



## CONSTRAINTS ENCOUNTERED BY KIWIFRUIT GROWERS OF ARUNACHAL PRADESH

A. M. Chavai<sup>1</sup>, Habung Ali<sup>2</sup> and R. L. Patil<sup>3</sup>

<sup>1</sup>Asstt. Professor of Agril. Extension <sup>2&3</sup>M.Sc (Agri) Research Scholar

Department of Extension Education, Post Graduate Institute, MPKV Raburi (M.S.) India

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**Abstract:** The study revealed that majority (95.31%) of the Kiwifruit growers expressed their financial constraints. In case of inputs the 34.37 % faced constraints like planting material, manure and shelf life of fruits while the 78.12% complained about labour constraints, the 60.41% were expressed technical constraints like pest management and awareness. The 83.85 % expressed the marketing problem like transportation, cold storage, processing unit, refrigerator van, etc.

Major (98.33%) suggestions provided by the respondents were good infrastructure facility, marketing facility like cold storage, for transportation refrigerator van and processing unit. The subsidies from Government (95.83%) and control of price fluctuation (75%).

**Keywords:** Constraints, Kiwifruit growers, suggestion, Marketing.

### Introduction and Objectives

The north eastern region of India holds huge horticulture potential. States like Arunachal Pradesh, Meghalaya, Nagaland and Manipur have favourable soil and climatic conditions and also have great scope for temperate fruit cultivation to augment business management. These Himalayan regions are bestowed with enormous diversity of agro-ecological conditions permitting the cultivation of wide range of horticultural crops. Fruits like Apple, Pear, Peach, Apricot, Cherry, Almond, etc. are grown extensively in this region. Kiwi is another introduction to Indian Himalayan Region which is popularly grown in Arunachal Pradesh. Presently, Arunachal Pradesh is the highest producer of kiwifruit in India having high potential for supplying to the export markets in fresh and processed forms. In view of this the present study was conducted with the objectives to study the Personal, socio-economic and psychological characteristics of kiwifruit growers, to study the constraints faced by kiwifruit growers and to obtain their suggestion to overcome it.

### Materials and Methods

The present study was conducted in purposively selected Lower Subansiri district since the district pioneered in kiwifruit cultivation and is one of the dominant district of Arunachal Pradesh in kiwifruit production. The two tehsils Ziro and Old Ziro were selected purposively. Three villages from each tehsils and twenty respondents from each villages were selected, thus a total 120 kiwifruit growers were selected for the present study.

### Results and Discussion

#### Personal, socio-economic and psychological characteristics of kiwifruit growers:

The data in Table 1 shows that most of the kiwifruit growers were middle age category (75.00%), high school level education (30.83), semi-medium land holding (47.50 %), had medium area under kiwifruit cultivation (56.25 %), medium level of annual income (78.12 %), medium marketing behaviour (50.00%), medium social participation(53.13 %) and most (68.75%) of kiwifruit growers belonged to medium mass media use category. The similar findings were reported by Madhukar (2012) and Modi, *et al.* (2013).

**Table 1: Personal, socio-economic and psychological characteristics of kiwifruit growers**

Sr. No.	Traits	Category	Frequency	Percentage	Mean	SD
	<i>Age</i>	Young (Up to 35)	08	06.50	47.40	8.81
		Middle (36 - 55)	90	75.00		
		Old (56 and above)	22	18.50		
2.	Education	Illiterate	11	9.17	3.59	1.64
		Primary (IV std)	04	03.33		
		Middle (VIII std)	04	03.33		
		High school (X std)	37	30.83		
		Higher secondary school (XII std)	29	24.17		
		Graduate	27	22.50		
		Post Graduate	08	06.67		
3.	Land holding	Marginal (Up to 1.00 ha.)	0	0	4.37	2.94
		Small (1.01 to 2.00 ha.)	29	24.17		
		Semi-medium (2.01 to 4.00 ha.)	57	47.50		
		Medium (4.01 to 10.00 ha.)	30	25.00		
		Large (10.01 ha. and above)	04	3.33		
4.	Area under kiwifruit	Small (Up to 1.68 ha)	22	18.75	2.53	0.84
		Medium (1.69 ha to 3.37 ha.)	68	56.25		
		Large (3.38 ha. and above)	30	25.00		
5.	Annual income	Low (Up to 100288)	11	9.17	3,96,562.5	2,9273.7
		Medium (1,00,289 to 6,92,836)	94	78.33		
		High(6,92,837 and above)	15	12.50		
6.	Marketing behaviour	Low (Up to 2.76)	08	06.25	3.37	0.61
		Medium (2.77 to 3.98)	60	50.00		
		High (3.99 and above)	52	43.75		
7.	Social participation	Low (Up to 2.11)	34	28.12	4.28	2.11
		Medium (2.12 to 5.14)	64	53.13		
		High (5.15 and above)	22	18.75		
8.	Mass media exposure	Low (Up to 13.07)	23	18.75	21.19	8.12
		Medium (13.08 to 29.30)	82	68.75		
		High (29.31 and above)	15	12.50		

**Constraints faced by the Kiwifruit growers****Table 2: Per cent of respondents according to constraints faced**

Sr. No.	Particulars	Frequency (N=120)	Percentage (%)
<b>1</b>	<b>Financial</b>		
A	Investment	116	96.87
B	Working capital	112	93.75
		<b>Average</b>	<b>95.31</b>
<b>2</b>	<b>Input</b>		
A	Planting material	26	21.87
B	Manure	60	50.00
C	Shelf life (perishability)	37	31.25
		<b>Average</b>	<b>34.37</b>
<b>3</b>	<b>Labour</b>		
A	Cost(High) in Rs.	94	78.12
B	Lack of skilled labour	94	78.12
C	Availability	94	78.12
		<b>Average</b>	<b>78.12</b>
<b>4</b>	<b>Technical</b>		
A	Pest and disease management	34	28.12
B	Lack of knowledge	75	62.50
C	High cost	109	90.62
		<b>Average</b>	<b>60.41</b>

5	Marketing		
A	Transport	116	96.87
B	Storage (rate)	116	96.87
C	Low price	109	90.62
D	Lack of market intelligence	116	96.87
E	Exploitation by middlemen	90	75.00
F	Natural calamities	56	46.87
		<b>Average</b>	<b>83.85</b>

Careful examination of the results presented in Table 2 revealed that majority (95.31%) of the farmers expressed their financial constraints such as high initial cost and working capital which includes clearance of forest by using JCB, digging of pits, establishment of concrete T-bars or pergola post etc. In case of inputs only 34.37 per cent of the farmers faced constraints; planting material, manures, shelf life were not much to be bother since they avoid chemical fertilizers and use locally available farm manures in cheap price and also kiwifruit has got long shelf life unlike other stone fruits which can be store for one month at room temperature and 4-6 months in cold storage. Majority (78.12%) of the respondents complained about labour constraints since there was a scarcity of skilled labour and also availability of unskilled labour, their wages were often hiked leading to high operational cost. Another constraints faced by them was technical constraints (60.41%) since kiwifruit is new to the state and farmers therefore the occurrence of pest and diseases were minimal and the farmers lacked knowledge and awareness regarding the management of kiwifruit.

Most of the farmers learned techniques through self experiment and experience. And the last but not the least, the constraints faced by the farmers were marketing constraints. Transportation constraints, storage constraints and lack of market intelligence were highest (96.87%) in the state of Arunachal Pradesh. The farmers faced poor road connectivity, Government vehicle, refrigerator van etc. Also, storage facility was one of the major constraints faced by them. There is only one private owned cold storage situated in Bhalukpong, West Kameng district which is 314 km away from Ziro, Lower Subansiri district. Due to the absence of middleman, constraints faced by farmers in exploitation by middleman were 75.00 per cent and constraints of natural calamities such as hailstorm, heavy rainfall, landslide, high wind speed etc. faced by farmers were 46.87 per cent. Monsoon period coincided with flowering stage (last week of April to first week of May) of kiwifruit, it results in the shedding off of flowers leading to low fruit bearing capacity.

The findings of the present study are in line with Bennur *et.al* (2015) and Mustafa *et.al* (2011).

**Table 3: Suggestions given by the respondents to overcome constraints faced by them**

Sr. No.	Particulars	Frequency (N=120)	Percentage (%)	Rank
1	To provide subsidy for kiwifruit cultivation to retain and to improve farmers interests.	115	95.83	II
2	Good quality crop protection material, fertilizers etc.	74	61.67	VII
3	Good quality planting material to produce export oriented products.	68	56.67	VIII
4	Development of proper infrastructure facilities like roads, storage, transportation etc.	118	98.33	I
5	Technical training and guidance on various kiwifruit cultivation practices.	98	81.67	V
6	Easy and timely access to market information through different media.	102	85.00	IV
7	Control over price fluctuation through Government intervention.	90	75.00	VI
8	Establishment offruit processing unit for the value addition of kiwifruit.	110	91.67	III

The above table revealed that, majority of the respondents (95.83%) suggested to provide subsidy in kiwifruit practices such as packaging material, fencing material etc. from the Government to retain and improve farmer's interest. Apart from this, development of infrastructure such as proper road facility, cold storage and transportation system were among the most (98.33%) mentioned suggestions. Since, Arunachal Pradesh has got only one railway system which does not carry goods and also it faces poor road connectivity so it becomes difficult for the farmers in transportation of their products. Majority of the respondents (61.67%) suggested for good quality crop protection material, fertilizers, manures etc. and 56.67 per cent of the respondents suggested for good quality planting material to produce export oriented products. Technical training and guidance on various kiwifruit cultivation practices, organizing effective training programmers and promoting co-operatives were suggested by majority (81.67%) of the respondents. Easy and timely access to market information through different media were suggested by 85.00 per cent of the respondents and control

over price fluctuation through Government intervention were suggested by 75.00 per cent of the respondents.

The findings of the present study are in line with Lalhriatpuii (2015).

### Conclusion

It is also found that most of the kiwifruit growers faced different kinds of constraints such as non-availability of inputs like good quality of planting materials, manures and irrigation. There was a scarcity of skilled labour and also availability of unskilled labour, their wages were often hiked leading to high operational cost. Another constraints faced by them was technical problem. Since kiwifruit is new to the state and farmers therefore the occurrence of pest and diseases were minimal and the farmers lacked knowledge and awareness regarding the management of kiwifruit. Marketing problem were high as expressed by the respondents which includes road condition, lack of storage facilities, lack of market knowledge and exploitation of middlemen. Financial problem were highest among the respondents.

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