



Pattern Of Household Employment And Extent Of Unemployment Of Citrus-Producing Households In Kangra District, Himachal Pradesh

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Abstract:

The present research paper investigates the employment structure and extent of unemployment among citrus-producing households in Kangra District, Himachal Pradesh. Citrus cultivation plays a vital role in supplementing rural incomes and providing livelihood opportunities in the hill economy. However, fluctuations in production, market uncertainties, and limited non-farm opportunities often influence household employment patterns. Using primary data collected from selected citrus-growing households, this study analyzes the distribution of labor across agricultural and non-agricultural sectors, the nature of employment (self-employed, regular, or casual), and the incidence of unemployment and underemployment. The analysis highlights variations in employment patterns across farm-size categories, education levels, and gender. The findings reveal that while citrus cultivation provides seasonal employment, most households remain dependent on diversified income sources to ensure livelihood security. The study emphasizes the need for policy interventions that enhance off-farm employment opportunities, strengthen agro-based industries, and stabilize the citrus sector to reduce rural unemployment and underemployment in the region.

Keywords: Citrus cultivation, employment structure, rural livelihoods, unemployment, underemployment, non-farm employment, labor distribution, farm-size categories, income diversification, Himachal Pradesh, Kangra District, agro-based industries, seasonal employment, rural economy, policy interventions.

Introduction

Agriculture continues to be the backbone of India's rural economy, providing livelihoods to a large proportion of the population. In the hilly regions of Himachal Pradesh, agriculture is primarily characterized by small and marginal holdings, where diversification into horticultural crops has emerged as a vital strategy for enhancing income and employment. Among the various fruit crops cultivated, citrus fruits occupy a significant position due to their adaptability to the climatic conditions of the lower and mid-hill zones of the state. Kangra district, located in the western part of Himachal Pradesh, is one of the major citrus-producing regions, where fruits like kinnow, orange, and lime are grown extensively. Citrus cultivation not only supplements household incomes but also contributes to employment generation in both on-farm and allied sectors.

Despite the economic potential of citrus cultivation, rural households engaged in this activity often face challenges such as seasonal employment, price fluctuations, small landholdings, and lack of organized marketing systems. These factors influence the overall pattern of employment and the extent of unemployment in citrus-growing households. Employment opportunities in rural areas are generally linked to agricultural activities, which remain seasonal and uncertain. Therefore, understanding the

employment structure and unemployment levels of citrus-producing households is essential for formulating appropriate policies aimed at rural development and income stabilization.

Background of the Study

Himachal Pradesh has witnessed a gradual shift from subsistence agriculture to a more diversified farming system with the introduction of horticultural crops. The “Fruit Revolution” in the state has played a pivotal role in improving the economic conditions of the rural population. Citrus cultivation, in particular, has gained prominence in districts like Kangra, Sirmaur, and Mandi due to its favorable agro-climatic conditions. However, the benefits of citrus cultivation have not been uniformly distributed, and employment generation has remained uneven across regions and farm-size groups.

Kangra district’s citrus sector involves a significant number of small and marginal farmers who rely heavily on family labor. The employment pattern of these households is influenced by several factors such as landholding size, educational status, access to irrigation, and market linkages. Moreover, the lack of industrial and non-farm opportunities in the region contributes to the persistence of disguised unemployment and underemployment among rural workers. Therefore, assessing the employment and unemployment scenario of citrus-producing households provides valuable insights into the economic well-being of the rural population.

Statement of the Problem

Although citrus cultivation offers supplementary income and employment, the extent to which it absorbs household labor and reduces unemployment remains unclear. Many citrus-growing households in Kangra depend on agriculture as their primary occupation, but due to the seasonal nature of citrus production, they often experience periods of unemployment or underemployment. The lack of alternative livelihood sources further aggravates this situation. In addition, factors such as inadequate extension services, poor market access, and low value addition hinder the growth of the citrus economy, thereby limiting its employment potential.

Understanding the pattern of household employment and the extent of unemployment in citrus-producing areas is crucial for identifying gaps in rural labor utilization and for designing effective livelihood strategies. This study aims to fill this research gap by providing empirical evidence from citrus-producing households of Kangra district.

Objectives of the Study

The main objectives of the study are as follows:

1. To examine the pattern of household employment among citrus-producing households in Kangra district.
2. To estimate the extent of unemployment and underemployment among these households.

Significance of the Study

The findings of this study hold great significance for policymakers, planners, and development practitioners working in the field of rural employment and horticultural development. By analyzing the employment structure of citrus-producing households, the study provides insights into how horticultural diversification influences rural livelihoods. It also helps in identifying the gaps in existing employment opportunities and

highlights the need for promoting allied activities such as processing, packaging, and marketing of citrus fruits to ensure year-round employment. Furthermore, the study contributes to academic research by bridging the gap between agricultural diversification and rural employment generation. It emphasizes the role of citrus cultivation not merely as a source of agricultural income but as a driver of rural economic development when supported by adequate institutional and infrastructural support.

Pattern of Employment in Agricultural Activities

In present study farm employment includes family human labour day's utilization both in crop production as well as looking after livestock.¹ The percentage distribution of the mandays (adult workers) in the farm activities to the total mandays used in agricultural activities have been presented in Table 6.1. This table clearly reveals that the percentage of mandays spent in farm production to the total mandays utilized in agricultural activities has been worked out 26.50, 28.30, 32.67 and 35.40 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 30.25. The percentage of mandays spent in farm production shows an increasing tendency with an increase in the size of holdings. The percentage of family human labour mandays spent in farm activities has been worked out 26.50, 22.56, 21.86 and 19.38 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 22.89. The percentage of hired-in human labour mandays spent in farm activities has been worked out 0.00, 5.74, 10.82 and 16.02 per cent on the marginal, small, medium and large size of holdings respectively.

Table 1 : Pattern of Human Labour Days Utilization in Agricultural Activities Among the Sample Households
(Standard Mandays)

S.N	Agricultural Activities	Marginal Holding	Small Holding	Medium Holding	large Holding	All Holding
1	Farm Activities					
	A) Family Human Labour	67.40 (26.50)	78.57 (22.56)	97.00 (21.86)	111.67 (19.38)	81.76 (22.89)
	B) Hired in human labour(+)	0.00 (0.00)	20.00 (5.74)	48.00 (10.82)	92.33 (16.02)	26.28 (7.36)
	C) Hired out Human Labour(-)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
	D) Sub Total(A+B+C)	67.40 (26.50)	98.57 (28.30)	145.00 (32.67)	204.00 (35.40)	108.04 (30.25)
2	Horticulture Activities					
	A) Family Human Labour	58.85 (23.14)	75.36 (21.64)	93.30 (21.02)	106.67 (18.51)	76.10 (21.31)
	B) Hired in human labour(+)	0.00 (0.00)	28.64 (8.22)	46.30 (10.43)	102.33 (17.76)	29.56 (8.28)

	C) Hired out Human Labour(-)	10.00 (3.93)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	4.00 (1.12)
	D) Sub Total(A+B+C)	68.85 (27.07)	104.00 (29.86)	139.60 (31.46)	209.00 (36.26)	109.66 (30.70)
3	Live Stock Activities					
	A) looking after cattle	68.80 (27.05)	85.71 (24.61)	87.40 (19.69)	88.33 (15.33)	79.60 (22.29)
	B) Grazing	13.90 (5.46)	17.14 (4.92)	20.80 (4.69)	21.67 (3.76)	17.12 (4.79)
	C) Grass collection	35.40 (13.92)	42.86 (12.31)	51.00 (11.49)	53.33 (9.25)	42.76 (11.97)
	D) Sub Total(A+B+C)	118.10 (46.43)	145.71 (41.84)	159.20 (35.87)	163.33 (28.34)	139.48 (39.05)
	Total Mandays Utilized in Agricultural Activities					
4	(1+2+3)	254.35 (100.00)	348.29 (100.00)	443.80 (100.00)	576.33 (100.00)	357.18 (100.00)

Note:-Figures in parenthesis denote the percentages to the column total.

Among all the holdings together this percentage came out 7.36, which indicate an increasing tendency with an increase in the size of holdings. Whereas, the percentage of mandays hired-out came out 0.00 per cent among all the size of holdings. The percentage of hired-out mandays shows a decreasing tendency with an increasing in the size of holdings respectively, mainly due to reason that on the smaller size of holding groups due to their uneconomic size of holdings, the family human labour are either disguisedly and/or disguised unemployed as they are not necessarily required on their own farms throughout the full agricultural year. Hence, in order to supplement their meagre household income they work as agricultural labourer on the fields of large farmers. Contrary to the percentage of hired-out human labour days, the percentage of hired-in mandays indicates an increasing tendency with an increase in size of holdings. It is mainly due to the reason that on the large size of holdings the supply of family human labour is less to the demand for labour mainly during the peak harvesting season of agricultural crops.

The percentage of family human labour mandays spent in horticultural activities to the total mandays utilized in agricultural activities has been worked out 23.14, 21.64, 21.02 and 18.51 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 21.31. In horticultural activities the percentage of hired-in mandays to the total mandays utilized in agricultural activities came out 0.00, 8.22, 10.43 and 17.76 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 8.28. The percentage of mandays hired-out to the total mandays utilized in agricultural activities has been worked out 3.93, 0.00, 0.00 and 0.00 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 1.12. The percentage of family human labour mandays as well as the percentage of hired-in mandays spent in horticultural activities shows an increasing tendency with an increase in size of holdings. It happened mainly due to the fact that smaller holding groups do not find gainful employment on their farms nor can

they afford to remain unemployed and therefore, they work on wage basis on other's farms. Whereas, the larger holding groups due to their sufficient land holdings, generally are shortage of labour supply during the busy agricultural seasons and this shortage of labour supply is met out by hiring-in human labour on wage basis. The percentage of mandays spent in horticultural activities shows an increasing tendency with an increase in the size of holdings which has been worked out 27.07, 29.86, 31.46 and 36.26 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 30.70.

The percentage of mandays spent in livestock activities to the total mandays spent in agricultural activities has been worked out 46.43, 41.84, 35.87 and 28.34 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 39.05. The percentage of mandays spent in looking after cattle to the total mandays utilized in agricultural activities has been worked out 27.05, 24.61, 19.69 and 15.33 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 22.29. The percentage of mandays spent in grazing to the total mandays utilized in agricultural activities has been worked out 5.46, 4.92, 4.69 and 3.76 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 4.79. The percentage of mandays spent in grazing to the total mandays utilized in agricultural activities shows an increasing tendency with an increase in the size of holdings. The percentages of mandays spent in grass collection to the total mandays utilized in agricultural activities have been worked out 13.92, 12.31, 11.49 and 9.25 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentages came out 11.97.

Pattern of Employment in Non-agricultural Activities

The pattern of employment in non-agricultural activities viz; services, business, household-cottage industries, wage work and other activities among the sample households has been presented in Table 1. It is clear from the table that the percentage of mandays spent in services to the total mandays utilized in non-agricultural activities has been worked out 48.05, 51.72, 55.83 and 56.07 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 52.05. The percentage of mandays spent in services shows an increasing tendency with an increase in the size of holdings.

Table 2 : Pattern of Human Labour Utilization in Non-Agricultural Activities Among the Sample Households

(Standard Mandays)

S.N.	Activities	Marginal Holdings	Small Holdings	Medium Holdings	Large Holdings	All Holdings
1	Services					
	I) Govt. Services	43.80 (17.96)	78.21 (28.91)	124.10 (38.09)	152.67 (43.45)	82.56 (29.42)
	II) Private Services	73.40 (30.09)	61.71 (22.81)	57.80 (17.74)	44.33 (12.62)	63.52 (22.63)
	III) Sub Total(I+II)	117.20 (48.05)	139.93 (51.72)	181.90 (55.83)	197.00 (56.07)	146.08 (52.05)

2	Business	41.30 (16.93)	82.21 (30.39)	101.30 (31.09)	117.33 (33.40)	73.88 (26.33)
3	Household Industries	1.50 (0.62)	4.29 (1.58)	7.30 (2.24)	8.67 (2.47)	4.30 (1.53)
4	Wage work	74.25 (30.44)	31.79 (11.75)	19.30 (5.92)	5.00 (1.42)	43.06 (15.34)
5	Other*	9.65 (3.96)	12.36 (4.57)	16.00 (4.91)	23.33 (6.64)	13.32 (4.75)
6	Total(1 to 5)	243.90 (100.00)	270.57 (100.00)	325.80 (100.00)	351.33 (100.00)	280.64 (100.00)

Note:-Figures in parenthesis denote the percentages to the column total.

*Other activities include time spent in religious work and contractor ship etc. It happened mainly due to the higher literacy percentage among the sample households falling in the large size of holdings. The percentage of mandays spent in business activities to the total mandays utilized in non-agricultural activities has been worked out 16.93, 30.39, 31.09 and 33.40 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 26.33. The percentage of mandays spent in household cottage industries to the total mandays utilized in non-agricultural activities has been worked out 0.62, 1.58, 2.24 and 2.47 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 1.53. The percentage of mandays spent in wage work to the total mandays utilized in non-agricultural activities has been worked out 30.44, 11.75, 5.92 and 1.42 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 15.34. The percentage of mandays spent in wage work to the total mandays utilized in non-agricultural activities is the highest on the marginal size of holdings. This happened mainly due to the lack of gainful employment opportunities on account of their uneconomic size of holdings, high illiteracy and dependency percentage. Further, the male members on the marginal size of holdings are not necessarily required on their uneconomic size of holdings even during the peak agricultural seasons, hence, they keep themselves busy in regular and more remunerative jobs and/or wage work outside agriculture. Further, the households falling on the smaller size of holdings due to their meagre household income, high illiteracy and dependency percentage cannot afford to remain unemployed during the lean agricultural seasons; hence they try their levels best to get seasonal and/or casual wage work preferably nearby as well as outside.

Pattern of Employment in Necessary Activities

The pattern of family human labour days utilized in 'necessary activities' (i.e. in family affairs, social affairs and sickness) has been presented in Table 2. This table clearly reveals that the percentage of mandays spent in family affairs to the total mandays utilized in necessary activities has been worked out 52.20, 51.31, 48.82 and 46.01 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 50.67. The percentage of mandays spent in family affairs is the highest on the marginal size of holdings and lowest on the large size of holdings. The above pattern of family human labour utilization clearly indicate that the households falling on the marginal size of holdings due to higher dependency percentage have spent maximum human labour days in family affairs. The percentage of

mandays spent in social affairs to the total mandays spent in 'necessary activities' has been worked out 24.37, 27.16, 31.03 and 35.36 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 27.55. The percentage of mandays spent in social affairs to the total mandays spent in 'necessary activities' is the lowest on the marginal size of holdings. This percentage of mandays spent in social affairs shows an increasing tendency with an increase in size of holdings.

Table 3 : Pattern of Human Labour Days Utilization in Necessary Household Activities Among the Sample Households
(Standard Mandays)

S.N.	Activities	Marginal Holdings	Small Holdings	Medium Holdings	Large Holdings	All Holdings
1	Family Affairs*	122.10 (52.20)	114.71 (51.31)	100.80 (48.82)	87.67 (46.01)	111.64 (50.67)
2	Social Affairs**	57.00 (24.37)	60.71 (27.16)	64.08 (31.03)	67.37 (35.36)	60.70 (27.55)
3	Sickness	54.80 (23.43)	48.14 (21.53)	41.60 (20.15)	35.50 (18.63)	47.98 (21.78)
4	Total(1 to 3)	233.90 (100.00)	223.57 (100.00)	206.48 (100.00)	190.53 (100.00)	220.32 (100.00)

Note:-Figures in parenthesis denote the percentages to the column total.

*includes cooking, rearing of children, washing and cleaning etc.

**includes attending marriage birth and death ceremonies as well as attending fair and festivals.

The percentage of mandays spent in sickness to the total mandays utilized in household 'necessary activities' has been worked out 23.43, 21.53, 20.15 and 18.63 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 21.78.

Thus, the percentage distribution of mandays spent in household 'necessary activities, shows that family affairs (i.e. 50.67 per cent) occupy the major share followed by social affairs (i.e. 27.55 per cent) and sickness (i.e. 21.78 per cent) among the sample households.

Pattern of Employment in All the Activities

The percentage distribution in the different activities viz; agricultural, non-agricultural and necessary activities have been presented in Table 3. This table clearly shoes that the percentage of mandays spent in farm activities to the total mandays utilized in different activities has been worked out 9.21, 11.70, 14.86 and 18.24 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 12.59. The percentage of mandays spent in farm activities to the total mandays utilized in different activities is the lowest on the marginal size of holdings as compare to small, medium and large size of holdings. The percentage of mandays spent in horticultural activities to the total mandays utilized in different activities has been worked out 9.40, 12.35, 14.30 and 18.69 per cent on the marginal, small, medium and

large size of holdings respectively. Among all the holdings together this percentage came out 12.78. Thus the percentage of mandays spent in crop production and horticultural activities shows an increasing tendency with an increase in the size of holdings. It happened mainly due to the reason that male members of the families falling on the smaller size of holding groups are not necessarily required on their own uneconomic size of holdings even during the peak agricultural seasons and hence, they keep themselves busy in more remunerative regular jobs outside agriculture. Whereas, the households falling on the larger holding groups due to gainful employment on their own economic size of holdings as well as due to sufficient income earned from crops, devote maximum time in agricultural and horticultural activities.

Table 4: Pattern of family Human Labour Days Utilization in Agricultural, Non-Agricultural and Necessary Household Activities Among the Sample Households (Standard Mandays)

S.N	Activities	Small Holding	Medium Holding	large Holding	All Holding	
A	Agricultural Activities					
	I) Farm Activities	67.40 (9.21)	98.57 (11.70)	145.00 (14.86)	204.00 (18.24)	108.04 (12.59)
	II) Horticulture Activities	68.85 (9.40)	104.00 (12.35)	139.60 (14.30)	209.00 (18.69)	109.66 (12.78)
	III) Live Stock Activities	118.10 (16.13)	145.71 (17.30)	159.20 (16.31)	163.33 (14.61)	139.48 (16.25)
	IV) Sub-Total (I+II+III)	254.35 (34.74)	348.29 (41.34)	443.80 (45.47)	576.33 (51.54)	357.18 (41.62)
B	Non- Agricultural Activities					
	I) Services	117.20 (16.01)	139.93 (16.61)	181.90 (18.64)	197.00 (17.62)	146.08 (17.02)
	II) Business	41.30 (5.64)	82.21 (9.76)	101.30 (10.38)	117.33 (10.49)	73.88 (8.61)
	III) Household Industries	1.50 (0.20)	4.29 (0.51)	7.30 (0.75)	8.67 (0.78)	4.30 (0.50)
	IV) Wage work	74.25 (10.14)	31.79 (3.77)	19.30 (1.98)	5.00 (0.45)	43.06 (5.02)
	V) Other*	9.65 (1.32)	12.36 (1.47)	16.00 (1.64)	23.33 (2.09)	13.32 (1.55)
	VI) Sub-Total(I to V)	243.90 (33.31)	270.57 (32.12)	325.80 (33.38)	351.33 (31.42)	280.64 (32.70)
C	Necessary Activities					
	I) Family Affairs	122.10 (16.68)	114.71 (13.62)	100.80 (10.33)	87.67 (7.84)	111.64 (13.01)
	II) Social Affairs	57.00 (7.79)	60.71 (7.21)	64.08 (6.57)	67.37 (6.02)	60.70 (7.07)
	III) Sickness	54.80 (7.48)	48.14 (5.71)	41.60 (4.26)	35.50 (3.17)	47.98 (5.59)

	IV) Sub-Total (I+II+III)	233.90 (31.95)	223.57 (26.54)	206.48 (21.15)	190.53 (17.04)	220.32 (25.67)
D	Grand Total (A+B+C)	732.15 (100.00)	842.43 (100.00)	976.08 (100.00)	1118.20 (100.00)	858.14 (100.00)

Note:-Figures in parenthesis denote the percentages to the column total.

*Other activities include time spent in religious work and contractor ship etc. The percentage of mandays spent in livestock activities to the total mandays utilized in different activities has been worked out 16.13, 17.30, 16.31 and 14.61 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 16.25. Thus the percentage of mandays spent in livestock activities shows an increasing tendency with an increase in the size of holdings. It is observed that during the busy agricultural periods, less mandays are spent per household in looking after cattle, whereas, during the lean agricultural seasons, the farmers spent most of their time of looking after the animals. All this goes to suggest that probably larger proportions of the mandays spent exclusively in looking of livestock, is more in the nature of doing something since there was nothing to do. The percentage of mandays spent in all the agricultural activities to the total mandays utilized in all the activities came out 34.74, 41.34, 45.47 and 51.54 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 41.62.

The percentage of mandays spent in services to the total mandays utilized in different activities has been worked out 16.01, 16.61, 18.64 and 17.62 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 17.02. The percentage of mandays spent in services is the lowest on the marginal size of holdings as compared to small, medium and large size of holdings. The percentage of mandays spent in services, shows an increasing tendency with an increase in the size of holdings. This happened mainly on account of the higher literacy percentage among the households fallings on the larger size of holdings as compared to the smaller size of holdings. The percentage of mandays spent in business activities to the total mandays utilized in different activities has been worked out 5.64, 9.76, 10.38 and 10.49 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holding groups together this percentage came out 8.61. The percentage of mandays spent in business activities is the highest on the large size of holding as compared to marginal, small and medium size of holdings. The percentage of mandays spent in business activities by the households falling on the large size of holdings, is the highest mainly on account of the fact that these households have received loans at low rate of interest under the self-employment scheme to start their business to supplement their household income. The household fallings on the medium and large size of holdings due to their sound and regular source of household income as well as higher literacy percentage, can afford to make investment in business activities. Contrary to it, most of the households on the marginal size of holdings due to their uneconomic size of holdings, meagre household income and higher illiteracy percentages are not prepared to take risk by taking Government loans for business activities which are advanced by the Government agencies against the security of their land and houses.

The percentage of mandays spent in household industries to the total mandays utilized in different activities has been worked out 0.20, 0.51, 0.75 and 0.78 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 0.50. The percentage of mandays spent in household industries shows an increasing tendency with an increase in the size of holdings. The percentage of mandays spent in wage work to the total mandays utilized in different activities has been worked out 10.14, 3.77, 1.98 and 0.45 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 5.02. The percentage of mandays spent in wage work is the highest on the marginal size of holdings as compared to small, medium and large size of holdings. This happened mainly due to the reason that smaller being poor, are ready to get work irrespective to the nature of work as well as the wage rate. Due to the higher dependency ratio, uneconomic size of holdings and meagre household income, they cannot afford to remain unemployed during the lean agricultural season and or even during the peak agricultural season, when they are not necessarily required on their own uneconomic size of holdings. Whereas, on the large size of holdings due to higher percentage of literacy, sound and regular sources of income and social status, most of well-to-do families consider wage work below status. The percentage of mandays spent in other activities to the total mandays utilized in different activities has been works out 1.32, 1.47, 1.64 and 2.09 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 1.55. The percentage of mandays spent in all the non-agricultural activities such as services, business, household industries, wage work and other activities to the total mandays utilized in different activities has been works out 33.31, 32.12, 33.38 and 31.42 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 32.70. The percentage of mandays spent in family affairs to the total mandays utilized in different activities has been worked out 16.68, 13.62, 10.33 and 7.84 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 13.01. The percentage of mandays spent in social affairs to the total mandays utilized in different activities has been worked out 7.79, 7.21, 6.57 and 6.02 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 7.07. The mandays spent in sickness to the total mandays utilized in different activities has been worked out 7.48, 5.71, 4.26 and 3.17 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 5.59. The percentage of mandays spent in 'necessary activities' to the total mandays spent in all the activities, has been worked out 31.95, 26.54, 21.15 and 17.04 percent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 25.67. Thus, the percentage distribution of mandays spent in different activities by the sample households show that the major proportion of mandays spent in non-agricultural activities followed by necessary and agricultural activities.

Extent of Unemployment

The per household unemployment mandays, percentage of mandays willing for additional work, percentage of voluntarily unemployed mandays as well the extent

of unemployment according to Time, Willingness and Income Criterion has been presented in Table.

Table 5 : Extent of Unemployment and the Number of Mandays Willing for Additional Work: A Multi-Dimensional Approach

		(Standard Mandays)				
S.N.	Activities	Marginal Holding s	Small Holding s	Medium Holding s	Large Holding s	All Holding s
1	Total available Mandays(Annual)	860.25 (100.00)	1266.43 (100.00)	1576.50 (100.00)	1187.50 (100.00)	1156.50 (100.00)
2	Total Mandays Utilized in Agricultural Activities	254.35 (29.57)	348.29 (27.50)	443.80 (28.15)	576.33 (48.53)	357.18 (30.88)
3	Total Mandays Utilized in Non- Agricultural Activities	243.90 (28.35)	270.57 (21.36)	325.80 (20.67)	351.33 (29.59)	280.64 (24.27)
4	Total Mandays Utilized in Necessary Activities	233.90 (27.19)	223.57 (17.65)	206.48 (13.10)	190.53 (16.04)	220.32 (19.05)
5	Grand Total of Mandays Utilized	732.15 (85.11)	842.43 (66.52)	976.08 (61.91)	1118.20 (94.16)	858.14 (74.20)
6	No of Unemployed Mandays (Time Criterion)	128.10 (14.89)	424.00 (33.48)	600.42 (38.09)	69.30 (5.84)	298.36 (25.80)
7	No. of Annual Mandays available for additional work (willingness criterion)	216.30 (25.14)	191.43 (15.12)	180.60 (11.46)	111.83 (9.42)	189.66 (16.40)
8	Type of work required by household (%)					
	I) Wage Work	32.00	23.00	0.00	0.00	19.24
	II) Service/Govt. Jobs	68.00	77.00	100.00	100.00	80.76
9	No of Voluntary Unemployed (6-7) –	–	219.78 (17.35)	421.62 (26.74)	–	107.38 (9.28)
10	willingness for over employed (6±7)	80.45 (9.35)	–	–	52.37 (4.41)	107.38 (9.28)
11	Unemployed (Income or Poverty Criterion)	130.90 (32.73)	98.30 (25.11)	54.60 (15.73)	0.00 (0.00)	283.80 (21.79)

Note:-Figures in parenthesis denote the percentages to the column total.

Time Criterion

According to 'Time Criterion' a person may be termed unemployed or underemployed, if he is gainfully occupied during the year for a number of days less than some normal or optimal days defined as full employment days.² Table 6.5 clearly indicates that the total number of available mandays per household has been worked out 860.25, 1266.43, 1576.50 and 1187.50 on the marginal, small, medium and large of holdings respectively. Among all the holdings together the total mandays available came out 1156.50. The percentage of mandays utilized in agricultural activities to the total available mandays has been worked out 29.57, 27.50, 28.15 and 48.53 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 30.88. The percentage of mandays utilized in agricultural activities, shows an increasing tendency with an increase in the size of holdings. The percentage of mandays utilized in non-agricultural activities viz; services, business activities, household industries, wage work etc., to the total available mandays has been worked out 28.35, 21.36, 20.67 and 29.59 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 24.27. The percentage of mandays utilized in 'necessary activities; i.e., mandays utilized in family affairs, social affairs, and sickness to the total available mandays has been worked out 27.19, 17.65, 13.10 and 16.04 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together this percentage came out 19.05. The percentage of mandays utilized in all the agricultural, non-agricultural and necessary activities during the year to the total available mandays has been worked out 85.11, 66.52, 61.91 and 94.16 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together the percentage of mandays utilized in all these activities came out 74.20. Hence, the percentage of unemployed mandays to the full employment norms, i.e. of 8 hours a day, 25 days in a month or 300 days in a year according to Time Criterion, has been worked out 14.89, 33.48, 38.09 and 5.84 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together the percentage of unemployed mandays according to Time criterion came out 25.80 per cent.

Willingness Criterion

A person may be called unemployed or underemployed according to willingness criterion, if he is willing to do more work than he is doing at present, he may either be actively searching for more work or be available for more work, if it is offered on terms to which he is accustomed.³ The percentage of mandays available/willing for additional work to the total available mandays has been worked out 25.14, 15.12, 11.46 and 9.42 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together the percentage of mandays willing for additional work to the total available mandays came out 16.40. Thus, the percentage of mandays willing for additional work shows a decreasing tendency with an increase in the size of holdings. The percentage of available mandays willing for wage work to the total mandays willing for additional work has been worked out 32.00, 23.00, 0.00 and 0.00 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together the percentage of mandays willing for wage work to the total available mandays came out 19.24. The percentage of mandays

willing for services to the total available mandays has been worked out 68.00, 77.00, 100.00 and 100.00 per cent on the marginal, small, medium and large size of holdings respectively. Among all the holdings together the percentage of mandays willing for services came out 80.76. Thus, it is clear from the table that the percentage of mandays willing for wage work shows a decreasing tendency with an increase in the size of holdings, whereas, the percentage of mandays willing for services shows an increasing tendency with an increase in the size of holdings. It happened mainly on account of the higher illiteracy and higher dependency percentage, uneconomic size of holdings and meagre sources of household income on the marginal and small size of holdings, where all the family workers are not necessarily required on their own farm throughout the year and even during the peak agricultural season, whereas, on the larger size of holdings the family workers are gainfully employed on their own farms. The percentage of mandays willing for services is higher on the large holdings as compared to the smaller size of holdings. It happened mainly on account of the higher literacy percentage and regular sources of household income among the households, fallings on the larger size of holdings are interested only to get white collar jobs and consider wage work below status. As a result of it, the percentage of voluntarily unemployed mandays has been worked out 17.35 and 26.74 per cent on the small and medium size of holdings respectively. Whereas, contrary to it the percentage of mandays willing for over employment came out 9.35 and 4.41 per cent on the marginal and large size of holdings respectively. The workers fallings on the marginal size of holdings are willing to work for longer hours mainly due to the higher dependency ratio, meagre household income and higher burden of debt repayment. Among all the holdings together the percentage of mandays willing for over employment came out 9.28. This clearly confirms the fact that marginal suffer the most and the large suffer the least from involuntary unemployment according to Willingness criterion.

Income Criterion

The worker are inadequately employed not because they devote less time to work but because their earnings from the existing work are not sufficient to meet out the basic needs of their family members.⁴ This point of view is strongly stated by Dandekar and Rath in their study 'poverty in India'. They stated that, an inadequate level of employment be defined in terms of its capacity to provide minimum living to the population.⁵ In the context of employment, under-nutrition is of crucial importance as it affects the ability to work and the efficiency of work. According to Raj Krishna, a person may be called unemployed and/or underemployed if he earns an income per year/month less than some desirable minimum.⁶

The number of underemployed workers earning less than the minimum desirable monthly income has been presented in Table 6.5. In order to meet out the minimum food and non-food requirements of a person at 2011-12 prices has been worked out Rs. 1432.24. The percentage of underemployed workers, who are earning less than the minimum desirable income, is the highest on the marginal size of holdings (i.e. 32.73 per cent) as compare to small (i.e. 25.11 per cent) and medium size of holdings (i.e. 15.73 per cent). Among all the holdings together the percentage of underemployed workers according to Income criterion came out 21.79. Thus, the percentage of underemployed on the marginal holding groups exists mainly due to their uneconomic size of holdings, higher ratio of dependents, low literacy percentage and higher burden of debt repayments etc. whereas, the households

falling on the larger holdings due to their sound and regular sources of household income, higher literacy percentage as well as the availability of gainful employment on their own farms, do not suffer from underemployment according to the 'Income criterion'.

Conclusion

The analysis of mandays utilization across different farm sizes reveals significant variations in employment patterns, dependence on agriculture, and the degree of underemployment among rural households. The study highlights that as the size of holdings increases, the proportion of mandays devoted to agricultural and horticultural activities also rises, while smaller holdings show a greater reliance on non-agricultural work and wage labor.

The percentage of mandays spent on agricultural activities was 9.21, 11.70, 14.86, and 18.24 percent for marginal, small, medium, and large holdings respectively, averaging 12.59 percent across all groups. A similar increasing trend was observed in horticultural activities, ranging from 9.40 percent on marginal farms to 18.69 percent on large farms. This progression indicates that larger farmers engage more intensively in crop production due to their economic viability and sufficient land resources. In contrast, marginal farmers, with uneconomic holdings, often seek non-farm employment as agricultural returns fail to sustain their livelihoods.

In livestock rearing, mandays utilization was relatively balanced across farm sizes—16.13 percent for marginal and 14.61 percent for large holdings—averaging 16.25 percent overall. This suggests that livestock serves as a supplementary activity for all classes of farmers, though its importance slightly declines on larger holdings. Farmers tend to devote more time to livestock during the lean agricultural season, often as a way to remain occupied when crop-related work is limited.

When agricultural, horticultural, and livestock activities are combined, the share of mandays devoted to total agricultural work was 34.74, 41.34, 45.47, and 51.54 percent for marginal to large holdings, averaging 41.62 percent. This consistent increase reinforces that larger farms provide fuller and more productive agricultural engagement, while smaller ones compel members to diversify their work portfolios.

Regarding non-agricultural pursuits, services accounted for 16.01 to 17.62 percent of mandays from marginal to large holdings, showing that literacy and access to education among larger farmers facilitated entry into service sectors. Business activities demonstrated a similar upward trend, from 5.64 percent on marginal to 10.49 percent on large farms, with an average of 8.61 percent. Larger landowners often benefited from government loans and better credit access, allowing investment in self-employment ventures. On the other hand, marginal farmers, constrained by poverty and illiteracy, were hesitant to take financial risks.

Wage work displayed the opposite trend. It was highest among marginal farmers (10.14 percent) and fell sharply to 0.45 percent among large holders. Poorer households accepted low-paid manual jobs out of necessity, while wealthier farmers viewed such work as below their social status. Household industries formed only a minor share, below 1 percent across all holdings, though they too increased with farm size.

The share of mandays in non-agricultural activities—services, business, industries, wage work, and others—averaged 32.70 percent, showing that one-third of total available workdays were spent outside farming. Meanwhile, time devoted to family,

social, and necessary affairs (like sickness) averaged 25.67 percent, decreasing as holdings increased, implying that smaller farmers spent more time in non-productive or subsistence activities due to underemployment.

In terms of overall labor availability, total mandays per household were 860.25, 1266.43, 1576.50, and 1187.50 for marginal, small, medium, and large holdings respectively, averaging 1156.50. Of these, 30.88 percent were utilized in agricultural work and 24.27 percent in non-agricultural work. The utilization rate of total mandays (agricultural + non-agricultural + necessary) was highest on large farms (94.16%) and lowest on medium farms (61.91%), averaging 74.20 percent. Consequently, the unemployed portion of mandays was greatest among medium (38.09%) and small (33.48%) farmers, while large holders experienced only 5.84 percent unemployment.

Willingness for additional work declined as holdings increased—25.14 percent on marginal farms compared to only 9.42 percent on large ones. Marginal workers sought wage labor (32 percent of their additional work desire), whereas large farmers preferred service-type or white-collar employment (up to 100 percent of their additional work desire). This reflects not only economic compulsion but also social attitudes tied to education and income.

Underemployment according to the income criterion—earning below the minimum desirable income—was highest among marginal farmers (32.73%), followed by small (25.11%) and medium (15.73%) ones, averaging 21.79 percent overall. This underlines that smaller farmers suffer both from limited employment opportunities and inadequate earnings due to uneconomic holdings, high dependency ratios, and low literacy levels. Larger farmers, in contrast, enjoy economic stability through diversified income sources and full utilization of labor within their farms.

In conclusion, the study portrays a clear relationship between the size of landholdings and labor utilization patterns. Larger holdings provide more stable and productive employment in agricultural and allied sectors, while smaller holdings exhibit widespread underemployment, lower income, and greater reliance on casual wage work. Economic vulnerability, illiteracy, and lack of access to credit perpetuate the marginal farmers' dependence on insecure non-farm activities. To address rural underemployment and income inequality, policies must focus on improving non-farm job opportunities, skill training, rural industrialization, and easier access to credit for smallholders. This would not only enhance labor productivity but also ensure a more balanced and equitable rural employment structure.

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