



Emerging Challenges of Agrarian Distress in India

Dr Murari Behera¹

¹Assistant Professor, Institute of Advanced Research, The University for Innovation, Koba Institutional Area Gandhinagar, 382426, Gujrat, Email: muraribehera2013@gmail.com

ABSTRACT

Indian economy is primarily based on Agriculture, where more than 85 per cent of farmers belong to the small and marginal landholding categories that have faced agrarian distress due to the several reasons. With this background, this paper makes a preliminary attempt to address the causes of agrarian distress in India and assess the factor responsible for agrarian distress among farmers as well as given some of the strategies to prevent agrarian distress in India. Although 85 per cent of small and marginal farmers depend on agriculture is the primary activity. But due to the High cost of cultivation, Lower MSP, Weather related uncertainties, lack of irrigation etc. make these farmers high vulnerability to distress and has led to widespread protest across the state even in some states taking a very violent turn. Apart from that, On the one hand, the share of agriculture in the national GDP has decreased to 17.32 percent in 2016-17 and still the sector continues to provide livelihood support to more than two third of the total population in India and on the other hand last few years is characterised by the nearly stagnant farm sector growth and falling incomes of the farmers'. Thus, the Farmers in the agricultural sector are generally facing unprecedented distress. Therefore, to increase the income of the farmer's various strategy is urgently needed to evacuate the stress among the farmers. Further works need to be done to understand the real problems faced by the farmers.

Key Words: MSP, GDP, Growth, Cultivation, Farmers, Landholding

I. Introduction

Agriculture play a very important role in the India's economy in which majority of the population that is 54.6 per cent of the population engaged in the agriculture and allied activities according to the agricultural census 2011 by contributing 17.32 per cent to the GDP in 2016-17s. The contribution of agriculture to the GDP over the years has reduced from 38.92 per cent in 1990-91 to 30.68 per cent in 1999-00, which further reduced to 17.88 per cent in 2013-14. Consequently, the peculiar characteristics in the agriculture is that out of the total agricultural workers the percentage of the cultivators declining from 71.9 percent to 45.1 percent during the 1951 to 2011 in contrast to this the percentage of the agricultural labourer increases from 28.1 percent to the 54.9 percent during the same year, according to the agricultural statistics at a glance 2016. Notably, these indicate that the vulnerability of the small and the marginal farmers in the agricultural sector to prone to distress is more compares to the others farmers. Indian agriculture has undergone alternate phrase of growth and stagnation during the last few decades. Irrespective of that the peasant society was loss a lots in terms of their family member and socio economic status. So, on the one hand the agricultural sector was only the livelihood opportunities for the cultivator in the late 1950s in which there is fall in the prices of the agricultural commodities in most of the states in contrast to this, on the other hand the agricultural labourer experiences fall in the agricultural wages early 2012-13 even up to now (K. N. Nair, R. Ramakumar (2007) R S Deshpande and Khalil Shah (2007), K C Suri (2006). Thus, the peasant's society was unabatedly suffering on agrarian distress over the years. Despite of that the small and marginal farmer's constitutes the 85 per cent than that of the large farmers. However, these categories of farmers chosen agriculture were the only livelihood opportunities and there were no other economic opportunities available for them which adversely affect their socio economic condition N M Kale, PP Wankhade and Gopal Jadhao (2012). Agriculture were a perennial crop across the state in India depending upon the geographical location of the landscape. The contemporary agrarian economy is now a days have suffers from distress condition among the farmers which is a serious challenges for the policy makers and the researcher to save the future agriculture in India. Therefore, these papers make a preliminary attempt to address the overview of agrarian distress in India and on the basis of the causes given some of the strategy to avert the agrarian distress across the country.

Farmer's distress is a complex issue and it is difficult to arrive an operational definition. The word ' Distress' has been derived from the Latin word 'Districus' and has been used to imply a box of meaning like psychological suffering, mental suffering, to be disturb, upset etc. So, the distress is a behaviour arising from, social economic and psychological reasons. Agrarian distress in India is wide spread like a malady during 1950s green revolution to 1990s to new liberal economic policy of government of India. Considering these periods were a very sporadic situation for the farmers across the country especially the Karnataka, Maharashtra, Uttar Pradesh, Punjab, Kerala were more effected and the farmer's suicides becomes a last resort for the peasants society. So, the situation was so pathetic the government compelled to take action on these issues. However a number of committed were also appointed by the government of India to investigate the root causes behind distress among the peasant society. The committee like Committee on Financial Inclusion chaired by C Rangarajan, Expert Group of Agricultural Indebtedness chaired by Dr Radhakrishna, Expert Group of Agricultural Distress

Chaired by Dr S S Johl, National Farmers Commission headed by Dr. M. S. Swaminatham, Expert Group of Credit Deposit Ratio chair by Dr Y.S. P Thorat, Sub Group on Institutional Credit for the eleventh five year plan etc. were recommend by the Government of India in the recent past to avert the agrarian distress across the country. Eventually the Expert Group of Agricultural Indebtedness chaired by Dr Radhakrishna found that 100 districts with in the country were agriculturally backward and among these 100 districts 31 districts is identified by the Government for Prime Minister Special Rehabilitation packages were declared to tackle such problem. Despite the indeed situation face by the peasant society still remain in the cultivation because there were no other economic opportunities available for them This was the glimpse of agrarian distress in India.

There are a few studies that have examined the issues of agrarian distress in India. (Rao & Suri, 2006) have found that indebtedness is not a new phenomenon in Andhra Pradesh, while the suicides due to indebtedness are a serious issue. The study revealed that due to the unabated distress in the last few year's farmers in these region has a desperate situations while as an enormous amount of farmers are dislike farming and interested to work as an agricultural labourer. So the dimension is a very miserable in the Andhra Pradesh.

(Deshpande, 2002)has been study the suicide by farmers in the Karnataka which revealed that due to the crop loss, high cost of cultivation, indebtedness, informal source of credit farmers were in distress and they don't find to escape in this situation and finally end their life. Considering these drag situation among farmers in the Karnataka the government try to took such alleviatory steps to avert the suicides in these regions such that this tragedy will not happen in future.

(Assadi, 1998) has analysed the farmers' suicides is the sign of distress in the rural economy of Karnataka and the study revealed that the farmers growing tur dal, chillies, and tomato in the northern Karnataka the spate of suicides were more as compared to the others. Because these farmers were repeatedly borrowed money expecting that they repay the dues but unfortunately due to the crop loss, natural calamities they not in a position to repay the loan rather are in indebtedness position.

(Vasavi, 1999)has analysed the agrarian distress in bidar and the study found that the spate of suicides by agriculturalist In Karnataka was largely a result of ecological, economic, and social crisis in the region. The situation calls attention to the problems of commercial agriculture in the region and the role of the state in inducing such condition, internal social complexities such as the growth of local usury and the increasing individualisation of agriculture also compound such distress.

(Vyas, 2004) has focus the agrarian distress and given some of the strategy to protect the vulnerable section of the society. He investigates that the present policies and programmes are not able to protect a sizable section of the agricultural population from the natural and market induced uncertainties. Eventually, the peasant farmers are deal with the mental stress and strain due to the unabated situation on the cultivation. However, the small and marginal landholding categories of farmers are the most vulnerability condition as compared to the others farmers.

(Mishra, 2006) has analysed the agrarian distress through the interlinked transactions as exploitative mechanisms. The studies revelled that peasant's society of the Odisha has suffering from two types of the dimensions that is distress under backwardness and distress under commercialization. The small and the marginal categories of the landholding farmers were more vulnerability condition than that of the large farmers because these farmers were hesitant to take loan from the formal sources due to the previous dues and compelled to take loan from the informal sources. As results they were in a indebted situation because the crop loss made them unable to repay the debt amount.

(Rao & Suri, 2006) has investigates that how the political economy deteriorates the agrarian distress in the economy. The agrarian distresses were highly highlighted during the 1950s adoption of the green revolution, 1990s new liberal economic policy of the government drags the peasant's society in distress condition. In course of time the political party were enjoy the profits from these revolution and the indeed peasants suffering from it. However, the agony condition of the farmers did to survive their livelihood was highly pathetic. Thus, during these periods the situation of the cultivators in between the devil and the deep sea.

(Nair & Ramakumar, 2008)has investigates the agrarian distress and rural livelihoods of the upputhara panchayat of Kerala. The peasants in these area were highly popularized for the commercialization of the agricultures. But, abruptly during the 1990-2000 due to the fall in the prices of tea, coffee, cardamom, coconut, pepper, etc. cultivators were suffering from the accident in such a way that no one can avert the situations. Especially the total gross cropped area of the Kerala were also suddenly decreased and farmers were suffering from distress condition.

(Sajjad & Chauhan, 2012) has investigates that agrarian distress and indebtedness in rural India. The study reveals that, those states which is highly agriculturally developed and highly commercialized were more prone to indebtedness. Indebtedness was due the instability of the food grain yield, level of yield and cost of cultivation. So, the vulnerability of the small and marginal farmers prone to distress due to the indebtedness is more than the large farmers. Because these farmers borrowed more amount on the informal source with an exorbitant rate of interest as a results they unable to repay the debts and suffering from debt traps. Therefore, the current agricultural credit system is an abysmal situation for the farmers and the farmers were not getting the appropriate prices for their agricultural products. So, it is the responsibility of the government to take necessary action against such situation and safe the peasant's society across the country.

II. Database and Methodology

These study is uses the secondary data from the various sources. Data on various commodities are collected from Directorate of Economic and Statistics, Ministries of Agriculture, Government of India from 2009-10 to 2017-18 along with net area shown and cropping intensity are collected from 1950-51 to 2013-14. The data on various categories of farmers are collected from the Agricultural Census Division, Ministry of Agriculture, Government of

India from 1970-71 to 2010-11. It also used Agricultural Statistics at a Glance 2016-17 relating to the agricultural workers from 1951- 2011. It used NSSO, 70th round Situation Assessment Survey (SAS) of Farmers for the number of farmers engaged in the farm sector and the non-farm sector and their source of income from these activities out of the 1000 agricultural households. The data from the incidence of indebtedness is collected from the NABARD All India Financial Inclusion survey Report 2016-17. The data for the various commodities relating to production, yield, and cost of production for agriculture, MSP inclusive of bonus, over the year are used from second advance estimate for kharif crop and third advanced estimates for Rabi crop. Estimation of income arising from cultivation is purely based on microeconomic concept of calculating profit from the farmer producer point of view. Per quintal profit is the difference between price per quintal sold in the market (assume MSP inclusive of bonus) and total costs per quintal. Total opportunities costs consist of explicit and implicit opportunities costs which are represented by C_2 . A_2+FL may be considered as explicit costs. A_2 refers to all paid out expenses both in cash and kind incurred by a farmer on seeds, fertilisers, chemicals, hired labour, fuel, irrigation etc. A_2+FL refer to actual paid out cost plus an imputed value of unpaid family labour. C_2 refers to more comprehensive accounting for the rentals and interest forgone on owned land and fixed capital assets. In this paper, C_2 and A_2+FL are used as cost per quintal to estimate profit per quintal. Subsequently profit per hectare is calculated by multiplying yield per hectare (measured in quintal) with profit per quintal. Considering these costs of cultivation the studies is carried out assuming the C_2 cost of cultivation. To, study the income from various categories of the farmers have taken into consideration 8 commodities from the Kharif and the Rabi crop, it includes 4 commodities from Kharif Crop such as Rice, Moong, Sunflower, Cotton and 4 commodities from Rabi Crop such as Wheat, Gram, Barley and Safflower. This analysis is carried out in current prices and this is notional values for all commodities. Accordingly profits for different categories of farmers such as marginal, small, semi-medium, medium and large farmers are estimated based on their operational land holding patterns as per the record of 2010-11 Agricultural Census. Profit of the farmer is synonymously used as income of the farmer. Compound annual growth rate is estimated from semi-log model and used here to calculate the growth rates of income of farmers, MSP and costs

III. Findings of the Study

Indian agriculture has been known as the density of the small and marginal farming in India. According to the agricultural census 2010-11, 92 million were the marginal holdings and 22 million are the small farmers and that constitutes 85 percent of the holdings followed by 13 million semi medium and 5 million are the large farmers. The number of holdings in percentage can be representing in the following table.

The above table depicts that over the years the marginal farmers are increasing that is 67.1 percent in 2010-11 to than that of 51 per cent in 1970-71 followed by the small farmers are remaining around 19 per cent from 1970-71 up to 2005-06 and it is decline 17.9 per cent in 2010-11 only. Whereas the semi medium farmers are decline from 15 per cent in 1970-71 to 10 per cent in 2010-11 followed by the drastically decline in the medium farmers from 11.2 per cent from 1970-71 to 4.2 percent in 2010-11 and followed by the decline in the large farmers 3.9 percent to 0.7 percent from 1970-71 to 2010-11 (See Table No- 1). However, considering the above table its revealed that the out of all the farmers the small and marginal farmers are more by possessing a small landholding and struggle with the unabatedly uncertainty. Eventually, if the crop will support the cultivator than the peasant's society somehow save but if crop will not support to them due to crop loss, nature played, etc. they should in a more vulnerability possession which adversely affects the socio-economic condition of their life. It means the marginal farmer increasing at a increasing rate.

Table 1: Farm size and Marginal Farming

Number of Holding in Percentage									
Size Group	1970-71	1976-77	1980-81	1985-86	1990-91	1995-96	2000-01	2005-06	2010-11
Marginal	51.0	54.6	56.4	57.8	59.4	61.6	62.9	64.8	67.1
Small	18.9	18.1	18.1	18.4	18.8	18.7	18.9	18.5	17.9
Semi-Medium	15.0	14.3	14.0	13.6	13.1	12.3	11.7	10.9	10.0
Medium	11.2	10.1	9.1	8.1	7.1	6.1	5.5	4.9	4.2
Large	3.9	3.0	2.4	2.0	1.6	1.2	1.0	0.8	0.7
All size	100	100	100	100	100	100	100	100	100

Source: Agricultural Census Division, Ministry of Agriculture, Government of India.

Table 2: Population and Agricultural Workers (Cultivators and Agricultural Labourers) In Million

Year	Total Population	Average Annual Exponential Growth Rate(%)	Rural Population	Total Workers	Cultivator	Agricultural Labourers	Total
1951	361.1	1.25	298.6(82.7)	139.5	69.9(71.9)	27.3(28.1)	97.2(69.7)
1961	439.2	1.96	360.3(82)	188.7	99.6(76)	31.5(24)	131.1(69.5)
1971	548.2	2.2	439(80.1)	180.4	78.2(62.2)	47.5(37.8)	125.7(69.7)
1981	683.3	2.22	525.6(76.9)	244.6	92.5(62.5)	55.5(37.5)	148(60.5)
1991	846.4	2.16	630.6(74.5)	314.1	110.7(59.7)	74.6(40.3)	185.3(59)
2001	1028.7	1.97	742.6(72.2)	402.2	127.3(54.4)	106.8(45.6)	234.1(58.2)
2011	1210.8	1.5	833.7(68.9)	481.9	118.8(45.1)	144.3(54.9)	263.1(54.6)

Source: Agricultural Statistics At a Glance 2016-17

Note- Figure in Parenthesis Represents Percentages.

The above table represents a peculiar characteristics of the Population and agricultural Workers in India, though the population increases over the year but the agricultural workers increases very rapidly from 97.2 million to 263.1 million in 1951 to 2011. Consequently, the percentage of the cultivators decreases over the years from 71.9 percentage to the 45.1 percentage in 1951 to 2011 whereas the percentage of the agricultural labourers increases doubles from 28.1 percent in 1951 to the 54.9 percent in 2011(See Table-). However, the peculiar picture of the agrarian economy in India clearly depicts that due to the less remunerative activities in agriculture farmers should shifting to the remain as a agricultural labourers. So, from the table it is clear that the contemporary agriculture in India is the small and the marginal landholding along with the agricultural labourer. Therefore, due to the uncertainty from the nature and crop loss which drags the farmers to socio and economic distress as a results they are compelled to shifts from cultivators to the agricultural labourers. Thus, it is the responsibility of the government to take necessary action against these issue and save the future agriculture.

Table 3: Net Area Shown and Cropping Intensity

Year	Net Area Shown(Million Hectare)	Cropping Intensity
1950-51	118.75	111.07
1960-61	133.2	114.69
1970-71	140.86	117.7
1980-81	140.29	123.05
1990-91	142.87	130.01
2000-01	141.34	131.13
2001-02	140.73	133.6
2002-03	131.94	131.79
2003-04	140.71	134.79
2004-05	140.64	135.88
2005-06	141.16	136.54
2006-07	139.42	137.59
2007-08	141.02	138.44
2008-09	141.9	137.65

2009-10	139.17	135.8
2010-11	141.56	139.56
2011-12	140.98	138.81
2012-13	139.94	138.74
2013-14	141.43	142.02

Source: Directorate of Economic and Statistics, DAC and FW

*Cropping Intensity is the percentage of the gross cropped area to the net area shown.

The above table represent the all India level total net area shown and the cropping intensity, which revealed that the net area shown increases from 118.75 to 141.16 million hectare during the 1950-51 to 2005-06 and 141.43 in 2013-14 whereas the cropping intensity is increases from 117.07 in 1950-51 to 138.44 in 2007-08 and 142.02 during 2013-14. However, it indicates that though the growth rate of the agricultural sector declining over the years but the net area shown increases which indicates that farmers should involve in farming for survival of their life because they have no other economic opportunity available for them. Consequently, whereas the cropping intensity is concern the it is stagnant around 142 (see Table). . In 2002-03 there is a significant decline in the total cropped area and net area shown due to the decline in the net area shown in the states of Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamilnadu, West Bengal and Haryana. This was mainly due to the deficient of rainfall where as in 2009-10 there is a significant declines in the total cropped area and net area shown due to the decline in the net area shown in the states of Bihar, Jharkhand, Rajasthan, Tamilnadu, Uttar Pradesh, and West Bengal which is due to the decline in the rainfall (See, Directorate of Economic and Statistics, DAC and FW).

Table 5: Per 1000 distribution of agricultural household's major source of income during last 365 days for different states and group of UT in Percentage

States/Group of UT	Cultivation	Livestock	Other agricultural activity	Non-agricultural enterprises	wage/salaried employment	Others
Andhra Pradesh	90.3	57	8.2	16.1	68.2	23.4
Arunachal Pradesh	99	46.1	29	5.5	23.7	7.7
Asam	95.8	78.5	41.6	19.2	26.7	11.5
Bihar	90.1	64.7	7.4	12.2	35.1	15.5
Chhattisgarh	99.1	31.6	8.9	4.5	67.1	13.9
Gujrat	84.1	80.8	4.9	9.1	46.5	5.4
Haryana	71.9	93.3	1.5	11.4	37.3	26.8
Himachal Pradesh	98.3	87.5	15.9	19.5	53.9	44.4
Jammu & Kashmir	94.9	79.9	12.5	24.9	72	19.1
Jharkhand	98.5	68.4	8.1	13.5	71.7	18.6
Karnataka	96.2	70.3	12.9	12.1	44.7	16.1
Kerala	97.8	51.6	60.7	27.2	47.6	53.3
Madhya Pradesh	94.7	78.8	4.3	8.3	53.5	9.5
Maharashtra	96.8	68	4.6	15.6	47.5	8.9
Manipur	96.9	36.8	17.8	26.5	77.6	11.8
Meghalaya	99.2	71.5	51.4	17	89.3	5.7
Mizoram	98.8	54.1	23.4	4.3	68	13.6
Nagaland	100	35	24.4	16.9	52.3	12.5
Odisha	98.2	67.5	14.5	23.8	63.9	30.1

Punjab	66.7	95	2.7	14.3	44	32
Rajasthan	91.3	86.1	5.1	15.2	56.4	18.9
Sikim	99.9	87.9	11.6	17.6	79.6	20.8
Tamilnadu	83.8	61.2	7.8	13.8	63	27.3
Telangana	97.4	51.9	6.5	12.3	57.5	29.3
Tripura	98.8	26.7	11.7	7.9	88.5	25.9
Uttarkhand	97.4	87.2	5.2	11.7	38.5	36.8
Uttar Pradesh	91.6	78.3	3.8	12.8	38.9	21
West Bengal	96.1	72.9	12.1	24.8	55.4	18.5
Group of UT's	87.3	77	30.5	12.4	72.5	36.7
All India	92.6	71.9	9.4	14.7	49.5	19.1

Source: NSSO, 70th round Situation Assessment Survey (SAS) of Farmers

Table 5: Per 1000 distribution of agricultural households major source of income during last 365 days for different states and group of UT in Percentage

States/Group of UT	Cultivation	Livestock	Other agricultural activity	Non-agricultural enterprises	wage/salaried employment	Others	All
Andhra Pradesh	59.2	4.6	1.6	3.5	28	3.1	100
Arunachal Pradesh	86.9	0.3	3.4	0.4	7.3	1.6	100
Asam	76.7	4.2	1.6	2.3	12.8	2.4	100
Bihar	69.7	3	0.2	5	16.3	5.8	100
Chhattisgarh	80.5	0	0.6	1.5	16.8	0.7	100
Gujarat	58.4	9	0.7	3.7	26.7	1.4	100
Haryana	60	9.1	0	4.7	23.6	2.6	100
Himachal Pradesh	38.7	1.8	0.2	8.6	35.3	15.4	100
Jammu & Kashmir	29.3	1	0.1	7	52.6	10.1	100
Jharkhand	72.5	0.1	0.8	4.6	18.6	3.5	100
Karnataka	69.4	4	3.1	2.4	19.3	1.7	100
Kerala	16.1	6	16.9	13.4	29.9	17.6	100
Madhya Pradesh	75.3	2.5	0.1	0.6	20.4	1.1	100
Maharashtra	71.7	2.7	0.5	4.9	18	2.2	100
Manipur	73.7	1.9	1.6	6.4	15.8	0.5	100
Meghalaya	64.4	0	6.4	6.3	21.2	1.6	100
Mizoram	84.1	0.5	2.8	0.5	10.7	1.4	100

Nagaland	53.2	6.8	0.1	12.7	24.5	2.7	100
Odisha	60.2	1	1.2	7.3	25.9	4.3	100
Punjab	45.6	9.2	0.8	5.1	31.9	7.4	100
Rajasthan	45.6	6.4	0.8	5.5	33.4	8.2	100
Sikim	67.7	3.6	0	6.6	18.5	3.5	100
Tamilnadu	54.8	10.2	1.1	2.3	29.3	2.3	100
Telangana	86.8	1.8	0.5	1.8	6.2	2.9	100
Tripura	83.5	3.1	1.5	1.7	8.3	1.8	100
Uttarkhand	59.9	2.7	0.6	3.4	12.4	21.1	100
Uttar Pradesh	65.2	3.1	0.2	5.1	18.7	7.6	100
West Bengal	55.8	1.2	1.7	8.3	26.8	6.3	100
Group of Uts	19.9	4.9	6.9	5.9	53.9	8.5	100
All India	63.5	3.7	1.1	4.7	22	5.1	100

Source: NSSO, 70th round Situation Assessment Survey (SAS) of Farmers

Table 5 represents that out of the 1000 agricultural households engaged in cultivation from which 90 percent and above are involved in the cultivation specially the states like Andhra Pradesh, Arunachal Pradesh, Asam, Bihar, Chhattisgarh, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Mizoram, Manipur, Meghalaya, Nagaland, Odisha, Rajasthan, Sikim, Telangana, Tripura, Uttarkhand, Uttar Pradesh, West Bengal of these states the in Nagaland constitutes 100 percent involved in the cultivation and all India level it constitutes 90.6 percent in the cultivation. Apart from the non-agricultural activities are concern there are very few states more than 80 percent were involved in the livestock sector specially the states like Gujarat, Uttarakhand, Himachal Pradesh (See Table 5). However, from these it is concluded that most of the households taken into consideration agriculture is a livelihood activities for the vulnerable section to survive in the society because there were no other economic opportunities available for them. Considering, these situation it is quite clear that out of the all the households majority were involved in the agricultural activities, though they face a multifarious situation in the agriculture still they are remain. Thus, to protect the farmers across the states better strategy should take into consideration to avert the distress situation among the farmers across the country.

Whereas, out of the 1000 households cultivation as a major source of income from which 80 to 90 percent they earn from cultivation it includes the states like Andhra Pradesh, Chhattisgarh, Mizoram, Telangana, 70 to 80 percent for the states like Asam, Jharkhand, Madhya Pradesh, Maharashtra and Bihar, 60 to 70 percent for the states like Andhra Pradesh, Haryana, Meghalaya, Odisha and Sikim. Apart from that only few states they are earn their major source of income from livestock activities it includes like Gujarat, Haryana, Punjab, and Tamilnadu. However, from the above table it is revealed that agriculture is the principal activities from the households across the states. Because, out of the 1000 agricultural households majority of the households has agriculture is the major source of income. Thus, from this it is concluded that those states which are completely depend on agriculture as the principal activities they are prone to more distress as compared to the other states because it aggravates the drags situation of the farmers. Whereas, those states agricultural household were involved in the both the farm and the non-farm sector their prone to the distress is very very low. Because, it somehow settled the situation and the farmers were come out from the distress condition.

The NABARD All India Financial Inclusion Survey 2016-17 which revealed of incidence of indebtedness among agricultural households by different size of the land holding class, The large farmers constitutes 60% of the indebtedness, followed by medium farmers 56%, semi-medium 52%, marginal farmers 49% and small farmers 48%. However, Considering these size of the land holding class the vulnerability of the small and marginal farmers are more in distress than the others because the repaying capacity of these farmers is very less low compared to the other farmers. The incidence of indebtedness across the states can be explained in the given below.

Table 4: Incidence of Households among households by states (In Percentage)

Andhra Pradesh	76
Arunachal Pradesh	69
Asam	33
Bihar	48

Chhattisharh	30
Goa	37
Gujrat	27
Haryana	31
Himachal Pradesh	37
Jammu & Kashmir	27
Jharkhand	34
Karnataka	75
Kerala	56
Madhya Pradesh	43
Maharastra	35
Manipur	62
Meghalaya	35
Mizoram	39
Nagaland	28
Odisha	54
Punjab	44
Rajastan	38
Sikim	36
Tamilnadu	61
Telengana	79
Tripura	46
Uttar Pradesh	38
Uttarakhand	50
West Bengal	37
All India	47

Source: NABARD All India Financial Institutions survey Report, 2016-17

The above table represents that state wise incidence of indebtedness by states in which Telengana (79%), Andhra Pradesh (77%) and Karnataka (74%) shows highest level of indebtedness across the states. The same is also considerably higher in states like Arunachal Pradesh (69%) , Manipur(61%),Tamilnadu (60%), Kerala (56%) and Odisha (54%) with more than half of the households that were found to be indebted among the farmers.

The Table 6 represents the income from cultivation of rice farmers from the various years which clearly depicts that those farmers across the state cultivating rice they are not profitable. Because the rate at which MSP is increasing the cost of production assuming C^2 increases more than that. The profit per quintal diminishes from Rs 405 to 86 Rs from 2009-10 to 2015-16 also the profit per hectare also declining in the same year from Rs 8173 to

1970. This is because the MSP increases Rs 1050 to 1410 it means approximately Rs50 per year but the cost of production increases twice time assuming the C² cost of production which is Rs 645 to Rs 1324 during the 2009-10 to 2015-16 (See Table-6). Consequently, the small and marginal farmer's income decreases from Rs 3187 to Rs 270 and Rs 11606 to Rs 2803 during the 2009-10 to 2015-16. The others farmers also incurring losses in which the vulnerability of the farmers those who are cultivating Rice is suffering from loss over the year which is a sign of distress for these farmers.

Table 6 represent the income from cultivation of the moong farmers over the years which clearly revealed that the area of production, yield increases over the years from 2.46 to 2.68, 0.44 to 0.96, 1.8 to 3.57 during the 2009-10 to 2015-16. The same year the MSP increases from Rs 2760 to Rs 5050 but the cost of production also increases in the same rate that is from Rs 2705 to Rs 5025. However, those farmers cultivating moong they are suffering from the huge loss because the MSP is not sufficient to meet their cost of production. So, the prone to distress of these farmers is quite more than the other commodities.

Table 8 revealed that those farmers cultivating sunflower production suffering from distress situation because the the rate the MSP increases the cost of production increases twice times more that is Rs 2215 to Rs 3800, Rs 1915 to Rs 4114 during the year from 2009-10 to 2015-16. Therefore, the area in million hectare declining over the year from 0.57 to 0.15 million hectare from 2009-10 to 2015-16. Thus, from this picture it is clear that those farmers are involved in the cultivation of sunflower their prone to distress is more compared to the other commodities. Considering, these situation the small and marginal farmers were suffering more than the other farmers (See Table -8).

The cotton farmer's income reduces over the years because of the increase in the cost of production. Though, the rate at which MSP increases the cost of production is not increase in that much that is Rs 2500 to Rs 3800 and Rs 2111 to 3767 during the 2009-10 to 2015-16 (See Table- 9). So, these farmers also suffering from huge loss across the states. The vulnerability of the cotton farmers to prone to distress is quite manageable as compared to the other crop.

The Wheat farmers are quite profitable across the states, though the cost of production increases but at the same rate the MSP also increases. The profit per quintal and profit per hectare of wheat production is Rs 399 to 362 and 11328 to 11331 during the period of 2009-10 to 2015-16 (See Table - 10). The income of the marginal and small farmers also increasing from Rs 4418 to 4419 and Rs 16055 to 16089 during the 2009-10 to 2015 -16 where as in the same year the semi-medium and medium farmers were also earning more that is Rs 30698 to 30706 and Rs 65247 to 65264. Apart from that the area of production also increases from 28.46 million hectare to 30.04 million hectare. Therefore, across the states farmers involved in the wheat farmers quite profitable and the prone to distress among the farmers is quite low.

The cultivation of the Gram farmers is a profitable though the cost of production increases but the MSP increases more than that. The profit per quintal and the profit per hectare for the Gram farmers increases from Rs 119 to 398 and Rs 1089 to 3490 during the 2009-10 to 2015-16. While, in the same year income of the marginal and small farmers also increasing from Rs 425 to Rs 136 and Rs 1546 to Rs 4956 and the income of the others farmer's also increasing (See Table- 11). Due to the increase in the income of the farmers the area of production in million hectare also increases from 37.62 to 39.47 million hectare during the 2009-10 to 2015-16. However, these cultivators were getting benefitted by involving in these crop such that their vulnerability of the distress is quite low.

The percentage of the CAGR for the MSP and cost of production C₂ is 8.8 and 11.3 which revealed that the cost of production is more than that of remunerative prices (See Table -12). The income of the marginal and small farmers is little bit increases from Rs 1203 to 1310 and Rs 4380 to 4770 during the 2009-10 to 2015-16. In the same year medium and semi medium farmers were also earning more that is Rs8358 to Rs 9103 and Rs 17765 to Rs 19349. Thus, Barley farmers are getting benefitted such that the area of production in million hectare increases from 0.62 to 0.66 million hectare from 2009-10 to 2015-16.

The Safflower cultivator are suffering from saviour losses due to their cost of production is greater than that of the remunerative prices that is Rs 1884 to 3734 and Rs 1680 to 3300 during the 2009-10 to 2015-16. Consequently, in the same year profit per quintal and the profit per hectare declining over the years and also the income of the various categories of the farmers also declining across the states (See Table 13).

Therefore, it is concluded that both of the Kharif and Rabi crop farmers is quite getting profitable in the Rabi crop where as In the Kharif crop farmers are making huge losses. Apart from that out of the eight commodities in both of the crop the area of production in million hectare increases in those commodities in which the farmers are getting profitable and the area of production in the million hectare declining in which the farmers are making losses. However, it should be the great challenges for the policy makers to check the balance to both of the crop in order to provide better livelihood opportunities to the cultivators across the states. Thus, the distress situation of the farmers in the Kharif season is more as compares to the Rabi seasons. To provide better services to the agricultural sector in order to reduces the vulnerability of the farmers is a great challenged for the contemporary government. The farmers agitation due to the agrarian distress across the states should be the great challenged for the government. So, over the year the way farmers are distress across the states it should be the responsibility of the government to take appropriate policy measures for avert the situation and save the future agricultures.

Theoretically, the existing literature we found some of the important causes of agrarian distress among the farmers across the country they are (1) lack of irrigation facility, (2) drought and failure of rainfall, (3) natural calamities, (4) crop loss due to the inferior quality of the inputs, (5) Low MSP, (6) lack of marketing infrastructures, (7) market prices crash due to the bulk arrivals in the market or other exogenous factors, (8) mounting debt burden due to the lack of formal source of credits, (9) Failure of extension services to provide farm technology and immediate problems face by the farmers etc. However, these are the problem in the agrarian distress across the India for which many farmers across the states committed suicides especially Maharashtra, Andhra Pradesh, Kerala, Tamilnadu, etc. So, these issue is unabatedly a burning issue for the policy maker and the government after the 1960s to up to now.

Therefore, it is the responsibility of the government to take such policy initiatives to avert the agrarian distress and save the future agriculture. There are some of the remedies to be addressed to check the agrarian distress such as the assured source of the irrigation facility, availability of the quality inputs as a affordable prices, availability of the agricultural marketing, crop insurance facility, cold storage facility, food processing industry, advancement of the livestock sector, education and training services to the farmers in each villages such that any immediate pest and natural attack farmers can able to check their crop, easy and flexible MSP to the farmers by taking their crop by reaching door to door services across the states, increase the crop intensity etc. These are the some of the remedies which are to be very much helpful for the farmers to boost their agricultural production at a large scale and happy with the part of the agricultural workers across the states of India along with save the future agricultures.

Table 6: Income from Cultivation of Rice For Farmers from 2009-10 to 2015-16

year	commodities	price/qtls (inclusive of bonus)	Area(million hectares)	yield(Quintals/hectare)	production(million tonnes)	C2	Profit per Quintal	Profit per Hectare	Marginal	Small	Semi Medium	Medium	Large	All
2009-10	Rice	1050	37.62	20.18	75.92	645	405	8173	3187	11606	22149	47076	142045	9399
2010-11		1000	38.05	21.2	80.65	742	258	5470	2133	7767	14823	31505	95062	6290
2011-12		1080	40.14	23.11	92.78	888	192	4437	1730	6301	12025	25558	77117	5103
2012-13		1250	38.91	23.74	92.37	1152	98	2327	907	3304	6305	13401	40435	2675
2013-14		1310	39.45	23.19	91.5	1234	76	1762	687	2503	4776	10152	30631	2027
2014-15		1360	39.83	22.95	91.39	1267	93	2134	832	3031	5784	12294	37095	2455
2015-16		1410	39.47	22.95	90.59	1324	86	1974	770	2803	5349	11369	34303	2270
CAGR %		6.23	0.78	1.98	2.77	13.54	-23.8	-22.3						

Source: Authors Calculation

Table 7: Income from Cultivation of Moong For Farmers from 2009-10 to 2015-16

year	commodities	price/qtls (inclusive of bonus)	Area(million hectares)	yield(Quintals/hectare)	production(million tonnes)	C2	Profit per Quintal	Profit per Hectare	Marginal	Small	Semi Medium	Medium	Large	All
2009-10	Moong	2760	2.46	1.8	0.44	2705	55	99	39	141	268	570	1721	114
2010-11		3670	2.85	5.38	1.53	3109	561	3018	1177	4286	8179	17385	52456	3471
2011-12		4000	2.61	4.75	1.24	3373	627	2978	1162	4229	8071	17155	51762	3425

2012-13		4400	1.97	3.98	0.79	4699	-299	-1190	-464	-1690	-3225	-6855	-20683	-1369
2013-14		4500	2.34	4.1	0.96	4759	-259	-1062	-414	-1508	-2878	-6117	-18456	-1221
2014-15		4600	2.03	4.28	0.87	4971	-371	-1588	-619	-2255	-4303	-9146	-27597	-1826
2015-16		5050	2.68	3.57	0.96	5025	25	89	35	127	242	514	1551	103
CAGR %		8.9	-1.9	5.3	3.5	11.9								

Source: Authors Calculation

Table 8 : Income from Cultivation of Sunflower For Farmers from 2009-10 to 2015-16

year	commodities	price/qtls (inclusive of bonus)	Area(million hectares)	yield(Quintals/hectare)	production(million tonnes)	C2	Profit per Quintal	Profit per Hectare	Marginal	Small	Semi Medium	Medium	Large	All
2009-10	Sunflower	2215	0.57	3.78	0.21	1915	300	1134	442	1610	3073	6532	19709	1304
2010-11		2350	0.32	6.08	0.19	2257	93	565	221	803	1532	3257	9827	650
2011-12		2800	0.26	5.66	0.15	2795	5	28	11	40	77	163	492	33
2012-13		3700	0.3	6.22	0.19	3698	2	12	5	18	34	72	216	14
2013-14		3700	0.25	6.21	0.15	3679	21	130	51	185	353	751	2267	150
2014-15		3750	0.22	5.12	0.11	3863	-113	-579	-226	-822	-1568	-3333	-10055	-665
2015-16		3800	0.15	4.57	0.07	4114	-314	-1435	-560	-2038	-3889	-8265	-24940	-1650
CAGR%		10.6	-15.7	1.1	-14.5	13.9								

Source: Authors Calculation

Table 9: Income from Cultivation of Cotton For Farmers from 2009-10 to 2015-16

year	commodities	price/qtls (inclusive of bonus)	Area (million hectares)	Yield (Quintals/ hectare)	Production (million tonnes)	C2	Profit per Quintal	Profit per Hectare	Marginal	Small	Semi Medium	Medium	Large	All
2009-10	Cotton	2500	10.13	5.12	30.5	2111	389	1992	777	2828	5397	11472	34615	2290
2010-11		2500	11.24	5.13	33.9	2129	371	1903	742	2703	5158	10963	33078	2189
2011-12		2800	11.28	4.96	35.5	2528	272	1349	526	1916	3656	7771	23448	1551
2012-13		3600	11.98	5.25	37	2772	828	4347	1695	6173	11780	25039	75551	4999
2013-14		3700	11.96	5.66	39.8	3533	167	945	369	1342	2562	5444	16428	1087
2014-15		3750	12.82	5.04	38	3480	270	1361	531	1932	3688	7838	23651	1565
2015-16		3800	11.86	5.23	36.5	3767	33	173	67	245	468	994	3000	198
CAGR%		8.7	2.9	0.6	3.2	11.5	-26.2	-25.8						

Source: Authors Calculation

Table 10: Income from Cultivation of Wheat For Farmers from 2009-10 to 2015-16

year	commodities	price/qtls (inclusive of bonus)	Area(million hectares)	yield(Quintals/hectare)	Production (million tonnes)	C2	Profit per Quintal	Profit per Hectare	Marginal	Small	Semi Medium	Medium	Large	All
2009-10	Wheat	1100	28.46	28.39	80.8	701	399	11328	4418	16085	30698	65247	196874	13027
2010-11		1170	29.07	29.89	86.87	826	344	10282	4010	14601	27865	59225	178704	11824
2011-12		1285	29.86	31.77	94.88	927	344	11374	4436	16151	30823	65512	197674	13080
2012-13		1350	30	31.17	93.51	1066	284	8852	3452	12570	23990	50989	153853	10180
2013-14		1400	30.47	31.45	95.85	1109	291	9152	3569	12996	24802	52715	159061	10525
2014-15		1450	31.47	27.5	86.53	1147	303	8333	3250	11832	22581	47995	144819	9582
2015-16		1525	30.04	31.3	94.04	1163	362	11331	4419	16089	30706	65264	196926	13030
CAGR%		5.5	1.2	0.4	1.6	8.8	-2.5	-2.2						

Source: Authors Calculation

Table 11 : Income from Cultivation of Gram For Farmers from 2009-10 to 2015-16

year	commodities	price/qtls (inclusive of bonus)	Area(million hectares)	yield(Quintals /hectare)	Production (million tonnes)	C2	Profit per Quintal	Profit per Hectare	Marginal	Small	Semi Medium	Medium	Large	All
2009-10	Gram	1760	8.17	9.15	7.48	1641	119	1089	425	1546	2951	6272	18924	1252
2010-11		2100	9.19	8.95	8.22	1902	198	1772	691	2516	4802	10207	30799	2038
2011-12		2800	8.3	9.28	7.7	2121	198	6301	2457	8948	17076	36294	109513	7246
2012-13		3000	8.52	10.36	8.83	2328	672	6962	2715	9886	18867	40101	120998	8006
2013-14		3100	9.93	9.6	9.53	2865	235	2256	880	3204	6114	12995	39209	2594
2014-15		3175	8.25	8.89	7.33	2981	194	1725	673	2449	4674	9934	29975	1983
2015-16		3500	8.52	8.77	7.48	3102	398	3490	1361	4956	9459	20105	60664	4014
CAGR%		11.3	0.3	-0.4	-0.1	11.7	14.3	9						

Source: Authors Calculation

Table 12: Income from Cultivation of Barley For Farmers from 2009-10 to 2015-16

year	commodities	price/qtls (inclusive of bonus)	Area(milli on hectares)	yield(Quintal s/hectare)	Production (million tonnes)	C2	Profit per Quintal	Profit per Hectare	Marginal	Small	Semi Medium	Medium	Large	All
2009-10	Barley	750	0.62	21.72	1.35	608	142	3084	1203	4380	8358	17765	53604	3547
2010-11		780	0.71	23.57	1.66	677	103	2428	947	3447	6579	13984	42194	2792
2011-12		980	0.64	25.16	1.62	734	103	6189	2414	8789	16773	35651	107571	7118
2012-13		980	0.7	25.21	1.75	862	118	2975	1160	4224	8062	17135	51702	3421
2013-14		1100	0.67	27.18	1.83	1035	65	1767	689	2509	4788	10176	30705	2032
2014-15		1150	0.71	22.8	1.61	1065	85	1938	756	2752	5252	11163	33682	2229
2015-16		1225	0.66	24.7	1.62	1089	136	3359	1310	4770	9103	19349	58383	3863
CAGR%		8.8	0.8	1.4	2.2	11.3	-3.4	-5						

Source: Authors Calculation

Table 13: Income from Cultivation of Safflower For Farmers from 2009-10 to 2015-16

year	commodities	price/qtls(inclusive of bonus)	Area (million hectares)	Yield (Quintals/hectare)	Production (million tonnes)	C2	Profit per Quintal	Profit per Hectare	Marginal	Small	Semi Medium	Medium	Large	All
2009-10	Safflower	1680	0.29	6.21	0.18	1884	-204	-1267	-494	-1799	-3433	-7297	-22018	-1457
2010-11		1800	0.24	6.17	0.15	2038	-238	-1468	-573	-2085	-3980	-8458	-25522	-1689
2011-12		2500	0.25	5.8	0.15	3322	-238	-4768	-1859	-6770	-12920	-27461	-82861	-5483
2012-13		2800	0.18	5.91	0.11	3338	-538	-3180	-1240	-4515	-8617	-18314	-55261	-3657
2013-14		3000	0.18	6.38	0.11	3501	-501	-3196	-1247	-4539	-8662	-18411	-55553	-3676
2014-15		3050	0.17	5.15	0.09	3685	-635	-3270	-1275	-4644	-8862	-18837	-56837	-3761
2015-16		3300	0.14	4.37	0.06	3734	-434	-1897	-740	-2693	-5140	-10924	-32963	-2181
CAGR%		12.4	-10.8	-4.6	-15.2	12.5								

Source: Authors Calculation

References

- Addressing the Agrarian Crisis in Punjab: Role of Agro-markets and Policy* | *Economic and Political Weekly*. (n.d.). Retrieved April 15, 2023, from <https://www.epw.in/journal/2017/3/special-issues/addressing-agrarian-crisis-punjab.html>
- Agrarian Distress: Strategies to Protect Vulnerable Sections*: | *Economic and Political Weekly*. (n.d.). Retrieved April 15, 2023, from <https://www.epw.in/journal/2004/52/review-agriculture-review-issues-specials/agrarian-distress-strategies-protect>
- Assadi, M. (1998). Karnataka- Farmers Suicides-Signs of Distress in Rural Economy. *Economic and Political Weekly*. <https://www.semanticscholar.org/paper/Karnataka-Farmers-Suicides-Signs-of-Distress-in-Assadi/bea73270b44f81ccac3c5afbf2432dd3d201e042>
- Deshpande, R. S. (2002). Suicide by Farmers in Karnataka: Agrarian Distress and Possible Alleviatory Steps. *Economic and Political Weekly*, 37(26), 2601–2610.
- Farmers' suicides and the state in India: Conceptual and ethnographic notes from Wayanad, Kerala—Daniel Münster, 2012*. (n.d.). Retrieved April 15, 2023, from <https://journals.sagepub.com/doi/10.1177/006996671104600208>
- Gill, S. (2005). *Economic Distress and Farmer Suicides in Rural Punjab*.
- KARNATAKA- Farmers Suicides-Signs of Distress in Rural Economy*: | *Economic and Political Weekly*. (n.d.). Retrieved April 15, 2023, from <https://www.epw.in/journal/1998/14/commentary/karnataka-farmers-suicides-signs-distress-rural-economy.html>
- Mishra, D. (2006a). *Behind Agrarian Distress: Interlinked Transactions as Exploitative Mechanisms*.
- Mishra, D. (2006b). *Behind Agrarian Distress: Interlinked Transactions as Exploitative Mechanisms*.
- Nair, K. N., & Ramakumar, R. (n.d.). *AGRARIAN DISTRESS AND RURAL LIVELIHOODS A STUDY IN UPPUTHARA PANCHAYAT IDUKKI DISTRICT, KERALA*.
- Nair, K. N., & Ramakumar, R. (2007). Agrarian distress and rural livelihoods: A Study in Upputhara panchayat Idukki district, Kerala. *Centre for Development Studies, Trivendrum Working Papers*, Article 392. <https://ideas.repec.org/p/ind/cdswpp/392.html>
- Rao, P. N., & Suri, K. C. (2006). Dimensions of Agrarian Distress in Andhra Pradesh. *Economic and Political Weekly*, 41(16), 1546–1552.
- Sajjad, H., & Chauhan, C. (2012). Agrarian distress and indebtedness in rural India: Emerging perspectives and challenges ahead. *Journal of Geography and Regional Planning*, 5, 397–408. <https://doi.org/10.5897/JGRP11.107>
- Swaminathan MSP : Solution to Agrarian Crisis and Farmers' Distress?* | *Economic and Political Weekly*. (n.d.-a). Retrieved April 15, 2023, from <https://www.epw.in/journal/2015/33/commentary/swaminathan-msp.html>
- Swaminathan MSP : Solution to Agrarian Crisis and Farmers' Distress?* | *Economic and Political Weekly*. (n.d.-b). Retrieved April 15, 2023, from <https://www.epw.in/journal/2015/33/commentary/swaminathan-msp.html>
- Vasavi, A. R. (1999). Agrarian Distress in Bidar: Market, State and Suicides. *Economic and Political Weekly*, 34(32), 2263–2268.