

# SURVEY ON HORTICULTURE FRUITS IN NAGALAND

2014-15



Conducted by:

# Directorate of Economics and Statistics, Kohima Government of Nagaland

in collaboration with

School of Agricultural Sciences and
Rural Development,
Nagaland University, Medziphema campus

#### **FOREWORD**

In Nagaland, till recently, cultivation of horticulture crops was a subsidiary occupation of the people. With the introduction of schemes under the National Horticulture Mission in the State and with efforts of the State Horticulture Department, investment for horticultural development in the State increased significantly. This resulted in realisation amongst the people about horticulture as a source of livelihood and employment with market demand for its produce even outside the State. Consequently, there has been expansion in area under horticulture crop cultivation as well as cultivation of new varieties of horticulture crops in the State.

The horticulture sector encompasses a wide range of crops. And the favourable climatic conditions of the State makes it suitable for cultivation of different horticulture crops in the State. However, policy intervention for investment requires reliable evidence based data and information. Recognising the need for this critical input for the sector, under the 13<sup>th</sup> Finance Commission Grant, the Directorate of Economics and Statistics conducted a sample study on cultivation of fruit crops in the State. The sample survey covered 2110 households in 93 villages in 20 blocks in all 11 (eleven) districts of the State.

Dr. A. K. Sahu, Assistant Professor of SASRD, Nagaland University, Medziphema and the team of officers headed by Shri Y. Sacheo Ovung, Director, Directorate of Economics & Statistics, Nagaland along with Shri Neidilhou Angami, Deputy Director, Ms Vikeyielenuo Chielie, Assistant Director and the survey team have made the study a reality. Their contribution is acknowledged. The support of Government of India provided under the 13<sup>th</sup> Finance Commission Award is also gratefully acknowledged.

Dated: 9.10.2015 Kohima.

(Kevileno Angami)

Secretary,

**Economics & Statistics. Government of Nagaland.** 

# **PREFACE**

Over the years horticulture has emerged as one of the potential agricultural enterprise in accelerating the growth of the economy. Its role in the State's nutritional security, poverty alleviation and employment generation programmes is becoming increasingly important. It offers not only a wide range of options to the farmers for crop diversification, but also provides ample scope for sustaining large number of agro-based industries, which generate huge employment opportunities.

In line with the 13<sup>th</sup> Finance Commission Grants milestone, the Department of Economics and Statistics, Nagaland in collaboration with the School of Agricultural Sciences and Rural Development (SASRD), Nagaland University, Medziphema, Nagaland conducted a sample survey on estimated area, production and price of horticulture fruit crops.

The survey report provides information on the economic growth of various major fruit crops and other crops. The survey report also indicates on type of farming in horticulture fruit crops, various cost components involved in fruit crops production, transportation, storage marketing and various constraints and challenges faced by the farmers.

The task assigned has been a challenging one, the accomplishment of which would not have been possible without the cooperation and support of the Deputy Commissioners of the Districts and the Village Chairmen of the selected survey sample villages.

I take this opportunity to thank Shri.Neidilhou Angami, Deputy Director for coordinating and shouldering the entire survey work. I expressed my sincere gratitude to all the District Statistical Officers and staff for collection of data. I also thank the Directorate Officers and staff in validation of survey data and data entry works led by Smti. Vikeyielienuo Chielie, Assistant Director, Shri Sedevizo Ziephru, Statistical Officer, Shri. Sentichuba, SIS, Shri Kekhriesituo Kelio, Computor, Shri. V.Timothy Sekhose, Computor and Smti. Talitula, Computor.

I am highly thankful to Prof.N.S.Jamir, Pro- Vice Chancellor, SASRD for allowing Assistant Professor Dr. A.K. Sahu, as Consultant for the survey.

I wish this publication will serve as a reliable document for Research Scholars, Policy Makers and Planners. Suggestions and comments for improvement would be highly appreciated

Date :	Y.Sacheo Ovung
Place:	Director
	Economics & Statistics

# **ACKNOWLEDGEMENT**

The "Survey on Major Fruit Crops" is a sincere effort of the Directorate of Economics and Statistics, Kohima, Nagaland in collaboration with School of Agricultural Sciences and Rural Development (SASRD), Nagaland University, Medziphema, Nagaland, towards estimating area and production of major fruit crops grown in Nagaland during year 2014-15. The survey also looked into understanding the economics of the fruit production and marketing.

For the survey, I am indebted to the Directorate of Economics and Statistics for showing trust in my ability to analyze the data using various statistical tools and appointing me as a Consultant for the esteemed project. I also profusely express my hearty thanks to Prof. N. S. Jamir, Pro-Vice Chancellor, SASRD, Medziphema for allowing me to conduct the consulting work. I am extremely thankful to Shri. Y. Sacheo Ovung, Director, DES, Government of Nagaland; Madam Kevileno Angami, Secretary, Department of Economics and Statistics, Government of Nagaland; Mr. Neidilhou Angami, Deputy Director, DES; Madam Vikeyielienuo Chielie, Assistant Director, DES and most important of all Mr. Sedevizo Ziephru, Statistical Officer, DES who kept in touch with me all the way.

For the successful conduct of the survey, I extend my sincere thanks to all the Village Council Chairmen and all the 2110 fruit growing household respondents, without whose contribution and cooperation no information would have been gathered. I express my hearty thanks and congratulations to all District Statistical Officers, Data collectors, enumerators and staffs of Directorate of Economics and Statistics, Kohima, Government of Nagaland. During this period, I found many new friends and well wishers whose memory I will always cherish. Without support of my parents, my wife and most important my little daughter, I would not have been able to honestly contribute to the work entrusted on me. Lastly, I thank almighty for keeping his blessings for the successful completion of the project.

(A. K. Sahu)

Consultant
Assistant Professor,
Dep. of Agricultural Economics,
SASRD, Nagaland University,
Medziphema, Nagaland-797106

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# **CHAPTER - 1**

#### **INTRODUCTION**

The state of Nagaland is the 16<sup>th</sup> state of Indian Union, situated in north east region of the country. The state is primarily agricultural based economy and horticultural fruit crops play a vital role in the State Economy. Out of the total land area of 16,57,587 hectares of the State, forest area occupy approximately 8,62,930 hectares during 2012-13 (Source: Statistical Handbook of Nagaland, 2013). The state produces wide varieties of fruits viz. Orange, Lemon, Citrus, Pears, Plum, Papaya, Banana, Passion fruit, Pineapple, Kiwi, Pomegranate, Jackfruit, Parkia, Mango, Grapes, Gooseberry, Strawberry, Apple etc. Fruit crops are very sensitive to agro-ecological factors and Nagaland has very conducive environment for production of various fruit crops. Also the practice of organic farming is very much prevalent in the state, which has to be economically optimised.

The survey was conducted to estimate the area, production, number of bearing and non-bearing trees, economics pertaining to production and marketing of 13 major fruit crops, and the major constraints faced by the horticultural farmers in the state for the year 2014-15. The survey would help in estimating State's economy and facilitating policy measures for growth and promotion of horticultural fruit crops. The survey also shed light on type of farming in horticultural fruit crops, various cost components involved in fruit crops production, transportation, storage and marketing. It also estimated income level of fruit growers for different fruits from different districts and studied various constraints and challenges faced by farmers.

The survey was conducted by the Directorate of Economics and Statistics, Government of Nagaland in collaboration with School of Agricultural Sciences and Rural Development, Nagaland University, Medziphema campus. The survey involved all 11 districts, 20 blocks out of 75 blocks in the state. A total of 2110 households growing horticultural fruit crops were interviewed from 93 villages of the State. Thus, the survey involved total sample population of about 12650 out of the State's population of about 19 lakhs.

# **CHAPTER - 2**

#### **METHODOLOGY OF THE SURVEY:**

The objective of the study was to estimate area, production and prices of various fruit crops grown in Nagaland during the year 2014-15. The major fruit crops that are grown widely in the State were first identified and sampling design was prepared for conducting the survey. Due to less block information related to fruit crops, variations in Nagaland topography, biodiversity and agro ecological factors affecting the fruit crops cultivation, a multi-stage sampling was desired.

All the 11 districts of the state were selected for the survey as primary stage units for sampling, and then 20 blocks out of 75 blocks were selected based on block size per district, and its importance to horticultural fruit crops. Blocks were considered as second stage units. From each block, villages were selected as final stage units, and selection of number of villages per block depended on size of the block.

The variation among villages per block with respect to number of households per village were found to be quite high, ratio of maximum to minimum households were in the range of 11-1.1 times. Therefore only those villages were selected which had near to median number of households in order to have a representative sample final stage units. Since, blocks were found to have small number of villages ranging from 10 to 20, located far in mountainous terrain, Probability Proportion to Size with Repetition (PPSWR) as probability proportion to number of households per village was used for analysis. Total 93 distinct villages as final units were sampled and analyzed with respective village factors arrived from ratio of households of the sample village to minimum household size in the sample second stage unit *i.e.*, block.

For estimating population total for each 11 district, following estimator has been used.

$$\hat{Y} = N \sum_{s}^{n} W_{is} \, \hat{Y}_{s}$$

Where,  $\hat{Y}$  is estimate of population total for a district, n is number of sample villages per district,  $W_{is}$  is the relative weight based on  $i^{th}$  block and  $s^{th}$  sample village, i.e, it is the ratio of weight of the sample village to the total weight of the block from which sample village has been

considered (Annexure IX), and  $\hat{Y}_s$  is sample total of  $s^{th}$  village. N is total number of villages in the district.

The selection of respondent households was done purposively in order to get maximum information on fruit production from the selected village. Minimum 12 and maximum 30 fruit growing households per village were selected for the survey. Overall, 93 distinct villages were selected and 2110 fruit growing households as well as some church communities were selected as final respondents for the survey.

For the survey, an interview schedule was prepared and it was pilot tested in order to check the interview schedule performance and also to verify its 'ease of handling' by data collectors.

The survey covered 13 major fruit crops viz. orange, papaya, pineapple, banana, passion fruit, guava, plum, pear, apple, jackfruit, litchi, pomegranate, kiwi and other minor fruit crops like mango, grapes, lemon etc and respective data were collected for the year 2014-15.

The information generated from the survey pertains to number of farming households or communities, area, production, number of major bearing and non-bearing trees, prices of the produce at field level, cost of cultivation and constraints faced by respondents in cultivation and marketing of the fruits produced.

# **CHAPTER 3**

#### **RESULTS OF THE SURVEY**

Out of the total 2110, the 1728 (81.86%) household respondents were involved in primary occupation of farming, and rest 382 (18.14%) respondents were found to be practicing other occupations. Average family size was obtained to be six members per household. For marketing of fruits, highest number of respondents i.e, 1424 (67.49% of respondents) were found selling produce directly from field. About 390 (18.48%) were found to be selling their respective produces directly in the market. Selling of the produce to wholesaler was observed in 217 respondents (10.28%). Contract selling and other form of marketing was preferred by 79 (3.744%) respondents only. Type of farming was 788 (37.45%) for mixed farming and rest 1322 (62.65%) preferred solo farming of fruit crops. This indicates orchard based farming or single fruit crop plantation based farming is more popular in Nagaland, as it is easy to manage single type of farming.

It was also observed that 1187 (56.26%) respondents hired labor to support their farm production and rest 923 (43.74%) of respondents did not hire any manpower for their farms. The detail production, area and number of major bearing and non-bearing trees for 13 fruits for all 11 districts is discussed below.

#### 3.1. Orange

Orange is widely grown in almost all districts of Nagaland. The estimated area and production for the year 2014-15 is presented district wise.

#### **3.1.1 Kohima**

Estimated area under orange cultivation in the district of Kohima is 17.286 hectares, with total plants estimated to be 179322, and total production is estimated at 838.346 ton during the year 2014-15.

#### 3.1.2 Mokokchung

Mokokchung district had total estimated area of 932.282 hectares of land under orange production which is second largest in the State. But annual yield was highest, estimated at 11981.316 ton and total number of plants was 469265.

#### 3.1.3 Tuensang

Around 45.753 hectares of land in Tuensang district was under orange cultivation, with annual production of orange 5304.387 ton from total 40050 plants.

#### 3.1.4 Mon

The district of Mon has 51.653 hectares of land under orange cultivation, with an annual yield of 10341 ton in 2014-15 and total number of trees were 1288049 in the district.

#### **3.1.5** Wokha

Wokha has the largest area under orange cultivation in the State. It had 1037.415 hectare of land under orange crops, however with annual production of 1800.66 ton it has the lowest productivity per hectare and total 585851 orange trees.

#### 3.1.6 Zunheboto

About 144.256 ton of orange was produced from 17.987 hectare of land during the year 2014-15. Total number of trees was estimated to be 29393.

#### **3.1.7 Phek**

Orange was cultivated in 228.204 hectares of land in Phek, with annual production 950.668 ton during the year 2014-15, and total standing plant was 411991 including bearing as well as non bearing plants.

# 3.1.8 Dimapur

In Dimapur district 83.624 hectares of land was estimated to be under orange production. Total annual production was 190 ton from 189371 plants.

#### **3.1.9 Kiphire**

About 494.389 ton of orange was produced in Kiphire, from total land area of 69.943 hectare and total standing plant was estimated to be 106188.

#### **3.1.10 Longleng**

About 2627.121 ton of orange was produced during 2014-15 from 375.515 hectares of land. Total trees were estimated to be 225454.

#### **3.1.11 Peren**

Approximately 1699.479 ton of orange was estimated to be produced in Peren from total area of 110.776 hectares of land. Total orange plants including bearing and non bearing plants was 34867.

Overall, Nagaland produced 36372.547 tons of orange during 2014-15 from total area of 2970.44 hectare of land.

Table 1: Orange Area, Production & trees

Orange	Yield (ton)	Area (ha)	No. of Non- Bearing trees ('000)	No. of Minor trees ('000)	No. of Bearing trees ('000
Kohima	838.346	17.286	88.98	1.366	137.959
Mokokchung	11981.316	932.282	136.02	197.219	181.006
Tuensang	5304.387	45.753	6.40	27.249	88.280
Mon	10341.917	51.653	639.42	9.215	722.154
Wokha	1800.659	1037.415	292.45	0.957	202.157
Zunheboto	144.256	17.987	28.89	0.353	0.381
Phek	950.669	228.204	205.47	1.054	184.580
Dimapur	190.007	83.624	86.29	16.789	81.760
Kiphire	494.389	69.943	50.02	6.152	46.749
Longleng	2627.122	375.515	109.17	7.112	230.740
Peren	1699.479	110.776	17.20	0.459	39.640
Nagaland	36372.547	2970.438	1660.30	267.924	1915.406

# 3.2 Papaya

Papaya was produced in few pockets of the State. The estimated area and production for the year 2014-15 is presented district wise.

#### **3.2.1 Kohima**

In Kohima 5.987 hectares of land was under papaya cultivation. Annual yield was 381517 numbers and total standing plant was 63069.

#### 3.2.2 Mokokchung

No significant papaya cultivation was observed during the sample survey in Mokochung.

# 3.2.3 Tuensang

About 4969 numbers of papaya was estimated from 0.495 hectare. Total standing plant was estimated at 763 from Tuensang.

#### 3.2.4 Mon

About 306762 numbers of papaya production was estimated from 0.352 hectares of land. Total standing plant including bearing and non bearing trees in Mon district was 5956.

#### **3.2.5** Wokha

Approximately 8013 trees of papaya have been estimated in Wokha, with total production of 396439 numbers of papaya arising out of an area of 6.269 hectares.

#### 3.2.6 Zunheboto

About 9786 numbers of papaya has been estimated from 0.230 hectares of land in Zunheboto district and total standing plant was 8013.

#### **3.2.7 Phek**

Around 5775 plants were grown in Phek, with total land area of 2.935 hectares under papaya plantation and total yield was 14286 units of fruits.

# **3.2.8 Dimapur**

About 221121 numbers of papaya fruits were obtained from 25.354 hectares of land. Dimapur had the largest area under papaya cultivation. 182471 plants have been estimated in the district.

#### **3.2.9 Kiphire**

There were 3527 trees with annual production of 4147 numbers of papaya. Total land area was 1.988 hectares in Kiphire district.

### **3.2.10 Longleng**

Around 1.096 hectares of land was under papaya cultivation in Longleng. Total number of estimated trees was 1682 and total production was estimated to be 3583 numbers of papaya fruit.

#### 3.2.11 Peren

About 129155 numbers of papaya was produced from Peren district during 2014-15. Total area under papaya cultivation was 11.16 hectares and total plants were 3095.

Overall, Papaya was grown in 55.866 hectares of land in Nagaland. Total production in numbers was 1471762 and total bearing as well as non bearing plants was 275262 only.

Table 2: Papaya Area, Production & trees

Papaya	Yield ('000 units)	Area (ha)	No. of Non- Bearing trees ('000)	No. of Minor trees ('000)	No. of Bearing trees ('000)
Kohima	381.52	5.99	30.23	2.617	51.371
Mokokchung	0.00	0.00	0.00	0.000	0.000
Tuensang	4.97	0.50	0.00	0.762	0.000
Mon	306.76	0.35	0.09	5.781	1.380
Wokha	396.44	6.27	2.90	2.210	21.655
Zunheboto	9.79	0.23	0.00	0.915	0.000
Phek	14.29	2.93	1.04	3.696	0.696
Dimapur	221.12	25.35	85.79	10.885	40.537
Kiphire	4.15	1.99	0.38	2.765	0.592
Longleng	3.58	1.10	0.44	0.802	0.000
Peren	129.15	11.16	0.25	2.595	0.941
Nagaland	1471.76	55.87	121.12	33.029	117.172

# 3.3 Pineapple

Pineapple produced in Nagaland is considered very sweet with high Total Soluble Sugar content. The estimated area and production of pineapple for the year 2014-15 is presented district wise.

#### **3.3.1 Kohima**

Total of 3641 plants (bearing as well as non bearing) produced 12959 pieces of pineapples, and total estimated area under the crop was 0.454 hectares during 2014-15.

# 3.3.2 Mokokchung

Total area of 156.305 hectares of land was under Pineapple cultivation in Mokokchung district. 535824 plants of pineapple produced 1376269 pieces of fruits.

# 3.3.3 Tuensang

Total yield of 56009 units of pineapple was produced in the district of Tuensang from an estimated area of 11.769 hectares, total standing plant including bearing and non-bearing trees was 30180.

#### 3.3.4 Mon

Mon district had total estimated area of 3.188 hectares under pineapple plantation, with total yield of 57198 pieces from total estimated plants of 79212.

#### **3.3.5** Wokha

Yield of 175424 units of pineapple was produced in Wokha from total area of 8.243 hectares of land. Total standing pineapple plant was estimated at 193373 in the district.

#### 3.3.6 Zunheboto

Zunheboto district produced 7446 units of pineapple from total plant stand of 3009. Total estimated area under pineapple was 1.839 hectares.

#### 3.3.7 Phek

About 173158 units of pineapple were produced from Phek district. Total estimated standing pineapple plant was 56645 from total area was 37.253 hectares.

# 3.3.8 Dimapur

Dimapur district being the largest pineapple producing district with an estimated area of 369.911 hectares, produced highest yield of 2624246 units of pineapple from total estimated standing plant of 6175058.

# **3.3.9 Kiphire**

The district of Kiphire produced 43702 units of pineapple during 2014-15, from total land area of 7.214 hectares of land. The total estimated plant stand was 48161.

#### **3.3.10 Longleng**

Longleng district had estimated production of 226426 units of pineapple from total estimated area of 127.411 hectares of land. Total estimated standing plant was 60269.

#### 3.3.11 Peren

Peren district was found to have the largest area under pineapple cultivation which was 653.683 hectare. However its yield was estimated at 901923 only. Total plant stand was 654734 during 2014-15.

Overall, Nagaland state produced 5654656 units of pineapple from total area of 1377.269 hectares. The total standing plant was 7840103 during the year 2014-15.

Table 3: Pineapple Area, Production & trees

Pineapple	Yield ('000 units)	Area (ha)	No. of Non- Bearing trees ('000)	No. of Minor trees ('000)	No. of Bearing trees ('000)
Kohima	12.96	0.45	1.31	1.021	3.554
Mokokchung	1376.27	156.31	238.42	58.978	1109.317
Tuensang	56.01	11.77	5.61	18.959	44.440
Mon	57.20	3.19	30.73	17.747	62.371
Wokha	175.42	8.24	96.50	0.372	210.818
Zunheboto	7.35	1.84	2.64	0.183	0.531
Phek	173.16	37.25	24.63	7.390	166.066
Dimapur	2624.25	369.91	3083.20	8.665	2841.799
Kiphire	43.70	7.21	21.60	4.970	42.605
Longleng	226.43	127.41	25.82	8.636	252.966
Peren	901.92	653.68	327.18	0.380	910.621
Nagaland	5654.66	1377.27	3857.63	127.300	5645.088

#### 3.4 Banana

The estimated area, production and number of banana trees for the year 2014-15 is presented district wise.

#### **3.4.1 Kohima**

Total of 144942 plants (bearing as well as non bearing) produced 104665 units of banana, and total estimated area under the crop was 20.49 hectares during 2014-15.

#### 3.4.2 Mokokchung

Total area of 158.998 hectares of land was under Banana plantation in Mokokchung district. 99632 plants of banana were estimated, and production was 92464 units of fruits.

# 3.4.3 Tuensang

Total yield of 52795 bunch of banana was produced in the district of Tuensang from an estimated area of 31.178 hectares, and total standing plant including bearing and non-bearing, was 9145 only.

#### 3.4.4 Mon

Mon district had total estimated area of 1.044 hectares under banana plantation with total yield of 14025 units from total estimated plants of 14533.

#### **3.4.5** Wokha

Yield of 138563 units of banana was produced in Wokha from total area of 208.718 hectares of land. Total standing banana plant was estimated at 95194 in the district.

#### 3.4.6 Zunheboto

Zunheboto district produced 13692 units of banana from total standing plant of 13191. Total estimated area under banana plantation was 9.775 hectares.

#### **3.4.7 Phek**

About 126288 units of banana were produced from Phek district. Total estimated standing plant of banana was 101044 from total area of 93.595 hectares.

#### 3.4.8 Dimapur

Dimapur district, with an estimated area of 236.108 hectares, produced yield of 238510 units of banana bunch, from total estimated standing plant of 214234.

#### **3.4.9 Kiphire**

The district of Kiphire produced 60212 units of banana during 2014-15, from an area of 59.99 hectares . The total estimated standing plant was 101194.

#### **3.4.10 Longleng**

Longleng district had estimated production of 30927 units of banana from total estimated area of 91.92 hectares of land. Total estimated standing plant was 2577.

#### **3.4.11 Peren**

Peren district was found to have the largest area under banana plantation with 406.842 hectares of land. Total yield was estimated at 281612 only. Total standing plant was 98138 during 2014-15.

Overall, Nagaland State produced 1153749 units of banana from total area of 1324.657 hectares and total standing plant was 893820 during the year 2014-15.

Table 4: Banana Area, Production & trees

Banana	Yield ('000 bunch)	Area (ha)	No. of Non- Bearing trees ('000)	No. of Minor trees ('000)	No. of Bearing trees ('000)
Kohima	104.66	20.49	144.94	1.830	121.373
Mokokchung	92.46	159.00	99.63	9.029	76.175
Tuensang	52.79	37.18	9.14	12.353	44.793
Mon	14.02	1.04	14.53	17.373	11.477
Wokha	138.56	208.72	95.19	0.869	155.801
Zunheboto	13.69	9.77	13.19	1.494	0.615
Phek	126.29	93.60	101.04	10.382	125.272
Dimapur	238.51	236.11	214.23	7.685	273.507
Kiphire	60.21	59.99	101.19	5.139	61.670
Longleng	30.93	91.92	2.58	14.557	22.549
Peren	281.61	406.84	98.14	8.171	180.914
Nagaland	1153.75	1324.66	893.82	88.882	1074.146

# 3.5 Passion fruit

The estimated area and production of passion fruit for the year 2014-15 is presented district wise.

#### **3.5.1 Kohima**

Estimated area under passion fruit cultivation in the district of Kohima is 2.015 hectares, with total plants estimated to be 3062, and total production is estimated at 290.657 ton during the year 2014-15.

#### 3.5.2 Mokokchung

Mokokchung district had total estimated area of 0.485 hectares of land under passion fruit production which is second largest in the State. Annual yield was estimated at 4.217 tons and total number of plants was 69 only.

#### 3.5.3 Tuensang

Around 11.241 hectares of land in Tuensang district was under passion fruit plantation, with annual production of passion fruit 312.275 tons from total 16628 plants.

#### 3.5.4 Mon

The district of Mon was found to have no significant area under passion fruit production.

#### **3.5.5 Wokha**

Wokha has the second largest area under passion fruit plantation in the State. It had 7.669 hectares of land under passion fruit crops, with annual production of 44.10 tons with 10226 trees.

#### 3.5.6 Zunheboto

About 130.73 tons of passion fruit was produced from 5.472 hectares of land during year 2014-15. Total number of trees was estimated to be 5328.

#### 3.5.7 Phek

Passion fruit was cultivated in 0.070 hectares of land in Phek, with annual production 0.546 tons during the year 2014-15, and total standing plants was 157 including bearing as well as non bearing plants.

#### **3.5.8 Dimapur**

In Dimapur district 2,713 hectares of land was estimated to be under passion fruit production. Total annual production was 8.919 tons from 3473 plants.

# **3.5.9 Kiphire**

About 7.255 tons of passion fruit was produced in Kiphire, from total land area of 1.285 hectares, and total standing plants was estimated to be 2419.

#### **3.5.10 Longleng**

No significant area or production of passion fruit was found in Longleng district.

#### 3.5.11 Peren

No significant area or production of passion fruit was found in Peren district.

Overall, Nagaland produced 798.70 tons of passion fruit during 2014-15, from total area of 30.949 hectares of land. Total standing plants was estimated at 52979.

**Table 5: Passion fruit Area, Production & trees** 

Passion fruit	Yield (ton)	Area (ha)	No. of Non- Bearing trees ('000)	No. of Minor trees ('000)	No. of Bearing trees ('000)
Kohima	290.66	2.02	3.06	1.049	10.572
Mokokchung	4.22	0.48	0.00	0.000	0.068
Tuensang	312.28	11.24	3.79	0.427	12.413
Mon	0.00	0.00	0.00	0.000	0.000
Wokha	44.10	7.67	3.79	0.000	6.440
Zunheboto	130.73	5.47	3.40	1.128	0.795
Phek	0.55	0.07	0.00	0.156	0.000
Dimapur	8.92	2.71	1.26	1.944	0.264
Kiphire	7.25	1.28	0.60	0.000	1.814
Longleng	0.00	0.00	0.00	0.000	0.000
Peren	0.00	0.00	0.00	0.000	0.000
Nagaland	798.70	30.95	15.91	4.705	32.366

#### 3.6 Guava

#### **3.6.1 Kohima**

Estimated area under guava cultivation in the district of Kohima was 4.792 hectares, with total plants estimated to be 21508, and total production was estimated at 227.103 tons during the year 2014-15.

#### 3.6.2 Mokokchung

Mokokchung district had total estimated area of 3.276 hectares of land under guava production. Annual yield was estimated at 37.554 tons and total number of plants was 1563.

# 3.6.3 Tuensang

Around 0.007 hectares of land in Tuensang district was under guava plantation, with annual production 2.228 tons of guava from total 34 plants and these are grown as minor crops. 3.6.4 Mon

The district of Mon has 0.271 hectares of land under guava plantation. The annual yield in 2014-15 was 137.294 tons and total number of trees were 4894 in the district.

#### 3.6.5 Wokha

No significant area or production of guava was found in Wokha district.

#### 3.6.6 Zunheboto

About 29.282 tons of guava was produced from 0.567 hectares of land during 2014-15. Total number of trees was estimated to be 1232 only.

#### 3.6.7 Phek

Guava was cultivated in 3.901 hectares of land in Phek, with annual production of 24.646 tons during the year 2014-15 and the total standing plant was 17945 including bearing as well as non bearing plants.

# 3.6.8 Dimapur

In Dimapur district 23.322 hectares of land was estimated to be under guava production. Total annual production was 136.786 tons from 87867 plants.

# **3.6.9 Kiphire**

About 67.947 tons of guava was produced in Kiphire, from total land area of 5.175 hectares, and total standing plant was estimated to be 9969.

#### **3.6.10 Longleng**

About 22.664 tons of guava was produced during 2014-15 from 4.774 hectares of land. Total trees were estimated to be 9328.

#### 3.6.11 Peren

Approximately 60.686 tons of guava was estimated to be produced in Peren from 1.791 hectares of land. Total standing plant including bearing and non bearing plants was 2442.

Overall, Nagaland produced 746.190 tons of guava during 2014-15, from total area of 47.785 hectares of land. Total standing plant for guava in 2014-15 was estimated to be 156776.

Table 6: Guava Area, Production & trees

Guava	Yield (ton)	Area (ha)	No. of Non-Bearing trees ('000)	No. of Minor trees ('000)	No. of Bearing trees ('000)
Kohima	227.10	4.79	6.15	2.186	13.176
Mokokchung	37.55	3.28	0.13	0.647	0.782
Tuensang	2.23	0.01	0.00	0.033	0.000
Mon	137.29	0.27	0.00	4.893	0.000
Wokha	0.00	0.00	0.00	0.000	0.000
Zunheboto	29.28	0.57	0.00	1.027	0.205
Phek	24.65	3.90	5.49	3.274	9.185
Dimapur	136.79	23.32	56.69	13.599	17.575
Kiphire	67.95	5.17	1.95	1.498	6.518
Longleng	22.66	4.77	1.22	5.668	2.439
Peren	60.69	1.79	0.23	1.532	0.680
Nagaland	746.19	47.88	71.86	34.358	50.559

#### **3.7 Plum**

#### **3.7.1 Kohima**

Estimated area under plum cultivation in the district of Kohima is 9.448 hectares, with total plants estimated to be 144027, and total production is estimated at 586.481 tons during the year 2014-15.

#### 3.7.2 Mokokchung

Mokokchung district had no significant area under plum cultivation, and hence insignificant production.

# **3.7.3 Tuensang**

Around 3.594 hectares of land in Tuensang district was under plum plants, with annual production of plum was 165.903 tons from total of 7623 plants.

#### 3.7.4 Mon

The district of Mon has 0.138 hectares of land under plum cultivation, with an annual yield of 44.278 tons in 2014-15 and total number of trees were 2601 in the district.

#### **3.7.5** Wokha

No significant plum production was observed in Wokha district.

#### 3.7.6 Zunheboto

About 119.615 tons of plum was produced from 4.505 hectares of land during year 2014-15. Total number of trees was estimated to be 4358.

#### **3.7.7 Phek**

Plum was cultivated in 3.485 hectares of land in Phek, with annual production 29.721 tons during the year 2014-15, and total standing plants was 16747 including bearing as well as non bearing plants.

#### **3.7.8 Dimapur**

In Dimapur district 1.671 hectares of land was estimated to be under plum production. Total annual production was 10.573 tons from 4348 plants.

# **3.7.9 Kiphire**

About 1.699 tons of plum was produced in Kiphire, from total land area of 0.785 hectares, and total standing plants was estimated to be 1190.

#### **3.7.10 Longleng**

About 0.592 tons of plum was produced during 2014-15 from 2.108 hectares of land. Total trees were estimated to be 3377.

#### **3.7.11 Peren**

No significant production of plum was observed in Peren, however total area of 0.025 hectares of land was under plum cultivation. Total standing plants for non bearing plants was 92 only.

Overall, Nagaland produced 958.862 tons of plum during 2014-15, from total area of 25.579 hectares of land. Total trees were estimated at 184358.

Table 7: Plum Area, Production & trees

Plum	Yield (ton)	Area (ha)	No. of Non- Bearing trees ('000)	No. of Minor trees ('000)	No. of Bearing trees ('000)
Kohima	586.48	9.45	122.27	2.207	19.551
Mokokchung	0.00	0.00	0.00	0.000	0.000
Tuensang	165.90	3.59	0.65	1.799	5.176
Mon	44.28	0.14	0.00	2.600	0.000
Wokha	0.00	0.00	0.00	0.000	0.000
Zunheboto	119.61	4.50	1.76	2.124	0.475
Phek	29.72	3.48	7.23	1.115	8.397
Dimapur	10.57	1.67	1.37	2.884	0.088
Kiphire	1.70	0.79	0.00	1.190	0.000
Longleng	0.59	2.11	2.67	0.710	0.000
Peren	0.00	0.02	0.00	0.091	0.000
Nagaland	958.86	25.76	135.95	14.720	33.687

#### 3.8 Pears

#### **3.8.1 Kohima**

Estimated area under pears cultivation in the district of Kohima is 1.40 hectares, with total plants estimated to be 14588, and total production is estimated at 110.289 tons during the year 2014-15.

#### 3.8.2 Mokokchung

No significant area or production was observed from the survey in Mokokchung.

# 3.8.3 Tuensang

Around 0.161 hectares of land in Tuensang district was under pears plantation, with annual production of 22.107 tons of pears from a total of 261 plants.

#### 3.8.4 Mon

The district of Mon has 0.259 hectares of land under pears, with annual yield in 2014-15 was 325.428 tons, and total number of trees were 4727 in the district.

#### 3.8.5 Wokha

No significant area or production was observed from the survey in Wokha.

#### 3.8.6 Zunheboto

About 148.612 tons of pears were produced from 4.183 hectares of land during year 2014-15. Total number of trees was estimated to be 4923.

#### 3.8.7 Phek

Pears was cultivated in 0.120 hectares of land in Phek, with annual production 0.485 tons during the year 2014-15, and total standing plant was 256 including bearing as well as non bearing plants.

# 3.8.8 Dimapur

No significant area or production was observed from the survey in Dimapur.

#### **3.8.9 Kiphire**

About 5.336 tons of pears was produced in Kiphire, from total land area of 1.920 hectares, and total standing plant was estimated to be 2974.

# **3.8.10 Longleng**

No significant pears production was observed during 2014-15 from 0.073 hectares of land. Total non bearing and young trees were estimated to be 37.

#### 3.8.11 Peren

No significant pears production was estimated in Peren from total area of 0.035 hectares of land. Total standing plant non bearing plants was 61 only.

Overall, Nagaland produced 612.256 tons of pears during 2014-15, from total area of 8.152 hectares of land. Total bearing and non bearing plants were 27824.

**Table 8: Pears Area, Production & trees** 

Pear	Yield (ton)	Area (ha)	No. of Non- Bearing trees ('000)	No. of Minor trees ('000)	No. of Bearing trees ('000)
Kohima	110.29	1.40	12.12	0.393	2.073
Mokokchung	0.00	0.00	0.00	0.000	0.000
Tuensang	22.11	0.16	0.00	0.261	0.000
Mon	325.43	0.26	0.29	2.039	2.397
Wokha	0.00	0.00	0.00	0.000	0.000
Zunheboto	148.61	4.18	2.55	1.758	0.615
Phek	0.48	0.12	0.00	0.255	0.000
Dimapur	0.00	0.00	0.00	0.000	0.000
Kiphire	5.34	1.92	0.00	2.974	0.000
Longleng	0.00	0.07	0.00	0.036	0.000
Peren	0.00	0.04	0.00	0.061	0.000
Nagaland	612.26	8.15	14.96	7.777	5.085

# **3.9 Apple**

#### **3.9.1 Kohima**

Estimated area under apple cultivation in the district of Kohima is 0.837 hectares, with total plants estimated to be 8811, and total production is estimated at 12.717 tons.

# 3.9.2 Mokokchung

No significant area or production of apple was observed from the survey in Mokokchung.

#### 3.9.3 Tuensang

Around 5.975 hectares of land in Tuensang district was under apple plantation, with annual production of apple 206.947 tons from total 14401 plants.

#### 3.9.4 Mon

The district of Mon has 0.022 hectares of land under apple plantation, and total number of minor and non-bearing trees was 589 in the district.

#### 3.9.5 Wokha

No significant area or production of apple was observed from the survey in Wokha.

#### 3.9.6 Zunheboto

About 74.765 tons of apple was produced from 0.953 hectare of land during the year 2014-15. Total number of apple trees was estimated to be 1143.

#### **3.9.7 Phek**

Apple was cultivated in 2.018 hectares of land in Phek, with annual production of 0.659 tons during the year 2014-15, and total standing plants was 2484 including bearing as well as non bearing plants.

#### 3.9.8 Dimapur

In Dimapur, no significant area or production of apple was observed from the survey.

#### **3.9.9 Kiphire**

About 55.916 tons of apples was produced in Kiphire, from total land area of 13.797 hectares, and total standing plants was estimated to be 36425. Thus, it was the largest apple producing district in Nagaland.

#### **3.9.10 Longleng**

About 0.319 tons of apples was produced during 2014-15 from 0.822 hectare of land. Total trees were estimated to be 420.

#### **3.9.11 Peren**

No significant area or production of apple was observed from the survey in Peren district,

Overall, Nagaland produced 351.323 tons of apples during 2014-15, from total area of 24.425 hectares of land. Total standing plants of apple was 64271.

**Table 9: Apple Area, Production & trees** 

Apple	Yield (ton)	Area (ha)	No. of Non- Bearing trees ('000)	No. of Minor trees ('000)	No. of Bearing trees ('000)
Kohima	12.72	0.84	7.43	1.072	0.313
Mokokchung	0.00	0.00	0.00	0.000	0.000
Tuensang	206.95	5.98	8.56	5.841	0.000
Mon	0.00	0.02	0.00	0.589	0.000
Wokha	0.00	0.00	0.00	0.000	0.000
Zunheboto	74.77	0.95	0.98	0.000	0.161
Phek	0.66	2.02	0.00	2.484	0.000
Dimapur	0.00	0.00	0.00	0.000	0.000
Kiphire	55.92	13.80	12.30	11.735	12.387
Longleng	0.32	0.82	0.22	0.191	0.009
Peren	0.00	0.00	0.00	0.000	0.000
Nagaland	351.32	24.42	29.49	21.912	12.871

#### 3.10 Jackfruit

The estimated area and production of jackfruits for the year 2014-15 is presented district wise.

#### **3.10.1 Kohima**

Total 35 jackfruit trees were estimated, produced 1111 units of jackfruit, and total estimated area under the crop was 0.017 hectares during 2014-15.

#### 3.10.2 Mokokchung

Total area of 17.197 hectares of land was under Jackfruit production in Mokokchung district. Estimated 4221 trees of jackfruit produced 329476 units of fruits.

# **3.10.3 Tuensang**

Total yield of 476 units of jackfruit was produced in the district of Tuensang from an estimated area of 0.040 hectares, and total standing plant including bearing and non-bearing, was 64 only.

#### 3.10.4 Mon

Mon district had total estimated area of 0.706 hectares under jackfruit plantation, with total yield of 678415 units from total estimated plants of 11331.

#### 3.10.5 Wokha

Yield of 59510 units of jackfruit was produced in Wokha from total area of 55.419 hectares of land. Total standing jackfruit plant was estimated at 6718 in the district.

#### 3.10.6 Zunheboto

No significant jackfruit production or area was observed in Zunheboto from the sample survey.

#### 3.10.7 Phek

About 52 units of jackfruit were produced from Phek district. Total estimated standing plant of jackfruit was 268 and total area was 0.047 hectares.

# **3.10.8 Dimapur**

Dimapur district, with an estimated area of 88.821 hectares, produced highest yield of 273276 units of jackfruit from total estimated standing plant of 113408. Dimapur was the largest jackfruit producing district in Nagaland.

# **3.10.9 Kiphire**

No significant area or production of jackfruit was observed in Kiphire district.

#### **3.10.10 Longleng**

Longleng district had estimated production of 56396 units of jackfruit from total estimated area of 5.275 hectares of land. Total estimated standing plant was 8253.

#### 3.10.11 Peren

Peren district have 34.663 hectares of area under jackfruit cultivation. Yield was estimated at 509397 units only. Total standing plant was 15306 during 2014-15.

Overall, Nagaland State produced 1908106 units of jackfruit from total area of 202.185 hectares. And total standing plant was 159600 during the year 2014-15.

Table 10: Jackfruit Area, Production & trees

Jackfruit	Yield ('000 units)	Area (ha)	No. of Non- Bearing trees ('000)	No. of Minor trees ('000)	No. of Bearing trees ('000)
Kohima	1.11	0.02	0.00	0.034	0.000
Mokokchung	329.48	17.20	0.07	2.189	1.964
Tuensang	0.48	0.04	0.00	0.063	0.000
Mon	678.41	0.71	1.21	8.433	1.690
Wokha	59.51	55.42	4.58	0.339	1.800
Zunheboto	0.00	0.00	0.00	0.000	0.000
Phek	0.05	0.05	0.00	0.268	0.000
Dimapur	273.28	88.82	83.96	12.825	16.622
Kiphire	0.00	0.00	0.00	0.000	0.000
Longleng	56.40	5.27	0.44	5.724	2.087
Peren	509.40	34.66	3.77	5.592	5.939
Nagaland	1908.11	202.19	94.03	35.467	30.102

#### 3.11 Litchi

The estimated area and production of litchi for the year 2014-15 is presented district wise.

#### **3.11.1 Kohima**

Total of 23083 plants (bearing as well as non bearing) produced 126077 bunches of litchi, and total estimated area under the crop was 1.291 hectares during 2014-15.

#### 3.11.2 Mokokchung

Total area of 113.027 hectares of land was under Litchi plantation in Mokokchung district. Estimated 55973 plants of litchi were in the district, and total produce was 2962682 bunches of fruit.

#### **3.11.3 Tuensang**

No significant area or production of litchi was observed in Tuensang district.

#### 3.11.4 Mon

Mon district had total estimated area of 0.309 hectares under litchi plantation, with total yield of 128650 bunch from total estimated plants of 3074.

#### 3.11.5 Wokha

Yield of 300672 bunch of litchi was produced in Wokha from total area of 258.859 hectares of land. Total litchi standing plant was estimated at 9095 in the district.

#### 3.11.6 Zunheboto

No significant area or production of litchi was observed in Zunheboto.

#### 3.11.7 Phek

About 10987 bunch of litchi were produced from Phek district. Total estimated standing plant of litchi was 3230 from total area was 2.247 hectares.

#### **3.11.8 Dimapur**

Dimapur district being the largest litchi producing district with an estimated area of 29.554 hectares, produced highest yield of 200172 bunch of litchi from total estimated standing plant of 67532.

#### **3.11.9 Kiphire**

No significant area or production of litchi was observed in Kiphire district.

#### **3.11.10 Longleng**

Longleng district had estimated production of 116061 bunch of litchi from total estimated area of 12.133 hectares of land. Total estimated standing plant was 33736.

#### 3.11.11 Peren

Peren district had an area of 95.826 hectares under litchi plantation. Yield was estimated at 569845 bunches only. Total standing plant was 23363 during 2014-15.

Overall, Nagaland state produced 4415142 bunches of litchi from total area of 513.246 hectares. And total standing plant was 219082 during the year 2014-15.

Table 11: Litchi Area, Production & trees

Litchi	Yield ('000 bunch)	Area (ha)	No. of Non- Bearing trees ('000)	No. of Minor trees ('000)	No. of Bearing trees ('000)
Kohima	126.08	1.29	7.32	0.267	15.497
Mokokchung	2962.68	113.03	16.69	10.421	28.858
Tuensang	0.00	0.00	0.00	0.000	0.000
Mon	128.65	0.31	0.84	1.696	0.534
Wokha	300.67	258.86	2.80	1.146	5.145
Zunheboto	0.00	0.00	0.00	0.000	0.000
Phek	10.99	2.25	0.56	0.631	2.041
Dimapur	200.17	29.55	25.34	15.901	26.286
Kiphire	0.00	0.00	0.00	0.000	0.000
Longleng	116.06	12.13	4.06	4.036	25.643
Peren	569.84	95.83	2.77	12.637	7.958
Nagaland	4415.14	513.25	60.38	46.737	111.962

# 3.12 Pomegranate

#### **3.12.1 Kohima**

Estimated area under pomegranate cultivation in the district of Kohima is 2.706 hectares, with total plants estimated to be 28962, and total production is estimated at 126.453 tons during the year 2014-15.

#### 3.12.2 Mokokchung

No significant area or production was observed for pomegranate in Mokokchung.

# **3.12.3 Tuensang**

Around 3.149 hectares of land in Tuensang district was under pomegranate plantation, with annual production of 14.357 tons from total 11022 plants.

#### 3.12.4 Mon

No significant area or production was observed for pomegranate in Mon.

#### 3.12.5 Wokha

It had 0.736 hectare of land under pomegranate crops with 1228 trees. However, no significant production was recorded from the survey.

#### 3.12.6 Zunheboto

No significant area or production was observed for pomegranate in Zunheboto.

#### 3.12.7 Phek

Pomegranate was cultivated in 3.945 hectares of land in Phek, with annual production 14.176 tons during the year 2014-15, and total standing plant was 9372 including bearing as well as non bearing plants.

# **3.12.8 Dimapur**

In Dimapur district 1.022 hectares of land was estimated to be under pomegranate production. Total annual production was 9.711 tons from 4218 plants.

# **3.12.9 Kiphire**

No significant area or production was observed for pomegranate in Kiphire district.

# **3.12.10 Longleng**

No significant area or production was observed for pomegranate in Longleng.

#### 3.12.11 Peren

Total area of 0.080 hectares of land was under pomegranate cultivation. Total standing plant including bearing and non bearing was 58 plants only. No significant production was observed.

Overall, Nagaland produced 164.697 tons of pomegranate during 2014-15, from total area of 11.6384 hectares of land. Total standing plant was 54858.

Table 12: Pomegranate Area, Production & trees

Pomegranate	Yield (ton)	Area (ha)	No. of Non- Bearing trees ('000)	No. of Minor trees ('000)	No. of Bearing trees ('000)
Kohima	126.45	2.71	16.97	0.817	11.171
Mokokchung	0.00	0.00	0.00	0.000	0.000
Tuensang	14.36	3.15	8.56	0.000	2.458
Mon	0.00	0.00	0.00	0.000	0.000
Wokha	0.00	0.74	1.23	0.000	0.000
Zunheboto	0.00	0.00	0.00	0.000	0.000
Phek	14.18	3.95	2.03	1.649	5.693
Dimapur	9.71	1.02	0.67	2.535	1.010
Kiphire	0.00	0.00	0.00	0.000	0.000
Longleng	0.00	0.00	0.00	0.000	0.000
Peren	0.00	0.08	0.00	0.057	0.000
Nagaland	164.70	11.64	29.47	5.059	20.331

#### **3.13 Kiwi**

#### **3.13.1 Kohima**

Estimated area under kiwi cultivation in the district of Kohima is 2.636 hectares, with total plants estimated to be 12370, and total production is estimated at 17.417 tons.

#### 3.13.2 Mokokchung

No significant area or production of kiwi was observed in Mokokchung.

#### 3.13.3 Tuensang

No significant area or production of kiwi was observed in Tuensang.

#### 3.13.4 Mon

No significant area or production of kiwi was observed in Mon.

#### 3.13.5 Wokha

No significant area or production of kiwi was observed in Wokha.

#### 3.13.6 Zunheboto

About 127.981 tons of kiwi was produced from 12.982 hectares of land during year 2014-15. Total number of trees was estimated to be 13919.

#### 3.13.7 Phek

Kiwi was cultivated in 31.671 hectares of land in Phek, with annual production 64.773 tons during the year 2014-15, and total standing plant was 58392 including bearing as well as non bearing plants. Phek had the largest area and production of kiwi in Nagaland.

#### **3.13.8 Dimapur**

No significant area or production of kiwi was observed in Dimapur.

#### **3.13.9 Kiphire**

No significant area or production of kiwi was observed in Kiphire.

# **3.13.10** Longleng

No significant area or production of kiwi was observed in Longleng.

#### 3.13.11 Peren

No significant area or production of kiwi was observed in Peren.

Overall, Nagaland produced 210.171 tons of kiwi during 2014-15, from total area of 47.289 hectares of land. Total standing plant was 84681.

Table 13: Kiwi Area, Production & trees

			No. of Non-	No. of	No. of
Kiwi	Yield (ton)	Area (ha)	Bearing trees	Minor trees	Bearing trees
			('000')	('000)	(000)
Kohima	17.417	2.636	8.67	0.311	3.387
Mokokchung	0.000	0.000	0.00	0.000	0.000
Tuensang	0.000	0.000	0.00	0.000	0.000
Mon	0.000	0.000	0.00	0.000	0.000
Wokha	0.000	0.000	0.00	0.000	0.000
Zunheboto	127.981	12.982	11.50	1.489	0.927
Phek	64.773	31.671	45.52	1.389	11.479
Dimapur	0.000	0.000	0.00	0.000	0.000
Kiphire	0.000	0.000	0.00	0.000	0.000
Longleng	0.000	0.000	0.00	0.000	0.000
Peren	0.000	0.000	0.00	0.000	0.000
Nagaland	210.171	47.289	65.70	3.190	15.793

# 3.14 Other fruits (Lemon, Peach, Grapes, Mango, Parkia, Gooseberry, Strawberry etc)

#### **3.14.1 Kohima**

Estimated area under other fruits cultivation in the district of Kohima is 4.318 hectares, with total plants estimated to be 25269, and total production is estimated at 126.89 ton during the year 2014-15.

#### 3.14.2 Mokokchung

Mokokchung district had total estimated area of 41.604 hectares of land under other fruits production. Annual yield was estimated at 1055.748 tons and total number of plants was 26311.

#### **3.14.3 Tuensang**

Around 0.625 hectares of land in Tuensang district was under other fruits plantation, with annual production of other fruits was 57.831 tons from total 1328 plants.

#### 3.14.4 Mon

The district of Mon has 0.539 hectares of land under other fruits, with annual yield in 2014-15 was 528.056 tons, and total number of trees were 11032 in the district.

#### 3.14.5 Wokha

Wokha has the largest area under other fruits in the State. It had 31.329 hectares of land under other fruits crops, with annual production of 45.642 tons with 7673 trees.

# 3.14.6 Zunheboto

About 58.215 tons of other fruits was produced from 2.851 hectares of land during year 2014-15. Total number of trees was estimated to be 2730.

#### 3.14.7 Phek

Other fruits were cultivated in 2.499 hectares of land in Phek, with annual production 19.868 tons during the year 2014-15, and total standing plant was 5154 including bearing as well as non bearing plants.

#### **3.14.8 Dimapur**

In Dimapur district 23.872 hectares of land was estimated to be under other fruits production. Total annual production was 4919.916 tons from 446771 plants.

# **3.14.9 Kiphire**

No significant area or production of other fruits was observed in Kiphire.

#### **3.14.10 Longleng**

About 36.59 tons of other fruits were produced during 2014-15 from 2.767 hectares of land. Total trees were estimated to be 3792.

#### 3.14.11 Peren

Approximately 6291.05 tons of other fruits were estimated to be produced in Peren from total area of 380.335 hectares of land. Total standing plant including bearing and non bearing plants was 1227226.

Overall, Nagaland produced 8711.805 tons of other fruits during 2014-15, from total area of 690.739 hectares of land.

**Table 14: Other fruits** 

Others	Yield (ton)	Area (ha)	No. of Non- Bearing trees ('000)	No. of Minor trees ('000)	No. of Bearing trees ('000)
Kohima	126.890	4.318	10.47	10.645	4.158
Mokokchung	1055.748	41.604	4.67	6.408	15.228
Tuensang	57.831	0.625	0.00	1.216	0.111
Mon	528.056	0.539	1.83	7.561	1.643
Wokha	45.642	31.329	4.73	0.898	2.044
Zunheboto	58.215	2.851	1.00	0.741	0.987
Phek	19.868	2.499	1.96	1.614	1.579
Dimapur	491.915	223.872	293.95	26.735	126.086
Kiphire	0.000	0.000	0.00	0.000	0.000
Longleng	36.590	2.767	0.41	2.498	0.882
Peren	6291.050	380.335	40.87	8.380	77.974
Nagaland	8711.805	690.739	359.90	66.696	230.692

#### Coefficient of variation (CV %)

Coefficient of variation (CV) measured in terms of percentage of standard error of the mean, in Nagaland for orange yield as major crop was 7.29% and for number of bearing fruit trees of orange was 5.31%. For Papaya, the coefficient of variation was found to be 9.97% for number of bearing trees and 17.82% for annual yield in 2014-15. Pineapple showed CV value of

23.88% for annual yield and 25.02%, and banana yield had CV of 6.47% and bearing tree was having 4.99%. Passion fruit had 49.69% variation for yield and 30.66% for number of bearing trees. Guava had 13.49% variation for number of bearing trees and yield varied with 20.94%. Plum yield in Nagaland had coefficient of variation of 18.63% and number of bearing trees had 18.20% variation. Pears had yield variation of 29.65% and for bearing trees it was 21.89%. Apple showed variation of 39.82% and trees varied with 59.26% variation. Jackfruit showed CV of 10.40% for number of bearing trees but yield variation was at 42.25%. Litchi had CV of 17.64% for yield in the State and number of bearing trees varied at 13.24%. Pomegranate had CV for yield at 24.685 and 19.37% for number of bearing trees. Kiwi showed variation of 11.35% for yield and 15.64% for number of bearing trees.

#### **CHAPTER 4**

#### **ECONOMICS OF MAJOR FRUIT PRODUCTION**

Fruit cultivation in Nagaland was found to be minimum input oriented as only a few farmers adopted commercial scale of producing various horticultural fruits. There was hardly any consumption of chemical fertilizers in the fields, which shows great potential of the State to become purely organic farming. For understanding the cost and income aspects of farmers, two randomly selected sample farmers from each sample villages were interviewed with another interview schedule and data recorded. However, it is always desirable to conduct field experiments for understanding economics.

#### **4.1 Cost of Cultivation**

The cost of cultivation for sampled farmers from each eleven district of the State was analyzed for 13 major fruit crops. The major cost components were planting material, labor, storage, packaging and transportation cost. Also, spoilage of produce for almost all fruit crops was observed in all districts except Phek, Dimapur and Zunheboto. The average cost of cultivation per farmer (Rupees) is tabulated below:

Table 15: Cost

(In Rs.)

	Orange	Papaya	Pine apple	Banana	Passion fruit	Guava	Plum	Pears	Apple	Jackfruit	Litchi	Pomegranate	Kiwi
Kohima	13627.27	8800.00		14866.67	14233.33	15000.00	56114.29	59500.00	10000.00		10000.00	6400.00	25375.00
Mokokchu	49797.50		64200.00	7221.43						1033.33	20975.00		
Tuensang	33416.67		24500.00	21666.67	14250.00		17000.00	4500.00				17000.00	
Mon	10885.71	1100.00	3100.00	1440.00		1150.00		1580.00		733.33	2050.00		
Wokha	14020.83		14550.00	9885.71									
Zunhebot	10766.67	700.00	1700.00	3310.71	20600.00		3266.67	1822.50	4850.00				6733.33
Phek	8346.25	4950.00	4783.33	4071.43		5500.00	4366.67					2000.00	6310.00
Dimapur	3625.00	1640.00	31229.17	7863.89	2500.00	1200.00				3333.33	1460.00		
Kiphire	5080.00	1800.00	2366.67	3842.86		1200.00		750.00	4233.33				
Longleng	15995.00		21067.50	31800.00									
Peren	4200.00	1800.00	3760.00	3557.14		500.00					4400.00		

#### 4.2 Income

The income from fruit cultivation shows a diverse outcome for different fruits from different districts. From the survey it was observed that many non bearing fruit trees and minor fruit crops

are present in the State. This represents future production boom in horticultural fruit production in Nagaland. The prices of the fruits were collected from field level prices which show that orange prices range from as low as Rs. 10 per kg to Rs 50 per kg, Papaya price ranged from Rs. 5 to Rs. 50 per piece, Pineapple unit price at field was Rs 5 to Rs. 40, Banana bunches were priced with minimum Rs. 80 to Rs. 350, Passion fruit was priced per kilogram at Rs. 20 to Rs. 60, Guava was priced with minimum at Rs. 10 to Rs. 25, Plum was priced minimum at Rs. 10 to Rs. 40 per kg, Pears were priced at Rs. 5 to Rs. 30 per kilogram, Apple were priced at Rs. 30 to Rs. 80 per kg of Apple, Jackfruit was priced per unit at Rs. 5 to maximum of Rs. 30, Litchi was marketed per bunch with minimum field price at Rs. 10 to Rs. 40, Pomegranate was priced at Rs. 30 to Rs. 90, Kiwi was priced at Rs. 80 to Rs. 220 per kilogram.

Overall, the average income (In Rupees) of sample farmers from field of major fruit crops is mentioned below.

Table 16: Income

(In Rs.)

	Orange	Papaya	Pine apple	Banana	Passion fruit	Guava	Plum	Pears	Apple	Jackfruit	Litchi	Pomegranate	Kiwi
Kohima	149900	17600		133800	85400	15000	392800	119000	10000		10000	19200	101500
Mokokchung	995950		256800	50550						3100	83900		
Tuensang	200500		73500	65000	28500		34000	4500				17000	
Mon	152400	3300	15500	7200		2300		7900		2200	4100		
Wokha	168250		87300	69200									
Zunheboto	129200	700	5100	46350	41200		9800	7290	9700				20200
Phek	66770	4950	14350	28500		11000	13100					4000	31550
Dimapur	14500	8200	374750	141550	2500	1200				10000	7300		
Kiphire	25400	1800	7100	26900		3600		1500	12700				
Longleng	159950		168540	31800		·							·
Peren	4200	1800	18800	24900		500					8800		

#### 4.3 Benefit Cost Ratio

Benefit cost ratio represents proportion of gross income generated from unit cost of input. The following table shows benefit cost ratio that indicating proportion of unit cost turning into income for the average farmers for particular fruit crop in that district. Since, many farmers are growing for consumption purpose and many have non-bearing trees existed, the benefit cost ratio showed skewed figures in some cases.

**Table 17: Benefit Cost Ratio** 

	Orange	Papaya	Pine apple	Banana	Passion fruit	Guava	Plum	Pears	Apple	Jackfruit	Litchi	Pomegranate	Kiwi
Kohima	1.839	2.300		5.287	24.333	0.060	2.003	1.550			2.453	3.255	1.626
Mokokchung	7.784		0.103	1.662						10.065	3.647		
Tuensang	7.606		0.122	0.170	4.035		1.882					0.635	
Mon	13.386		2.468	2.083				26.582		20.455			
Wokha	3.401		0.192	3.835									
Zunheboto	2.429		1.765	1.709	0.534		7.945	7.307	40.979				5.406
Phek	3.123		1.533	4.532		0.342	2.340					0.750	7.802
Dimapur	2.388	1.052	5.445	2.740	0.480	0.583				0.525	1.926		
Kiphire	14.825		2.789	3.441		4.583			28.346				
Longleng	1.068		0.182	0.041									
Peren	8.571	8.333	5.027	0.893		20.000					27.273		

Many other fruits like Mango, Strawberry, Lemon, Gooseberry, Parkia, Peach etc. are also grown in different parts of the State. The prices and cost of cultivation for such crops need to be studied separately and recorded.

#### **CHAPTER 5**

#### **CONSTRAINTS IN PRODUCTION AND MARKETING**

Various constraints were recorded from respondents with regard to production and marketing. All the constraints were classified into five broad groups. The constraints were related to transportation of various inputs and also for shifting produced to the market, climatic problems that cannot be easily managed, lack of accessibility to markets, lack of manpower and lack of advanced tools and machineries.

The table shows the various constraints by number of respondents in a particular district.

**Table 18: Constraints faced by respondents** 

District	Transportation	Climate	Accessibility to market	Manpower	Machineries	All
Kohima	110	39	62	89	140	3
Mokochung	153	4	173	129	149	4
Tuensang	24	5	2	0	184	0
Mon	160	10	182	2	31	0
Wokha	80	0	84	196	204	4
Zunheboto	169	1	172	1	165	6
Phek	166	6	173	66	173	23
Dimapur	62	2	52	52	80	0
Kiphire	20	96	24	81	0	0
Longleng	118	0	116	118	116	32
Peren	12	0	12	0	17	0
Nagaland	1074	163	1052	734	1259	72

About 59.67% of the respondents viewed lack of proper machineries and tools as the biggest constraint for fruit production and harvesting. Next was transportation problem, which was identified by 50.9% of the total respondents, and 49.86% of the respondent viewed accessibility to market or market related constraints as challenging. Lack of manpower was considered a constraint by 34.79% of the respondents. Along with changing weather as a constraint, almost all respondents viewed some or other constraints in production and marketing of their produce.

## **ANNEXURES**

Annexure I: Observed number of households of sample villages growing Major fruit trees

Village code	Orange	Рарауа	Banana	Banana	Passion fruit	Guava	Plum	Pear	Apple	Jackfruit	Litchi	Pomegranate	Kiwi	Others
1	23	19	1	12	1	0	0	0	0	0	2	0	0	0
2	6	4	1	11	0	0	0	0	0	0	0	0	0	0
3	21	8	0	18	0	0	0	0	0	0	0	10	0	1
4	14	14	2	16	0	8	0	0	0	0	9	0	0	2
5	6	2	0	5	1	2	2	0	0	0	1	0	0	0
6	5	0	0	15	4	3	8	1	2	0	0	0	2	6
7	5	2	0	10	1	6	4	1	1	0	0	0	8	7
8	3	0	1	11	5	1	8	0	1	0	0	4	4	7
9	0	0	0	16	3	0	24	5	3	0	0	0	5	3
10	5	1	0	25	0	8	14	1	1	0	0	9	0	8
11	17	0	15	20	0	0	0	0	0	0	13	0	0	7
12	13	0	0	1	0	0	0	0	0	0	0	0	0	0
13	13	0	5	4	0	0	0	0	0	1	2	0	0	0
14	16	0	4	15	0	0	0	0	0	0	0	0	0	1
15	9	0	2	6	0	0	0	0	0	0	0	0	0	1
16	13	0	2	14	0	1	0	0	0	0	15	0	0	0
17	9	0	1	2	0	0	0	0	0	1	4	0	0	1
18	8	0	2	5	0	0	0	0	0	0	0	0	0	0
19	11	0	12	13	0	2	0	0	0	9	6	0	0	10
20	5	0	11	2	1	0	0	0	0	0	1	0	0	0
21	6	0	2	5	0	0	0	0	0	0	0	0	0	1
22	0	0	0	1	0	0	1	0	0	0	0	0	0	0
23	0	0	1	1	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	3	0	0	6	0	0	0	0	0	0	0	3	0	0
26	3	0	6	16	0	0	0	0	4	0	0	1	0	0
27	14	0	1	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	14	15	0	0	0	0	0	0	0	0	0
29	12	0	3	12	2	0	0	0	1	0	0	0	0	0
30	22	0	2	5	0	0	0	0	0	0	0	0	0	1
31	24	0	1	0	0	0	0	0	0	0	0	0	0	0
32	11	0	0	4	0	0	0	0	0	1	0	0	0	2

33	14	0	0	0	0	0	0	0	0	0	1	0	0	0
34	15	0	4	1	0	0	0	0	0	0	0	0	0	2
35	8	1	0	2	0	0	0	2	0	0	0	0	0	0
36	7	0	0	 5	0	0	0	0	0	2	0	0	0	0
37	6	0	0	4	0	0	0	0	0	0	2	0	0	0
38	14	0	0	0	0	0	0	0	0	0	0	0	0	0
39	14	0	0	0	0	0	0	0	0	0	0	0	0	0
40	28	0	4	1	0	0	0	0	0	0	0	0	0	0
41	17	5	24	23	6	0	0	0	0	9	1	0	0	10
42	21	3	5	30	0	0	0	0	0	0	7	0	0	0
43	13	11	0	23	0	0	0	0	0	0	0	0	0	0
44	16	3	5	17	0	0	0	0	0	0	0	0	0	1
45	10	0	8	12	0	0	0	0	0	1	1	0	0	0
46	13	0	13	13	0	0	0	0	0	0	1	0	0	0
47	18	2	6	3	0	0	0	0	0	0	2	1	0	2
48	21	0	4	9	0	0	0	0	0	1	0	0	0	1
49	28	0	4	2	0	0	0	0	0	0	0	0	0	0
50	9	0	0	11	0	0	0	0	0	0	0	0	0	0
51	10	0	0	6	0	0	0	0	0	0	0	0	0	0
52	8	0	2	4	2	0	0	2	0	0	0	0	0	0
53	9	0	0	4	0	0	0	0	0	0	0	0	0	0
54	11	0	0	1	0	0	0	0	0	0	0	0	0	0
55	18	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	11	1	0	11	7	0	0	0	0	0	1
57	0	0	0	8	3	0	9	9	12	0	0	0	0	0
58	0	0	0	13	8	0	9	15	0	0	0	0	9	6
59	5	0	3	18	1	2	1	0	0	0	0	0	0	3
60	0	0	0	19	5	0	1	1	0	0	0	0	22	1
61	2	0	5	10	0	0	0	0	0	0	0	0	0	2
62	22	0	1	6	0	0	0	0	0	0	0	0	1	0
63	28	0	19	24	0	0	0	0	0	0	0	1	3	1
64	30	0	1	6	0	0	0	0	0	0	3	2	0	1
65	17	1	1	0	0	0	0	0	0	0	0	0	7	0
66	1	0	1	16	0	10	1	0	0	0	0	2	2	0
67	1	0	0	0	0	0	7	0	0	0	0	0	12	0
68	1	0	0	5	0	0	7	0	0	0	0	0	11	0
69	1	3	5	10	0	1	0	0	0	6	0	0	0	17
70	11	10	15	28	0	10	0	0	0	8	8	0	0	41
71	9	15	13	27	0	7	0	0	0	12	4	2	0	22
72	0	0	0	7	0	0	0	0	0	0	0	0	0	1

73	0	7	0	12	3	10	2	0	0	1	1	0	0	23
74	2	2	7	7	0	0	0	0	0	2	1	0	0	2
75	11	0	2	4	0	0	0	0	0	4	4	0	0	12
76	2	0	6	8	0	0	0	0	0	0	0	0	0	1
77	0	4	20	13	0	0	0	0	0	4	10	0	0	6
78	1	0	3	5	0	0	0	0	0	4	2	0	0	8
79	7	0	1	26	0	16	0	0	2	0	0	0	0	0
80	3	0	0	21	0	0	0	0	0	0	0	0	0	0
81	20	0	1	0	0	0	0	0	0	0	0	0	0	0
82	10	0	16	11	1	0	0	0	2	0	0	0	0	0
83	0	2	0	10	0	1	0	0	0	0	0	0	0	0
84	22	0	7	4	0	3	0	0	0	5	1	0	0	2
85	11	0	8	2	0	1	0	0	0	0	6	0	0	0
86	26	1	19	6	0	0	0	0	0	0	0	0	0	0
87	26	0	14	7	0	0	1	0	0	0	0	0	0	0
88	30	0	15	5	0	0	1	0	1	0	0	0	0	0
89	1	0	25	2	0	0	0	0	0	1	1	0	0	2
90	7	1	16	15	0	1	0	0	0	10	4	0	0	20
91	0	1	10	6	0	1	0	0	0	2	1	0	0	11
92	0	0	0	30	0	0	0	0	0	0	1	0	0	30
93	4	0	3	7	0	0	0	0	0	0	4	0	0	0
Total	936	122	391	865	63	94	112	45	31	85	119	36	87	287
Village	78	28	58	83	22	23	23	18	17	25	34	16	20	43

Annexure – II: Observed number of Households of sample villages growing fruits as Minor crops

Village code	Orange	Рарауа	Banana	Banana	Passion fruit	Guava	mnld	Pear	Apple	Jackfruit	Litchi	Pomegranate	Kiwi	Others
1	1	5	1	1	4	0	4	0	0	0	1	1	0	24
2	7	6	3	2	0	11	1	0	0	0	0	1	0	5
3	2	5	0	6	0	8	2	0	0	0	0	1	0	2
4	0	0	0	0	0	0	6	1	1	1	0	0	0	22
5	0	4	0	0	3	1	1	2	0	0	0	0	0	5
6	0	1	0	3	1	1	7	2	0	0	0	3	1	5
7	0	0	0	4	3	0	3	3	2	1	0	2	1	8
8	0	0	0	6	0	1	9	2	0	0	0	0	0	5
9	0	0	0	3	2	1	7	5	4	0	0	1	6	10
10	1	0	0	0	0	5	6	1	0	0	0	4	0	14
11	2	0	1	0	1	1	0	0	0	1	8	0	0	6
12	6	0	1	0	0	0	0	0	0	0	0	0	0	1
13	7	0	1	0	0	0	0	0	0	0	1	0	0	0
14	2	0	0	4	0	0	0	0	0	3	7	0	0	4
15	0	0	0	1	0	0	0	0	0	0	1	0	0	0
16	0	0	1	5	0	0	0	0	0	1	9	0	0	3
17	18	0	0	0	0	0	0	0	0	1	2	0	0	1
18	8	0	1	1	0	0	0	0	0	0	1	0	0	1
19	18	0	2	13	0	8	0	0	0	6	9	0	0	17
20	20	0	1	2	0	1	0	0	0	0	4	0	0	2
21	5	0	1	2	0	1	0	0	0	0	5	0	0	5
22	0	0	0	6	0	0	7	1	0	0	0	0	0	0
23	7	2	5	5	0	1	0	1	0	0	0	0	0	1
24	3	2	1	7	0	0	0	0	0	1	0	0	0	2
25	1	0	0	0	0	0	0	0	0	0	0	0	0	1
26	0	0	1	9	0	0	0	0	5	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	1	1	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	2	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	1	0	0	0	0	0	0	17	0	0	0	0
32	4	6	2	5	0	6	3	3	1	3	0	0	0	7
33	0	0	3	9	0	8	2	3	0	9	14	0	0	8

34	0	5	1	4	0	3	4	0	0	2	1	0	0	2
35	8	10	0	4	0	0	0	9	0	0	0	0	0	0
36	7	0	0	3	0	11	0	0	0	12	0	0	0	0
37	1	4	1	5	0	7	1	0	0	3	3	0	0	1
38	2	0	8	6	0	5	7	2	0	8	0	0	0	4
39	0	5	6	2	0	7	0	0	0	8	0	0	0	12
40	1	0	1	4	0	1	2	1	0	1	0	0	0	0
41	3	0	0	0	0	0	0	0	0	2	3	0	0	5
42	0	1	2	0	0	0	0	0	0	1	6	0	0	1
43	0	0	0	0	0	0	0	0	0	1	0	0	0	0
44	3	9	1	7	0	0	0	0	0	2	0	0	0	2
45	4	21	0	5	0	0	0	0	0	1	0	0	0	14
46	0	1	0	0	0	0	0	0	0	0	0	0	0	0
47	0	4	0	0	0	0	0	0	0	0	2	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	1	0	0	0	0	0	0	0	0	0	4	0	0	0
50	1	11	0	1	0	10	11	10	0	0	0	0	0	0
51	0	6	0	1	0	11	7	8	0	0	0	0	0	2
52	2	3	1	1	1	3	6	1	0	0	0	0	0	1
53	2	5	3	1	0	3	2	0	0	0	0	0	0	2
54	1	5	0	2	0	3	0	2	0	0	0	0	0	0
55	0	3	0	7	0	6	0	3	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	2	4	0	1	3	0	0	0	0	0	0
58	0	0	0	3	4	0	6	6	0	0	0	0	6	2
59	1	0	0	3	0	0	2	0	0	0	0	0	0	3
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	5	0	7	0	0	0	0	0	0	0	0	0	0	0
62	0	2	2	2	0	1	0	0	1	0	0	0	0	0
63	1	0	2	4	0	0	0	0	0	0	0	0	1	1
64	0	0	0	6	0	0	0	0	0	0	3	0	0	6
65	0	1	3	7	0	1	0	0	0	0	0	0	0	0
66	0	0	2	10	0	13	4	3	0	2	0	11	7	0
67	0	2	0	2	0	0	0	0	1	0	0	0	0	0
68	2	0	0	2	1	0	2	0	2	0	0	1	2	0
69	1	2	1	2	0	5	2	0	0	5	4	0	0	9
70	6	7	1	3	6	12	3	0	0	10	12	1	0	33
71	3	4	3	1	0	14	3	0	0	10	17	4	0	16
72	0	0	1	0	0	0	0	0	0	4	2	0	0	7
73	5	0	4	0	0	2	6	0	0	9	5	0	0	7

74	5	1	0	5	0	2	0	0	0	0	4	0	0	10
75	0	1	6	2	0	5	0	0	0	4	2	1	0	0
76	2	4	1	1	0	2	0	0	0	0	3	0	0	5
77	0	8	1	2	1	6	0	0	0	9	6	1	0	7
78	4	0	0	5	0	2	0	0	0	1	6	0	0	3
79	7	1	1	0	0	4	0	0	7	0	0	0	0	0
80	0	0	3	0	0	0	2	10	6	0	0	0	0	0
81	1	0	1	0	0	0	0	0	0	0	0	0	0	0
82	3	0	1	5	0	0	0	0	1	0	0	0	0	0
83	0	4	0	0	0	1	0	0	0	0	0	0	0	0
84	6	1	9	14	0	13	0	0	0	2	11	0	0	4
85	14	0	13	8	0	4	1	0	0	3	5	0	0	0
86	1	2	1	9	0	3	0	0	0	2	2	0	0	2
87	0	0	0	2	0	1	0	0	0	1	0	0	0	1
88	0	2	1	13	0	1	0	1	1	20	3	0	0	11
89	0	6	0	24	0	0	0	0	0	13	4	0	0	23
90	3	6	0	6	0	8	0	0	0	8	2	1	0	7
91	0	3	0	1	0	1	0	0	0	3	0	0	0	1
92	0	0	0	0	0	0	0	0	0	0	29	0	0	0
93	0	5	2	11	0	8	4	2	0	8	10	0	0	6
Total	220	186	116	303	32	233	134	85	32	199	211	33	24	369
Village	49	42	47	64	13	48	33	25	12	40	37	14	7	56

Annexure – II: Observed number of Households of sample villages growing fruits as Minor crops

Village code	Orange	Рарауа	Banana	Banana	Passion fruit	Guava	mnld	Pear	Apple	Jackfruit	Litchi	Pomegranate	Kiwi	Others
1	1	5	1	1	4	0	4	0	0	0	1	1	0	24
2	7	6	3	2	0	11	1	0	0	0	0	1	0	5
3	2	5	0	6	0	8	2	0	0	0	0	1	0	2
4	0	0	0	0	0	0	6	1	1	1	0	0	0	22
5	0	4	0	0	3	1	1	2	0	0	0	0	0	5
6	0	1	0	3	1	1	7	2	0	0	0	3	1	5
7	0	0	0	4	3	0	3	3	2	1	0	2	1	8
8	0	0	0	6	0	1	9	2	0	0	0	0	0	5
9	0	0	0	3	2	1	7	5	4	0	0	1	6	10
10	1	0	0	0	0	5	6	1	0	0	0	4	0	14
11	2	0	1	0	1	1	0	0	0	1	8	0	0	6
12	6	0	1	0	0	0	0	0	0	0	0	0	0	1
13	7	0	1	0	0	0	0	0	0	0	1	0	0	0
14	2	0	0	4	0	0	0	0	0	3	7	0	0	4
15	0	0	0	1	0	0	0	0	0	0	1	0	0	0
16	0	0	1	5	0	0	0	0	0	1	9	0	0	3
17	18	0	0	0	0	0	0	0	0	1	2	0	0	1
18	8	0	1	1	0	0	0	0	0	0	1	0	0	1
19	18	0	2	13	0	8	0	0	0	6	9	0	0	17
20	20	0	1	2	0	1	0	0	0	0	4	0	0	2
21	5	0	1	2	0	1	0	0	0	0	5	0	0	5
22	0	0	0	6	0	0	7	1	0	0	0	0	0	0
23	7	2	5	5	0	1	0	1	0	0	0	0	0	1
24	3	2	1	7	0	0	0	0	0	1	0	0	0	2
25	1	0	0	0	0	0	0	0	0	0	0	0	0	1
26	0	0	1	9	0	0	0	0	5	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	1	1	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	2	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	1	0	0	0	0	0	0	17	0	0	0	0
32	4	6	2	5	0	6	3	3	1	3	0	0	0	7
33	0	0	3	9	0	8	2	3	0	9	14	0	0	8

34	0	5	1	4	0	3	4	0	0	2	1	0	0	2
35	8	10	0	4	0	0	0	9	0	0	0	0	0	0
36	7	0	0	3	0	11	0	0	0	12	0	0	0	0
37	1	4	1	5	0	7	1	0	0	3	3	0	0	1
38	2	0	8	6	0	5	7	2	0	8	0	0	0	4
39	0	5	6	2	0	7	0	0	0	8	0	0	0	12
40	1	0	1	4	0	1	2	1	0	1	0	0	0	0
41	3	0	0	0	0	0	0	0	0	2	3	0	0	5
42	0	1	2	0	0	0	0	0	0	1	6	0	0	1
43	0	0	0	0	0	0	0	0	0	1	0	0	0	0
44	3	9	1	7	0	0	0	0	0	2	0	0	0	2
45	4	21	0	5	0	0	0	0	0	1	0	0	0	14
46	0	1	0	0	0	0	0	0	0	0	0	0	0	0
47	0	4	0	0	0	0	0	0	0	0	2	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	1	0	0	0	0	0	0	0	0	0	4	0	0	0
50	1	11	0	1	0	10	11	10	0	0	0	0	0	0
51	0	6	0	1	0	11	7	8	0	0	0	0	0	2
52	2	3	1	1	1	3	6	1	0	0	0	0	0	1
53	2	5	3	1	0	3	2	0	0	0	0	0	0	2
54	1	5	0	2	0	3	0	2	0	0	0	0	0	0
55	0	3	0	7	0	6	0	3	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	2	4	0	1	3	0	0	0	0	0	0
58	0	0	0	3	4	0	6	6	0	0	0	0	6	2
59	1	0	0	3	0	0	2	0	0	0	0	0	0	3
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	5	0	7	0	0	0	0	0	0	0	0	0	0	0
62	0	2	2	2	0	1	0	0	1	0	0	0	0	0
63	1	0	2	4	0	0	0	0	0	0	0	0	1	1
64	0	0	0	6	0	0	0	0	0	0	3	0	0	6
65	0	1	3	7	0	1	0	0	0	0	0	0	0	0
66	0	0	2	10	0	13	4	3	0	2	0	11	7	0
67	0	2	0	2	0	0	0	0	1	0	0	0	0	0
68	2	0	0	2	1	0	2	0	2	0	0	1	2	0
69	1	2	1	2	0	5	2	0	0	5	4	0	0	9
70	6	7	1	3	6	12	3	0	0	10	12	1	0	33
71	3	4	3	1	0	14	3	0	0	10	17	4	0	16
72	0	0	1	0	0	0	0	0	0	4	2	0	0	7
73	5	0	4	0	0	2	6	0	0	9	5	0	0	7

74	5	1	0	5	0	2	0	0	0	0	4	0	0	10
75	0	1	6	2	0	5	0	0	0	4	2	1	0	0
76	2	4	1	1	0	2	0	0	0	0	3	0	0	5
77	0	8	1	2	1	6	0	0	0	9	6	1	0	7
78	4	0	0	5	0	2	0	0	0	1	6	0	0	3
79	7	1	1	0	0	4	0	0	7	0	0	0	0	0
80	0	0	3	0	0	0	2	10	6	0	0	0	0	0
81	1	0	1	0	0	0	0	0	0	0	0	0	0	0
82	3	0	1	5	0	0	0	0	1	0	0	0	0	0
83	0	4	0	0	0	1	0	0	0	0	0	0	0	0
84	6	1	9	14	0	13	0	0	0	2	11	0	0	4
85	14	0	13	8	0	4	1	0	0	3	5	0	0	0
86	1	2	1	9	0	3	0	0	0	2	2	0	0	2
87	0	0	0	2	0	1	0	0	0	1	0	0	0	1
88	0	2	1	13	0	1	0	1	1	20	3	0	0	11
89	0	6	0	24	0	0	0	0	0	13	4	0	0	23
90	3	6	0	6	0	8	0	0	0	8	2	1	0	7
91	0	3	0	1	0	1	0	0	0	3	0	0	0	1
92	0	0	0	0	0	0	0	0	0	0	29	0	0	0
93	0	5	2	11	0	8	4	2	0	8	10	0	0	6
Total	220	186	116	303	32	233	134	85	32	199	211	33	24	369
Village	49	42	47	64	13	48	33	25	12	40	37	14	7	56

Annexure – III: Observed number of major fruit bearing trees in sample villages

Village code	Orange	Рарауа	Banana	Banana	Passion fruit	Guava	Plum	Pear	Apple	Jackfruit	Litchi	Pomegranate	Kiwi	Others
1	1532	640	45	540	15	0	0	0	0	0	85	0	0	0
2	470	180	100	950	0	0	0	0	0	0	0	0	0	0
3	3080	510	0	1640	0	0	0	0	0	0	0	570	0	100
4	2245	1460	90	3000	0	760	0	0	0	0	905	0	0	70
5	655	85	0	340	20	27	105	0	0	0	30	0	0	0
6	10	0	0	1075	2200	10	330	0	0	0	0	0	0	80
7	310	3	0	380	100	136	155	40	0	0	0	0	980	90
8	15	0	5	175	55	10	68	0	5	0	0	15	20	39
9	0	0	0	1164	550	0	2342	355	70	0	0	0	10	180
10	53	3	0	3835	0	454	1690	100	0	0	0	483	0	34
11	2605	0	54800	1525	0	0	0	0	0	0	1040	0	0	325
12	2080	0	0	50	0	0	0	0	0	0	0	0	0	0
13	3103	0	14550	600	0	0	0	0	0	100	65	0	0	0
14	1812	0	2105	1356	0	0	0	0	0	0	0	0	0	400
15	650	0	600	310	0	0	0	0	0	0	0	0	0	20
16	3460	0	200	1405	0	30	0	0	0	0	1134	0	0	0
17	580	0	50	65	0	0	0	0	0	15	100	0	0	14
18	480	0	140	155	0	0	0	0	0	0	0	0	0	0
19	1143	0	2975	403	0	45	0	0	0	157	281	0	0	377
20	1450	0	33750	200	5	0	0	0	0	0	5	0	0	0
21	392	0	530	300	0	0	0	0	0	0	0	0	0	20
22	0	0	0	250	0	0	400	0	0	0	0	0	0	0
23	0	0	300	45	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	175	0	0	448	0	0	0	0	0	0	0	63	0	0
26	400	0	930	655	0	0	0	0	0	0	0	100	0	0
27	1880	0	250	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	515	487	0	0	0	0	0	0	0	0	0
29	695	0	800	558	107	0	0	0	0	0	0	0	0	0
30	2995	0	550	270	0	0	0	0	0	0	0	0	0	10
31	22100	0	1200	0	0	0	0	0	0	0	0	0	0	0
32	765	0	0	380	0	0	0	0	0	60	0	0	0	50
33	5450	0	0	0	0	0	0	0	0	0	50	0	0	0
34	1060	0	1700	200	0	0	0	0	0	0	0	0	0	150

35	365	95	0	90	0	0	0	165	0	0	0	0	0	0
36	100	0	0	250	0	0	0	0	0	80	0	0	0	0
37	434	0	0	173	0	0	0	0	0	0	14	0	0	0
38	600	0	0	0	0	0	0	0	0	0	0	0	0	0
39	6330	0	0	0	0	0	0	0	0	0	0	0	0	0
40	16150	0	2100	0	0	0	0	0	0	0	0	0	0	0
41	146	63	3875	459	473	0	0	0	0	124	6	0	0	32
42	1920	350	370	4670	0	0	0	0	0	0	280	0	0	0
43	2740	1550	0	5798	0	0	0	0	0	0	0	0	0	0
44	560	90	1300	643	0	0	0	0	0	0	0	0	0	10
45	1170	0	3110	1385	0	0	0	0	0	0	3	0	0	0
46	2780	0	6950	1545	0	0	0	0	0	0	12	0	0	0
47	2900	15	2050	200	0	0	0	0	0	0	200	0	0	100
48	2280	0	350	300	0	0	0	0	0	5	0	0	0	12
49	984	0	450	40	0	0	0	0	0	0	0	0	0	0
50	1570	0	0	304	0	0	0	0	0	0	0	0	0	0
51	1340	0	0	125	0	0	0	0	0	0	0	0	0	0
52	263	0	268	180	40	0	0	35	0	0	0	0	0	0
53	990	0	0	320	0	0	0	0	0	0	0	0	0	0
54	320	0	0	15	0	0	0	0	0	0	0	0	0	0
55	700	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	96	8	0	96	48	0	0	0	0	0	7
57	0	0	0	183	125	0	202	159	288	0	0	0	0	0
58	0	0	0	287	180	0	96	138	0	0	0	0	122	97
59	575	0	145	303	10	10	10	0	0	0	0	0	0	30
60	0	0	0	380	97	0	17	17	0	0	0	0	925	8
61	40	0	180	160	0	0	0	0	0	0	0	0	0	20
62	130	0	100	290	0	0	0	0	0	0	0	0	0	0
63	4916	0	7426	3902	0	0	0	0	0	0	0	140	0	50
64	3880	0	290	335	0	0	0	0	0	0	110	100	0	20
65	490	67	90	0	0	0	0	0	0	0	0	0	45	0
66	5	0	5	2175	0	720	0	0	0	0	0	70	0	0
67	50	0	0	0	0	0	685	0	0	0	0	0	900	0
68	70	0	0	236	0	0	340	0	0	0	0	0	444	0
69	8	300	272	555	0	30	0	0	0	96	0	0	0	276
70	502	286	1246	2377	0	104	0	0	0	59	84	0	0	1488
71	1217	288	1320	2203	0	268	0	0	0	178	89	27	0	317
72	0	0	0	630	0	0	0	0	0	0	0	0	0	35
73	0	128	0	650	24	91	8	0	0	5	1	0	0	159
74	150	120	2E+05	385	0	0	0	0	0	23	13	0	0	825

75	270	0	1800	200	0	0	0	0	0	50	70	0	0	245
76	65	0	1380	250	0	0	0	0	0	0	0	0	0	25
77	0	165	9250	410	0	0	0	0	0	70	480	0	0	105
78	50	0	660	315	0	0	0	0	0	120	90	0	0	225
79	343	0	64	1105	0	288	0	0	49	0	0	0	0	0
80	105	0	0	963	0	0	0	0	0	0	0	0	0	0
81	1368	0	140	0	0	0	0	0	0	0	0	0	0	0
82	1042	0	2580	1150	120	0	0	0	750	0	0	0	0	0
83	0	70	0	498	0	40	0	0	0	0	0	0	0	0
84	6151	0	1240	824	0	104	0	0	0	213	600	0	0	90
85	4430	0	2020	100	0	120	0	0	0	0	1670	0	0	0
86	900	0	4050	574	0	0	0	0	0	0	0	0	0	0
87	8850	0	12540	700	0	0	0	0	0	0	0	0	0	0
88	2900	0	6880	178	0	0	0	0	1	0	0	0	0	0
89	1000	0	10000	60	0	0	0	0	0	15	80	0	0	570
90	240	18	19200	4269	0	20	0	0	0	187	120	0	0	711
91	0	80	5200	1590	0	20	0	0	0	23	10	0	0	421
92	0	0	0	1533	0	0	0	0	0	0	0	0	0	1683
93	175	0	2050	880	0	0	0	0	0	0	135	0	0	0
Total	146209	6566	410201	70032	4616	3287	6544	1057	1163	1580	7762	1568	3446	9520

Annexure – IV: Observed number of non-bearing major fruit trees in sample villages

Village code	Orange	Рарауа	Banana	Banana	Passion fruit	Guava	Plum	Pear	Apple	Jackfruit	Litchi	Pomegranate	Kiwi	Others
1	958	365	0	210	20	0	0	0	0	0	40	0	0	0
2	170	180	100	640	0	0	0	0	0	0	0	0	0	0
3	1970	440	0	1218	0	0	0	0	0	0	0	585	0	0
4	930	660	30	1600	0	220	0	0	0	0	417	0	0	30
5	260	40	0	110	10	10	5	0	0	0	60	0	0	0
6	730	0	0	1345	0	410	220	50	400	0	0	0	40	190
7	170	17	0	423	200	70	515	10	30	0	0	0	1720	58
8	30	0	30	255	60	0	105	0	10	0	0	75	270	90
9	0	0	0	2481	350	0	26228	2800	1000	0	0	0	430	1350
10	1767	80	0	16663	0	336	2020	30	400	0	0	1687	0	726
11	925	0	15600	2200	0	0	0	0	0	0	550	0	0	225
12	550	0	0	360	0	0	0	0	0	0	0	0	0	0
13	477	0	1050	4200	0	0	0	0	0	0	10	0	0	0
14	1549	0	1175	878	0	0	0	0	0	0	0	0	0	100
15	190	0	300	380	0	0	0	0	0	0	0	0	0	50
16	1380	0	200	664	0	10	0	0	0	0	726	0	0	0
17	3300	0	0	120	0	0	0	0	0	5	125	0	0	5
18	210	0	40	5535	0	0	0	0	0	0	0	0	0	0
19	903	0	1240	129	0	0	0	0	0	0	5	0	0	5
20	1100	0	3650	130	0	0	0	0	0	0	8	0	0	0
21	102	0	65	97	0	0	0	0	0	0	0	0	0	17
22	0	0	0	150	0	0	50	0	0	0	0	0	0	0
23	0	0	250	23	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	105	0	0	182	0	0	0	0	0	0	0	637	0	0
26	0	0	0	0	0	0	0	0	400	0	0	35	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	126	158	0	0	0	0	0	0	0	0	0
29	199	0	150	105	22	0	0	0	100	0	0	0	0	0
30	120	0	0	0	0	0	0	0	0	0	0	0	0	0
31	20500	0	1000	0	0	0	0	0	0	0	0	0	0	0
32	2870	0	0	215	0	0	0	0	0	40	0	0	0	40
33	4600	0	0	0	0	0	0	0	0	0	50	0	0	0
34	4011	0	1200	10	0	0	0	0	0	0	0	0	0	193

35         1750         6         0         425         0         0         0         20         0         0         0         0           36         2170         0         0         345         0	0
	0
37   653   0   0   126   0   0   0   0   0   58   0   0	
	0
38         2310         0 <td>0</td>	0
39 5388 0 0 0 0 0 0 0 0 0 0 0	0
40 6600 0 500 40 0 0 0 0 0 0 0 0	0
41 708 40 2998 633 278 0 0 0 0 295 4 0 0	249
42 1675 130 340 3105 0 0 0 0 0 174 0 0	0
43 220 0 0 513 0 0 0 0 0 0 0 0	0
44   1530   42   190   851   0   0   0   0   0   0   0   0	10
45 3070 0 1120 815 0 0 0 0 0 30 47 0 0	0
46 4350 0 50 150 0 0 0 0 0 8 0 0	0
47 1280 60 270 1170 0 0 0 0 0 50 100 0	100
48 4990 0 350 750 0 0 0 0 0 10 0 0	0
49 2021 0 1100 105 0 0 0 0 0 0 0 0	0
50 510 0 0 135 0 0 0 0 0 0 0 0	0
51 400 0 0 83 0 0 0 0 0 0 0 0	0
52 115 0 0 50 13 0 0 20 0 0 0 0	0
53 310 0 0 110 0 0 0 0 0 0 0 0	0
54 395 0 0 10 0 0 0 0 0 0 0 0	0
55 1020 0 0 0 0 0 0 0 0 0 0	0
56         0         0         0         74         0         0         52         15         0         0         0         0         0	8
57 0 0 0 73 48 0 91 83 167 0 0 0	0
58         0         0         0         53         52         0         17         36         0         0         0         0         48	15
59 54 0 97 186 6 0 3 0 0 0 0 0	7
60 0 0 0 10 12 0 0 0 0 0 0 314	2
61 110 0 620 660 0 0 0 0 0 0 0 0	90
62 4710 0 200 570 0 0 0 0 0 0 0 500	0
63 3449 0 387 555 0 0 0 0 0 0 0 0 650	51
64 915 0 90 1930 0 0 0 0 0 30 20 0	10
65 1164 100 60 0 0 0 0 0 0 0 0 473	0
66         120         0         400         2737         0         430         60         0         0         0         0         130         180	0
67 100 0 0 0 0 590 0 0 0 0 131	0
68         60         0         0         175         0         0         195         0         0         0         0         0         389	0
69 30 160 110 345 0 25 0 0 166 0 0	425
70 577 830 807 1750 0 381 0 0 740 147 0 0	3798
71 1303 618 6395 1485 0 730 0 0 0 884 247 18 0	944
	7
72 0 0 1490 0 0 0 0 0 0 0 0 0	/
72         0         0         0         1490         0 <td>1616</td>	1616

75	180	0	500	110	0	0	0	0	0	40	60	0	0	195
							_							
76	25	0	470	100	0	0	0	0	0	0	0	0	0	8
77	0	35	1500	211	0	0	0	0	0	37	165	0	0	55
78	25	0	350	400	0	0	0	0	0	189	50	0	0	257
79	106	0	24	2559	0	87	0	0	38	0	0	0	0	0
80	545	0	0	1330	0	0	0	0	0	0	0	0	0	0
81	1790	0	30	0	0	0	0	0	0	0	0	0	0	0
82	654	0	1363	1085	40	0	0	0	760	0	0	0	0	0
83	0	45	0	861	0	10	0	0	0	0	0	0	0	0
84	1693	0	267	45	0	40	0	0	0	45	100	0	0	42
85	855	0	470	35	0	70	0	0	0	0	260	0	0	0
86	3690	50	200	36	0	0	0	0	0	0	0	0	0	0
87	2120	0	860	110	0	0	70	0	0	0	0	0	0	0
88	3287	0	850	40	0	0	220	0	24	0	0	0	0	0
89	0	0	3650	20	0	0	0	0	0	20	0	0	0	0
90	520	5	4725	1189	0	8	0	0	0	105	70	0	0	770
91	0	20	3650	1190	0	0	0	0	0	30	0	0	0	105
92	0	0	0	1363	0	0	0	0	0	0	20	0	0	803
93	150	0	4100	1720	0	0	0	0	0	0	20	0	0	0
Total	119808	4870	276983	75729	1384	3448	30566	3064	3329	2741	3558	3287	6323	12951

## Annexure – V: Observed area (in hectares) under major fruit crops of sample villages

Village code	Orange	Рарауа	Banana	Banana	Passion fruit	Guava	Plum	Pear	Apple	Jackfruit	Litchi	Pomegranate	Kiwi	Others
1	0.126	0.054	0.002	0.041	0.002	0.000	0.000	0.000	0.000	0.000	0.008	0.000	0.000	0.000
2	0.142	0.046	0.008	0.231	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	0.511	0.108	0.000	0.255	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.144	0.000	0.010
4	0.136	0.115	0.014	0.178	0.000	0.046	0.000	0.000	0.000	0.000	0.068	0.000	0.000	0.012
5	0.043	0.007	0.000	0.031	0.004	0.004	0.008	0.000	0.000	0.000	0.004	0.000	0.000	0.000
6	0.286	0.000	0.000	1.523	0.301	1.019	0.460	0.140	0.180	0.000	0.000	0.000	0.030	0.490
7	0.178	0.012	0.000	0.472	0.150	0.085	0.280	0.015	0.015	0.000	0.000	0.000	0.672	0.089
8	0.006	0.000	0.010	0.115	0.020	0.002	0.040	0.000	0.003	0.000	0.000	0.013	0.041	0.024
9	0.000	0.000	0.000	0.213	0.035	0.000	1.425	0.194	0.009	0.000	0.000	0.000	0.029	0.107
10	0.032	0.003	0.000	0.581	0.000	0.026	0.111	0.005	0.015	0.000	0.000	0.064	0.000	0.025
11	2.645	0.000	5.881	3.850	0.000	0.000	0.000	0.000	0.000	0.000	1.408	0.000	0.000	0.415
12	1.546	0.000	0.000	0.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	1.737	0.000	3.850	3.220	0.000	0.000	0.000	0.000	0.000	0.100	0.069	0.000	0.000	0.000
14	4.902	0.000	0.725	2.304	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.610
15	2.205	0.000	0.170	0.815	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.135
16	5.760	0.000	0.160	1.845	0.000	0.160	0.000	0.000	0.000	0.000	3.470	0.000	0.000	0.000
17	23.530	0.000	0.004	0.320	0.000	0.000	0.000	0.000	0.000	0.230	0.425	0.000	0.000	0.230
18	0.870	0.000	0.286	0.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	2.099	0.000	0.930	0.452	0.000	0.035	0.000	0.000	0.000	0.184	0.289	0.000	0.000	0.391
20	4.250	0.000	3.183	0.590	0.020	0.000	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.000
21	0.550	0.000	0.235	0.262	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.080
22	0.000	0.000	0.000	0.039	0.000	0.000	0.156	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	0.031	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.103	0.000	0.000	0.212	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.231	0.000	0.000
26	0.200	0.000	0.273	0.645	0.000	0.000	0.000	0.000	0.200	0.000	0.000	0.068	0.000	0.000
27	0.940	0.000	0.075	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	0.000	0.000	0.000	0.565	0.566	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29	0.527	0.000	0.170	0.613	0.092	0.000	0.000	0.000	0.030	0.000	0.000	0.000	0.000	0.000
30	1.558	0.000	0.165	0.270	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015
31	1.574	0.000	0.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
32	0.147	0.000	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.005
33	0.372	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000

34	0.200	0.000	0.100	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013
35	0.075	0.005	0.000	0.009	0.000	0.000	0.000	0.009	0.000	0.000	0.000	0.000	0.000	0.000
36	0.099	0.000	0.000	0.012	0.000	0.000	0.000	0.000	0.000	0.009	0.000	0.000	0.000	0.000
37	0.052	0.000	0.000	0.026	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.000	0.000
38	0.141	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
39	0.434	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.849	0.000	0.073	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
41	1.787	0.027	0.182	0.328	0.563	0.000	0.000	0.000	0.000	3.478	0.083	0.000	0.000	1.504
42	7.550	0.130	0.019	2.333	0.000	0.000	0.000	0.000	0.000	0.000	3.768	0.000	0.000	0.000
43	6.245	0.321	0.000	2.576	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
44	4.262	0.034	0.040	0.466	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014
45	8.904	0.000	0.114	0.660	0.000	0.000	0.000	0.000	0.000	0.249	0.415	0.000	0.000	0.000
46	14.973	0.000	0.189	9.639	0.000	0.000	0.000	0.000	0.000	0.000	0.166	0.000	0.000	0.000
47	8.778	0.020	0.060	4.098	0.000	0.000	0.000	0.000	0.000	0.000	17.015	0.060	0.000	0.595
48	15.208	0.000	0.019	0.315	0.000	0.000	0.000	0.000	0.000	0.125	0.000	0.000	0.000	0.009
49	6.280	0.000	0.042	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50	0.385	0.000	0.000	0.057	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
51	0.405	0.000	0.000	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
52	0.140	0.000	0.055	0.080	0.009	0.000	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000
53	0.229	0.000	0.000	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
54	1.370	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	3.380	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
56	0.000	0.000	0.000	0.266	0.057	0.000	0.166	0.112	0.000	0.000	0.000	0.000	0.000	0.030
57	0.000	0.000	0.000	0.190	0.087	0.000	0.163	0.135	0.226	0.000	0.000	0.000	0.000	0.000
58	0.000	0.000	0.000	0.253	0.108	0.000	0.063	0.097	0.000	0.000	0.000	0.000	0.076	0.053
59	0.229	0.000	0.046	0.298	0.010	0.005	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.012
60	0.000	0.000	0.000	0.381	0.065	0.000	0.056	0.013	0.000	0.000	0.000	0.000	0.723	0.015
61	0.100	0.000	0.030	0.972	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.056
62	5.818	0.000	0.011	1.847	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.800	0.000
63	2.343	0.000	1.607	1.206	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.047	0.195	0.035
64	2.535	0.000	0.117	0.315	0.000	0.000	0.000	0.000	0.000	0.000	0.097	0.082	0.000	0.020
65	0.613	0.026	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.172	0.000
66	0.017	0.000	0.013	0.510	0.000	0.190	0.033	0.000	0.000	0.000	0.000	0.061	0.074	0.000
67	0.032	0.000	0.000	0.000	0.000	0.000	0.199	0.000	0.000	0.000	0.000	0.000	0.628	0.000
68	0.039	0.000	0.000	0.115	0.000	0.000	0.145	0.000	0.000	0.000	0.000	0.000	0.250	0.000
69	0.014	0.084	0.066	0.450	0.000	0.017	0.000	0.000	0.000	0.210	0.000	0.000	0.000	0.351
70	0.525	0.200	0.571	2.062	0.000	0.148	0.000	0.000	0.000	0.639	0.122	0.000	0.000	2.670
71	0.868	0.152	1.977	1.861	0.000	0.195	0.000	0.000	0.000	0.888	0.126	0.007	0.000	0.476
72	0.000	0.000	0.000	0.505	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.150
73	0.000	0.187	0.000	0.539	0.111	0.211	0.054	0.000	0.000	0.010	0.026	0.000	0.000	0.890

74	0.053	0.032	16.465	0.529	0.000	0.000	0.000	0.000	0.000	0.008	0.006	0.000	0.000	0.821
75	0.166	0.000	0.584	0.155	0.000	0.000	0.000	0.000	0.000	0.072	0.070	0.000	0.000	0.227
76	0.027	0.000	0.184	0.180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013
77	0.000	0.054	1.132	0.220	0.000	0.000	0.000	0.000	0.000	0.056	0.236	0.000	0.000	0.060
78	0.023	0.000	0.058	0.254	0.000	0.000	0.000	0.000	0.000	0.081	0.056	0.000	0.000	0.093
79	0.160	0.000	0.005	0.942	0.000	0.174	0.000	0.000	0.025	0.000	0.000	0.000	0.000	0.000
80	0.861	0.000	0.000	1.462	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
81	2.483	0.000	0.017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
82	0.617	0.000	0.416	0.683	0.085	0.000	0.000	0.000	0.579	0.000	0.000	0.000	0.000	0.000
83	0.000	0.055	0.000	0.274	0.000	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
84	3.581	0.000	0.483	0.760	0.000	0.112	0.000	0.000	0.000	0.179	0.209	0.000	0.000	0.059
85	1.932	0.000	0.699	0.074	0.000	0.036	0.000	0.000	0.000	0.000	0.497	0.000	0.000	0.000
86	3.237	0.033	1.118	0.253	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
87	21.417	0.000	7.312	7.234	0.000	0.000	0.059	0.000	0.000	0.000	0.000	0.000	0.000	0.000
88	8.896	0.000	3.314	0.162	0.000	0.000	0.093	0.000	0.075	0.000	0.000	0.000	0.000	0.000
89	1.070	0.000	7.258	0.139	0.000	0.000	0.000	0.000	0.000	0.023	0.557	0.000	0.000	0.907
90	2.163	0.028	11.264	5.745	0.000	0.011	0.000	0.000	0.000	0.868	2.141	0.000	0.000	4.659
91	0.000	0.372	8.562	5.061	0.000	0.004	0.000	0.000	0.000	0.100	0.093	0.000	0.000	2.063
92	0.000	0.000	0.000	6.114	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.000	0.000	8.782
93	0.945	0.000	4.374	4.321	0.000	0.000	0.000	0.000	0.000	0.000	0.148	0.000	0.000	0.000
Total	199.481	2.104	84.814	86.951	2.285	2.508	3.516	0.738	1.357	7.514	31.621	0.777	3.690	27.212

Annexure – VI: Observed area ('00 square meter) under minor fruit crops of sample villages

Village code	Orange	Рарауа	Banana	Banana	Passion fruit	Guava	Plum	Pear	Apple	Jackfruit	Litchi	Pomegranate	Kiwi	Others
1	0.15	0.60	0.15	0.15	0.49	0.00	0.34	0.00	0.00	0.00	0.20	0.10	0.00	2.27
2	1.55	1.45	0.55	0.55	0.00	2.15	0.10	0.00	0.00	0.00	0.00	0.40	0.00	1.25
3	0.25	0.75	0.00	1.03	0.00	1.09	0.28	0.00	0.00	0.00	0.00	0.10	0.00	0.30
4	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.04	0.10	0.10	0.00	0.00	0.00	0.81
5	0.00	0.68	0.00	0.00	0.50	0.20	0.15	0.23	0.00	0.00	0.00	0.00	0.00	0.60
6	0.00	0.10	0.00	0.50	0.30	1.00	1.16	0.35	0.00	0.00	0.00	0.18	0.02	0.68
7	0.00	0.00	0.00	0.57	0.70	0.00	0.48	0.41	0.52	0.10	0.00	0.14	0.12	0.87
8	0.00	0.00	0.00	0.56	0.00	0.10	0.81	0.10	0.00	0.00	0.00	0.00	0.00	0.40
9	0.00	0.00	0.00	0.32	0.50	0.47	1.09	0.33	1.35	0.00	0.00	0.19	0.45	7.35
10	0.06	0.00	0.00	0.00	0.00	0.35	0.25	0.07	0.00	0.00	0.00	0.23	0.00	1.12
11	1.10	0.00	0.20	0.00	2.30	0.07	0.00	0.00	0.00	0.50	26.60	0.00	0.00	16.30
12	20.10	0.00	75.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00
13	123.92	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.70	0.00	0.00	0.00
14	38.00	0.00	0.00	17.75	0.00	0.00	0.00	0.00	0.00	40.40	88.50	0.00	0.00	26.10
15	0.00	0.00	0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	11.00	0.00	0.00	0.00
16	0.00	0.00	3.00	44.50	0.00	0.00	0.00	0.00	0.00	19.00	140.50	0.00	0.00	28.00
17	903.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	4.50	0.00	0.00	4.00
18	38.50	0.00	2.30	1.80	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.20
19	395.60	0.00	32.50	14.06	0.00	7.50	0.00	0.00	0.00	7.29	12.55	0.00	0.00	14.33
20	869.50	0.00	15.00	6.00	0.00	0.90	0.00	0.00	0.00	0.00	11.70	0.00	0.00	28.50
21	38.75	0.00	0.55	2.08	0.00	1.10	0.00	0.00	0.00	0.00	5.69	0.00	0.00	4.55
22	0.00	0.00	0.00	2.47	0.00	0.00	15.55	1.17	0.00	0.00	0.00	0.00	0.00	0.00
23	15.66	0.45	16.17	1.50	0.00	0.06	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.56
24	32.81	2.81	4.68	6.24	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	2.43
25	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38
26	0.00	0.00	2.50	20.90	0.00	0.00	0.00	0.00	17.50	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.83	0.00	0.00	0.00	0.00	0.00	0.00	1.04	0.00	0.00	0.00	0.00
32	0.65	0.22	0.31	0.33	0.00	0.21	0.10	0.13	0.19	0.17	0.00	0.00	0.00	0.44
33	0.00	0.00	0.42	0.74	0.00	0.46	0.12	0.13	0.00	0.71	0.99	0.00	0.00	0.57
34	0.00	0.76	0.16	0.34	0.00	0.16	0.70	0.00	0.00	0.49	0.06	0.00	0.00	0.16

35	0.69	0.71	0.00	0.41	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00
36	1.16	0.00	0.00	0.20	0.00	0.46	0.00	0.00	0.00	0.71	0.00	0.00	0.00	0.00
37	0.45	0.37	0.14	0.47	0.00	0.87	0.10	0.00	0.00	1.19	1.88	0.00	0.00	0.12
38	0.14	0.00	1.19	0.59	0.00	0.21	0.32	0.10	0.00	0.40	0.00	0.00	0.00	0.18
39	0.00	0.72	0.98	0.15	0.00	0.35	0.00	0.00	0.00	0.35	0.00	0.00	0.00	2.28
40	0.28	0.00	0.28	0.59	0.00	0.13	0.19	0.14	0.00	0.12	0.00	0.00	0.00	0.00
41	5.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.49	13.28	0.00	0.00	9.10
42	0.00	0.27	0.09	0.00	0.00	0.00	0.00	0.00	0.00	1.66	36.52	0.00	0.00	4.77
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.66	0.00	0.00	0.00	0.00
44	4.40	1.46	0.22	1.38	0.00	0.00	0.00	0.00	0.00	6.64	0.00	0.00	0.00	1.36
45	4.83	2.81	0.00	1.06	0.00	0.00	0.00	0.00	0.00	2.49	0.00	0.00	0.00	12.19
46	0.00	1.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.81	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	1.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.77	0.00	0.00	0.00
50	0.06	0.19	0.00	0.05	0.00	0.57	0.67	0.59	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.36	0.00	0.04	0.00	1.22	0.52	0.77	0.00	0.00	0.00	0.00	0.00	0.11
52	1.10	0.69	0.50	1.05	0.40	0.48	1.03	1.00	0.00	0.00	0.00	0.00	0.00	0.30
53	0.14	0.40	0.31	0.09	0.00	0.46	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.36
54	0.07	0.31	0.00	0.16	0.00	0.39	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.19	0.00	0.86	0.00	1.08	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	1.11	1.77	0.00	0.44	0.83	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.74	0.79	0.00	1.45	1.28	0.00	0.00	0.00	0.00	1.50	0.33
59	0.05	0.00	0.00	1.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.42
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	1.48	0.00	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	0.00	11.88	0.38	26.23	0.00	2.13	0.00	0.00	8.91	0.00	0.00	0.00	0.00	0.00
63	0.00	0.00	1.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	1.00
64	0.00	0.00	0.00	4.47	0.00	0.00	0.00	0.00	0.00	0.00	2.41	0.00	0.00	3.95
65	0.00	0.18	1.00	3.76	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	0.00	0.00	0.53	3.78	0.00	7.64	1.52	0.94	0.00	0.37	0.00	4.77	3.28	0.00
67	0.00	1.46	0.00	1.37	0.00	0.00	0.00	0.00	0.56	0.00	0.00	0.00	0.00	0.00
68	1.34	0.00	0.00	1.12	0.90	0.00	1.04	0.00	0.97	0.00	0.00	0.63	1.95	0.00
69	0.30	0.70	0.10	0.60	0.00	2.00	0.65	0.00	0.00	2.58	1.20	0.00	0.00	3.35
70	2.37	1.44	0.18	2.30	2.48	2.54	0.88	0.00	0.00	4.73	3.80	0.10	0.00	10.98
71	1.40	1.70	0.80	4.00	0.00	4.55	0.45	0.00	0.00	13.12	7.45	1.15	0.00	11.48
72	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	4.20	8.00	0.00	0.00	17.90
73	1.96	0.00	1.56	0.00	0.00	0.15	2.64	0.00	0.00	4.76	0.66	0.00	0.00	2.80
74	113.03	0.80	0.00	7.15	0.00	1.95	0.00	0.00	0.00	0.00	1.36	0.00	0.00	8.25

75	0.00	0.10	9.10	1.00	0.00	2.40	0.00	0.00	0.00	2.65	0.40	0.60	0.00	0.00
76	0.42	1.65	0.20	0.40	0.00	0.45	0.00	0.00	0.00	0.00	1.08	0.00	0.00	1.90
77	0.00	1.69	0.60	1.65	0.12	1.92	0.00	0.00	0.00	3.89	3.13	0.60	0.00	1.92
78	0.78	0.00	0.00	2.42	0.00	0.38	0.00	0.00	0.00	0.60	2.17	0.00	0.00	0.83
79	5.66	1.50	0.50	0.00	0.00	3.10	0.00	0.00	4.20	0.00	0.00	0.00	0.00	0.00
80	0.00	0.00	1.90	0.00	0.00	0.00	4.62	11.30	20.38	0.00	0.00	0.00	0.00	0.00
81	2.24	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
82	8.80	0.00	0.50	15.30	0.00	0.00	0.00	0.00	0.96	0.00	0.00	0.00	0.00	0.00
83	0.00	14.20	0.00	0.00	0.00	6.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84	25.52	4.55	25.66	56.53	0.00	23.07	0.00	0.00	0.00	3.01	28.50	0.00	0.00	11.36
85	24.57	0.00	18.66	17.23	0.00	4.00	5.94	0.00	0.00	5.05	8.31	0.00	0.00	0.00
86	0.80	1.97	2.79	7.70	0.00	1.89	0.00	0.00	0.00	1.10	1.29	0.00	0.00	1.49
87	0.00	0.00	0.00	18.38	0.00	3.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00	1.50
88	0.00	2.00	2.79	16.39	0.00	0.80	0.00	0.80	1.50	23.61	3.50	0.00	0.00	8.80
89	0.00	2.40	0.00	14.63	0.00	0.00	0.00	0.00	0.00	9.34	4.55	0.00	0.00	18.59
90	7.39	26.22	0.00	3.62	0.00	4.37	0.00	0.00	0.00	17.17	1.86	0.28	0.00	10.92
91	0.00	1.67	0.00	3.90	0.00	0.70	0.00	0.00	0.00	0.98	0.00	0.00	0.00	0.28
92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.68	0.00	0.00	0.00
93	0.00	0.37	0.58	5.24	0.00	1.05	0.16	0.23	0.00	4.90	4.48	0.00	0.00	2.79
Total	2705.54	94.72	290.35	360.49	13.25	96.90	44.53	22.19	57.14	200.79	515.37	9.46	7.48	296.76

## Annexure – VII: Observed yield of major fruit crops (units) in the sample villages

Village code	Orange (Kg)	Рарауа (рс)	Banana (pc)	Banana (bunch)	Passion fruit (Kg)	Guava (kg)	Plum( Kg)	Pear( Kg)	Apple (Kg)	Jackfruit (Pc)	Litchi (bunch)	Pomegranate (Kg)	Kiwi (Kg)	Others (Kg)
1	4895	2130	40	488	80	0	0	0	0	0	130	0	0	0
2	3400	1850	50	1050	0	0	0	0	0	0	0	0	0	0
3	20950	2450	0	1258	0	0	0	0	0	0	0	6350	0	100
4	20850	16050	700	2390	0	7700	0	0	0	0	8750	0	0	1200
5	2150	360	0	298	80	80	280	0	0	0	90	0	0	0
6	150	0	0	1075	80000	500	22300	0	0	0	0	0	0	2900
7	4250	210	0	365	1000	3250	4900	1200	0	0	0	0	3100	955
8	280	0	100	245	1070	300	1460	0	0	0	0	600	450	780
9	0	0	0	879	2700	0	80080	22100	2600	0	0	0	1200	8500
10	262	30	0	3163	0	16760	23000	300	0	0	0	3870	0	1640
11	274400	0	71620	1475	0	0	0	0	0	0	143250	0	0	34100
12	19010	0	0	50	0	0	0	0	0	0	0	0	0	0
13	44010	0	15450	600	0	0	0	0	0	30000	4800	0	0	0
14	115766	0	2405	1356	0	0	0	0	0	0	0	0	0	12700
15	40400	0	610	355	0	0	0	0	0	0	0	0	0	720
16	135960	0	280	2005	0	700	0	0	0	0	61590	0	0	0
17	74200	0	55	65	0	0	0	0	0	1200	12900	0	0	2500
18	32750	0	200	155	0	0	0	0	0	0	0	0	0	0
19	100940	0	3300	403	0	750	0	0	0	9920	12755	0	0	17320
20	134550	0	40790	200	300	0	0	0	0	0	650	0	0	0
21	86520	0	580	300	0	0	0	0	0	0	0	0	0	2600
22	0	0	0	230	0	0	3200	0	0	0	0	0	0	0
23	0	0	50	22	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	6700	0	0	363	0	0	0	0	0	0	0	480	0	0
26	19500	0	930	655	0	0	0	0	0	0	0	500	0	0
27	81920	0	230	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	485	10862	0	0	0	0	0	0	0	0	0
29	31500	0	760	523	3700	0	0	0	0	0	0	0	0	0
30	142900	0	520	235	0	0	0	0	0	0	0	0	0	500
31	299500	0	900	0	0	0	0	0	0	0	0	0	0	0
32	10970	0	0	215	0	0	0	0	0	3000	0	0	0	3800
33	75800	0	0	0	0	0	0	0	0	0	3000	0	0	0
34	8240	0	1050	30	0	0	0	0	0	0	0	0	0	4500

														-
35	4950	5000	0	70	0	0	0	12000	0	0	0	0	0	0
36	1300	0	0	180	0	0	0	0	0	4000	0	0	0	0
37	5720	0	0	115	0	0	0	0	0	0	1380	0	0	0
38	8880	0	0	0	0	0	0	0	0	0	0	0	0	0
39	92500	0	0	0	0	0	0	0	0	0	0	0	0	0
40	245200	0	1670	0	0	0	0	0	0	0	0	0	0	0
41	1083	1128	3772	423	3239	0	0	0	0	3722	180	0	0	156.5
42	14534	8320	362	4579	0	0	0	0	0	0	12930	0	0	0
43	19570	23050	0	4883	0	0	0	0	0	0	0	0	0	0
44	2665	2020	1190	556	0	0	0	0	0	0	0	0	0	30
45	7125	0	3005	1335	0	0	0	0	0	0	120	0	0	0
46	25550	0	4160	1148	0	0	0	0	0	0	2400	0	0	0
47	49250	300	1370	90	0	0	0	0	0	0	8000	0	0	3000
48	11465	0	327	279	0	0	0	0	0	45	0	0	0	60
49	10365	0	520	40	0	0	0	0	0	0	0	0	0	0
50	3480	0	0	394	0	0	0	0	0	0	0	0	0	0
51	4250	0	0	125	0	0	0	0	0	0	0	0	0	0
52	3015	0	218	540	800	0	0	260	0	0	0	0	0	0
53	1682	0	0	320	0	0	0	0	0	0	0	0	0	0
54	4638	0	0	15	0	0	0	0	0	0	0	0	0	0
55	13900	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	96	37	0	1505	702	0	0	0	0	0	300
57	0	0	0	183	3500	0	14390	12864	17758	0	0	0	0	0
58	0	0	0	254	2670	0	2035	3691	0	0	0	0	1439	890
59	5740	0	191	322	80	390	120	0	0	0	0	0	0	726
60	0	0	0	380	1065	0	51	40	0	0	0	0	5581	150
61	400	0	180	160	0	0	0	0	0	0	0	0	0	200
62	750	0	100	290	0	0	0	0	0	0	0	0	0	0
63	33049	0	7612	3312	0	0	0	0	0	0	0	300	0	600
64	10043	0	300	321	0	0	0	0	0	0	555	90	0	100
65	4117	335	84	0	0	0	0	0	0	0	0	0	1800	0
66	29	0	30	2501	0	1610	0	0	0	0	0	250	0	0
67	235	0	0	0	0	0	1404	0	0	0	0	0	3011	0
68	450	0	0	217	0	0	2123	0	0	0	0	0	2213	0
69	50	760	245	498	0	30	0	0	0	720	0	0	0	820
70	1430	1279	935	1865	0	441	0	0	0	750	202	0	0	2810
71	1540	1270	1208	1982	0	1017	0	0	0	1717	265	50	0	2195
72	0	0	0	610	0	0	0	0	0	0	0	0	0	1400
73	0	750	0	522	140	651	100	0	0	130	12	0	0	1360
74	340	250	172000	334	0	0	0	0	0	115	46	0	0	89

75	1575	0	2040	293	0	0	0	0	0	660	320	0	0	1750
76	90	0	1295	170	0	0	0	0	0	0	0	0	0	300
77	0	925	7535	430	0	0	0	0	0	435	2932	0	0	530
78	150	0	630	246	0	0	0	0	0	750	520	0	0	1620
79	900	0	64	999	0	2966	0	0	350	0	0	0	0	0
80	1025	0	0	963	0	0	0	0	0	0	0	0	0	0
81	24411	0	140	0	0	0	0	0	0	0	0	0	0	0
82	4380	0	2580	1150	480	0	0	0	3000	0	0	0	0	0
83	0	400	0	498	0	400	0	0	0	0	0	0	0	0
84	25640	0	930	400	0	520	0	0	0	2770	5000	0	0	800
85	11520	0	1390	60	0	500	0	0	0	0	4160	0	0	0
86	20270	0	3590	540	0	0	0	0	0	0	0	0	0	0
87	169245	0	11815	636	0	0	0	0	0	0	0	0	0	0
88	49131	0	5613	675	0	0	0	0	35	0	0	0	0	0
89	35200	0	9784	60	0	0	0	0	0	800	400	0	0	78350
90	13600	290	19145	7248	0	800	0	0	0	9595	7100	0	0	37650
91	0	1000	5040	1590	0	1000	0	0	0	1000	1000	0	0	27700
92	0	0	0	1533	0	0	0	0	0	0	0	0	0	107400
93	16430	0	2050	880	0	0	0	0	0	0	13850	0	0	0
Total	2755585	70157	413740	68243	111803	40365	156948	53157	23743	71329	309287	12490	18794	365802

## Annexure – VIII: Observed yield of minor fruit crops (units) in the sample villages

Village code	Orange (Kg)	Papaya (units)	Banana (units)	Banana (bunch)	Passion fruit (Kg)	Guava (kg)	Plum( Kg)	Pear( Kg)	Apple (Kg)	Jackfruit (Pc)	Litchi (bunch)	Pomegranate (Kg)	Kiwi (Kg)	Others (Kg)
1	20	380	18	7	115	0	140	0	0	0	0	0	0	270
2	390	630	70	105	0	900	60	0	0	0	0	10	0	280
3	100	850	0	100	0	680	60	0	0	0	0	30	0	180
4	0	0	0	0	0	0	360	40	100	80	0	0	0	560
5	0	330	0	0	250	40	200	220	0	0	0	0	0	245
6	0	150	0	13	100	150	660	250	0	0	0	0	20	230
7	0	0	0	6	140	0	50	140	0	0	0	20	15	330
8	0	0	0	26	0	250	2180	200	0	0	0	0	0	950
9	0	0	0	12	830	350	6680	2040	90	0	0	1200	60	1320
10	0	0	0	0	0	2520	400	0	0	0	0	330	0	3740
11	950	0	15	0	13	50	0	0	0	90	10180	0	0	8300
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	2385	0	0	120	0	0	0	0	0	3050	6241	0	0	3845
15	0	0	0	10	0	0	0	0	0	0	600	0	0	0
16	0	0	65	340	0	0	0	0	0	1100	12920	0	0	1670
17	1200	0	0	0	0	0	0	0	0	100	950	0	0	1200
18	297	0	0	15	0	0	0	0	0	0	750	0	0	1900
19	7040	0	0	91	0	2300	0	0	0	1880	4910	0	0	4577
20	5450	0	0	30	0	60	0	0	0	0	2500	0	0	600
21	1310	0	15	10	0	175	0	0	0	0	1415	0	0	2005
22	0	0	0	153	0	0	9620	1450	0	0	0	0	0	0
23	47850	170	930	103	0	200	0	300	0	0	0	0	0	500
24	41050	194	290	250	0	0	0	0	0	30	0	0	0	2630
25	2250	0	0	0	0	0	0	0	0	0	0	0	0	400
26	0	0	50	225	0	0	0	0	12400	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	20	500	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	5550	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	200	0	0	0	0	0	0	15230	0	0	0	0
32	2470	2600	70	66	0	1020	520	1140	0	1800	0	0	0	2810
33	0	0	90	122	0	3140	600	1250	0	5730	8550	0	0	3980
34	0	1690	0	49	0	780	620	0	0	5450	1200	0	0	1520

_														
35	1260	5460	0	73	0	0	0	6080	0	0	0	0	0	0
36	2250	0	0	44	0	1700	0	0	0	9560	0	0	0	0
37	0	2350	35	66	0	1490	200	0	0	3150	1400	0	0	160
38	480	0	238	110	0	860	1340	730	0	5870	0	0	0	2200
39	0	8700	205	20	0	3090	0	0	0	4210	0	0	0	31910
40	0	0	80	110	0	1200	920	2000	0	1500	0	0	0	0
41	123	0	0	0	0	0	0	0	0	324	868	0	0	155
42	0	88	26	0	0	0	0	0	0	13	2129	0	0	105
43	0	0	0	0	0	0	0	0	0	60	0	0	0	0
44	114	1640	5	37	0	0	0	0	0	200	0	0	0	70
45	79	1058	0	22	0	0	0	0	0	36	0	0	0	105
46	0	100	0	0	0	0	0	0	0	0	0	0	0	0
47	0	293	0	0	0	0	0	0	0	0	320	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	54	0	0	0	0	0	0	0	0	0	1212	0	0	0
50	30	193	0	3	0	173	167	177	0	0	0	0	0	0
51	0	155	0	2	0	537	230	340	0	0	0	0	0	45
52	160	150	10	5	200	250	440	45	0	0	0	0	0	40
53	40	110	11	6	0	29	13	0	0	0	0	0	0	30
54	50	180	0	9	0	310	0	200	0	0	0	0	0	0
55	0	135	0	30	0	530	0	400	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	15	391	0	160	810	0	0	0	0	0	0
58	0	0	0	10	239	0	205	230	0	0	0	0	290	101
59	19	0	0	15	0	0	60	0	0	0	0	0	0	95
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	90	0	25	0	0	0	0	0	0	0	0	0	0	0
62	0	400	30	100	0	0	0	0	0	0	0	0	0	0
63	0	0	58	80	0	0	0	0	0	0	0	0	80	27
64	0	0	0	158	0	0	0	0	0	0	37	0	0	176
65	0	50	66	37	0	0	0	0	0	0	0	0	0	0
66	0	0	0	159	0	322	56	38	0	4	0	193	45	0
67	0	212	0	31	0	0	0	0	32	0	0	0	0	0
68	117	0	0	33	70	0	85	0	50	0	0	70	165	0
69	20	60	0	8	0	85	15	0	0	110	64	0	0	195
70	192	318	14	38	115	473	47	0	0	505	246	20	0	917
71	100	240	23	26	0	557	100	0	0	1270	635	79	0	912
72	0	0	100	0	0	0	0	0	0	700	1000	0	0	1850
73	47	0	52	0	0	24	250	0	0	572	63	0	0	205
74	137	44	0	94	0	74	0	0	0	0	91	0	0	354

75	0	80	343	23	0	510	0	0	0	660	62	140	0	0
76	50	241	18	7	0	55	0	0	0	0	62	0	0	310
77	0	383	25	30	20	203	0	0	0	420	359	60	0	213
78	176	0	0	42	0	45	0	0	0	110	232	0	0	54
79	22	8	2	0	0	35	0	0	22	0	0	0	0	0
80	0	0	43	0	0	0	100	314	148	0	0	0	0	0
81	17	0	6	0	0	0	0	0	0	0	0	0	0	0
82	48	0	15	54	0	0	0	0	5	0	0	0	0	0
83	0	70	0	0	0	20	0	0	0	0	0	0	0	0
84	300	28	238	594	0	599	0	0	0	165	1130	0	0	2760
85	850	0	299	171	0	180	50	0	0	300	348	0	0	0
86	0	200	50	122	0	243	0	0	0	0	300	0	0	0
87	0	0	0	20	0	160	0	0	0	600	0	0	0	180
88	0	170	10	30	0	0	0	0	0	2020	0	0	0	0
89	0	1360	0	51	0	0	0	0	0	3945	1950	0	0	7995
90	0	2600	0	418	0	1130	0	0	0	1300	430	0	0	1000
91	0	0	0	0	0	0	0	0	0	600	0	0	0	0
92	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93	0	0	15	111	0	0	0	0	0	2990	4400	0	0	0
Total	125137	34070	3855	4887	2983	27499	26588	18394	12847	75734	67554	2152	675	96206

## Annexure IX: Sampling design

Dist. Code	District	Block Code	Block	Vill Code	Village	Total HH	No. of Surve y HH	Weight (w;)	Rel. Wt (W <sub>i</sub> )
				1	Zhadima	575	30	10.268	0.451
				2	Kijümetouma	135	13	2.411	0.106
		1	Chiephobozou	3	Dihoma	271	27	4.839	0.212
				4	Meriema	239	23	4.268	0.187
				5	Nerhe Model	56	12	1.000	0.044
1	Kohima			6	Phesama	749	30	1.000	0.172
				7	Kigwema	769	30	1.027	0.177
		2	Jakhama	8	Jakhama Village	842	30	1.124	0.193
				9	Khuzama	970	30	1.295	0.223
				10	Kidima	1023	30	1.366	0.235
		2	Cl	11	Changtongya (Old)	496	30	2.111	0.464
		3	Changtongya	12	Unger	338	30	1.438	0.316
				13	Akhoia	235	23	1.000	0.220
				14	Khar	848	30	4.959	0.408
				15	Dibuia	171	17	1.000	0.082
2	Mokokchun	4	Mangkolemba	16	Waromung	526	30	3.076	0.253
	g			17	Molungkimo ng	534	30	3.123	0.257
				18	Anaki	181	18	1.000	0.131
				19	Asangma	350	30	1.934	0.254
		5	Tuli	20	Merangkong	567	30	3.133	0.412
				21	Molungyimse n B	279	27	1.541	0.203
				22	Yakor	187	18	1.161	0.247
				23	Liangkonger	161	16	1.000	0.212
		6	Shamator	24	Shamator Village	229	22	1.422	0.302
				25	Waphur	181	18	1.124	0.239
3	Tuensang			26	Chingmei	358	30	1.498	0.195
-				27	Nokyan	376	30	1.573	0.205
		7	Noklak	28	Pangsha (New)	458	30	1.916	0.250
				29	Nokhu	404	30	1.690	0.220
				30	Pangsha (Old)	239	23	1.000	0.130

				31	Mon Village	367	30	2.050	0.255
				32	Pongkong	300	30	1.676	0.209
		8	Mon	33	Oting	222	22	1.240	0.154
				34	Longpho	179	17	1.000	0.124
_				35	Shangnyu	370	30	2.067	0.257
4	Mon			36	Jaboka	250	25	1.748	0.221
				37	Ngangting	143	14	1.000	0.127
		9	Tizit	38	Nokyan	192	19	1.343	0.170
				39	Yannyu	224	22	1.566	0.198
				40	Zangkham	321	30	2.245	0.284
				41	Changsu (Old)	556	30	1.544	0.245
				42	Elumyo	360	30	1.000	0.158
		10	Wokha	43	Humtso	435	30	1.208	0.191
_				44	Riphyim Old	461	30	1.281	0.203
5	Wokha			45	Yikhum	461	30	1.281	0.203
				46	Yimkha	130	13	1.000	0.131
		11	Chukitana	47	Mungya	181	18	1.392	0.182
		11	Chukitong	48	Koio	329	30	2.531	0.331
				49	Chukitong	353	30	2.715	0.355
				50	Mishilimi	319	30	2.492	0.236
				51	Pughoboto Hq.	259	25	2.023	0.192
		12	Ghathashei	52	Ighanumi	310	30	2.422	0.229
				53	Kilomi	137	13	1.070	0.101
				54	Kitami	128	12	1.000	0.095
6	Zunheboto			55	Ghokimi	198	19	1.547	0.147
				56	Akhakhu	54	12	1.149	0.058
				57	Khumishi A	47	12	1.000	0.051
		13	Suruhoto	58	Aichi Saghami	372	30	7.915	0.401
				59	Yehimi	218	21	4.638	0.235
				60	Tichipami	236	23	5.021	0.255
				61	Chiepoketa	196	19	1.000	0.099
				62	Ketsapo	534	30	2.724	0.269
		14	Phek	63	Losami	528	30	2.694	0.266
7	Phek		l liek	64	Lozaphuhu	466	30	2.378	0.235
'	7.11.01			65	Middle Khomi	261	26	1.332	0.131
		15	Pfutsero	66	Leshemi	353	30	1.634	0.441
		13	riuseio	67	Zapami	232	23	1.074	0.290

				68	Lasumi	216	21	1.000	0.270
				69	Hakhezhe	121	12	1.424	0.116
				70	Nikhekhu	452	30	5.318	0.432
		16	Niuland	71	Hozhukhe	289	28	3.400	0.276
		10	Muland	72	New Showuba	99	12	1.165	0.095
				73	Kiyezhu B	85	12	1.000	0.081
8	Dimapur			74	Pherima	116	12	1.172	0.154
	·			75	New Socunoma	113	12	1.141	0.150
		17	Medziphema	76	Kiyevi	99	12	1.000	0.131
				77	Seithekema New	294	29	2.970	0.390
				78	Seithekema A	131	13	1.323	0.174
				79	Zaonger	274	27	2.537	0.275
				80	Pokphur	217	21	2.009	0.218
9	Kiphire	18	Pungro	81	Zimkiur	204	20	1.889	0.205
	Kipiiii C	10	rungro	82	Pungro Village	193	19	1.787	0.194
				83	Metonger	108	10	1.000	0.108
				84	Pongching	371	30	1.114	0.200
				85	Orangkong	448	30	1.345	0.242
10	Longleng	19	Longleng	86	Yaongyim	333	30	1.000	0.180
				87	Yongam	358	30	1.075	0.193
				88	Yongshei	345	30	1.036	0.186
				89	Jalukie B	431	30	5.671	0.295
				90	New Jalukie	411	30	5.408	0.281
11	Peren	20	Jalukie	91	Jalukielo	76	12	1.000	0.052
				92	Dunki	325	30	4.276	0.222
				93	Punglwa	218	21	2.868	0.149
					Total	29756	2110	193.228	20

## Government of Nagaland Directorate of Economics & Statistics Nagaland : Kohima

Horticulture Fruit crops survey schedule for the annual 2014-15

SI. No	Survey Schedule for Area, Production and Selling Prices of Fruit crops in Nagaland							
1	District:							
2	Name of Block:							
3	Name of Village:	Serial No.	of Responder	nt				
4	Name of Village Council Chairman:							
5	Name of Respondent :							
6	(a) Household Census No:	(b) Family size:	(c) Primary					
7	Name of Major Fuit Crops in unit :							
8	Name of Minor Fruit Crops in unit :							
9	Type of farming of horticultural crops ( Mixed or single ) :-							
10	Major Fruit Crops:							
11	Number of bearing fruit crops (Major):							
12	Number of young / non-bearing (Major):							
13	Area under Major fruit crops(in Sq.Me							
14	Annual Yield of Major Fruit Crops (in Unit):							
15	Minor fruit Crops							
16	Number of Plants (Minor):							
17								
18	Annual Yield of Minor Fruit Crops (in U							
19	Total farm area both Major / Minor (in Sq.Mtr)							
20	How the fruits are being sold ? (Tick the Relevant)	1.Field( )2. Market( )3.Wholesaler( )4. Contract( )5. All( )						
21	Prices for Major Fruit Crops at Field level (Per Unit):	Name of the crop						
21		In Rs.						
22	Prices for Minor Fruit Crops at Field	Name of the crop						
22	level (Per Unit):	In Rs.						
23	Man Power Labour hired (Field):Yes/ I	ed (Field):Yes/ No						
24	A. Transportation ( Yes /No)							
		B. Climate (Yes /No						
	Constraints in Production and	ity to market						
	Marketing.	D.Lack of Manpowe	r ( Yes /No)					
		E. Lack of Machineri						
		F. All of the Above						

NB

Name of fruit Crops in units: Orange(KG), Papaya(Piece), Pineapple(Piece)Banana(Bunch),

Passion Fruit(KG), Guava (Kg), Plum(Kg), Pears(Kg), Apple(Kg), Jackfruit(Piece), Litchi(Kg), Pomegranate (Kg), Kiwi(Kg).

Name of Data Collector:

Signature:

Signature of DSO:

## Government of Nagaland Directorate of Economics & Statistics Nagaland : Kohima

Cost of Production, Storage, Transportation and Marketing of Fruit Crops (2014-2015)

	SI No.									
	District									
	Block									
	Village									
	Phone No.									
1) Loan t	aken for horticulture?		Yes/N	No.						1
If yes	(a) Purpose of loan:		163/1	10						
ii yes	(b) Amount of loan:									
	c) Interest payment per year:			<del>.</del>						
<b>3</b> \ \4/l4			/D-							l
2) wnat	is the most important cost in fruit production? State  Name of Fruits	amou	unt (KS.	) 				$\overline{}$		Total(in Rs.)
	(a) Fertilizer/Manure:							+		10(01(111103.)
	(b) Planting materials:							+		
	c) Manpower/Labor:							+		
	(d) Machinery hire:							-		
	(e) Pest control:							-		
	(f) Irrigation cost							-		
	(g) Others (state it):									
	(b) Others (state it).						Grand	l total(ir	n Rs.)	
					<u> </u>		0.0			
									Amo	unt (Rs.)
3) Is ther	e any packaging cost? (State amount for all fruits pro	duce	ed)			Yes,	No			
									Amc	unt (Rs.)
4) Is ther	e any transportation cost? If yes, what is the rate?					Yes	'No	I	T	turic (113.)
					<u> </u>					
5) Any st	orage cost, sorting and maintenance cost? If yes, stat	<u>te</u> am	ount fo	or each fr	uit crops	orodu	ced.			
	Yes/No									
	Name of Fruit Crops	s 🗀								Total(in Rs.)
	Amount (Rs.):									, ,
6) What	is the marketing channel preferred for selling fruit cro	one?	(State o	hannels	for all frui	te nro	queq).			
oj wilat	is the marketing thanner preferred for sening truit the			of fruits:	lor all Irui	LS PIC	duceuj.			
(a) Direct	t sale at field level immediately after harvest:		ivaille (	Ji ii uits.		+				
	narketing at bazaar/haats:									
	erative marketing at village level:									
	ract given for each plant:									
	(State if any)									
(c) Other	(State if arry)									
	e any spoilage of fruits crops? What is the loss for ea	ch cr	op?							
	Fruit Crops									
Amount	(Kg.):									
2) Any of	ther cost, mention:									
	Fruit Crops	Г								Total(in Rs.)
Type of o		-				+			<del>                                     </del>	rotal(iii No.)
Amount		-				+				
Amount	(113.)	<u> </u>		l						
			Tr	ntal Evne	nditure fo	r 201	1-2015 /:	n Rc I·		
			10	rai Expei	iditule 10	. 501,	+ 5017 (I	113. j.	1	

## **CHARTS**

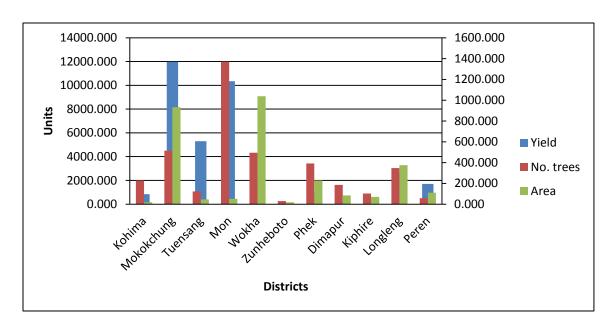


Fig. 1: Orange Production, Area and Number of Trees

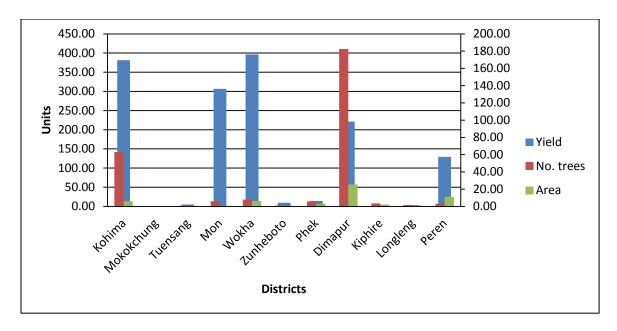


Fig. 2: Papaya Production, Area and Number of Trees

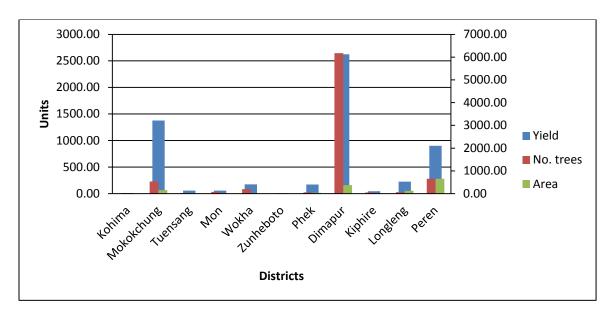


Fig. 3: Pineapple Production, Area and Number of Trees

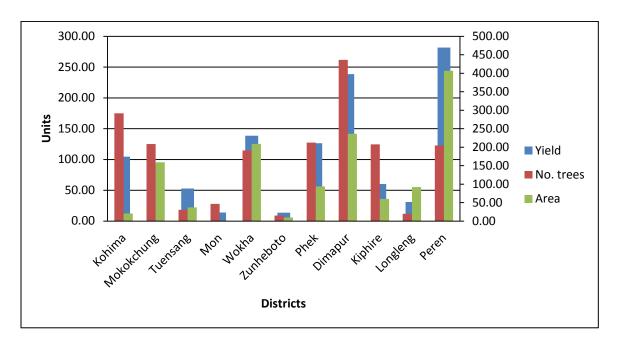


Fig. 4: Banana Production, Area and Number of Trees

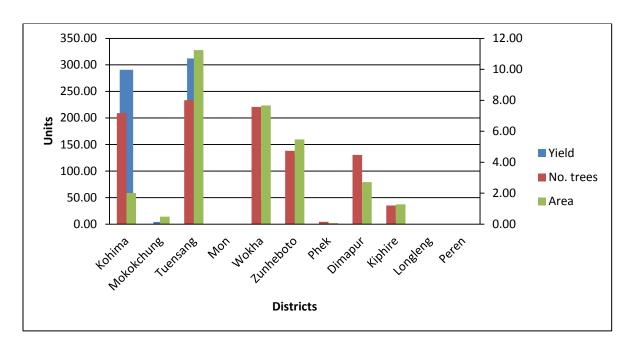


Fig. 5: Passion fruit Production, Area and Number of Trees

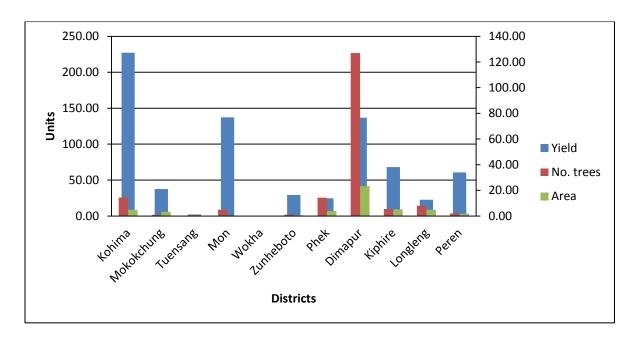


Fig. 6: Guava Production, Area and Number of Trees

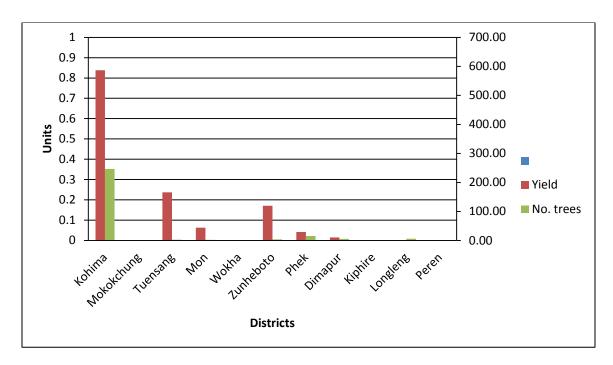


Fig. 7: Plum Production, Area and Number of Trees

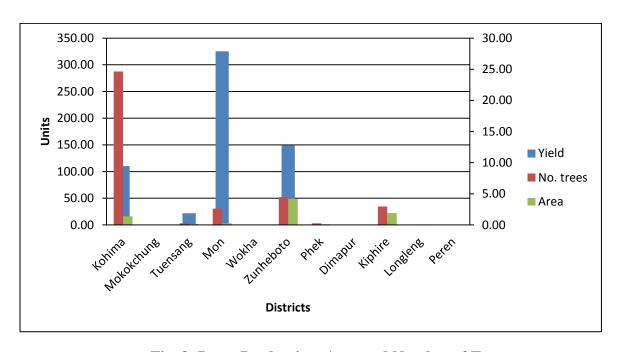


Fig. 8: Pears Production, Area and Number of Trees

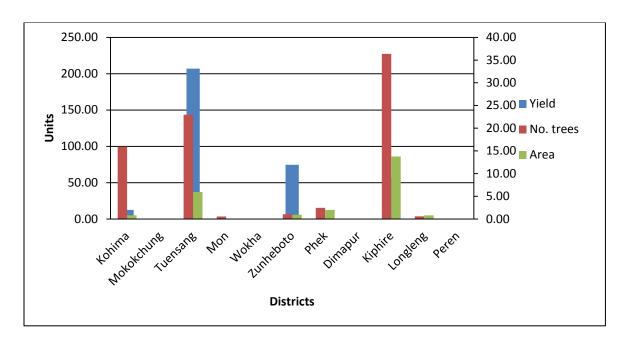


Fig. 9: Apple Production, Area and Number of Trees

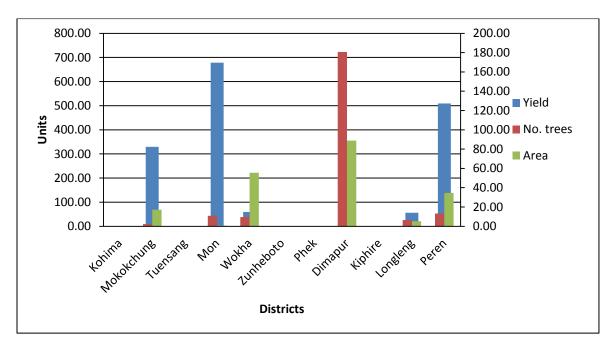


Fig. 10: Jackfruit Production, Area and Number of Trees

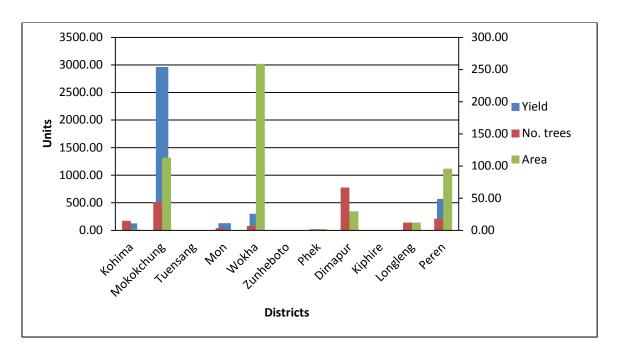


Fig. 11: Litchi Production, Area and Number of Trees

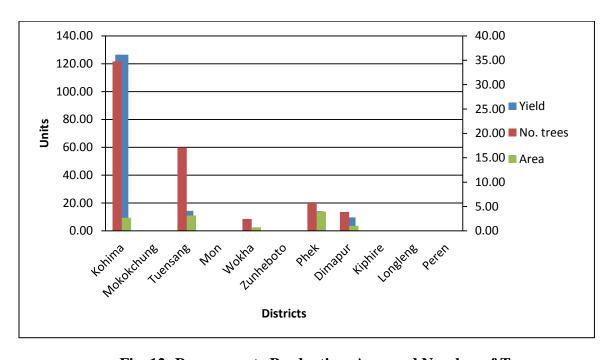


Fig. 12: Pomegranate Production, Area and Number of Trees

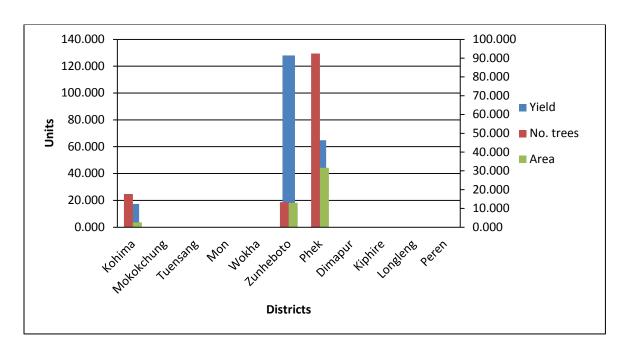


Fig. 13: Kiwi Production, Area and Number of Trees

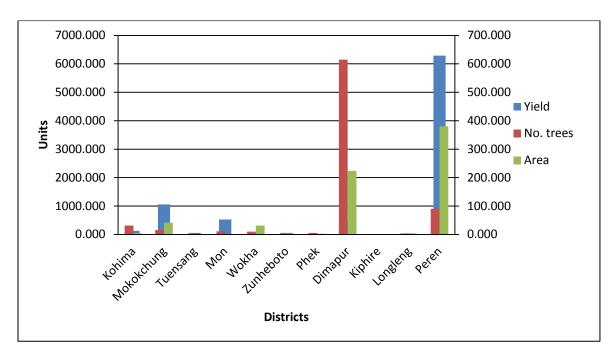


Fig. 14: Other fruits Production, Area and Number of Trees

## **SURVEY PHOTOS**



Mrs. Kevileno Angami, IES, Secretary, Department of Economics & Statistics (centre) along with the Survey Officials



Shri Y. Sacheo Ovung, Director, DES during training programme



District Statistical Officers and staff attending the training programme



Survey team at orange orchard



Pineapple farm



Pomegranate plantation



Sales outlet of fruits in a village