Chapter-08

Findings and Conclusion

8.1 Salient Findings from Secondary Data
8.2 Salient Findings from Primary Data
8.3 Conclusion
8.1 Salient Findings from Secondary Data

* A large number of farmers suicides have been reported from the states which are; a) relatively agriculturally developed, b) which have seen strong peasant movements either during the colonial period or after independence, and c) where leadership of political parties comes predominantly from farming community of the rural areas.

* The worst affected states of farmers suicides are Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Maharashtra, Gujarat and Punjab.

* The minimum support prices for several crops for several years have been below the actual cost of cultivation.

* Household expenditure on agricultural operations, education, health and consumption shot up sharply, whereas the returns from cultivation remained stagnant and sometimes the same has been even negative.

* Punjab faced a major problem of militancy but even during the same period the agriculture sector of the state was growing at 5 per cent per annum while national growth rate was 3 per cent.

* The transformation put villagers closer to the urban life and economy and this became one of the reasons for increasing consumption expenditure of rural society.

* During the 1990s, an implementation of the new economic policy forced farmers to enter into open market operations and compete with developed countries.

* There has been a sharp increase in cultivation expenditure during the post reforms period due to the decontrolled inputs market and heavy use of pesticides and fertilisers.
* Increase in the share of informal sector up to 61.31 per cent in total supply of credit in Punjab. ‘Arthias’ (commission agent) were observed to be the major source of credit for farmers in the state.

* In Punjab the money was borrowed both for the ‘productive’ (41%) and ‘unproductive’ (59%) purposes. The tendency of unproductive borrowing was highest among marginal farmers (71%) and for big farmers it was 48 per cent.

* It is found from the cropping pattern of Vidarbha region that Cotton is the predominant crop and it is followed by Soyabean and Tur (Arhar).

* Government of India removed the quantitative restrictions on imports and also reduced the import tariffs from 35 per cent to 5 per cent during a period of 1998-2001 and also slashed the subsidies that were given to agriculture sector of the country. On the other hand subsides given by the developed countries particularly the U.S.A. to their farmers continued and caused reduction in the Cotton prices by 50 per cent in the international market.

* Co-operative sector is the dominant source of credit to farmers of the state as compare to all India level. Vidarbha and Marathwada did not receive sufficient benefits of the movement. After the 1990s, the period of financial liberalization, the public sector banks became more profit oriented than earlier times.

* Private moneylenders became more powerful in the rural parts and captured the rural economy. Because either they are input dealers, traders or the sellers of the daily needs and commodities.

* In Vidarbha some school teachers are also involved in private money lending business and it is a new category of the money lenders.
* Indebtedness, economic downfall, family discords, crop failure, deterioration in social status, marriageable daughter/sister, occurrence of suicide in nearby villages, addictions (alcoholism, gambling), change in behaviour, disputes with neighbours or others, death of family member before the incidence, suicide history in family, chronological illness of family members are the major risk factors for the distress act of suicides by the farmers in Maharashtra.

* Though the agrarian crisis and indebtedness are the two important factors which force farmers to take an extreme step of suicide in the countrywide, the reasons behind it are different in different states/regions.

* During the period of 1992-2002 seed prices increased by 400 per cent and similar trend in the prices of fertilizers and pesticides was found. Which was highest in Andhra Pradesh as compare to other states in the country. Whereas the output prices did not increase in proportionate of input prices.

* The use of pesticides is highest in Andhra Pradesh as compare to other states in India. State alone consumes 45 per cent of total pest controlling pesticides in the country and most of the same is for the purpose of Cotton.

* Urban based economic and developmental policy of the state government hunted farming community and rural economy of the country.

* The rising cost of cultivation, imperfect market structure, negligence by the government are found the reasons for crisis and thereby farmers suicides in the state of Kerala.

* Agrarian crisis was observed to be of multidimensional but international price fluctuation was found as a dominating cause of distress.
* Farmers with the lowest level of assets were more affected than farmers with larger holdings and more assets. It means the reforms policies hunted both the small and marginal farmers of the state.

* Substantial dislocations of livelihoods pushed a community to despair and eventually suicides in Andhra Pradesh.

* The agrarian crisis is saturated in Telangana and Railseema districts of the state from where most of the suicide cases have been reported.

* An introduction of capital intensive techniques in agriculture and the opening of the seed industry to the Multinational Corporations (MNCs) affected Indian agriculture badly.

* It has been widely acknowledged that the act of farmers suicides is rooted in the endemic neglect of the farming sector in the state of Andhra Pradesh particularly during the post reforms period.

* The lack of irrigation facilities and institutional credit mechanism available to small and marginal farmers and their over dependence on private moneylenders has further aggravated the crisis.

* The loss making cultivation, high cost paid inputs, increasing consumption expenditure and also expenditure for maintaining social status and unavailability of institutional credit are the responsible factors for the distress act of suicides by farmers in the state of Maharashtra.

* The successive droughts and the irrigation backlog are causes of the distress in agriculture sector of Andhra Pradesh.

* The distress got compounded by the virtual withdrawal of public support of institutional credit and research and extension during the post reforms period.
* Majority of the farmers committing suicides belong to a small and marginal category of holding pattern. It means the small and marginal farmers have entered the arena of high risk commercial farming in the hope of salvaging themselves.
* The general suicide rate in Kerala is highest in India. It is almost three times more than national average.
* Heavy use of fertilizers and pesticides has been one of the reasons of decline in productivity of agriculture. Which also resulted into environmental degradation.
* The change in cropping pattern from food-grains to commercial crops and thereby increase in the cost of cultivation and marginal remuneration with the minimum support of an institutional credit mechanism was the root cause of agrarian distress in the state of Maharashtra.
* Cost of cultivation increased because of higher use of fertilizers, pesticides and for the irrigation facilities at individual farm level. Failure of input-output markets and the dominance of the middlemen in price determination caused the declining profitability from cultivation.
* Incidence of suicide is high among the first generation farmers belonging to the backward (dalit) communities.
* The spate of farmers suicides was naturally associated with the performance of the sector, along with the other factors that were prominent including advent of WTO, GM varieties of crops, price collapse and spurious seeds.
* The situation became worse during the period of the 1990s which has been due to the changes in market situation, weather inflicted
uncertainties at the end of the decade and systemic fall in the credit delivery system.

* In Karnataka the problem of indebtedness is acute specifically in the rainfed regions of the state and also in the areas that have some potential for growth.

* The technological changes and crop diversification is found as the root cause of agrarian crisis and also the social and psychological factors have been instrumental in deteriorating the situation.

* Agrarian crisis has been most intense in states where the State governments have most actively pursued neo-liberal economic agendas of the post 1990s.

* Financial and trade liberalisation affected the cultivation, credit, trade and rural livelihoods. The main cause of this distress act is dominantly related to public policy in general and that of post reforms in particular.

* There is no direct relationship between institutional credit, indebtedness and suicides in rural Punjab. But there is a positive relationship between non-institutional credit and indebtedness of the farmers of the state.

* It is the failure of the institutional setup in the state of Punjab in supplying credit commensurate with demand that is mainly responsible for the crisis and its manifestation in the form of suicides.

* Farmers who have committed suicides have been the market-oriented autonomous farmers belonging to different social groups or background.

* The public investment in agriculture over the last two decades has drastically come down and the budgetary allocation didn’t cross the limit of two per cent of the total budget.
* In Karnataka initially the farm suicides were confined in the northern parts of the state; later it began to envelop other districts which included the irrigated areas also.

* The debt of the farmers of Karnataka who committed suicide was not uniform and it varied from Rs.5000 to Rs.50,000 and the reasons for the loan were also multiple.

* From 1987 to 1992, the credit availability to agriculture sector at national level by nationalized banks stagnated at 11.7 per cent. As a result, there is an increase in a share of non-institutional sources in agriculture credit disbursement and thereby the growing indebtedness of the farmers.

* Non-inclusion of irrigation has been the major factor for the tragedy of farm suicides in the rural part of the state of Andhra Pradesh.

* It was the politics and economics of negligence of rural economy of Andhra Pradesh for over a period of one decade that is one of the important causes of suicide by farmers.

* The backlog of irrigation, lack of electricity, spurious seeds, high cost of inputs, low credit availability from the institutional sources mainly the nationalized banks and thereby increasing dependence on informal credit sources at exorbitant rates of interest and market failures have been observed the causes of farm distress and suicide by farmers in the Vidharbha region of Maharashtra state.

* It is painful to observe that the foodgrain output grew only at 0.11 per cent per annum which was far below the growth of population for a long time.
* The non-food crops dominated the growth in the crop economy during 1949-65 and the growth in the production of food crops came mainly through the expansion of area and not through the productivity.

* The food-grains growth decelerated from 2.85 per cent in the 1980s to 1.16 per cent during the post reforms period. This was lower than the rate of growth of population of 1.9 per cent during the same period.

* While the annual yield growth for all crops taken together decelerated from 2.56 per cent during the eighties to 0.90 per cent during the later period, for Rice the yield growth rate decelerated from 3.47 per cent to 0.99 per cent and for Wheat from 3.10 per cent to 1.35 per cent.

* In case of Cotton, the yield growth rate has gone down from 4.10 per cent during the 1980s to -0.69 per cent during the 1990s i.e. for the reforms period.

* At the initial stage only 18.1 per cent of the total area under food-grains had irrigation coverage. This was increased later but very slowly. At present at all India level 46.8 per cent of the total area under food crops is under irrigation. Still 54.2 per cent of the area is out of the reach of institutional and individual irrigation.

* The average gap between the cost of cultivation and support prices for the year 2005-06 was about 38 to 50 per cent. However the gap between the recommended prices from state government and prices announced by CACP is around 50 to 55 per cent.

* For the year 2010-11 the support price for Cotton was Rs.3000/- per quintal and market price during the period was observed around Rs.4500/-.
* At all India level over the period from 1960-61 to 2003, the number of holdings doubled from 51 to 101 million, while the area operated declined from 133 to 108 million hectares.

* In states like Tamil Nadu, Andhra Pradesh, Punjab, West Bengal, Harayana, Maharashtra and Karnataka the proportion of landless households abnormally gone up after the period of 1986-87.

* The area operated was declined from 133.48 million he. to 107.55 million he. between 1960-61 and 2003-04. As well as the average size of holding reduced from 2.63 he. to 1.06 he. during the period of 1960 to 2003.

* The growth rate of GDP from agriculture decelerated from 3.08 per cent during 1980-81 to 1990-91 to 2.61 per cent in 1992-93 to 2002-03.

* The growth of agriculture GSDP shows declining trend from 3.05 to 2.19 per cent for the period of 1983-84 to 2003-04.

* In Maharashtra agriculture GSDP dwindled from 5.39 to 1.27 per cent whereas, GSDP decreased from 7.43 to 4.92 per cent.

* GSDP of West Bengal was increased from 4.73 to 7.03 per cent during the post reforms period which was quite higher than national average.

* From 1996-97 onwards total public and private investment in Indian agriculture has declined substantially and increased slightly for 1999-00. For the subsequent period of 1999-00 to 2004-05 the situation brings out overall fluctuating trend.

* The trend of capital formation in agriculture sector shows that it was declined from 7.8 to 7.1 per cent during the period of 2004-08, which is known as the period of agrarian crisis and farmers suicides.
* The interesting fact is that the share of public sector in Gross Capital Formation was declined from 6.7 to 6.1 per cent while the share of private sector in GCF increased from 8.1 per cent to 10.3 per cent.

* During the period of tenth plan the ratio of actual expenditure on agriculture to total plan expenditure declined to 10.63 per cent from the earlier 18.83 per cent i.e. ninth plan.

* During the plan period of 9th to 11th, the actual expenditure on agriculture and allied activities never crossed the limit of 5.3 per cent of the total plan outlay.

* The budget expenditure on agriculture and allied sectors increased by around 25 per cent averagely up to the year 2007-08, and again it was declined by 27.46 per cent in 2008-09.

* Institutional credit expanded rapidly during the post bank nationalization period from Rs.1,675 crore in 1975-76 to Rs.1,80,486 crore in 2005-06.

* Number of banks both in public and private sector achieving the statutory target of 18 per cent lending for agriculture between March 2001 and March 2003 has not been more than six (Public Sector) and two (Private Sector) respectively.

* The states of Andhra Pradesh, Tamil Nadu, Punjab, Kerala, Karnataka and Maharashtra are more affected of the poor performance of public sector banks than rest of the states with percentage of farm indebtedness as; 82, 74.5, 65.4, 64.4, 61.6 and 52.8 per cent respectively.

* Agriculture credit to total bank deposit ratio for a state like West Bengal has been lowest among others with just 3.3 per cent whereas for states like
Bihar and Uttar Pradesh it decelerated from 9.2 to 5.4 and 10.1 to 6.3 per cent during the period of 1981 to 2000.

* Deducting the all India household average annual income from cultivation (Rs.11628.00) from the annual household cultivation expenditure (Rs.8791.00) the average annual household net income remains Rs.2837 which is available for the family maintenance.

* Productivity of Punjab worker was Rs.35,000/- this is 7.5 times that of Bihar. In Maharashtra, productivity of non-agricultural worker was 11.71 times higher than agricultural worker.

* The share of institutional sources in cultivators’ debt improved considerably after the nationalization of banks, from 32 per cent in 1972 to 66 per cent in 1991.

* After the introduction of new economic policy, commercial banks reduced credit flow to agriculture from 35.2 per cent to 26.3 per cent.

* The share of co-operatives in total agricultural lending was 30.2 per cent in 2002 with increase of 0.66 per cent over 1991.

* The share of co-operatives in farmers suicides affected states was very low i.e. Karnataka- 16.9, Andhra Pradesh- 10.4 and in Punjab – 17.6 per cent. Only Maharashtra among the suicide affected states has 48.5 per cent share of co-operatives in agricultural lending.

* The share of non-institutional lending was high in Andhra Pradesh with 68.5 per cent, higher than of national average of 42.4 per cent.

* In recent survey of the NSSO (2005) 41 per cent of farmers have shown willingness to leave the agriculture if they have other opportunity of employment available.
* The outstanding debt of the sub-marginal land holder (less than 0.40 hectares) is mostly financed by the non-institutional agencies.

* At the all India level the debt for productive purposes as a per cent of total debt declined from 72 per cent in 1981 to 63 per cent in 2002. Similarly the share of debt incurred for farm business declined from 64 per cent in 1981 to 53 per cent in 2002. The share of capital expenditure declined from 45.3 per cent to 34.3 per cent.

* At all India level the ten year period between 1997 and 2006 as many as 166304 farmers ended their lives through committing suicide.

* At all India level year 1998 shows a sharp increase in the number of farm suicides with 18 per cent jump from the previous year and the number remained more or less steady at around 16000 farm suicides per year over the next three years up to 2001.

* In India the average number of farm suicides per year in five year period of 2002-2006 stood at 17,513 which is substantially higher than the average of 15747 for the previous five year period.

* Considering the period of 1997-2006 as a whole, close to 85 per cent of all the farm suicides were by male farmers and every fifth male suicide in the country was a suicides by farmers.

* It was noted that the criterion generally adopted in government records for identifying the farmer is mainly the title to land and since the title is generally in the name of the male head of the household it is very likely that a female farmers who committed suicides were not recorded as a farmer suicide in these records.
* In Kerala the area under Pepper has been substantially increased by 102.56 per cent during the period of 1970-71 to 2005-06 and the spate of farmers suicides was also concentrated among the Pepper growers.

* The area under major cash crops is accounted for 60 per cent of the gross cropped area in the state of Kerala.

* More than 80 per cent of area and production of Coffee of Kerala is in Wayanand district, while Idukki district with a share of 11.31 per cent as a distant second. The 48 per cent of the total area under Pepper is also concentrated in these two districts of the state. Similarly, 67.55 per cent of the area under Tea cultivation falls in Idukki district. Also the farmers suicides in Kerala are concentrated in these two districts.

* Among the farm households, the incidence of indebtedness was higher in Kerala at 64.4 per cent as against the national average of 48.6 per cent.

* In Kerala in 2003, 82.3 per cent of the outstanding loans of farm households were obtained from formal agencies, which is considerably higher than the national average of 57.7 per cent.

* The dependence on moneylenders for borrowing has been lower in Kerala, which was only 7.4 per cent as against the national average of 25.7 per cent.

* In Kerala, only 21.4 per cent of the loan was taken for the cultivation practices as against the national average of 58.4 per cent.

* The suicide rate in Kerala both for the male and female has increased substantially after the year 1995.

* The suicide mortality rate both for male and female in Kerala is higher than national average. The suicide mortality rate for male is higher than female and has been increasing after the year 1996.
* The proportion of landless households (52.3 per cent) in the state of Andhra Pradesh was higher than the national average of 40.9 per cent in 1999-2000.
* In Andhra Pradesh the share of agriculture and major crops in the GSDP had declined during the period of 2001-02. The agriculture production was declined by 32 per cent in 2002-03 which was highest since 1993-1994.
* The year wise percentage change has shows volatility in output prices. Decadal price changes for Paddy- 77.41%, Cotton- 91.66 % / 83.33% and Groundnut- 75%. The average increase of output prices was around 80%, but the input prices were increased by 400% between 1993 to 2002 in Andhra Pradesh.
* The share of agriculture and allied activity in state government expenditure of Andhra Pradesh under various plans has declined from 11.8 per cent to 2.15 per cent during 1980-2003. The overall decline is - 81.74 per cent.
* In Andhra Pradesh during the year 1990-1991, 1993-94, 2001-2002 the plan expenditure on agriculture was declined by 62.47, 99.63 and 54.73 per cent respectively.
* In the state of Andhra Pradesh in 1998-2000 actual term loan was 113.65% and 126.45% of targeted amount. After that, it hardly crosses 50 per cent of targeted amount.
* The share of credit disbursed by co-operatives in Andhra Pradesh has come down from 44.3 to 34.7 per cent. However, the shares of Regional Rural Banks and Commercial Banks have increased by 1.7 and 8 per cent respectively for the year 1992-2001.
* The share of moneylenders (53.4 %) in total credit to rural households in Andhra Pradesh was two times higher than the national average of 25.7 per cent.

* Suicide Mortality Rate for male was higher than female in Andhra Pradesh at all India level. After 1989 SMR for male in Andhra Pradesh was higher than the national average.

* The ratio of farmers SMR to non-farmers SMR in Andhra Pradesh is found more than one for male during the mentioned period (1995-2001).

* The total number of landholdings in Punjab declined from 1375392 ha. in 1971 to 1027127 ha. in 1981 and again it has increased in 1991 and declined in 1995.

* The share of Commercial banks in total agricultural lending had increased during the above cited period (1970-2003).

* The institutional credit is the main source of the credit to the farmers. But, during the post reforms period the flow of institutional credit for Punjab farmers was limited only to the big farmers.

* In Punjab the share of non-institutional sources in agricultural lending increased substantially. The moneylenders charged higher rates of interest from 36 per cent to 120 per cent per annum therefore the principal amount becomes double within a short span of time. Around 52.1 percent of farmers are indebted through non-institutional sources.

* In Punjab Suicide Mortality Rate for male and female is lower than national average. But on the other hand SMR for farmers and the ratio of farmers to non-farmers is also high.

* The state was grown at an average of 7.9 per cent; it is 1.6 per cent higher than the national average during the period of 1993-94 to 2000-
2001. Agrarian economy saw the negative growth rate of -14.5 per cent in 2001-02, 0.8 per cent in 2002-03 and -1.8 per cent in 2003-04, an average growth rate of -3.6 per cent in the state of Karnataka.

* In Karnataka the ratio of agricultural credit to total bank credit was 24.5 per cent during the period 1986-90 and declined to 16.9 per cent by 1996-2000.

* For Karnataka the share of agriculture and allied activities in the total priority sector credit has come down from 43 per cent to about 26 per cent.

* The total priority sector advances increased by 104.58 per cent during 2001-2005 in Karnataka.

* The credit flow for agriculture and allied activities increased by 109 per cent while for other priority sector it is increased by 352.44 per cent for the period 2001-2005 in Karnataka.

* The share of crop loan to total priority sector credit of Karnataka has come down from 51 per cent in 2000-01 to 41 per cent in 2004-05.

* Around 68.9 per cent of farmers are in debt through institutional sources in Karnataka. Also the farm indebtedness is directly linked with the productive purposes, 78 per cent of farmers are in debt due to increase in farm expenses in Karnataka, while at national level it is 65.1 per cent.

* In Karnataka the trend of farmers suicides was continuously high till 2000, where 2630 farmers ended their lives through committing suicides but after that it started to decline in the next year, and settled on 2340 in 2002.
* At the initial stage the rate of farmers' suicides was quite high which shows around 12 per cent of the total incidences of suicides in Karnataka. Later it reduced to 7.82 per cent in 2006.

* According to the National Crime Record Bureau (NCRB) record in Karnataka 1963, 1883, 1720 farmers have committed suicides in the year 2004, 2005 and 2006 respectively.

* The contribution of agriculture and allied sector to the net state domestic product at current prices came down from 40 per cent in 1960-61 to 13 per cent in 2004-05. Where as per the 2001 census 55 per cent of the total work force were either cultivator or agricultural labourers in the state of Maharashtra.

* The growth rate of the Gross State Domestic Product of Maharashtra (GSDP) at 4.8 per cent was lower than that of India’s Gross Domestic Product (GDP) (5.8 per cent per annum) for the period of 1993-94 to 2003-04.

* In Maharashtra the eight major crop groups in terms of gross area under cultivation are Cereals with nearly half of it under Jowar, Pulses (3/10 under Tur), Fiber (mostly Cotton), Oil Seeds (nearly half of it under Soyabean), Sugar cane, Fruits and Vegetables, Condiments, Spices, Drugs and Narcotics etc.

* The total per hectare cost of cultivation of Cotton in Maharashtra which was Rs. 716.32 in 1981-82 went up to Rs. 6,341.18 in 1995-96 in real terms. Similarly the cost of cultivation of Jower rose to Rs. 2,118.87 in 1995-96 from Rs. 716.32 in 1981-82.

* For Maharashtra the productivity of Cotton for the year 2007 was 253 kg. per hectare which was below the national average of 279 kg. per
hectare and the productivity of sugarcane was 29 metric ton which was also below the national average of 43 metric ton.

* Averagely 60.23 per cent of the gross cropped area is under the food-grains. It proves the fundamental principle of Indian agriculture of ‘livelihood agriculture’.

* In Maharashtra, Konkan region has the highest rainfall of 2801mm which is followed by Vidarbha with 970mm during the month of June to September. Whereas, central Maharashtra and Marathwada the rainfall is 743mm and 706mm respectively.

* In Maharashtra in the year 2004 actual rainfall was only 70 per cent of the normal rainfall. The year 2004 was the drought year for the state as a whole but the severity of the same was high in Vidarbha region of the state.

* Around 73 per cent of is Sugarcane produced in the Drought Prone Area Programme (DPAP) of Maharashtra which is about the most water intensive crop.

* The net and gross irrigated area is near about constant and never crossed the limit of 20 per cent of gross cropped area in the state of Maharashtra.

* Maharashtra has around 30 lakh Cotton growers and it accounts for 15 to 20 per cent of the total Cotton output in India.

* Only 3 per cent of the area under Cotton is irrigated while 97 per cent of area of Maharashtra depends on uncertain monsoon.

* While all India yield of Cotton was 191 kg. per he. in 2000-01, where as the yield in Maharashtra during the same period was 100 kg per hectare.
* In Maharashtra there has been an increase in the area under Cotton from 27.66 lakh hectare in 2003-04 to 29.80 lakh hectare in 2004-05, which was propelled by a higher open market prices for Cotton in 2003-04.

* In Maharashtra the yield of Cotton grew by 55.49 per cent in 2004-05 further it was declined to 8.75 per cent in the year 2005-06.

* In Maharashtra only 16.2 per cent of farmers borrow the money from non-institutional sources. It is on record but in fact around 85 per cent of the farmers are in the trap of the non-institutional credit mechanism.

* The outstanding debt of the sub marginal land holder (less than 0.40 hectare) households was financed mostly by non-institutional agencies in Maharashatra.

* Indebtedness for productive purposes was substantially high in the state of Maharashtra (80.2 per cent) as against 19.8 per cent for unproductive purposes.

* The backlog of Vidarbha region is highest with 39.12 per cent followed by rest of the Maharashtra 37.32 per cent and Marathwada of 23.56 per cent. In the total financial backlog the share of Vidarbha was highest with Rs.124654.5 lakhs (39.12 per cent).

* The report of Indicator and Backlog Committee in Maharashtra arrived at the conclusion that the financial backlog of the Vidarbha region has increased substantially from 39.12 to 47.60 per cent. In which the situation of the irrigation was worse, the irrigation backlog increased from 38.05 to 55.04 per cent.

* The financial backlog of the rest of the Maharashtra declined from 37.02 to 24.12 per cent and for Marathwada it increased from 23.56 to 28.77 per cent.
* At the earlier stage, the number of incidences of suicides was less, but among them Vidarbha region has been at the top. Afterwards the spate of farmers suicide spread all over the state of Maharashtra also covering irrigated regions and cash crop growing farmers of the state.
* The most noticeable aspect is that the districts consisting tribal population i.e. Dhule, Nandurbar, Chandrapur, Gadchiroli, Gondia, Bhandara have reported less number of incidences of farmers suicides. Which proves that the poor have less inclination to commit suicide.
* The proportion of the victims’ families who were eligible for the state compensation of Rs.1 lakh was higher in Western Maharashtra as compare to Vidarbha and Marathwada regions of the state.
* In Maharashtra the annual compound growth rate of an exceedingly high figure of 9.8 per cent for farm suicides, here a rate at which the number would double every 7-8 years.
* Considering the period 1997-2006 as a whole, every fifth farm suicide committed in the country occurred in the state of Maharashtra.
* In 2001 Maharashtra constituted about 9.4 per cent of all India population but accounted for 13.5 per cent of the total suicide deaths in the country. Suicides accounted for 2 per cent of the total deaths in the state whereas at all India level suicides, accounted for 1.3 per cent of the total deaths.
* In 2001 the age adjusted suicide mortality rate for Maharashtra was 20.6 for males and 12.6 for female whereas for India it was 14.0 for males and 9.5 for females.
* In Maharashtra, the age adjusted SMR for males increased from 17.4 in 1995 to 20.3 in 2004 and that for females decreased from 13.6 in 1995 to 10.8 in 2004.

* The total number of farmers suicides in Maharashtra increased from 1083 in 1995 to 4147 in 2004. The increase was largely because of a 288 per cent increase in male farmers suicides from 978 to 3799.

* During this period, male farmers suicides as a proportion to total male suicides in Maharashtra increased from 14 per cent to 38 per cent. The SMR for farmers increased by nearly four times from 15 in 1995 to 57 in 2004, but for females the trend fluctuated to reach a peak of 12 in 2001 and thereafter it has been declining.

* The SMR for farmers of Maharashtra across divisions of the state during 2001-04 indicates relatively higher suicide deaths than the state average for males in Amravati and Nagpur divisions and for females in Amravati, Aurangabad and Nasik divisions.

* Nagpur has the higher SMR for farmers, which is lower only than in Amravati, but the ratio of farmers to age adjusted SMR is much lower.

8.2 Salient Findings from Primary Data

*The composition of the surveyed households is; Maratha- 32.5%, Kunbi (Maratha)- 20.5%, Nav Baudha- 6.5%, Other Backward Class-14%, STs-1%, SCs- 1%, Muslim- 2.5%, VJNT- 22%.

* About 53 per cent of farmers affected by agrarian crisis and suicide belong to the Maratha (Maratha+Kunbi Maratha) community which is predominantly a farming community in the state of Maharashtra.

* In the Family set up of affected households 52.5 per cent of families are joint families and 47.5 per cent belonged to the nuclear family set up.
Hence there is no correlation of high degree between the suicidal act and type of the family.

* On an average, family consisting four persons are found in case of 88.5 per cent of the affected households which is termed as an ideal size of family.

* Among the total surveyed families 63.74 per cent of the family members have completed their primary and secondary education whereas 15.39 per cent are illiterate.

* 9.93 per cent of the family members have completed the higher secondary education and 3.06 per cent have the graduation and technical education diploma.

* Field level data revealed that 33.58 per cent of the family members of surveyed households are engaged in actual cultivation practices whereas 55.91 per cent are as farmers plus agricultural labourers.

* 2.67 per cent are doing business, 1.33 per cent are in Government services, 1.71 per cent work in private services and 4.77 per cent are working as farm labourers.

* It is found that there is a lack of off farm employment opportunities in the study regions.

* All the studied households have their own houses. Among them 55 per cent have the houses of two rooms and 28.5 per cent of households have houses with three rooms.

* The roof of most of the houses is found made of leaves/bamboo and soil/mud in 23.5 and 20.5 per cent households respectively. 44 per cent of households have the roof of teen sheets and only 9 per cent have cement concreted houses.
* All the houses are constructed by earlier generation not even single house has been built in last 20 years. Some of them recently renovated their houses which is an insignificant number.

* Of the total surveyed families 78 per cent of households have the electricity supply with 12 to 14 hours of daily load shading.

* Only 11.5 per cent of households have toilets of their own.

* Drinking water in the surveyed regions is available through wells-15.5%, Hand pumps- 35.5%, Public Stand Posts- 38.5% and Public Wells-10.5 per cent.

* In Vidarbha not a single farm family lives on the farm because of unavailability of water and electricity throughout the year.

* For the Vidarbha region after the month of January, it is hard of getting drinking water without the tanker.

* The pattern of consumables is; Gas- 15.5%, Electric fan- 65%, Radio/Tape- 27.5%, T.V.- 58.5%, Bicycle- 45% and Two Wheeler- 9%. However 26.7 per cent of surveyed households have no consumables and other amenities.

* It is observed in the field investigation that 36 per cent of households have bullock cart, plough- 39.5%, Seed Drill- 40%, and Electric Pumps-22.5 per cent.

* Only 36.5 per cent of households have spray pumps which they need for the frequent spraying of Cotton. Others are dependent on hired spray pumps and operator.

* The most striking fact is that about 39.5 per cent of total suicide affected households do not have any of agricultural implements.
* The higher dependency on hired labour and implements affects the production badly because the time factor always plays a significant role in agricultural operations.
* Surveyed farmers cited that the present financial position cannot allow them to purchase farm implements.
* Though the bullocks are important in agriculture only 38 per cent of surveyed households have their own bullocks. Among the total surveyed families 43.5 per cent have cows, and only 6 per cent have buffalo. Mostly the milking animals are found in the irrigated area of Western Maharashtra.
* It is observed that farmers sell their animals for the purpose of consumption, agricultural expenses, repayment of debt and health problems.
* Majority of the households surveyed belong to the category of small and marginal land holders which accounts for 61.50 per cent.
* 30.5 per cent of the deceased farm families have size of holding which is only a little more than five acres but finding a category of large holding is equally difficult.
* There have been three households affected of suicides falling under the category of landless.
* Only 25.87 per cent of the surveyd farmers have the irrigation facilities and those belong to Ahmednagar and Aurangabad districts of the state. 80 per cent of the surveyed farm households are dependent on uncertain monsoon for the cultivation purpose.
* Availability of irrigation facilities as per the land holding category; 25.52% of marginal, small- 39.21, semi medium- 31.37%, medium- 3.92% and 1.96 per cent of big farmers have the irrigation facility.

* Insufficient availability of electricity makes it difficult to irrigate their crops on time.

* In all size classes of landholding Marathas have the higher land holding as compare to other caste which followed by Kunbis (Marathas).

* In other social groups SCs, STs, VJNT, OBCs and Muslims have their own land holdings. Among these social groups VJNT and OBCs (mali) are involved in the agricultural practices.

* The main reason for land leasing out is the very small and uneconomic size of the land holding.

* The leasing of land either is on the basis of shared cost of cultivation and income or it is based on the cash payment to the land owner ranging between Rs.3000 to Rs.8000 per acre depending on the quality of land.

* Around 13 per cent of surveyed farmers have sold their lands in which 69.23 per cent belong to the marginal category and 19.23 per cent are small farmers.

* 12.12 % of the farmers sold their land for the agricultural expenses, 45.45 per cent for debt repayment and 42.42 per cent have sold their land for the purpose of the marriage of a daughter or a sister.

* In all there are forty three (43) crop combinations in the suicide hit regions of the state of Maharashtra.

* The agro climatic conditions of Vidarbha and Marathwada regions of the state are suitable for 27 different types of Pulses and Cereals but farmers cultivate very few of them and concentrate more on Cotton.
* The highest dominance of Cotton is of 65.48 per cent followed by 57.29 per cent of farmers growing Soya bean.
* The crops combination that consists Cotton+Arhar+Soya bean is 19.28 per cent followed by 9.67 per cent of Cotton+Arhar+Jowar.
* All the surveyed households use hybrid seeds for the cultivation.
* For the applications of various inputs, input dealer is the main source of information (61.12%) followed by friends and relatives with 35.54 per cent.
* Only 0.99 per cent of surveyed households get the information from the agriculture development officer.
* More than 73.59 per cent of farm households cannot procure farm implements and other inputs on cash purchasing mode.
* When farmers obtained inputs on credit then the dealers charge for 24 to 48 per cent of rates of interest per annum.
* In some cases (37.24%) interest is not charged by traders. Whereas in few cases (2.06%) the extra price on credit purchase of implements is directly charged.
* Only one deceased household openly reported about the mortgage which accounts 0.68 per cent of the total surveyed households.
* It is observed that farmers are not using the doses of fertilizers as per the scientific requirement.
* 49.61 per cent of the total pesticides are used for Cotton which disproves the commitments of the Monsanto-Mahyco, the company supplying BT Cotton seed in the state of Maharashtra.
* Around 30.29 per cent of the Cotton growing farmers have to spray for three times and 27.13 per cent for four times to get control over pest attack on Cotton.

* However in case of Soya bean cultivating farmers 27.10 and 35.51 per cent spray twice and thrice respectively.

* Cotton is the most favoured crop in Vidarbha, registered a per acre productivity of 3.79 quintals, which is higher than the national average of 2.30 quintals per acre.


* The productivity of other crops shows little deviation from the national average and that is mainly because of the territorial fluctuations in weather conditions and the changes in availability of the inputs.

* The marketable surplus of cash crops such as Cotton, Soya bean, Groundnuts, Onion and Sugarcane is found of the order of 100 per cent.

* But in food-grains crops it has been observed to be less than expected. The marketable surplus for Jowar and Bajara is limited to 9.37 and 27.5 per cent of the growers which implies that majority of farmers (90.62 and 72.2 per cent of Jowar and Bajara growers) the agriculture is mainly the occupation of livelihood and it is not for the profit earning commercial enterprise.

* More than 50 per cent of the families have this type of agriculture.
* The marketability of Cotton and Soya bean is of higher order i.e. 100 and 97 per cent respectively and we also find the higher incidences of farmers suicides in this category of cultivators.

* Cotton crop incurred a heavy loss of Rs.1360 per acre and most of the farmers committed suicides were Cotton grower (62 per cent).

* The crops like Arhar and Soya bean which follow the Cotton in Vidarbha region yield per acre net returns up to Rs.655 and Rs.1057 respectively. However, the Bajara and Jower cultivators found incurring a per acre loss of Rs.1286 and Rs.1450 respectively whereas Wheat yields Rs.168 per acre higher than cost of cultivation.

* The crops like Sugarcane, Groundnut, Onion and Gram which are cultivated in the irrigated region of Western Maharashtra bring better returns for the farmers.

* It is observed that, about 75.68 per cent of farmers from the surveyed regions resort to traders to sell their produce.

* The most striking fact is that, not even a single Cotton producer sell his produce at the Federation outlets. Because selling of Cotton at government procurement outlets take too much of time and leads to incurring of losses. Also the government machinery takes more time in making of payment.

* Since 2006 most of the government procurement centres are closed in Vidarbha region of the state.

* Averagely two third of farmers prefer to sell their produce through unorganised mode of marketing that consists traders and local weekly village market.

* Only 24.30 per cent of farmers from the studied regions bring their product at Agricultural Produce Marketing Committee.
* It is found that 73.60 per cent (145) of farmers are unaware of the existing Minimum Support Price mechanism.

* The spurious seeds caused losses to 24.36 per cent of the farmers of which 81.25 per cent of them belong to the category of Cotton and surprisingly most of them are of BT Cotton growers.

* Around 73.5 per cent (147) farmers of the study regions experienced frequent crop losses.

* It is clear from the study that 53.44 per cent of the crop failure has to be accrued to an inadequate and untimely rainfall.

* 31.03 per cent of the farmers have faced losses on account of the spurious seeds and most of them are commercial crops cultivators like Cotton, Soyabean and Onion.

* 16.32 per cent of farmers lost their crop due to uncontrolled pest attack which is an outcome of the mono cropping practice in Vidarbha and Marathwada regions of the state.

* Some of the farmers (1.36 %) incurred losses due to the lack of electricity.

* In Vidarbha region the wage rate during peak season for male and female is around Rs.125/- and Rs.75/- respectively. Whereas during the post harvest period (February to May) the wage rate for male and female ranges between Rs.30/- and Rs.20/- respectively.

* The functioning of the employment generation schemes in Vidarbha region has been very unsatisfactory.

* Around 80 per cent of the poor households from Vidarbha demand that they need work but only 7.5 per cent of households get employment under MGNAREGA and EGS. Both the schemes neither created employment
nor did the irrigation infrastructure in Vidarbha as has happened in Western Maharashtra at the initial stage of the EGS.

* 33.50 per cent of the suicide affected farmers have been borrowing from private moneylenders.
* 52 and 36 per cent of the state farm households borrow from co-operatives and commercial banks.
* In the study regions the average amount borrowed from the moneylenders has been Rs.41,432/- whereas the same has been of the order of Rs.25,570/- from co-operatives and Rs.38,413/- from the nationalised commercial banks.
* For the rates of interest charged the average comes out as 14 per cent by co-operatives, 13 per cent by commercial banks, urban co-operatives- 18 per cent and 78 per cent by moneylenders (Maximum of 120 and minimum of 36 per cent per annum).
* 3 per cent of studied households did not obtain any type of loan and the information of 16 households regarding the same could not be made available by us.
* 83.18 per cent of the farm households from where suicides have been reported found borrowing and strictly using the loan amount for agriculture related productive purposes such as agriculture implements, seeds and fertilizers, irrigation and live stock.
* Only 16.18 per cent of the farmers were found borrowing for non agricultural purposes which consisted health, education, marriage and housing. Where two families did not reveal the reasons of loan.
* Only 27.27 per cent of the marginal farmers could obtain 12.75 per cent of the total loan amount from the co-operative institutions.
* Whereas 39.66 per cent of small, 40.65 per cent of the semi medium, 36.84 per cent of medium and 100 per cent of the large land holders have an access to co-operative borrowings.

* The benefits of the crop loan are observed more in favour of large holders with 28.20 per cent of marginal farmers having access to crop loan, 53.70 per cent semi medium, 57.64 per cent from medium and 50 per cent of the large holders have the crop loans available from co-operatives.

* In case of caste wise borrowing of loan 62.76 per cent of farmers have been borrowing from institutional sources whereas 36.22 per cent from the village moneylender.

* 81.43 per cent of the farmers of all caste categories borrow for productive purposes whereas only 18.57 per cent of the farmers obtained loan for non-agricultural purposes.

* There is no correlation of significant degree between the caste and purpose of borrowing.

* More than 50 per cent of the farmers who ended their lives through suicide were below the age of 45 years, 34 per cent belonged to middle age group i.e. 46 to 60 years and only 14.5 per cent of the deceased farmers were from the senior age group.

* Around 18 per cent of farmers of surveyed households have been found illiterate and the proportion of the primary and secondary education is limited to 29 and 43 per cent respectively. Only 6 per cent of them have completed their higher secondary education.

* 74.50 per cent of the surveyed farmers have committed suicides by consuming pesticides whereas 20.50 per cent through hanging themselves.
In one case the victims had suffered a heart attack due to the pressure by moneylender of repaying loan amount.

* The major risk factors which lead to the suicidal behaviour of the farmers are as;

Deterioration of Social Status (39.5%), Economic Crisis (75.5%), Marriageable daughter/sister (41%), Indebtedness (89%), family discord (husband/wife) (8%), other family discord (18%), disputes with villagers (1.5%), disputes before the incidence (3.5%), suicide case in nearby village (81%), suicide in family (3%), serious illness (8%), behavioural changes (59.5%), addiction (48%), social isolation (93%) and crop failures (73.5%).

* There are about six factors responsible for taking of lives of 19.5 per cent of the farmers followed by seven risk factors in case of 18 per cent, eight in case of 14.5 per cent, nine in 10.5 per cent and ten risk factors in 4.5 per cent.

* In all 82 per cent of farmers suicide affected households had been eligible for the state government compensation of Rs. 1 lakh. And rest of the 18 per cent of the farm families could not become eligible for the same.

* 38 per cent of the studied households expect subsidy on digging of wells. Not even a single farmer of the surveyed three regions has received any kind of subsidy on digging of wells.

* 3 per cent of farmers expect modern irrigation techniques i.e. drip and sprinkler whereas 18.5 per cent of the households mentioned the need of the actual cost based fair prices for their produce, 17 per cent of the households expect government job for one of the family members, 11 per
cent of households expect direct economic compensation and 5.5 per cent are confused who mentioned neutrality.

8.3 Conclusion

In India the marginalising of agriculture sector ever since the 1980s in the national planning and declined state investment in rural infrastructure and extension had caused an increase in the cost of cultivation at individual farm level which resulted in the manifestation of agriculture crisis that deepened further during the period of economic reforms with a resultant impact in the form of farmers suicides in the country. Hence reporting and continuous increase of the suicidal mortality rate amongst the farming community has become a serious issue of the post reforms period of the world economy in general and that of the India in particular. The foregoing analysis reveals that the suicides of farmers in the state of Maharashtra has neither been an incidence out of poverty amongst farming community nor is the inefficiency of the farmers or an unproductive use of credit money that has pushed them into the death trap but it is on account of a punctured pride, caused by the accumulated economic tensions as they continuously faced through unexpected losses for a long time plus negligence of agriculture in national and state policy kind of a thing ever since the 1986 at the national level that led to the suicides of many. It is not the productive inefficiency either of the land or farmers but the increased costs of inputs as the demand for them shot up rapidly which led to an increase in the cost of production and thereby the cost outstripped revenue and accumulation of debt burden in case of 89 per cent of the farm households in the state of Maharashtra compelled them to end life through suicide. Post green revolution extensive use of
nitrogen fertilizers and the chemicals for Integrated Pest Management had its economic implications on the farm economy of commercial cropping such as the Cotton growing belts of the state. The study also brought to light the fact that the cropping pattern of the suicide hit belts of the state is a mono cropping of nature dominated by commercial crops like Cotton the crop demanding all expensive inputs and the availability of certain inputs like irrigation in time where there are many obstacles brought production and income uncertainties. The repetition of crop rotation like the Cotton heavily consuming farm manures also caused negative returns to scale from agriculture. The agro climatic conditions of Vidarbha and Marathwada regions of the state are suitable for twenty seven different types of cereals and pulses whereas due to the inadequate cropping education and extension the majority of farmers had undertaken the mono cropping pattern for which the cost has gone up due to the declining returns to scale on the one hand and yielding of lower revenue as the market price of Cotton declined from Rs.2700 per quintal in 2005 to Rs. 1900 in the year 2007 on the other.

The underdeveloped market conditions further contributed to the farm vagaries of the state which exposes around 75 per cent of cultivators to the exploitation by private traders and local moneylenders. 73.60 per cent of the farmers from the suicide hit regions of the state didn’t even know about the mechanism of Minimum Support Price whereas 24.36 per cent of farmers suffered crop failures on account of input market imperfections as they got the spurious seeds and 81.25 per cent of them were of Cotton growers.
Use of credit, time, adequacy and price for the same had caused long term impacts on the lives of farmers and the farming economy. The rural institutional credit sector of the regions neither could eliminate nor has been able to control the lending rates and the dominance on lending by private moneylenders. 33.50 per cent of the farmers are still borrowing from the private moneylenders at a lending rate ranging from 36 to 120 per cent per annum can double the borrowed money in a period of few months.

The foregoing analysis brings out the fact that the suicides by farmers in the state is not an outcome of poverty of farmers but the punctured socio-economic pride which made practicing agriculture difficult pushed them in to a debt trap and thereby suicidal behaviour. Hence the shift in cropping pattern towards contemporary high value crops like pulses, oilseeds and vegetables is inevitable. Also, the shift on the policy front for creation of quality rural infrastructure is required. Role of agricultural universities and *Krishi Vigyan Kendras* (KVKs) of central government can revitalise agrarian conditions to some extent. Creation of quality rural infrastructure and provision of credit can improve the resource use efficiency. Nationalised commercial banks advances to agriculture could not cross the limit of 11.5 per cent leaving aside the statutory expectation of 18 per cent needs to give a serious thought. The outcome of government economic package proves that it is for the time being and cannot solve the problem in the long run unless it facilitates strengthening the base of rural economy apart from elimination of corruption in implementation of the same and also the corruption and agency practices in institutional credit mechanism. Public policies towards creating non farm sector employment
in rural areas can take off pressure from unremunerative agriculture. The eleventh plan which has expected 8.5 per cent of annual growth rate with 10 per cent for the last two years plus 4 per cent of the growth of agriculture with an inclusion of all has already been proved to be difficult to achieve as the agriculture has registered a negative rate of growth during the third quarter of 2009-10; hence, unless the plan incorporates the rural and farming classes with policy intervention on the one front and special targeting of agriculture on the other it will not be possible like the earlier plan targets to achieve. Planned shift in cropping pattern according to the agro climatic conditions can improve productivity of land and labour which will reduce the cost of cultivation and improve the situation emerging out of declining returns to scale from agriculture. Development of rural and agro based industries along with policy for allied activities like animal husbandry and promoting policies of extension facilities and the rural non farm sector can help to include farmers in the mainstream activity shall divert dependence from agriculture and promote the aimed objective of inclusive growth in years to come.