   | 2100                             | 14000                       |
| 37                      | meihonliu      | 1000                             | 12000                       |
| 38                      | gankhamrei     | 1200                             | 18000                       |
| 39                      | phunjikpou     | 890                              | 12000                       |
| 40                      | kukhonpou      | 1200                             | 13000                       |

Source: Author survey data

The table clearly shows that the income earns from horticulture crops are much higher than non-horticulture. Therefore; horticultural activity is a highly rewarding activity for traditional rural economy and people are eager to take up the jobs as a best option to earn a livelihood. The success of such activity is the farmers own investment from their own saving. Non horticultural activity like cereal production, gathering forest produces, fishery, animals husbandry, hunting and traps, bee-keeping and poultry etc., and others are not rewarded for which they have spend much time and energy over those activities.

Whereas the growing of fruits, vegetables and spices are along with plantation crops depicts highly rewarding occupation option to them. The people are still ignorant to adopt the culture of raising floral crops; medicinal herbs even when these are viable too for them many varieties of orchids and floral crops and medicinal herbs are also available at their villages. These activities are not yet taken up in farm for sale and commercial purposes.

**Figure 1.1 shows horticulture income and non horticulture income curves of the households**

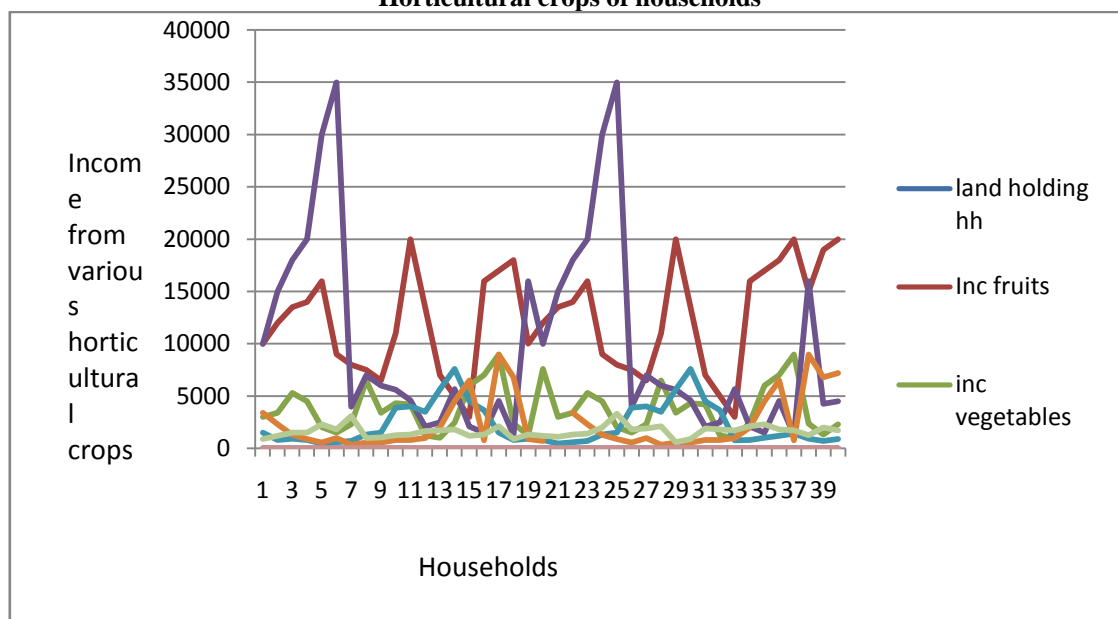


**Table 1.2: Land holding pattern and incomes of various horticulture crops**

| land holding hh | Inc fruits | inc vegetables | inc spices | inc plantation crops | inc commercial crops | inc flowers | inc orchids | inc cereal |
|-----------------|------------|----------------|------------|----------------------|----------------------|-------------|-------------|------------|
| 3               | 10000      | 3000           | 10000      | 1500                 | 3400                 | 0           | 0           | 900        |
| 2               | 12000      | 3400           | 15000      | 800                  | 2300                 | 0           | 0           | 1200       |
| 4               | 13500      | 5300           | 18000      | 900                  | 1300                 | 0           | 0           | 1500       |
| 4               | 14000      | 4500           | 20000      | 780                  | 897                  | 0           | 0           | 1500       |
| 3               | 16000      | 2000           | 30000      | 450                  | 567                  | 0           | 0           | 2300       |
| 2               | 9000       | 1500           | 35000      | 560                  | 987                  | 0           | 0           | 1800       |
| 4               | 8000       | 2300           | 4000       | 700                  | 345                  | 0           | 0           | 3100       |
| 4               | 7500       | 6500           | 7000       | 1300                 | 567                  | 0           | 0           | 990        |
| 3               | 6500       | 3400           | 6000       | 1500                 | 566                  | 0           | 0           | 1050       |
| 2               | 11000      | 4300           | 5600       | 3900                 | 799                  | 0           | 0           | 1250       |
| 4               | 20000      | 4200           | 4612       | 4000                 | 790                  | 0           | 0           | 1300       |
| 4               | 13500      | 1200           | 2100       | 3500                 | 1000                 | 0           | 0           | 1650       |
| 3               | 7000       | 1000           | 2500       | 5634                 | 2000                 | 0           | 0           | 1700       |
| 4               | 5000       | 2456           | 5673       | 7600                 | 4500                 | 0           | 0           | 1800       |
| 3               | 3000       | 6000           | 2100       | 4500                 | 6500                 | 0           | 0           | 1200       |
| 2               | 16000      | 7000           | 1500       | 3645                 | 765                  | 0           | 0           | 1300       |
| 2               | 17000      | 8976           | 4530       | 1500                 | 8976                 | 0           | 0           | 2100       |
| 4               | 18000      | 2345           | 1265       | 800                  | 6789                 | 0           | 0           | 890        |
| 4               | 10000      | 1234           | 16000      | 900                  | 900                  | 0           | 0           | 1300       |
| 3               | 12000      | 7600           | 10000      | 780                  | 700                  | 0           | 0           | 1200       |
| 2               | 13500      | 3000           | 15000      | 450                  |                      | 0           | 0           | 1100       |
| 4               | 14000      | 3400           | 18000      | 560                  | 3400                 | 0           | 0           | 1300       |
| 4               | 16000      | 5300           | 20000      | 700                  | 2300                 | 0           | 0           | 1400       |
| 4               | 9000       | 4500           | 30000      | 1300                 | 1300                 | 0           | 0           | 2000       |
| 4               | 8000       | 2000           | 35000      | 1500                 | 897                  | 0           | 0           | 3300       |
| 4               | 7500       | 1500           | 4000       | 3900                 | 567                  | 0           | 0           | 1800       |
| 4               | 6500       | 2300           | 7000       | 4000                 | 987                  | 0           | 0           | 1900       |
| 3               | 11000      | 6500           | 6000       | 3500                 | 345                  | 0           | 0           | 2100       |
| 2               | 20000      | 3400           | 5600       | 5634                 | 567                  | 0           | 0           | 580        |
| 4               | 13500      | 4300           | 4612       | 7600                 | 566                  | 0           | 0           | 900        |
| 4               | 7000       | 4200           | 2100       | 4500                 | 799                  | 0           | 0           | 1900       |
| 4               | 5000       | 1200           | 2500       | 3645                 | 790                  | 0           | 0           | 1800       |
| 3               | 3000       | 1000           | 5673       | 765                  | 1000                 | 0           | 0           | 1700       |
| 2               | 16000      | 2456           | 2100       | 800                  | 2000                 | 0           | 0           | 2100       |
| 4               | 17000      | 6000           | 1500       | 990                  | 4500                 | 0           | 0           | 2300       |
| 3               | 18000      | 7000           | 4530       | 1200                 | 6500                 | 0           | 0           | 1800       |
| 2               | 20000      | 8976           | 1265       | 1400                 | 765                  | 0           | 0           | 1700       |
| 4               | 15000      | 2345           | 16000      | 900                  | 8976                 | 0           | 0           | 1250       |
| 3               | 19000      | 1298           | 4278       | 700                  | 6789                 | 0           | 0           | 2000       |
| 3               | 20000      | 2300           | 4500       | 890                  | 7200                 | 0           | 0           | 1700       |

Source: survey data

**Fig. 1.2 the line graph shows that landholding size and various incomes of Horticultural crops of households**



### Problems of horticultural growth

- The two survey villages are never aware of banking facility for the investment in horticultural sector
- Connectivity and transportation remain the biggest hurdles
- Irrigation and fertilizer used are totally absent
- No cold storage facilities
- Farmers are largely illiterate
- Horticultural schemes under NHM are never reaching to them
- The awareness to fight pests insects and rodents were not given and farmer were not trained
- Almost all the farmers invest with own saving
- The very tool and equipment for farm operation are traditional daos, axe sickles, spades, crober, lever etc., and others
- Market are insufficient

## VI. SUGGESTION

The Govt. has to give lot of packages in form of seeds, chemicals and equipment and made awards for those who produce more and made the farmer train in skill and knowledge. This way resources and potentiality can be fully exploited thereby creating jobs avenue for the people.

## VII. CONCLUSION

The world today depends on integration of markets; we still have plenty resources market can survive only when goods like fruits and vegetables are made available, opening up of trade. Duties free on agricultural goods free exit and free entry of high value crops would help the rural economy to grow. Still many rural people are deprive of fruits and vegetables consumption due to poverty the fresh horticultural produces are becoming a food and diet only of the rich but once farmers were made to produce for themselves and for market, fruits and vegetables prices would get reduces and all section of people can enjoy it and maintain a good dietary pattern and keep up a better heath. Hopefully with the opening up of International Highway I and II, along with railway lines coming up connection jiribam to imphal via moreh connection South East Asian Nation would automatically boost horticultural sector in the coming decades and make profitable income out of this horticulture in the State of Manipur and North East as a whole. This climax will benefit the country as a whole with enough of horticultural produces i.e. Second Golden revolution is on the way sooner or later rural India will shine and India can becomes a leader in the world of trade liberalization.

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