

Farm and Non-Farm Sector of Rural Economy in Uttarakhand: Changing Scenario

Abstract

To understand the growth process of any country or state, it is necessary to know the relative importance of different sectors in the economy. In recent years, structure of the two components of rural economy - farm and non-farm sectors has been changing. In this context, it has been tried to study the changing structure of farm and non-farm sector of Uttarakhand on the basis of contribution in GSDP and employment generation during the period from 2010-11 to 2017-18. It has been found that in spite of impressive growth of non-farm sector and shrinking role of farm sector, about 55 percent rural workforce is getting their employment from agriculture in Uttarakhand. However, the contribution of farm sector in GSDP is continuously decreasing in the State.

Keywords: Non-Farm Sector, Rural Work Force, Secondary Sectors, Tertiary Sectors, Structure, Rural Economy.

Introduction

India is primarily an agriculture country. Agriculture is the source of livelihood for more than 50 percent of the labour force in the country. But in recent decades the agriculture sectors in India has geared considerably towards non-farm sectors due to increasing farmers distress, agriculture failure to sustain livelihood, change in cropping pattern, indebtedness and poverty, poor agriculture productivity and fall in agriculture income etc.

Agriculture also plays an important role in the economy of Uttarakhand. About 70 percent state's population depend on agriculture for their livelihood and 55 percent workforce in the rural area are getting their employment from agriculture. However, sectoral distribution of GSDP is changing in favour of non-farm sectors. In the year 2017-18, share of non-farm sector in the GSDP was around 93.31 percent while share of farm sector was only 6.69 percent. It shows a favourable change in sectoral distribution of GDP in the state.

A number of researches have been done in this area to study the rural non-farm activities and ways to promote it. Daniel Coppard (2001) concluded in his research that the growth of rural per capita non-agriculture output can have a significant impact in reducing rural poverty. Rising non agriculture income can also increase inequality as a consequence of differential access between the less and better endowed. Study by S. Ranjan (2009) investigates that distress advanced push factor have been predominant in driving workers from farm to non-farm sectors employment in Uttar Pradesh. The study of A Kumar (2011) has revealed that the increasing rural non-farm employment has positive and significant effect on reducing rural poverty at the all India level. A positive link between income and employment is diversifying towards horticulture activities.

According to Hans P. Binswanger- Mkhize (2012), despite accelerating economic growth, the structural transformation of the Indian economy has been slow, with a widening labour productivity differential between the non-agriculture sectors and agriculture. Agriculture growth has not been responded to the accelerating income growth, and agricultural employment is growing slowly. It is the rural non – farm sector that has emerged as the major source of rural employment. Shuchi, Benaru and Mishra (2017) in their article investigate the pre and post reform period trends and patterns of the rural non – farm sector employment in India and reveals that the sector has grown over a period of time both in terms of generating additional employment opportunities for the rural work force and also in its share as a part of rural net basic product as well as the sector

Nilu Kumari

Associate Professor,
Dept. of Economics,
SDM Govt. PG College,
Doiwala, Dehradun, India

has a significant potential for growth in the future. On the basis of this change the main objectives of this paper is mentioned below.

Objective of the Study

1. To study the changing structure of farm sector in Uttarakhand and
2. Contribution of farm and non-farm sector in rural economy of Uttarakhand specially in employment generation and increasing Gross State Domestic Product.

Methodology

The study is based on secondary data which has been collected from various sources - HDR Repot 2017, Statistical Diary of Uttarakhand during 2010-11

to 2016-17, Economic Survey of Uttarakhand 2017 and 2018, internet and research papers. The data have been collected for the period of 2010-11 to 2018-19 for the analysis.

Discussion

The crop pattern of any country depends on a number of factors like, natural, social, economic and government policy. Cropping pattern in Uttarakhand is determined mainly by natural factors like rainfall, climate and soil condition etc. Area of agriculture at the time of formation of state, was 7.70 lakh hectares which has been decreased to 6.9 lakh hectare in 2018. We can see the different uses of land in Uttarakhand in the following Table-1.

Table-1
Land Use in Uttarakhand (in lakh hectares)

Year	Total Area	Unfertile Land	Other use of Land	Able to Agriculture but infertile land	Total cultivated area
2010-11	5.67	2.24	2.17	3.10	7.23
2014-15	5.99	2.28	2.23	3.16	7.00
2017-18	5.99	2.28	2.26	3.17	6.90

Source:- Calculated on the basis of the data of Directorate of Agriculture, Uttarakhand

Above data shows that area under cultivation has decreased from 7.23 lakh hectare in 2010-11 to 6.90 lakh hectare in 2017-18. But area under unfertile land other use of land and able to agriculture but unfertile land have increased from 2.24 lakh hectare to 2.28 lakh hectare, 2.17 to 2.26 lakh hectare and

3.10 to 3.17 hectare respectively during 2010-11 to 2017-18.

The number of registered farmers and area of production, both have been declining during 2010-11 to 2017-18. Therefore, production also has decreased during this period especially after 2013-14 as shown in the Table 2A.

Table-2A
No. of Registered Farmers, Area and Production

Year	No. of Farmers	Area (Hect.)	Production (Qnt.)
2003-04	650	50	611
2010-11	2265	920	10401
2011-12	1336	1651	7256
2012-13	1401	579	7470
2013-14	1500	1011	13718
2014-15	847	568	11414
2015-16	1000	450	11448
2016-17	1000	236	6003
2017-18	800	236	4900

Source: Directorate of Agriculture, Uttarakhand

The maximum farm size (73.65 percent) of Uttarakhand is less than one hectare. Only 1.90 Percent farm size is 4 to 10 hectare and 0.12 percent

is 10.0 or more than 10 hectare. We can see this in the Table 2B.

Table: 2B
Distribution of Farm size (Agriculture 2010-2011)

Size of the Farm (Hectare)	Number of Farm (Lakh)	Area (Size)	Average of the Farm (Hectare)
Less than 10	6.72 (73.65%)	295 (36.23%)	0.44
1.0-2.0	1.57 (17.24%)	2.25 (27.60%)	1.43
2.0-4.0	0.64 (7.10%)	1.75 (21.50%)	2.71
4.0-10.0	0.17 (1.90%)	0.94 (11.55%)	5.45
10.0 and more than 10.0	0.10 (0.12%)	0.25 (3.11%)	23.11
Total	9.12	8.15	0.89

Source: Agriculture census 2010-11,

Note: The figures in the parentheses show percentage share of respective items.

If we see the relative contribution of different sectors in GDP of Uttarakhand, we found that contribution of primary sector and secondary sector have come down slowly since 2011-12 to 2018-19.

On the other hand contribution of tertiary sector is gradually increasing. During this period, contribution of tertiary sectors has increased from 33.38 percent to 40.91 percent. It can be seen in the Table 3.

Table: 3

Percentage contribution of Primary, Secondary, and Tertiary Sectors in GDP of Uttarakhand during 2011-12 to 2018-19 (in percent)

Year	Primary Sector	Secondary Sector	Tertiary Sector
2011-12	14.00	52.53	33.38
2012-13	14.08	52.01	33.91
2013-14	13.86	50.59	35.54
2014-15	12.28	50.52	37.19
2015-16	11.19	50.37	38.44
2016-17 (PE)	11.69	49.60	38.71
2017-18 (PE)	11.38	49.01	39.61
2018-19 (AE)	10.81	48.28	40.91

PE= Provisional Estimate, AE= Advance Estimate

Source: Uttarakhand Economic Survey, 2018-19, Part-1

Percentage share of crop sector in GSDP has also been declining in primary sector during 2011-12 to 2017-18 as shown in the Table 4.

Table: 4

Percentage share of crop sector in GSDP (as current price)

Year	Primary Sector	Crop
2011-12	14.00	7.05
2012-13	14.08	7.29
2013-14	13.85	6.09
2014-15	11.44	5.13
2016-17	10.81	4.77
2017-18	10.50	4.56

Source: Uttarakhand Economic Survey, 2018-19, Part-1

If we see the contribution of primary sector on the basis of GSVA during 2011-12 to 2016-17 then contributions of agriculture, forestry and crops have shown decreasing percentage while fishing and aquaculture remains the same during the period. Livestock contribution has been slightly increasing but

contribution of mining and quarrying has been decreasing. This can be seen in the Table 5. The figures show that primary sector was affected relatively more than the other sectors during last few years. Tertiary sector shows growth during the period.

Table 5

Sectoral Shares in GSVA of Uttarakhand (at current prices)

(in percent)

S.No.	Item	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
1	Agriculture Forestry and Fishing	12.28	12.42	11.32	10.71	10.09	9.70
2	Crops	7.05	7.29	6.09	5.73	5.24	4.93
3	Livestock	2.66	2.54	2.52	2.66	2.75	2.73
4	Forestry and lodging	2054	2.56	2.67	2.28	2.07	2.02
5	Fishing & Aquaculture	0.03	0.03	0.03	0.03	0.03	0.03
6	Mining & Quaring	1.72	1.66	2.54	1.57	1.44	1.49
7	Primary	14.00	14.08	13.86	12.28	11.53	11.19
8	Secondary	52.13	52.01	50.59	50.52	50.99	50.40
9	Tertiary	33088	33.91	35.54	37.19	37.47	38.41
	Total GSVA basic prices	100	100	100	100	100	100

Source: Government of Uttarakhand

We can see in the Table 6 that main crops - rice, wheat etc. has increased, pulses and oil have increased slightly. Production of sugarcane has declined during the period of 2004-05 to 2011-12 and

2017-18. The production of horticulture and production of fruits has increased but production of vegetable has decreased in recent years.

Table: 6
Production of Cereals, Fruits, Vegetable, Pulses, Oil and Sugarcane

Year	Cereals	Fruits	Vegetables	Pulses	Oils	Sugarcane
2004-05	1686680	599858	503254	-	-	-
2011-12	1760152	560717	606507	43881	26085	6348078
2012-13	1766571	529458	624121	51290	39491	6715969
2013-14	1729266	535599	635565	61029	25434	6061428
2014-15	1565599	722815	636193	57311	26004	6108965
2015-16	1710634	659094	657157	45742	29734	5656014
2016-17	1820790	662847	587119	51387	26139	5504562
2017-18	1804242	665543	584913	56210	26496	6303656

Source: Directorate of Agriculture

The following Table 7 shows the number of registered farmers, area and production of herbs in Uttarakhand during the period 2010-12 to 2017-18

Table:-7
Herbs Production, Area and Number of Registered Farmers

Sn	Year	Registered Farmers	Production area (hectare)	Production (lakh tone)
1	2011-12	1336	1651	22
2	2012-13	1401	579	15
3	2013-14	1500	1011	26
4	2014-15	847	568	20
5	2015-16	1000	450	18
6	2016-17	1000	236	20
7	2017-18	800	236	-

Source: Directorate of Agriculture

The above Table 7 shows that area and registered farmers have been decreased but its production has been increased during the period. This shows that there is a need to develop these areas in the state specially horticulture.

Table: 8 explains the comparative analysis of GSVA of Uttarakhand and India. It is a measure of total output and income of an economy. It represents

the value of goods and services produced in an economy after deducting the cost of input and raw material that have gone into the production of those goods and services. Agriculture, forestry and fishing GVA are declining. The GVA of Uttarakhand is 12.3 percent in 2011-12 which decreased to 8.6 percent in 2017-2018 and GVA was 18.5 percent in 2011-12 which decreased to 15.3 Percent in 2017-18 in India.

Table: 8
GVA From Agriculture of India and Uttarakhand

Item	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Uttarakhand							
Agriculture	13302	13556	13397	13357	13126	13595	13797
Forestry & Fishing							
Total GSVA at basic prices	108333	116103	125545	132249	142308	150313	160347
Percent	12.3	11.7	10.7	10.1	9.2	9.0	8.6
All India							
Agriculture	1501947	1524288	1609198	1605715	1615216	1716746	NA
Forestry & Fishing							
Total GSVA at basic prices	8106946	8546275	9063649	9712133	10503348	11247629	NA
Percent	18.5	17.8	17.8	16.5	15.4	15.3	NA

Source: Directorate of Economic and statistics, Uttarakhand and MOSP, Govt. of India, 2017-18

Table:9 reflects the percentage contribution of farm and non- farm sector in GSDP at constant prices. The farm sector contribution is only 5.59 in 2017-18 which was 8.27 Percent in 2011-12. Due to continuous declining contribution of agriculture, forestry and fishing, the primary sector's contribution

is only 6.79 percent in GSDP at current prices in 2017-18 which was 9.43 percent in 2011-12. On the other hand non- farm sectors contribution like manufacturing, transport and communication trade, hotel, financial services, publication etc are increasing in GSDP of Uttarakhand during the period.

Table: 9
Sectoral Contribution of GSDP (at constant prices)

									(in Percent)
Sn.	Industry	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	
1	Agriculture, Forestry, Fishing	8.27	7.83	7.17	6.84	6.42	5.64	5.59	
2	Mining & Quarrying	1.16	1.04	1.59	1.12	1.16	1.12	1.19	
A	Primary Sector	9.43	8.87	8.75	7.96	7.59	6.77	6.79	
3	Manufacturing	27.15	28.11	27.03	27.09	28.81	27.04	27.60	
4	Electricity, Gas & Water supply, others	2.48	2.47	2.31	2.39	2.43	2.27	2.45	
5	Construction	5.49	4.92	5.78	5.61	5.41	5.07	5.47	
B	Secondary Sector	35.12	35.50	35.12	35.03	36.65	34.38	35.52	
6	Transport, Storage, Communication	36.28	36.55	36.71	36.22	37.81	35.50	36.71	
7	Trade, Hotel, Restaurants, Repair	4.30	4.35	4.41	4.76	5.07	4.92	5.36	
8	Financial Services	7.42	7.54	7.59	7.78	7.93	7.47	7.89	
9	Real Sector, dwelling and Professional services	1.82	1.83	1.85	1.97	2.04	1.67	1.73	
10	Publication and Administration	2.51	3.69	3.35	3.68	3.68	3.42	3.59	
11	Other Services	3.10	1.66	2.21	2.53	3.88	2.30	2.39	
C	Tertiary Sector	55.45	55.62	56.12	56.93	55.76	58.85	57.69	

Source: Calculated from the data of Uttarakhand State Government.

When we consider the contribution of farm and non-farm sector in employment generation, Table 10 explains that in 2004-05 total 66 percent population were dependent on farm sector for their employment and 34.3 percent were engaged in non-farm sector while 48.9 percent were dependent on farm sector for their employment and 51.1 percent were on non-farm sectors in 2011-2012. Only 39.3 percent were employed in farm sector and remaining 60.7 percent were employed in non-farm sectors in

2017. In case of urban and rural area, we found that 78.5 percent were employed in farm sector in rural area, in which 96.4 percent were female in 2004-05. The percentage has come down to 61.3 percent in 2011-12 and 55.0 percent in 2017 for rural area in which female percentage is 81.7 percent. This shows a high dependency of rural population on farm sector for employment. Although their earning are too low that can be seen in the Table 10 given below.

Table: 10
Sectorwise Employment in Rural and Urban Areas

											(in percent)
	Rural			Urban			Total			Change during 2004-05 to 2017-18	
	Male	Female	Total	Male	Female	Total	Male	Female	Total		
2004-05											
Primary	63.1	96.4	78.5	7.3	33.0	12.0	48.7	91.1	66.0	66.0 Farm Sector	
Secondary	16.6	1.9	9.8	25.6	13.6	23.4	18.9	2.9	12.4	34.3 non-farm sector	
Tertiary	20.3	2.2	12.0	67.4	53.4	64.9	32.5	6.5	21.9		
2011-12											
Primary	41.5	90.6	61.3	4.4	8.3	4.9	30.7	83.4	48.9	48.9 Farm Sector	
Secondary	29.0	5.5	19.5	31.7	26.4	31.0	29.8	7.3	22.0	51.1 non-farm sector	
Tertiary	29.5	4.0	19.2	3.8	65.3	64.0	39.5	9.3	29.1		
2017											
Primary	44.5	81.7	55.0	5.6	8.3	6.0	30.4	68.5	39.3	39.3 Farm Sector	
Secondary	27.7	10.7	22.9	32.6	19.6	30.9	29.4	12.3	25.4	60.7 non-farm sector	
Tertiary	27.8	7.6	22.1	61.8	72.1	63.2	40.2	19.1	35.3		

Source: NSS Data of Various Rounds and HDR Survey, 2017

Table 11 represents data for spartial average daily earning for regular and casual employment in rural and hill as well as urban and plain region. In 2017, rural regular earning was Rs. 507 and Rs. 302 was on casual basis, while in Urban area, it was Rs. 589 and Rs. 311 respectively. But in hill area, daily earning/wages is higher than plain area. As data shows in hill region it was Rs. 588 on regular basis and Rs. 310 for casual basis, while in plain area it was

Rs. 513 on regular basis and Rs. 287 for casual. In the rural area regular basis earning was maximum Rs. 848 for technical and professional qualified workers and minimum Rs. 253 for illiterate. Similarly on casual basis maximum Rs. 329 for technical and professional qualified worker and minimum Rs. 289 for illiterate. However, female earning was maximum Rs. 1105 for graduate and above.

Table: 11
Spatial Distribution of Average Daily Earning/Wages (in Rs.)

		Male	Female	Total	Male	Female	Total
Sector	Rural	543	352	507	308	249	302
	Urban	612	484	589	314	264	311
Region	Hill	626	446	588	319	248	310
	Plain	540	378	513	288	262	287
Education Level	Illiterate	291	329	253	301	250	289
	Below Primary	392	730	340	298	256	293
	Primary	444	829	394	308	278	306
	Middle	381	574	359	313	245	309
	Secondary	455	655	437	311	220	307
	Senior Secondary	535	812	524	315	237	310
	Graduation & above	832	1105	769	322	233	318
	Technical & Professional	912	1044	848	394	242	329
	Total	575	411	545	309	251	303

Source: HDR, Economic Survey, 2017

The Table 12 reveals that primary or farm sector employment has decreased 26.8 percent in 2017 (from 66.1 percent to 39.3 percent) while non-farm sector employment level has increased from 33.9 percent to 60.7 percent. In case of spatial distribution of employment in rural and hilly areas, 55 percent employment was generated in farm sector.

While in urban and plain region non-farm sector provides 94.1 percent and 76 percent employment respectively. Thus in respect of employment generation in rural and hilly area, farm sector is more employment giving sector than non-farm sectors in 2017 as represented in Table 13.

Table: 12
Sectorwise Changes in Employment Structure

Year	Primary	Secondary	Tertiary	Non-farm sector
2004-05	66.1	12.3	21.6	12.3+21.6=33.9
2011-12	49.0	22.1	28.9	22.1+28.9=51.0
2017	39.3	25.4	35.3	25.4+35.3=60.7

Source: Calculated from NSSO, 2004-05/2011-12 and HDR, 2017

Table: 13
Spatial Distribution of Sectors

Industry	Sex		Area	Region		
	Male	Female		Rural	Urban	Hill
Primary	30.1	68.5	55.0	6.0	55.0	24.1
Secondary	29.4	12.3	29.9*	30.9	17.7	33.0
Tertiary	40.2	19.1	22.1	63.2	27.3	43.0

Source: HDR, 2017

Conclusion

In this study the contribution of farm and non-farm sector in employment generation and Gross State Domestic product has been studied during the period 2010-11 to 2017-18. The changing structure of farm sectors also has been considered in this study. The study shows that cropping pattern of Uttarakhand is in favour of horticulture like production of fruits, vegetables, potatoes, herbs etc and a significant change has also been seen in farm and non-farm sector contribution in GSDP and employment generation. While farm sector's contribution has been declining, the non-farm sector shows an impressive growth especially in contribution of GSDP. As far as employment generation is concerned, contribution of farm sector regularly declining but at the same time, this sector is providing maximum employment to the rural population while in urban area maximum employment giving sector is non-farm sector. Farm sector reflects more share of employment in hilly and rural area about 55.0 percent compared to plain and

urban area i.e. only 6.0 percent and 24.1 percent respectively in 2017.

In 2004-05 and 2011-12 this percentage was higher i.e. 78.5 percent and 61.3 percent in rural area and 12.0 percent and 4.9 percent in urban area. Over all farm and non-farm sectors contribution were 66.0 percent and 34.3 percent respectively in 2004-05 which has changed to 39.3 percent and 60.7 percent respectively in 2017. Despite that the farm sector is shrinking with reference to holding area, reducing farm size and growing infertile agriculture area, it is playing an important role in providing employment and livelihood to the rural people. There is need to take necessary steps to check the declining trends of farm sector. But due to much dependence of rural people on farm sectors, their earning is very low in this sector. There is need to transform agriculture towards horticulture, herbs, animal, husbandry to make agriculture more profitable and stop the migration of the people from hill or rural to urban area by giving them additional employment opportunities.

Reference

- Agarwal H. S. (2009), *Indian Economy*, Lakshmi Narain Agarwal, Agra.
- Bizswanger P. Hans- Muhize (2012), *structural change, the Rural non-farm sector and prospects for agriculture*, May 11, 2012.
- Coppard Daniel (2001), " *The Rural Non-farm economy in India*". A Review of the literature, November, 2001, Natural Resources Institute.
- HDR Report 2017.
- Jain T. R., Trehan Mukesh, Trehan Ranju (2019) *Indian Economy*, Global Publication Pvt. Ltd.
- Kumar Anjani, Kumar Sant, Singhbad K Dhiraj (2011), "Rural Employment Diversification in India, Trends, Determinants and Implications on Poverty", *Agricultural Economics Research Review*, Vol 24, 2011 PP 361-372.
- Mamgain P Rajendra (2006), "Estimation of District Level Poverty in Uttarakhand". Submitted to Economics and Statistics, Department of Planning, Government of Uttarakhand, GIRI Institute of Development Studies (GIDS).
- Raman Sharad (2009), " Growth of rural Non-farm employment in Uttar Pradesh". *Economic and Political weekly*, January 24, 2009.
- Shuchi, Benara, Misra (2014), "Growth of Rural Non-farm employment", working paper, SAGE Journals, *Journal of Lanel and Rural Studies*, Article.
- Statistical Dairy of Uttarakhand, 2010-2011 to 2016-17.*