

Prime Minister's Rehabilitation Package for the Farmers in Suicide Prone Districts of Maharashtra

S. S. Kalamkar and Sangeeta Shroff

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April 2010

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Foreword

The spate of suicides among farmers in several states of the country has attracted nationwide attention and generated frantic debates in the union and state legislatures. The spiraling of suicides in the past decade or so is symptomatic of agrarian distress and impoverished condition of farmers. Considering that 55 percent of the workforce in the country (2001 census) is still dependent on agriculture for its livelihood, the wave of suicides has received considerable media attention and a matter of policy concern. Concerned with farmers' suicides in some parts of the country, the Hon'ble Prime Minister of India, after visiting some parts of the Vidarbha region in Maharashtra, announced a rehabilitation package on July 1, 2006 to mitigate the distress of farmers in the identified districts. On 29th of September, 2006, Union Cabinet approved the Rehabilitation Package for 31 identified districts in the State of Andhra Pradesh, Karnataka, Kerala and Maharashtra, which was known as "Prime Minister's Rehabilitation Package for the Farmers in Suicide Prone Districts of Andhra Pradesh, Karnataka, Kerala and Maharashtra". The implementation period of PM's package was fixed for 3 years and included both immediate and medium term measures. The amount sanctioned under this package was Rs. 16978.69 crore. In the light of the above, an evaluation of the above mentioned package was felt necessary. The Ministry of Agriculture, Government of India sponsored the study entitled, 'Prime Minister's Rehabilitation Package for the Farmers in Suicide Prone Districts of Maharashtra'. The present study is based on field data collected from 120 sample farmers selected from three suicide prone districts from Vidarbha region of Maharashtra. The study reveals that farmers were aware of this package through the Gram Panchayat and availed of the relief measures. A number of schemes in the package aimed at increasing irrigation facilities. But while productivity increased in 2007-08, it could not be sustained in 2008-09 due to drought in those areas. Hence, agriculture in Vidarbha region of Maharashtra is still a gamble with monsoons.

I thank Dr. S. S. Kalamkar and Dr. Sangeeta Shroff for carrying out this important research project at our Institute. The findings and policy suggestions of the study are expected to be useful to policy makers for formulating policies and schemes.

April 5, 2010
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Rajas Parchure
Officiating Director

Acknowledgements

The study on “Prime Minister’s Rehabilitation Package for the Farmers in Suicide Prone Districts of Maharashtra” has been carried out at the Agro-Economic Research Centre of the Institute, as suggested by the Ministry of Agriculture, Government of India, New Delhi.

We have benefited immensely from various scholars and officials from different government departments while carrying out this study. At the outset, we would like to thank Prof. Arup Maharatna, former Officiating Director of our Institute and Prof. Rajas Parchure, present Officiating Director of our Institute for their constant encouragement and support in completing the study. We thank the Coordinator of the study, Prof. M. J. Bhende, Institute for Social and Economic Change ISEC, Bangalore, for his kind support and necessary help.

A number of officials from the Commissionerate of Agriculture, Government of Maharashtra, Pune, helped us especially in providing secondary information related to the study. We would like to mention a few persons who have helped us in completing the study. Shri Prabhakar Deshmukh, Commissioner of Agriculture, Government of Maharashtra, Pune, helped us in getting the required data/information from the various departments. We are thankful to him for all the support he provided to us. Shri B.V. Gopal Reddy, the then Director General, *Vasantrao Naik Sheti Swalamban Mission*, Maharashtra State, Amravati (which is a nodal agency appointed by the Government of Maharashtra towards implementation of Prime Minister’s Rehabilitation Package) has helped us in getting the required district-wise data on PM’s relief package. We are thankful to him and his office staff members, especially Shri Suryawanshi. We also thank the Office of the Joint Director Agriculture, Amravati Division, Amravati for providing all the necessary information as well as support to conduct this study. We also thank the Residential Deputy Collector of Yavatmal, Amravati, and Buldhana districts for providing the list of farmers’ suicide. We are also thankful to the Divisional Deputy Registrar of Cooperative Societies, Amravati; Officials of Irrigation Department (Vidarbha Irrigation Development Corporation), Amravati; Officials of Department of Animal Husbandry and Dairying, Commissionerate of Animal Husbandry, Government of Maharashtra, Pune and Officials of Department of Agriculture of Yavatmal, Amravati, and Buldhana districts for their help and support. We would like to record our sincere thanks to all the government officials for their invaluable help. We also thank all of them who have directly and indirectly helped in conducting this study.

The study would not have reached to this stage without the active co-operation of the sample farmers, who provided all the required data for the study without any hesitation and expectation. We thank each one of them for their invaluable support.

We have also received support and encouragements from some of our colleagues in the Institute while carrying out the study. We would specifically thank

the Officiating Director and Officiating Registrar of our Institute for their support. We are also thankful to Shri S.B. Kate, Shri S. S. Dete and Mr. V.G. Kasbe for collecting data from field and other sources and Shri Anil Memane, Shri Jeevan Biradar and Ms. Sonali Gaikwad for computer assistance.

Lastly but not least, we thank the library staff and also our colleagues for direct and indirect support.

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March 9, 2010

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List of Abbreviations

A.I.	- Artificial Insemination
ACP	- Annual Credit Plan
AIBP	- Accelerated Irrigation Benefit Programme
ASMO	- Area Sown More than Once
ATMA	- Agriculture Technology and Management Agency
Av.	- Average
CBP	- Capacity Building Place
CV	- Coefficient of Variation (%)
EGS	- Employment Guarantee Scheme
FYP	- Five Year Plan
GCA	- Gross Cropped Area
GDP	- Gross Domestic Product
GIA	- Gross Irrigated Area
GOI	- Government of India
GOM	- Government of Maharashtra
ha	- hectare
HYV	- High Yielding Variety
Kg.	- Kilo gram
MCM	- Million Cubic Meter
mha	- Million hectares
MMI	- Medium and Minor Irrigation
mt	- Metric Tones
NABARD	- National Bank for Agriculture and Rural Development
NCA	- Net Cropped Area
NFRE	- Non-Farm Rural Employment
NHM	- National Horticulture Mission
NHWDP	- NABARD Supported Holistic Watershed Development Programme
NIA	- Net Irrigated Area
NPK	- Nitrogen, Potassium and Potash
NSA	- Net Sown Area
NWDpra	- National Watershed development Programme for Rainfed Areas

PM's	- Prime Minister's
PMNRF	- Prime Minister's National Relief Fund
Prod	- Production
Prodvty	- Productivity (kg/ha)
Qtls.	- Quintals
RBI	- Reserve Bank of India
RIDF	- Rural Infrastructure Development Fund
SAU	- State Agricultural Universities
TE	- Triennium Endings
VIDC	- Vidarbha Irrigation Development Corporation, Nagpur
VNSSM	- <i>Vasantrao Naik Sheti Swalamban Mission</i> , Amravati,
WDF	- Watershed Development Fund

Introduction

1.1 Introduction:

Indian agriculture is currently passing through a period of severe crisis. Although certain features of the crisis such as deceleration in growth rates, declining share of agriculture in Gross Domestic Product (GDP) and falling public investment in agriculture, started manifesting themselves in certain parts of India during the late 1980s, the crisis assumed a serious dimension since the middle of the 1990s. The share of agriculture in GDP which was 30 percent in 1992-93 declined to 19.6 per cent in 2005-06. While the annual compound growth rate of GDP during the period 1992-93 to 2005-06 was 6 per cent, the growth rate of the agricultural sector during the corresponding period was 2.57 percent. In contrast, the growth rate in the service sector was 7.72 percent. There was sharp decline in growth rate of yield of all crops in the period 1990-91 to 2003-04 as compared to the period 1980-81 to 1990-91. In case of important cash crops such as cotton and sugarcane (1990-91 to 2003-04) there was negative growth rate in yield while pulses showed a growth rate of 0.16 per cent per annum. The share of public sector investment in agriculture which was 43 percent in 1980-81 declined to 15.5 percent in 2002-03. Another important manifestation of the crisis in agriculture was the stagnant if not deteriorating terms of trade for agriculture (GOI, 2007).

One of the tragic manifestations of the crisis is the large number of suicides committed by the farmers in some parts of India (GOI, 2007). In fact so alarming was the problem, that it attracted nationwide attention and generated frantic debates in the union and state legislatures. The spiraling of suicides in the past decade or so is clearly a symptom of agrarian distress and impoverished condition of farmers. The Situation Assessment Surveys of the National Sample Survey Organization (2005) has reconfirmed the worsening situation of farming households which indicated that 48.6 percent of the farmers' households in India are indebted, and about 40 percent farmers' households in the country did not like farming because it is not profitable, risky and it lacks social status and felt that, given a choice, they would take up some other career

(NSSO, 2005 and 2005a). Considering that around 59 percent of the workforce in the country (as per Census 2001) is still dependent on agriculture for its livelihood, the wave of suicides has received considerable media attention and a matter of policy concern.

Farmers' suicides have been receiving a lot of social and public policy attention¹. Suicides were mainly concentrated in Karnataka, Andhra Pradesh and Maharashtra. A large number of suicides were reported in Karnataka in the first three years of the decade starting 2000-01, while Andhra Pradesh had maximum in 2004-05. In 2006, there was virtually a suicide epidemic in Maharashtra. These incidents raised serious questions of the state of the agrarian economy and the economic hardships faced by farmers. Agricultural GDP in Maharashtra which was growing at an annual compound growth rate of 5.4 percent in 1983-84 to 1993-94 declined to 1.27 percent in the following decade. Per worker productivity in agriculture in Maharashtra was only Rs 9130/- while it was Rs 82,316/- in non-agriculture (2004-05). This indicates that the ratio of non agriculture to agriculture productivity was 11.7 in Maharashtra (GOI, 2007). These figures are certainly symptoms of crisis in the agrarian economy of the state.

In order to deal with the problem of suicides and provide relief to the distressed households, the Government identified 31 districts in the four states of Andhra Pradesh, Maharashtra, Karnataka and Kerala where the incidence of farmers' suicides had been very high. In Maharashtra, suicides were concentrated in Vidarbha region² which accounts for 10 percent of population of the state in 2001. The *Vidarbha Jan Andolan Samiti*, a farmers' movement, reported that between June 2005 and December 2006, 1158 farmers had committed suicide in Maharashtra. Vidarbha, with only 10 percent of the population of Maharashtra accounted for 55 percent of its suicides (Mitra and Shroff, 2007). Concerned with farmers' suicides in some parts of the country, the Hon'ble Prime Minister of India, after visiting some parts of the Vidarbha region in Maharashtra, announced a rehabilitation package on July 1, 2006 to mitigate

¹ Some of the studies are Deshpande (2002), Mohanty and Shroff (2004), Sarma (2004), Deshpande and Prabhu (2005), Gill and Singh (2006), Mishra (2006, 2006a), Mohanakumar and Sharma (2006), Satish (2006), Singh (2006), Sridhar (2006), Mitra and Shroff (2007), Vaidyanathan (2007), Shroff (2008), Padhi (2009).

² Vidarbha region of Maharashtra state consists of eleven districts, viz. Akola, Amravati, Yavatmal, Washim, Buldhana, Wardha, Nagpur, Chandrapur, Gadchiroli, Gondiya and Bhandara.

the distress of farmers in the identified districts. On 29th of September, 2006, Union Cabinet approved the rehabilitation package for 31 identified districts in the State of Andhra Pradesh, Karnataka, Kerala and Maharashtra (see, Table 1.1), called as "Prime Minister's Rehabilitation Package for the Farmers in Suicide Prone Districts of Andhra Pradesh, Karnataka, Kerala and Maharashtra". The implementation period of Prime Minister's (PM's) package was fixed for 3 years and included both immediate and medium term measures. The list of identified districts in the four selected states is indicated in Table 1.1.

Table 1.1: List of Identified Districts in Four Selected States

Andhra Pradesh (16)	Karnataka (5)	Kerala (3)	Maharashtra (6)
1. Prakasam 2. Guntur 3. Nellore 4. Chittoor 5. Cuddapah 6. Ananthapur 7. Kurnool 8. Adilabad 9. Karimnagar 10. Khammam 11. Mahbubnagar 12. Medak 13. Naigonda 14. Nizamabad 15. Rangareddy 16. Warangal	1. Belgum 2. Hassan 3. Chitradurga 4. Kodagu 5. Shimago	1. Wayanad 2. Palakkad 3. Kasargod	1. Akola 2. Wardha 3. Amravati 4. Buldhana 5. Washim 6. Yavatmal

1.2 PM's Rehabilitation Package:

The rehabilitation package aims at maintaining sustainable and viable farming and livelihood support system through debt relief to farmers, complete institutional credit coverage, crop-centric approach to agriculture, assured irrigation facilities, effective watershed management, better extension and farming support services and subsidiary income opportunities through horticulture, livestock, dairying, fisheries and other subsidiary activities. For mitigating the hardship faced by the debt stressed families of farmers, ex-gratia assistance from Prime Minister's National Relief Fund (PMNRF) @ Rs.50.00 lakh per district has also been provided. The package covers the following:-

- Complete credit cover through institutional credit sources;
- Debt relief to farmers by restructuring overdue loans and interest waiver;
- Provision of assured irrigation facilities;
- Watershed management;
- Seed replacement programme;
- Diversification of activities into horticulture, livestock, dairying and fisheries etc. for generation of additional employment and income opportunities; and
- Extension support services.
- Subsidiary income activities

The rehabilitation package envisages completion of all irrigation schemes, major, medium and minor, in the identified districts in a time bound manner. Watershed management includes construction of 500 check dams and 1000 rainwater harvesting structures per district per year and bringing 15,000 hectares per district per year under participatory watershed management programme. The rehabilitation package involves total amount of Rs.16978.69/- crores consisting of Rs.10,579.43/- crores as subsidy/grants and Rs. 6399.26 crores as loan. The state-wise financial summary of rehabilitation package is indicated in Table 1.2 and component-wise financial summary of the rehabilitation package is presented in Table 1.3.

Table 1.2: Statewise Financial Summary of Rehabilitation Package

(Rs. in Crore)

Name of the State	No. of Districts	Rehabilitation Package		
		Subsidy/grant	Loan	Total
Andhra Pradesh	16	5943.31	3707.24	9850.55
Karnataka	06	1568.07	1121.57	2689.64
Kerala	03	577.21	188.03	765.24
Maharashtra	06	2490.84	1382.42	3873.26
Total	31	10579.43	6399.26	16978.69

To ensure effective and time-bound implementation of the rehabilitation package, State Level Coordination and Supervision Committees consisting of the concerned line departments of the state, NABARD and representative of the Government of India have been constituted in all the identified states. The State Governments have also constituted District Level Committees. The Department of Agriculture and Cooperation and other Ministries/Departments of the Government of India are also regularly monitoring and reviewing the progress under the rehabilitation package. The implementation of this package in six districts of Maharashtra as on 30th of June 2008 is presented in the next section.

1.3 Progress in Implementation of the Package in Four States:

As mentioned above, the rehabilitation package was sanctioned for 31 identified districts in the states of Andhra Pradesh, Karnataka, Kerala and Maharashtra. It is important to see the progress in implementation of the package. The component wise financial summary of the rehabilitation package in four states as on June 30, 2008, for which the latest data is available, is presented in Table 1.3 and schemewise physical and financial targets and achievements is presented in *Annexure I*.

1.4 Need for the study:

The rehabilitation package in these states is being implemented by the State Government through state level coordination and supervision Committee, district level Committee and Panchayat raj institutions and local level institutional structure and special purpose cooperative/community based organizations. The basic objective of this study was to conduct a field survey and observe the ground reality as to whether the benefit of the package is reaching the intended beneficiaries and also the impact of the package on the beneficiaries. This is especially important because the package has a number of relief measures to augment the incomes of the farmers.

Table 1.3: Component-wise Financial Summary of the Rehabilitation Package in Four States (as on June 30, 2008).

(Rs. in Crore)

Sr. No	Item of assistance	Total amount	Subsidy/ Loan/grant	Subsidy/ Grant	Loan
1.	Ex-gratia assistance from PMNRF	15.50	Only grant	15.50	Nil
2.	Restructuring/rescheduling of loans	9051.81	Only loan	Nil	9051.81
3.	Credit flow	20114.05	Only loan	Nil	20114.05
4.	Interest waiver*	2718.25	Only subsidy	2718.25	Nil
5.	Assured Irrigation				
	(i) Major & Medium irrigation	6530.29	AIBP norms	4268.84	2261.45
	(ii) Minor irrigation	3207.81	Only loan	Nil	3207.81
	Total	9738.10		4268.84	5469.26
6.	Seed Replacement	830.10	Only subsidy	830.10	Nil
7.	Watershed Development				
	(i) Participatory Watershed	837.00	Only grant	837.00	Nil
	(ii) Check dams	930.00	Only loan	Nil	930.00
	(iii) Rainwater harvesting	93.00	50:50	93.00	Nil
	Total	1860.00		930.00	930.00
8.	Micro Irrigation #	801.53	Only subsidy	801.53	Nil
9.	Horticulture Development (NHM)	452.78	Only subsidy	452.78	Nil
10.	Extension Services	15.50	Only grant	15.50	Nil
11.	Subsidiary Income Activities	546.93	Only subsidy	546.93	Nil
	Grand Total	16978.69		10579.43	6399.26

Notes: * Burden of interest waiver will be shared equally by the Central and State Government in the ratio of 50:50; # Scheme provides for 50 per cent subsidy and 50 per cent loan. Of 50 per cent subsidy, 40 per cent is central share and 10 per cent is from State Government.

N.B. - Amount under Restructuring /rescheduling of loans and Credit flow has not been included in the Grand Total.

1.5 Objectives:

The main objectives of the study are:

1. To observe whether the benefits of package has reached the intended beneficiaries,
2. To assess the overall social and economic impact of the rehabilitation package.
3. To study the constraints in the implementation of the package and suggest improvement/policy measures.

1.6 Methodology:

This study has been carried out for Maharashtra state by using primary and secondary level information. The secondary data on implementation status of PM's package, number of farmers' suicides has been collected from the Office of Director General, *Vasantrao Naik Sheti Swalamban Mission* (VNSSM), Maharashtra State, Amravati, which is a nodal agency appointed by the Government of Maharashtra towards implementation of Prime Minister's Rehabilitation Package. The data on area, production and productivity of major crops, land use pattern, cropping pattern and other related aspects of this study have been mainly compiled from Season and Crop Report of Maharashtra State (various issues), District-wise Agricultural Statistical Information of Maharashtra State, Economic Survey of Maharashtra, various documents published by the Ministry of Agriculture, Government of India, New Delhi, and related websites such as <http://agricoop.nic.in>, <http://agri.mah.nic.in>, <http://www.censusindia.net>, etc. Recent data on Maharashtra's agricultural development have been directly compiled from the Office of the Commissionerate of Agriculture, Government of Maharashtra, Pune. For the data analysis, the simple statistical tools like average, percentages, growth rates, etc. have been used.

The primary data for the study has been collected from the three districts of Maharashtra state, out of six suicide prone districts selected in Prime Ministers' package in Maharashtra. The three districts were selected on the basis of having the highest number of suicide cases (cumulative for the period from 2001 to 2009³) among the six districts (*districtwise yearwise number of farmers' suicide is presented in*

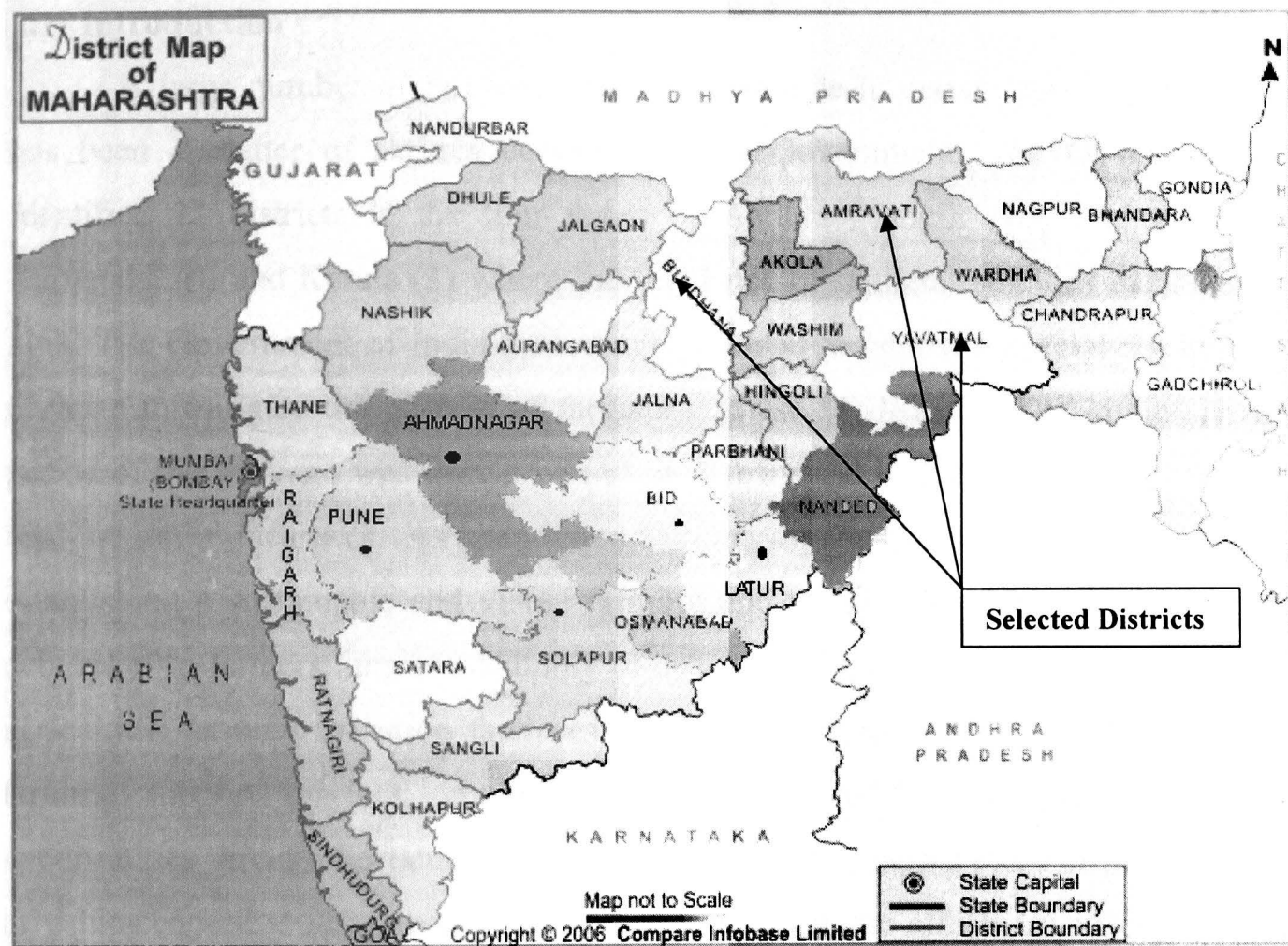
³ Up to June 10, 2009.

Annexure II). It was observed that Yavatmal had highest number of suicides in the state (1507 or 29 percent), followed by Amravati district, which had 1127 number of suicides (21.5 per cent). Buldhana ranked third in number of suicides which were 907 (17.3 percent). Thus, about 68 percent of farmers' suicides were concentrated in these three districts. Accordingly Amravati, Yavatmal and Buldhana district were selected (see Map 1.1). After selection of district, one taluka from each district having the highest number of suicide cases (cumulative) among the talukas in the selected district was selected for primary data collection. In Prime Minister's Rehabilitation Package, there are eight major schemes implemented by agriculture, horticulture, animal husbandry, irrigation, and fisheries department. Further, compensation for families of suicide farmers and ex-gratia payment from PM National Relief Fund was paid by the Collector. For each of the eight schemes, five beneficiaries were selected from each taluka. Thus, in total there were 40 beneficiary samples per taluka/district. It was observed that sometimes a single household benefited from more than one programme in PM's package. However, such households have been treated for only one scheme even though information is collected for all the schemes he/she has availed under the package. Thus, in total data from 120 households (for three districts) in specially designed questionnaire was collected in the month of June 2009. The reference year for data collection was 2008-09.

1.5 Organization of the Study:

The study is divided into five chapters. Chapter one, which is an introductory chapter, presents introduction to Prime Minister's package, component-wise allocation, numbers of farmers' suicide in six selected districts during last seven years, progress in implementation of package, objectives of the study, etc. Chapter two deals with progress of Prime Minister's Package in six suicide prone districts of Maharashtra. Chapter three presents the agro-economic features of the selected districts and sample households. Chapter four presents the results from the primary data analysis. The last chapter presents the conclusions and policy implication of the study.

Map 1.1: Location of the Study Area in Maharashtra State



Progress of PM's Rehabilitation Package in Maharashtra

2.1: Introduction

A large number of farmers committing suicide in certain parts of the country has been a matter of serious concern for the Government. The Government has identified 31 districts in the four states of Andhra Pradesh (16) Maharashtra (6) Karnataka (6) and Kerala (3) where the incidence of farmers' suicides has been very high. The Government of India accordingly decided to launch a special rehabilitation package to mitigate the distress of farmers in these 31 districts. The implementation period of the package was over a period of 3 years and includes both immediate and medium term measures. As mentioned earlier, the rehabilitation package aims at establishing a sustainable and viable farming and livelihood support system through debt relief to farmers, improved supply of institutional credit, crop centric approach to agriculture, assured irrigation facilities, watershed management, better extension and farming support services, improved marketing facilities and subsidiary income opportunities through horticulture, livestock, dairying, fisheries etc. For mitigating the hardships caused to debt stressed families of farmers in the affected districts, ex-gratia assistance from Prime Minister's National Relief Fund is also be provided (<http://pmindia.nic.in>). The Government of India and Maharashtra issued the guidelines from time to time towards implementation of various schemes under this package (see, *Annexure III*). In this chapter, the progress in implementation of PM's relief package in six suicide prone districts of Vidarbha region of Maharashtra has been observed.

2.2 Status of implementation of PM's Special Rehabilitation Package:

As mentioned earlier, the PM's package contains the schemes under eight major heads, viz., credit related measures, assured irrigation facilities, seed replacement programme, watershed development, horticulture development, micro-irrigation, extension services and subsidiary income activities. These heads are again sub divided into sub-scheme. We have received the data on the implementation of these schemes up to March 31, 2009.

2.2.1 Credit Related Issues:

The credit related measures include three sub schemes, viz. debt relief to the farmers (reschedulement of loans), interest waiver and credit flow. Under this scheme, the overdue loans of the farmers as on July 1, 2006 were rescheduled over a period of 3 to 5 years with a one year moratorium. The entire interest on overdue loans to farmers as on July 1, 2006 was waived and all the farmers had no past interest burden as on that date. Thus, they were immediately eligible for fresh loan from the banking system. Also adequate credit flow for fresh need was made available by the banks. The details on reschedulement and loan waiver given to the farmers in six identified districts of Maharashtra are presented in Table 2.1. It can be seen from the table that a principal sum of Rs. 1418.48 crore of agricultural loans to about 9.38 lakh farmers has been rescheduled. Also the interest amount of Rs. 837.5 crore on above mentioned principal amount was waived. Private Bank has given loan waiver of total Rs. 4.48 Crore. The fresh loans were also given to significant number of farmers during last three years (see, Table 2.2).

Table 2.1: Districtwise Account Holder and Amount of Re-schedulement of Loan and Interest Waiver (as on March 31, 2007)

(Amount- Rs. in Crore)									
District	District Central Bank			Nationalized Bank			Gramin Bank		
	Account holder (No.)	Principal Amount	Interest waiver (Amount)	Account holder (No.)	Principal Amount	Interest waiver (Amount)	Account holder (No.)	Principal Amount	Interest waiver (Amount)
Amravati	88,640	102.6	84.22	94,503	134.74	90.92	--	--	--
Akola	36,294	51.56	35.25	51,614	104.95	52.01	12,257	22.75	10.52
Buldhana	98,947	117.73	77.35	78,599	173.26	68.34	12,114	34.31	11.84
Washim	37,210	48.93	28.24	27,455	45.14	22.01	12,041	18.36	9.52
Yavatmal	90,952	120.59	63.12	110,372	156.65	96.98	10,986	11.4	9.69
Wardha	56,805	72.04	45.01	58,214	118.41	67.89	--	--	--
Total	408848	513.45	333.19	420,757	733.15	398.15	47,398	86.82	41.57
District	Land Development Bank			Urban Cooperative Bank			Total		
	Account holder (No.)	Principal Amount	Interest waiver (Amount)	Account holder (No.)	Principal Amount	Interest waiver (Amount)	Account holder (No.)	Principal Amount	Interest waiver (Amount)
Amravati	15,022	9.88	6.81	122	0	0	198287	247.22	181.95
Akola	9,699	11.41	12.24	1,473	12.72	7.78	111,337	203.39	117.8
Buldhana	7,256	7.75	5.47	3,919	3.95	2.16	200835	337.0	165.16
Washim	0.0	0.0	0.0	205	1.0	0.44	76,911	113.43	60.21
Yavatmal	14,079	15.59	10.35	2,270	7.83	2.89	228659	312.06	183.03
Wardha	6,398	7.82	7.5	1,282	7.11	4.46	122699	205.38	124.86
Total	52,454	52.45	42.37	9,271	32.61	17.73	938728	1418.48	833.01

Note: Private Bank has given loan waiver of total Rs. 4.48 Crore.

Source: VNSSM, Amravati

Table 2.2: Additional Credit Flow to the Agriculture Sector in Six districts of Maharashtra

Year	Annual Credit Plan (ACP) (Rs. Crore)	No. of Farmers	Loan Distribution (Rs. in Crore)
2005-06	880.00	448032	746.95
2006-07	2583.39	1007389	2012.9
2007-08	2225.22	575148	1737.86
2008-09	2229.18	481512	1179.84

Source: VNSM, Amravati.

It can be observed from Table 2.2 that the number of farmers who received additional credit flow increased from 4.48 lakhs in 2005-06 to 10.07 lakhs in 2006-07 which was the first year of the implementation of the programme.

2.2.2 Assured Irrigation Facilities:

In the identified six districts of Maharashtra, an area of 1.6 lakh hectares was targeted to bring under assured irrigation facilities at a cost of Rs. 2177.27 crore over a period of three years through completion of all major/medium, minor irrigation projects. Under Accelerated Irrigation Benefit Programme (AIBP), central assistance was provided for major/medium and minor irrigation projects. The assured irrigation project includes 8 major, 9 medium and 557 minor irrigation projects for six districts of Maharashtra (*see, Annexure IV*). Districtwise and yearwise economic planning and targets for irrigation potential creation is presented in Table 2.3 and districtwise and yearwise allocated amount received and expenditure incurred under assured irrigation facilities scheme (as on March 31, 2009) is presented in Table 2.4. It can be observed from Table 2.4 that total funds of Rs. 2679 crore was released, out of which Rs. 2641 crore was utilized by March 31, 2009. However, the irrigation potential created was only 88,644 hectares as against the targeted irrigation potential of 167871 hectares. Hence with the funds released only 53 percent of targeted potential could be created.

Table 2.3: Additional Credit Flow to the Agriculture Sector in Six districts of Maharashtra
(Amount-Rs. in Crore)

District	Number of Projects	Economic Planning (Amount)				Targets for Irrigation Potential Creation (ha)			
		2006-07	2007-08	2008-09	Total Expenditure	2006-07	2007-08	2008-09	Total target
Amravati	84	205.99	234.68	205.06	645.73	10,980	8,106	441	19,527
Akola	114	47.55	26.8	11.2	85.55	1,224	2,106	2,080	5,410
Washim	89	53.74	27.87	20.5	102.11	1,706	1,932	1,883	5,521
Yavatmal	110	243.93	152.79	101.8	498.52	4,379	13,237	22,689	40,305
Buldhana	128	118.2	140.73	103	361.93	10,918	10,968	6,084	27,970
Wardha	49	209.23	169.04	105.16	483.43	3,127	17,964	31,361	52,452
Local level	-	-	-	-	-	5,439	5,074	6,173	16,686
Total	574	878.64	751.91	546.72	2,177.27	37773	59387	70711	167871

Source: VNSM, Amravati.

Table 2.4: Districtwise and Yearwise Allocated Amount Received and Expenditure incurred under Assured Irrigation Facilities Scheme (as on March 31, 2009)

(Rs. in Crore)

District	Number of Projects	Allocated Amount received 2006-07	Expend. 2006-07	Allocated Amount received 2007-08	Expend. 2007-08	Allocated Amount received 2008-09	Expend. 2008-09	Allocated Amount received 2009-10	Expend. 2009-10	Total Expend.
Amravati	84	205.99	191.89	227.99	271.94	185.53	261.92	68.52	8.16	733.91
Akola	114	47.55	23.26	32.66	28.86	37.52	32.35	11.47	2.01	86.48
Washim	89	53.74	41.42	57.52	30.72	34.44	18.06	19.15	1.25	91.45
Yavatmal	110	243.93	205.23	297.66	295.13	30.39	209.7	71.6	27.57	737.63
Buldhana	128	118.2	59.9	208.77	201.43	104.88	202.51	53.56	4.74	468.58
Wardha	49	209.23	105.29	182.43	234.77	143.68	179.55	32.26	3.58	523.19
Total	574	878.64	626.99	1,007.03	1,062.85	536.44	904.09	257.36	47.31	2641.24

Note: Expend.- Expenditure.

Source: VNSSM, Amravati.

The districtwise actual irrigation potential created is presented in Table 2.5. It can be seen from the Table 2.5 that additional irrigation potential of 88644 hectares was created. Also additional storage of 467.08 mm³ was created till June 2008 and water storage available as on June 2007 was 464.08 MCM. However actual irrigation was done on about 16214 hectares area by June 2007, and as per latest report, it increased to 27495 hectares by June 2008.

Table 2.5: Districtwise Actual Irrigation Potential and Water Storage Capacity Created

District	Irrigation Potential Created by			Targets for Water Storage Capacity (MCM)	Water Storage Capacity Created (MCM) by June 2007	Total Expenditure (Rs. Crore)	Actual Irrigated Area (ha)
	2007 end (ha)	2008 end (ha)	Total (ha)				
Amravati	13,235	7,665	20,900	193.48	85.21	707.45	6,940
Akola	488	362	850	32.25	27.5	67.93	1,029
Washim	1,790	1,540	3,330	40.67	12.95	79.96	835
Yavatmal	13,944	9,786	23,730	352.89	328.28	718.2	559
Buldhana	9,437	9,416	18,853	176.72	10.14	452.76	6,343
Wardha	1,527	11,097	12,624	319.87	0.0	518.16	508
Local level	5,439	2,918	8,357	0.0	0.0	96.78	0.0
Total	45,860	42,784	88,644	1,115.88	464.08	2,641.24	16,214

Note: MCM-million cubic meter.

Source: VNSSM, Amravati.

2.2.3 Seed Replacement Programme:

In order to provide immediate assistance to the farmers, a massive seed replacement programme was launched with 50 per cent subsidy in the identified six districts of Vidarbha in Maharashtra. The entitlement for quality seed was increased from half acre per farmer to one hectare per farmer. The cost of the programme was Rs.180/- crore over a period of three years. National Seed Company was appointed as nodal agency for seed supply. About 285 seed distribution centres were opened in 64 talukas of six districts to supply seed to farmers in 8328 villages. The details on seed distributed in six identified district in Vidarbha is presented in Table 2.6. It can be observed from the table that about 10.77 lakh quintals seed was distributed during the period Rabi 2006 to Rabi 2008, which accounts for a total subsidy of Rs. 143.98 crore under this scheme. It is expected that the remaining amount must have been spent during the Kharif 2009 season by the department. The crops covered under this programme were jowar, wheat, gram, tur, soybean, sunflower, safflower, maize, moog, udid and cotton. District-wise seed distribution, seed cost, subsidy amount and number of beneficiaries - Rabi 2006 (by December 31, 2006) is presented in Table 2.7 and districtwise seasonwise seed distribution, number of beneficiaries and total subsidy amount - Kharif 2007 to Rabi 2008 is indicated in Table 2.8.

Table 2.6: Districtwise Total Seed distributed during Rabi 2006 to Rabi 2008

District	Rabi 2006		Kharif 2007		Rabi 2007	
	Seed distributed ('000 qtls.)	Expenditure (Rs. in lakh)	Seed distributed ('000 qtls.)	Expenditure (Rs. in lakh)	Seed distributed ('000 qtls.)	Expenditure (Rs. in lakh)
Amravati	23.64	285.75	62.03	702.65	48.26	602.22
Akola	20.69	244.38	34.35	449.81	22.6	281.37
Buldhana	27.87	310.62	43.51	553.45	20.74	247.47
Washim	9.17	123.59	51.99	598.21	10.88	134.59
Yavatmal	19.53	226.95	58.95	654.3	26.2	324.48
Wardha	11.78	137.42	71.15	804.24	16.01	198.54
Total	112.68	1,328.71	321.98	3,762.66	144.69	1,788.67
	Kharif 2008		Rabi 2008		Total (Rabi 2006 to Rabi 2008)	
Amravati	68.3	1,156.05	45.42	517.47	247.65	3,264.14
Akola	45.77	777.83	31.18	360.71	154.59	2,114.1
Buldhana	46.65	803.51	26.35	288.91	165.12	2,203.96
Washim	40.01	677.82	12.24	144.63	124.29	1,678.84
Yavatmal	67.47	1,137.29	36.65	416.22	208.80	2,759.24
Wardha	59.49	1,016.43	18.58	220.80	177.01	2,377.43
Total	327.68	5,568.92	170.42	1,948.74	1,077.45	14,397.7

Source: VNSSM, Amravati.

Table 2.7: District-wise Seed Distribution, Seed Cost, Subsidy Amount and Number of Beneficiaries - Rabi 2006 (by December 31, 2006)

District	Crop	Supply of Seed (qtls)	Seed distributed (qtls)	Seed Cost (Rs. Lakh)	No. of beneficiaries	50% Subsidy Amount (Rs. lakh)
Amravati	Gram, Wheat, Safflower, Sunflower	22,485	23,639	571.49	98,997	285.75
Akola	Gram, Wheat, Safflower, Sunflower, Maize, Jowar	15,230	20,689	488.76	57,367	244.38
Buldhana	Gram, Wheat, Safflower, Sunflower, Maize, Jowar	32,240	27,868	621.24	73,095	310.62
Washim	Gram, Wheat, Safflower, Sunflower, Jowar	10,390	9,170	247.19	18,224	123.59
Yavatmal	Gram, Wheat, Safflower, Sunflower, Jowar, Tur	23,521	19,528	453.89	65,074	226.95
Wardha	Gram, Wheat, Safflower, Sunflower, Jowar	10,190	11,786	274.83	46,520	137.42
	Total	114,056	112,680	2,657.4	359,277	1,328.71

Source: VNSSM, Amravati.

Table 2.8: Districtwise Seasonwise Seed Distribution, Number of Beneficiaries and total Subsidy Amount - Kharif 2007 to Rabi 2008

(Quantity in quintals)

District	Crop Name	Allotment (qtls.)	Supply (qtls.)	Sale (qtls.)	No. of beneficiaries	50% subsidy amount (Rs. lakh)
1	2	3	4	5	6	7
	Kharif 2007 (up to December 31, 2007)					
Amravati	Soybean, Tur, Moog, Udid, Cotton	68,010	62,420	62,033	216,750	702.65
Akola	Soybean, Tur, Moog, Udid, Cotton, Maize	45,845	34,470	34,349	87,579	449.81
Buldhana	Soybean, Tur, Moog, Udid, Cotton, Sesamum, Maize	41,310	43,951	43,505	118,897	553.45
Washim	Soybean, Tur, Moog, Udid, Cotton, Maize	74,775	52,102	51,990	97,408	598.21
Yavatmal	Soybean, Tur, Moog, Udid, Cotton	68,635	58,984	58,947	175,512	654.3
Wardha	Soybean, Tur	90,075	71,534	71,151	162,759	804.24
	Total	388,650	323,461	321,975	858,905	3,762.66
	Rabi 2007 (up to March 31, 2008)					
Amravati	Wheat, Gram, Safflower	35,350	48,437	48,262	142,930	602.22
Akola	Wheat, Gram, Safflower, Sunflower	32,310	23,999	22,599	42,689	281.37
Buldhana	Rabi Jowar, Wheat, Gram, Safflower	37,810	21,201	20,736	39,279	247.47
Washim	Rabi Jowar, Wheat, Gram, Safflower, Maize, Sunflower	16,840	12,237	10,876	14,806	134.59
Yavatmal	Rabi Jowar, Wheat, Gram, Safflower	31,850	26,432	26,200	84,471	324.48
Wardha	Wheat, Gram, Safflower	19,260	16,666	16,013	51,563	198.54
	Total	173,420	148,972	144,686	375,738	1,788.67
	Kharif 2008 (up to March 31, 2009)					
Amravati	Soybean, Tur, Moog, Udid, Cotton, Maize	65,200	69,174	68,299	215,260	1,156.05
Akola	Soybean, Tur, Moog, Udid, Cotton, Maize	45,100	46,752	45,776	95,968	477.83
Buldhana	Soybean, Tur, Moog, Udid, Cotton, Maize	55,243	48,095	46,651	103,849	803.51
Washim	Soybean, Tur, Moog, Udid, Cotton, Maize	54,060	41,372	40,009	68,913	677.82
Yavatmal	Soybean, Tur, Moog, Udid, Cotton, Maize	67,950	67,932	67,467	184,454	1,137.29
Wardha	Soybean, Tur, Moog, Udid, Cotton, Maize	66,600	61,841	59,485	190,393	1,016.43
	Total	354,153	335,166	327,687	858,837	5,568.93

1	2	3	4	5	6	7
	Rabi 2008 (up to March 31, 2009)					
Amravati	Wheat, Gram, Safflower, Sunflower	-	-	45,422	94,180	517.47
Akola	Wheat, Gram, Safflower,	-	-	31,184	59,812	360.71
Buldhana	Rabi Jowar, Maize, Wheat, Gram,	-	-	26,347	45,150	288.91
Washim	Wheat, Gram	-	-	12,241	17,671	144.63
Yavatmal	Maize, Wheat, Gram	-	-	36,656	72,887	416.22
Wardha	Wheat, Gram	-	-	18,576	41,790	220.8
	Total	-	-	170,426	331,490	1,948.74

Source: VNSSM, Amravati.

It can be observed from Table 2.7 and Table 2.8 that the number of beneficiaries in kharif season is more than double that in the rabi season. This is naturally expected since agriculture in these districts is rainfed and hence farmers take more crops in the kharif season. Further, if we take into consideration the number of farmers in these six selected districts, which are 15.58 lakh in number (as per Agricultural Census 2000-01, GoM), we can infer that approximately on an average every year 23 percent of farmers were beneficiaries of seed replacement programme in the rabi season and 55 percent were beneficiaries in the kharif season. Thus the benefits of the seed replacement programme seem to have penetrated in the suicide prone districts.

2.2.4 Watershed Development:

In view of more than 94 percent area (to total gross cropped area) being rainfed in the six identified districts, watershed development scheme was included in order to increase the production and productivity of crops. The scheme is subdivided into three sub-schemes, viz., check dams, watershed development programme and rain water harvesting scheme. Under the scheme, it was targeted that on an average 500 check dams every year at an average cost of Rs. 2.0 lakh per check dam will be constructed in six districts over three years period. Thus, all together target of construction of 9000 check dams in six districts over a period of three years was set. The estimated cost per year for this programme is Rs. 60.0 crore (i.e. total of Rs. 180.0 crore in three years).

In addition to this, about 15000 hectares area per district would be treated under participatory watershed development programme for which grant support of Rs. 60.0 lakh per watershed of 1000 hectare area each, entailing an outlay of Rs. 54.0 crore for six districts is provided. Rainwater harvesting scheme aiming at accelerated growth of irrigation potential for ensuring agricultural development of SC/ST beneficiaries including small and marginal farmers was provided with 50 percent back ended capital subsidy along with 50 percent bank loan, covering 1000 beneficiaries a year in each of the identified district. The district-wise and yearwise amount received, check dams constructed and expenditure under check dam scheme is presented in Table 2.9. It can be seen from the table that during the last three years, the total amount received under this scheme was Rs. 180 crore as per sanctioned budget. Against the target of construction of 9000 check dams in three years, total 7970 check dams were constructed by 2008-09, with an expenditure of Rs. 162.53 crore. It can thus be observed that 88 percent of the target was achieved.

Table 2.9: District-wise and Yearwise Amount Received, Check-dams Constructed and Expenditure Incurred (2006-2009)

District	Amount received (Rs. lakh)				Number of Check dams constructed				Total Expenditure (Rs. Lakh)			
	2006-07	2007-08	2008-09	Total	2006-07	2007-08	2008-09	Total	2006-07	2007-08	2008-09	Total
Amravati	1000.0	999.99	1,000	3,000	528	521	380	1429	1000.0	999.99	745.91	2745.90
Akola	1000.0	999.99	1,000	3,000	500	500	359	1359	1000.0	980.78	629.71	2610.49
Buldhana	1000.0	999.99	1,000	3,000	503	502	400	1405	1000.0	999.99	844.00	2843.99
Washim	1000.0	999.99	1,000	3,000	500	501	235	1236	1000.0	999.99	694.38	2694.37
Yavatmal	1000.0	1000.35	1,000	3,000	505	502	170	1177	1000.0	1000.35	624.13	2624.48
Wardha	1000.0	999.69	1,000	3,000	500	500	364	1364	1000.0	947.53	786.08	2733.61
Total	6000.0	6000.0	6,000	18000	3036	3026	1908	7970	6000.0	5928.63	4324.21	16252.84

Source: VNSSM, Amravati.

The list of the projects identified for completion under the Prime Minister's package for distressed districts of Maharashtra is presented as *Annexure IV*. The information about the districtwise allocation and utilisation of Watershed Development

Fund (under NHWDP¹) through Capacity Building Place (CBP) and Wadi development programme is presented in Table 2.10. About 90188 ha area was treated under participatory watershed development programme with an expenditure of Rs. 18.65 crore against sanctioned amount of Rs. 54.0 crore, by May 31, 2009. Also about 3000 farm ponds were constructed under NREGA/EGS under water harvesting programme with an expenditure of Rs. 6.0 crore during same period.

Table 2.10: Districtwise Progress under Watershed Development Programme (as on January 22, 2008)

District	Capacity Building Place (CBP) (Rs. in lakh)		Wadi Development (Rs. in lakh)	
	Allocation	Expenditure	Allocation	Expenditure
Amravati	81.59	81.45	7.5	7.5
Akola	77.77	65.16	6.75	6.75
Washim	90.96	74.31	7.5	7.5
Yavatmal	88.28	77.86	7.5	7.5
Buldhana	78.53	96.18	7.5	7.5
Wardha	357.39	210.14	7.5	7.5
Total	774.52	605.1	44.25	44.25

Source: VNSSM, Amravati.

2.2.5 Horticulture Development:

Under the National Horticulture Mission (NHM), all the identified districts were included. Initially five out of six identified districts were covered under the National Horticulture Mission (NHM). The remaining one district i.e. Buldhana was included later under the mission.

The National Horticulture Mission (NHM) was launched in Maharashtra since 2005-06 with the objective of bringing a holistic and integrated development in the horticulture sector. It is based on cluster approach, focused development of selected crops, improvements in production and productivity, adoption of good agricultural

¹ NABARD Supported Holistic Watershed Development Programme (NHWDP) was launched on 2nd October 2006 in six distressed districts of Vidarbha. The Watershed development measures are being taken up in 90,000 ha in these 6 districts as a participatory programme for micro level infrastructure development with regard to sustainable management of soil and water resources. The programme is launched with one day willingness shramdan (Volunteer Labor contribution) by the community. The project not only aims for soil and water conservation measures but also incorporates support for overall development of families through integrated activities like livestock development, Wadi (horticulture plantation), women's development and providing improved livelihood options to the landless families. The project is being implemented on a cluster (2500-3000 ha watershed area) basis in order to ensure efficiency (<http://www.mittra.org>).

practices aimed at promotion of exports and thrust on post harvest management (www.mahanhm.gov.in). A technology mission on citrus for addressing the problems of citrus production, protection, post harvest technology and processing is mounted under the supervision of National Research Centre on Citrus (NRCC), Nagpur. It can be seen from the Table 2.11 that a project for Rs. 225.0/- crore has been sanctioned by the government under this scheme as against which about Rs. 115.26 crore (51.26 percent) were received by March 31, 2009. Under this scheme, new plantation of fruit perennial, floriculture, spices and aromatic plants have been taken up on 52128 ha area since 2006. Also 1267 community water tanks were completed. Old and senile orchards in an area of 8097 ha area are being rejuvenated. As NHM is an ongoing programme, the funds would be available till the year 2012.

Table 2.11: Progress of National Horticulture Mission in six districts on March 31, 2009
(Rs. in lakh)

District	Sanctioned plan amount under NHM				Total Amount received	Total Expenditure
	2006-07	2007-08	2008-09	Total		
Amravati	1019	1503	1793	4315	3332.55	3332.56
Akola	702	1123	1542	3367	1576.78	1512.86
Buldhana	1290	1338	1277	3905	2379.98	2248.73
Washim	795	1062	1211	3068	1098.39	1066.83
Yavatmal	1142	1448	1624	4214	2129.25	2068.73
Wardha	1132	1235	1264	3631	1009.95	990.13
Total	6080	7709	8711	22500	11526.90	11219.84

Source: VNSSM, Amravati.

2.2.6 Micro Irrigation:

All the six districts are covered under the scheme of micro irrigation. The programme was targeted to cover 17800 hectares area in all six identified districts under drip and sprinkler irrigation, by involving an investment of Rs. 26 crore per year. In all, 53400 hectares land in all six identified districts would be brought under sprinkler and drip irrigation. The state of Maharashtra was allocated total Rs. 78.0 crore under micro irrigation scheme in order to develop the drip and sprinkler irrigation base in the six districts over the period of three years. Table 2.12 presents the yearwise and districtwise amount sanctioned under micro irrigation scheme. It can

be seen that Amravati, Buldhana and Yavatmal districts together account for major share (75.34 percent) in total sanctioned amount for development of micro irrigation.

Table 2.12: Districtwise and Yearwise Amount Sanctioned under Micro Irrigation Scheme

District	Micro-Irrigation Scheme (Rs. in lakh)			
	2006-07	2007-08	2008-09	Total
Amravati	824.38	800.0	800.0	2424.38
Akola	230.25	200.0	200.0	630.25
Buldhana	750.0	780.0	780.0	2310.0
Washim	125.38	150.0	180.0	455.38
Yavatmal	403.25	400.0	340.0	1143.25
Wardha	268.0	270.0	300.0	838.0
Total	2601.26	2600.0	2600.0	7801.26

Source: VNSSM, Amravati.

The yearwise amount received, area covered under irrigation and expenditure incurred is presented in Table 2.13 and districtwise total amount received, expenditure incurred and area covered under sprinkler and drip irrigation under micro irrigation scheme in six districts of Maharashtra is presented in Table 2.14. It can be seen from the Table 2.13 that out of total area brought under irrigation during last three years, almost 50 percent area was brought during the year 2007-08. It can be observed from Table 2.14 that the total funds received under this scheme, expenditure incurred and area under micro irrigation was higher than the target set. An amount of Rs 112.54/- crores was received as against which Rs. 103.32/- crores expenditure was incurred. During last three years period (up to May 31, 2009), altogether 92061 hectares area was brought under irrigation through sprinkler and drip irrigation in six identified districts. Thus actual area brought under micro irrigation was more than that targeted by 72 percent.

Table 2.13: Yearwise Amount Received, Area Covered under Irrigation and Expenditure Incurred

Year	Funds received (Rs. in lakh)	Area covered (ha)			Expenditure incurred (Rs. in lakh)
		Sprinkler Irrigation	Drip Irrigation	Total	
2006-07	2299.46	14028	6746	20774	2299.00
2007-08	5056.34	28337	15784	44121	5031.94
2008-09	3898.84	20272	6894	27166	3001.43
Total	11254.64	62637	29424	92061	10332.37

Source: VNSSM, Amravati.

Table 2.14: Districtwise Amount Received, Expenditure Incurred and Area Covered under Sprinkler and Drip Irrigation (2006-2009)

(Rs. in lakh, Area in ha)

District	Total Amount Received	Sprinkler Irrigation		Drip Irrigation		Total Expenditure	
		Area	Amount	Area	Amount	Area	Amount
Amravati	3421.08	10456	751.66	14267	2280.92	24723	3032.58
Akola	1098.25	7470	549.55	2423	548.65	9893	1098.20
Buldhana	3548.93	11335	888.11	8378	2128.51	19713	3016.62
Washim	893.73	8437	621.11	1407	272.50	9844	893.61
Yavatmal	1511.26	15614	1126.41	2226	385.27	17840	1511.68
Wardha	781.39	9325	665.61	723	114.07	10048	779.68
Total	11254.64	62637	4602.45	29424	5729.92	92061	10332.37

Source: VNSSM, Amravati.

2.2.7 Extension Services:

It is well known fact that agricultural extension plays very important role in dissemination of information to the farmers at the appropriate time. However, it is argued that agricultural extension system in the state has become very weak and its presence on the field is negligible. Therefore, under PM's package, under this scheme, it was decided to put an effective and efficient extension service mechanism in place in the identified districts for empowering the farmers. Through Agriculture Technology Management Agencies (ATMA) of all the districts, farmers would be provided extension support and convergence at district level. The districtwise physical and economical achievement under ATMA extension services as on March 31, 2009 is presented in Table 2.15. The total allocation for this programme under PM's package was of Rs. 3.00 crore for six identified districts. However, during three years period, total amount of Rs. 1275.61 lakh was sanctioned, the sum of Rs. 1150.26 lakh has been received and against that total expenditure of Rs. 1043.76 lakh incurred in six districts. Though sanctioned amount was almost equally distributed over the three years, the expenditure incurred was highest during the first year (2006-07) and then lower down in the other two years. The Self Help Groups for the farmers in all the selected districts were strengthened under this scheme.

Table 2.15: Districtwise Physical and Economical Achievement under Agriculture Technology and Management Agency (ATMA) Extension Services as on March 31, 2009

(Rs. in lakh)

District	Total Sanctioned Amount				Total Amount Received				Total Expenditure			
	2006-07	2007-08	2008-09	Total	2006-07	2007-08	2008-09	Total	2006-07	2007-08	2008-09	Total
Amravati	70.41	80.35	86.6	237.36	67.2	80.14	65.13	212.47	66.43	79.54	63.22	209.19
Akola	86.01	54.15	51.84	192.0	82.05	53.94	39.29	175.28	82.05	53.94	35.7	171.69
Buldhana	89.92	81.35	81.83	435.36	85.76	81.14	61.58	228.48	85.76	73.46	55.15	214.37
Washim	56.83	45.8	47.34	149.97	54.27	45.6	35.93	135.8	49.29	36.27	24.61	110.17
Yavatmal	84.77	89.6	96.52	270.89	80.86	89.39	72.5	242.75	80.82	71.28	39.69	191.79
Wardha	60.41	54.9	56.98	172.29	57.69	54.7	43.09	155.48	57.69	50.53	38.33	146.55
Total	448.35	406.2	421.1	1275.61	427.83	404.91	317.52	1150.26	422.04	365.02	256.7	1043.76

Source: VNSSM, Amravati.

2.2.8 Subsidiary Income Activities:

In order to support the subsidiary income of the farmers, schemes relating to livestock and fisheries were included in PM's package. Initially, the total package involved a total investment of Rs. 98.87 crore in six districts over a period of three years, which increased to Rs. 135 crore by 2008-09. The main component relating to livestock and fisheries was i) induction of 1000 high yielding milch Animals per district with 50 percent subsidy (balance bank credit); ii) induction of 500 female calves per district with 50 percent of rearing cost; iii) providing cattle/buffalo breeding services (through door-to-door services); iv) feed and fodder supply programme; v) establishment of fodder block making units with 50 percent subsidy (balance bank credit); and v) provision of adequate health care to all animals.

Out of total sanctioned amount of Rs. 135.0 crore, Rs. 60.92 crore was received, against which total expenditure of Rs. 59.05 crore was incurred by May 31, 2009. The districtwise schemewise amount received and expenditure incurred under subsidiary income activities on animal husbandry, dairy development and fisheries development as on March 31, 2009 is presented in Table 2.16. It can be seen from the table that total amount received under this scheme is Rs. 50.98 crore and against which expenditure of about Rs. 48.99 crore was incurred. In addition to this, Rs. 0.72 crore amounts has been spent towards purchase of bulk cooler by Maharashtra State Dairy Association (*Mahanand*) by March 31, 2008 under establishment of milk cooling

centre scheme. The districtwise number of rearing of hybrid calf, districtwise number of artificial insemination carried out and districtwise number of beneficiary under food and fodder supply scheme (as on March 31, 2009) are presented in Table 2.18, Table 2.19 and Table 2.20, respectively.

Table 2.16: Districtwise Scheme wise Amount Received and Expenditure Incurred under Subsidiary Income Activities Scheme (as on March 31, 2009)

Scheme	Amount received (Rs. in lakh)				Expenditure (Rs. in lakh)				Achievement (No)			
	2006-07	2007-08	2008-09	Total	2006-07	2007-08	2008-09	Total	2006-07	2007-08	2008-09	Total
Distribution of Milch Animal	573	975.9	900	2448.96	612.88	696.06	998.17	2307.11	5384	6187	7888	19459
Shed Construction	0.00	0.00	0.00	0.00	--	82.47	122.42	204.89	--	2199	2754	4953
Hybrid Calves rearing	140	264.39	219	623.39	46.48	146.90	201.23	394.61	2582	5649	4764	12995
A.I.	311	366.42	487.77	1165.19	237.21	295.76	619.43	1152.40	158138	197173	188314	543625
Supply of Food and Fodder	557	200	0.00	757.00	--	259.05	478.90	737.95	--	11656	5803	17459
Fodder block	55	30	0.00	85	--	42.50	42.50	85.00	--	1	1	2
Health care	18	0.00	0.00	18	--	18	0.00	18	--	--	--	0
Total	1654.0	1836.77	1606.77	5097.54	896.57	1540.74	2462.65	4899.96				

Source: VNSSM, Amravati.

Table 2.17: Districtwise Distribution of Milch Animals (on March 31, 2009)

District	Amount received (Rs. in lakh)				Expenditure (Rs. in lakh)			
	2006-07	2007-08	2008-09	Total	2006-07	2007-08	2008-09	Total
Amravati	198.76	139.84	248.37	586.97	173	100.13	114.36	387.49
Akola	127.69	150.19	191.61	469.49	127.69	12.60	149.97	398.26
Buldhana	54.07	80.28	265.62	399.97	14.74	89.33	178.37	282.44
Washim	195.52	164.46	167.67	527.65	178.65	52.09	197.47	428.21
Yavatmal	139.28	146.11	346.71	632.10	42.08	198.34	154.04	394.46
Wardha	76.72	152.18	399.97	628.87	67.62	135.57	203.96	407.15
Total	792.04	833.06	1619.95	3245.05	612.88	696.06	998.17	2307.11
	No. of beneficiaries				No. of milch animals distributed			
Amravati	768	776	246	1790	1536	890	733	3159
Akola	537	1072	574	2183	1073	1072	1203	3348
Buldhana	131	510	872	1513	131	794	1745	2670
Washim	794	388	755	1937	1588	463	1557	3608
Yavatmal	374	1085	583	2042	374	1763	1165	3302
Wardha	654	1205	816	2675	682	1205	1485	3372
Total	3258	5036	3846	12140	5384	6187	7888	19459

Source: VNSSM, Amravati.

It can be observed from the tables that total 12140 farm families have been supplied with milch animals and total 19459 milch animals are distributed so far. Total 12995 farm families have been assisted under calf rearing programme and 543625 Artificial Inseminations were carried out. Under the scheme of food and fodder supply, 17459 farmers household from the six selected districts were benefited. Towards supply of instruments for development of fodder blocks, Rs.0.85 crore grants have been received by Maharashtra Animal Wealth Development Corporation, Akola. The implementation period of this scheme under PM's package was over a period of three years (2006-07 to 2008-09). However, the government extended the period for implementation by two more years, i.e. up to 30.09.2011 for non credit component.

Table 2.18: Districtwise Number of Households Assisted under Rearing of Hybrid Calf (as on March 31, 2009)

District	Amount received (Rs. in lakh)				Expenditure (Rs. in lakh)				No. of Calves/ Household Assisted			
	2006-07	2007-08	2008-09	Total	2006-07	2007-08	2008-09	Total	2006-07	2007-08	2008-09	Total
Amravati	12.78	47.37	24.50	84.65	12.78	39.76	24.50	77.04	710	1277	1764	3751
Akola	11.36	30.84	43.70	85.90	11.36	31.01	43.70	86.07	631	964	819	2414
Buldhana	8.85	11.01	27.34	44.20	5.85	10.26	27.34	43.45	325	461	788	1574
Washim	8.86	12.5	17.40	38.76	8.86	9.66	17.40	35.92	492	738	332	1562
Yavatmal	4.97	42.13	50.19	97.29	4.97	40.95	50.19	96.11	276	1612	525	2413
Wardha	2.66	15.24	38.10	56.00	2.66	15.26	38.10	56.02	148	597	536	1281
Total	46.48	159.09	201.23	406.80	46.48	146.9	201.23	394.61	2582	5649	4764	12995

Source: VNSSM, Amravati.

Table 2.19: Districtwise Number of Artificial Insemination Carried out (as on 31.03.2009)

District	Amount received (Rs. in lakh)				Expenditure (Rs. in lakh)				No. of A.I. carried out			
	2006-07	2007-08	2008-09	Total	2006-07	2007-08	2008-09	Total	2006-07	2007-08	2008-09	Total
Amravati	0.00	3.26	4.81	8.07	50.00	68.12	114.38	232.50	33333	45411	38996	117740
Akola	0.00	5.20	12.17	17.37	33.43	52.42	110.44	196.29	22287	34945	35734	92966
Buldhana	0.00	2.71	1.94	4.65	17.68	24.35	74.74	116.77	11785	16237	12379	40401
Washim	0.00	3.23	4.85	8.08	53.60	55.77	115.65	225.02	35730	37182	39757	112669
Yavatmal	0.00	2.00	2.00	4.00	52.50	56.67	109.83	219.00	35002	37778	35870	108650
Wardha	0.00	1.88	3.66	5.54	30.00	38.43	94.39	162.82	20001	25620	25578	71199
Total	0.00	18.28	29.43	47.71	237.21	295.76	619.43	1152.40	158138	197173	188314	543625

Source: VNSSM, Amravati.

Table 2.20: Districtwise Number of Beneficiaries under Food and Fodder Supply Scheme (as on 31.03.2009)

District	Expenditure (Rs. in lakh)			No. of Beneficiaries		
	2007-08	2008-09	Total	2007-08	2008-09	Total
Amravati	53.43	84.43	137.86	1675	1058	2733
Akola	52.12	116.28	168.40	2317	1358	3675
Buldhana	17.51	53.19	70.70	1406	579	1985
Washim	45.54	56.83	102.37	2213	697	2910
Yavatmal	60.31	84.25	144.56	2675	977	3652
Wardha	30.14	83.92	114.06	1370	1134	2504
Total	259.05	478.90	737.95	11656	5803	17459

Source: VNSSM, Amravati.

The fisheries component of subsidiary income activities has been implemented along with livestock in Maharashtra. However, this component received negligible allocation and finally only 4 percent of allocated amount was received. Towards the construction/ repairs and renovation of fish ponds and input subsidies, while total amount of Rs. 621 lakh was allocated, only Rs. 23 lakh were received and total of Rs.18.93 lakh expenditure was incurred. Against the target of 101 ponds, 91 fish ponds (102.34 ha area) were constructed and 91 famers are benefited by this scheme. The fisheries component was thus very limited in the package.

2.2.9 Ex-gratia Assistance from PMNRF:

With a view to alleviate the sufferings of debt stressed families of farmers in the six affected districts of Vidarbha in Maharashtra, a sum of Rs. 50.0 lakhs each was placed at the disposal of respective District Collectors. Under this programme, total amount of Rs. 3.00 crore was received from PMNRF. The progress of implementation of this scheme is presented in Table 2.21 and Table 2.22. Total amount of Rs. 3.00 crore was received from PMNRF during the year 2006-08 and Rs. 3.60 crore from Chief Minister's Relief Fund during 2008-09. It can be seen from the table that ex-gratia assistance under PMNRF was given to the 9555 farmers, from which 7341 farmers received health assistance and 2214 farmers received educational assistance. The total assistance provided was Rs. 610.0 lakh, of which around Rs. 124.0 lakh was provided for education and about Rs. 486.0 lakh for heath.

Table 2.21: Ex-gratia assistance from PMNRF (from April 1, 2006 to March 31, 2008)

District	No. of beneficiary farmers				Amount distributed (in lakh) on				No. of Suicide farmers	No. of Farmers in crisis
	Health	Education	Other	Total	Health	Education	Other	Total		
Amravati	509	199	--	708	38.69	11.31	--	50.0	117	591
Akola	429	98	--	527	40.20	9.80	--	50.0	95.0	432
Buldhana	482	107	--	589	42.75	7.25	--	50.0	15.0	574
Washim	361	139	--	500	36.10	13.90	--	50.0	124	376
Yavatmal	274	493	--	767	19.60	30.40	--	50.0	211	556
Wardha	673	210	--	883	39.57	10.43	--	50.0	3.0	880
Total	2,728	1,246	0	3,974	216.91	83.09	0	300.	565	3,409

Note: Total amount received Rs. 3.00 Crore.

Source: VNSSM, Amravati.

Table 2.22: Ex-gratia assistance from PMNRF (from April 1, 2008 to January 31, 2009)

District	No. of beneficiary farmers				Amount distributed (in lakh) on				No. of Suicide farmers	No. of Farmers in crisis
	Health	Education	Other	Total	Health	Education	Other	Total		
Amravati	610	237	--	547	41.19	14.28	--	55.47	5	842
Akola	725	3	--	728	36.25	0.15	--	36.40	0	728
Buldhana	718	67	--	785	54.75	5.25	--	60.00	4	781
Washim	1,133	408	--	1,541	46.04	8.90	--	54.94	5	1,536
Yavatmal	690	63	--	753	54.05	5.83	--	59.88	82	671
Wardha	737	190	--	927	36.46	6.82	--	43.28	46	864
Total	4,613	968	0	5,581	268.74	41.23	0	309.97	142	5,422

Note: Total amount received Rs. 3.60 Crore.

Source: VNSSM, Amravati.

2.2.10 Schemewise and Grantor- wise Details :

The schemewise and grantor- wise amount received and expenditure incurred as on May 31, 2009 in total six districts of Maharashtra is presented in Table 2.23 and Table 2.24. It can be seen from the table that the total amount received from NABARD, Centre Government and State Government under various schemes for this PM's package was about Rs. 4058 crore. However the total allocation/sanction of the package was of Rs. 3750 crore. The total expenditure incurred on the schemes was about Rs. 4095/- crore, which was 109.20 percent to total allocation.

Overall, it was observed that except target under irrigation potential creation, the package implementation was satisfactory and the targets were achieved. The benefits under AIBP under which assistance was provided for completion of all projects would take time and it would have long term benefits. It is by and large clear from the secondary data that the package is implemented properly and its expenditure was more than original sanctioned budget amount.

Table 2.23: Schemewise Allocation, Amount Received and Expenditure Incurred under PM Package as on May 31, 2009

Particular	Total allocation (Rs. in Crore)	Amount received (Rs. in Crore)				Total Expenditure (Rs. in Crore)	Expenditure % to total allocation
		NABARD	Central Govt.	State Govt.	Total		
Interest Waiver	712	0.00	355.17	412.46	767.63	837.50	117.63
Assured Irrigation Facilities	2,177	223.96	1,276.88	1,140.4	2641.24	2,641.24	121.32
Micro-Irrigation	78	0.00	93.66	18.88	112.54	103.32	132.46
Check dams	180	60.00	0.00	120.00	180	162.53	90.29
Watershed Development Programme	54	18.65	0.00	0.00	18.65	18.65	34.54
Rain Water Harvesting	6	0.00	6.00	0.00	6.0	6.00	100.00
Extension Services (ATMA)	3	0.00	11.06	0.44	11.5	10.44	348.00
Seed Replacement/ Distribution	180	0.00	143.98	0.00	143.98	143.98	79.99
Horticulture Development (NHM)	225	0.00	115.26	0.00	115.26	112.20	49.87
Subsidiary Income Activities	135	0.00	50.97	9.95	60.92	59.05	43.74
Total	3,750	302.61	2,052.98	1,702.13	4057.72	4,094.91	109.20

Source: VNSM, Amravati.

Table 2.24: Amount Allocated, Expenditure Incurred and Major Achievements of PM's Relief Package in Maharashtra (up to 31 May, 09)

(Rs. in Crore)

Sr.	Item	Agency	Target 2006-09	Allocation till date	Expenditure	Achievement		
1	Waiver of overdue interest	GOI	356	355.17	418.75	9.37 lakh accounts.		
		GOM	356	412.46	418.75			
		Total	712.00	767.63	837.50			
2	Assured Irrigation	GOI	1462	1276.88	1276.88	88644 ha irrigation potential created. Target for creation of irrigation potential is 1.59 lakh ha. Additional storage created 749.54 mm ³		
		GOM	563	1140.40	1140.40			
		NABARD	152	223.96	223.96			
		Total	2177.00	2641.24	2641.24			
3	Micro Irrigation	GOI	62.4	93.66	84.44	20774 ha in 2006-07 44121 ha in 2007-08 and 27166 ha in 2008-09 covered under Drip & Sprinkler irrigation.		
		GOM	15.6	18.88	18.88			
		Total	78.00	112.54	103.32			
4	Watershed Development a) Check Dams	NABARD	180	60	60	9000 check dams taken up so far, 7970 completed.		
		GOM	0	120	102.53			
		Total	180	180	162.53			
	b) Watershed Development	NABARD	54	18.65	18.65	90,118 ha area taken up.		
	c) Water Harvesting	GOI	6	6	6	3000 farm ponds and bunds taken up under NREGA / EGS		
	Total (a+b+c)		240.00	199.27	187.18			
5	Extension Services	GOI	2.7	11.06	10.00	SHG for farmers for all the districts being strengthened		
		GOM	0.3	0.44	0.44			
		Total	3.00	11.50	10.44			
6	Seed Replacement	GOI	180.0	143.98	143.98	Season	Seed distributed (qtls.)	No. of beneficiary
						Rabi 06	112680	359277
						Kharif 07	321975	858905
						Rabi 07	144686	375738
						Kharif 08	327,687	858837
						Rabi 08	170426	331490
						Total	1077454.0	
7	National Hort. Mission	GOI	225.00	115.26	112.20	52128 ha fresh plantation 8097 ha area rejuvenated. 1267 community tank		
8	Subsidiary Occupation	GOI	135	50.97	49.10	19459 Milch cattle distributed		
		GOM	0	9.95	9.95			
		Total	135.00	60.92	59.05			
Grand Total		GOI	2429.10	2052.98	2101.35	109.20 percent package implemented		
		GOM	934.90	1702.13	1690.95			
		NABARD	386.00	302.61	302.61			
		TOTAL	3750.00	4057.72	4094.91			

Notes: NABARD-National Bank for Agriculture and Rural Development, GOI- Government of India, GOM- Government of Maharashtra

Source: VNSM, Amravati

Agro Economic Profile of the Selected Districts and Sample Farmers

3.0 Introduction:

As mentioned earlier, the rehabilitation package aims at maintaining sustainable and viable farming and livelihood support system through debt relief to farmers, complete institutional credit coverage, crop-centric approach to agriculture, assured irrigation facilities, effective watershed management, better extension and farming support services and subsidiary income opportunities through horticulture, livestock, dairying fisheries and other subsidiary activities. Therefore, in order to study the issues on benefits of any package/scheme, one needs to understand first the agro-economic profile of the selected districts/regions. It is in this context, that in this section, the agro-economic profile of the selected districts is discussed. This section is divided into two. While the first section discusses about the agro-economic profile of the selected districts using available secondary level information, the second section highlights the basic features of the sample farmers.

3.1.1 Main Features of the Selected Districts:

The three districts selected for the detailed analysis are Yavatmal, Amravati and Buldhana from the Vidarbha region of Maharashtra. It is observed very surprisingly that as per the Agro-Climatic classification based on rainfall pattern, Yavatmal district falls under Moderate Rainfall Zone (900-1250 mm), while Amravati and Buldhana fall under Assured Rainfall Zone (700-900 mm). All the selected three districts are from Amravati Administrative division.

Yavatmal district is located in the eastern region (Vidarbha) of the Maharashtra state, between 19.26' to 20.42' north latitudes and between 77.18' to 79.98' east longitudes. Yavatmal district is bounded on the north by Amravati District, to the northeast by Wardha District, to the east by Chandrapur District, to the south by Andhra Pradesh state and Nanded District, to the southwest by Hingoli District, and to the west by Washim District. Yavatmal district lies in the South-Western part of the Wardha Penganga-Wainganga plain. The chief rivers flowing through the district are

the Wardha and the Penganga. The Wardha is the only river flowing through the district which is partly navigable. The Bembla and the Nirguda are the main perennial tributaries of the Wardha which flow through the district. Adan is other important river in this area. The district headquarters are located at Yavatmal. The average rainfall of Yavatmal District is 964.7 mm. The climate of the district is in, general hot and dry with moderately cold winters. The year may be divided into four seasons. The hot season begins in March and extends up to the first week of June. This is followed by the south west monsoon season which last up till the end of September, October and November constitute the post monsoon season and is followed by the cold season which last up till February. Most of the total annual rainfall is reserved during the south west monsoon season. The rainfall is not uniform in all parts of the district.

Amravati district is located between 20.32' to 21.46' north latitudes and 76.37' to 78.27' east longitude, which essentially indicates that Amravati District is located in the Deccan plateau. Amravati is situated in the northern border of Maharashtra having Wardha district towards east and north east, Yavatmal district in the south and south west direction, Washim and Akola towards west and Betul district of Madhya Pradesh in the north and north east. Amravati city is its head quarter and the same is known as principal cotton market. It comes under the agro-climatic region of Central Plateau as per the classification of Agro-Climatic Regional Planning Unit (ARPU). Amravati faces extreme variations in temperature with very hot summers and very cold winters. Amravati district receives rainfall from south westerly monsoons mainly in the months of June, July, August and September. The climate of this district is semi-arid and the soil type is medium to deep black clay loam to clayey soils with neutral to slightly alkaline reaction. Except during monsoon (June-September), the climate of the district is generally dry throughout the year. The soils of the districts are derived from deccan trap. Cotton, jowar, orange and chilly are suitable for this kind of soil and climate. Amravati district is well known for its educational facilities. The district gets inspiration from its great sons Shri Gadagebaba, Saint Tukadoji Maharaj, and Dr. Panjabrao Deshmukh who brought about a revolution in the field of education.

Buldhana district is located in the central portion of the state of Maharashtra. Akola, Jalgaon, Jalna, Parbhani districts are the adjoining districts to the East, West and South, respectively. Nemad district of Madhya Pradesh is to the north. The district

lies between 19°51' to 21°17' north latitude and 75°57' to 76°49' east longitude. The district head quarter is at Buldhana which is connected to all thirteen talukas by state highway. The district gets rain from south west monsoons, mostly from June to September. The climate of the Buldhana district is generally dry and hot, Buldhana town itself has a comparatively cool weather and is considered to be the most pleasant place in district. The general climate of the district is characterized by hot and dry summers and cold winters with the seasonal variation in the temperature being pretty large. The major soil type is regur or black cotton soil.

3.1.2 Population and Workforce of the Selected Districts:

Distribution of workforce generally reveals the level of development of a particular region. Theories on economic development indicate that the workforce relying on agriculture would generally be lower in a developed country as compared to an underdeveloped country. Population and workforce details for three selected districts and state as a whole are presented in Table 3.1. It can be seen from the table that among the three selected districts, Amravati stands as the biggest districts in terms of population, followed by Yavatmal, while Buldhana stands as the smallest district. Their respective ranks are 14, 16 and 17 positions among the 35 districts in the state in 2001. Percentage of population living in urban areas is very high (about 35 per cent) in Amravati as compared to other selected districts, possibly because of its strong base in education sector. On the other hand, because of low industrial development in Yavatmal, only 18.60 percent of its population lives in urban area. However, percentage of SC/ST population to total population is about 30 percent in Yavatmal and Amravati district, which is higher than state average. Percentage of total rural workers to total rural population is substantially lower in Amravati district as compared to other selected districts. This is possibly because of urbanized nature of the district and its educational base as compared to the other two districts. The percentage of cultivators to total rural workers is substantially higher in Buldhana district followed by Yavatmal and lowest in Amravati district. The lowest percentage of cultivators in Amravati was due to high percentage of agricultural labours in this district. As expected, the percentage of rural workforce involved in non-farm rural employment (NFRE) is found to be lower in all the three districts as compared to state average.

Around 14 percent of total workers were employed in NFRE in Amravati district, whereas the same is only 11 per cent in Buldhana district. On the whole, all three selected districts have around 50 percent of rural workers as agricultural labourers, with very low NFRE opportunities and high SC/ST Population (except Buldhana). It is also observed that women have very limited opportunities in NFRE.

Table 3.1: Population and Agricultural Workers in the Selected Districts-2001

SL	Particulars	Yavatmal	Amravati	Buldhana	Maharashtra
1	Total Population (in Lakhs) 2001	24.58	26.07	22.32	968.79
	Male	12.66	13.46	11.47	504.01
	Female	11.93	12.62	10.85	464.78
2	Rural population (in Lakh)				
	Total	20.01	17.08	17.59	557.78
	Male	10.30	8.80	9.02	284.59
	Female	9.72	8.27	8.57	273.19
3	% of Urban Population in Total Population	18.60	34.50	21.20	42.43
4	% of SC/ST Population in Total Population	29.54	30.81	15.98	19.05
5	Total Workers (in Lakhs) (District)				
	Total	11.19	10.96	10.16	411.73
	Male	6.75	7.24	5.97	268.52
	Female	4.44	3.72	4.19	143.21
6	% of Total Workers to Total Population				
	Total	45.52	42.02	45.51	42.50
	Male	53.32	53.81	52.00	53.28
	Female	37.23	29.46	38.65	30.81
7	% of Rural Workers to Rural Population				
	Total	40.91	38.43	44.34	39.18
	Male	48.88	49.32	49.71	47.54
	Female	32.47	26.84	38.67	30.47
8	% of Rural Cultivators in Total Rural Workers				
	Total	34.19	26.50	40.57	45.59
	Male	36.51	30.77	41.22	44.45
	Female	30.49	18.15	39.68	47.45
9	% of Rural Agriculture Labourers in Total Rural Workers				
	Total	51.12	59.21	48.51	33.32
	Male	43.20	51.16	42.24	27.58
	Female	63.76	74.95	57.00	42.65
10	% of Rural Cultivators +Agriculture Labourers in Total Rural Workers				
	Total	85.31	85.71	89.08	78.91
	Male	79.70	81.93	83.47	72.03
	Female	94.25	93.11	96.67	90.10
11	% of NFRE in Total Rural Workers				
	Total	14.69	14.29	10.92	21.09
	Male	20.30	18.07	16.53	27.97
	Female	5.75	6.89	3.33	9.90

Note: NFRE – non-farm rural employment.

Source: GOM (2005, Primary Census Abstract, Maharashtra).

3.1.3 Per Capita Income of the Selected Districts:

The per capita income of the selected districts and at the state level for the year 2006-07 (at 1999-2000 constant prices) is presented in Table 3.2. It is observed that the gross per capita state income is higher than the three selected districts. Infact, it is more than double in case of Buldhana district, and more than 1.5 times of Yavatmal and Amravati districts. It shows the some other districts have significant higher per capita income and thus reflects the disparities between the districts/divisions. Amravati division had the lowest per capita income of Rs. 29503/- in the year 2007-08 at current prices, and Mumbai division had highest per capita income of Rs.73930/-, against state average of Rs. 47051/- during corresponding year (GOM, 2009). Per capita rural income of the state is also higher than three selected districts. Yavatmal and Amravati districts are close to state average, while it is almost half in case of Buldhana district. Amravati district accounts for the highest share (1.77 percent) in total state income followed by Yavatmal (1.51 percent) and lowest by Buldhana district (1.15 percent).

Table 3.2: Per Capita Income of Selected Districts: 2005-06 (at constant prices, 1999-00)

District	Per Capita Income (Rs.)		Total Income from Primary Sector (Rs. in Crore)		Per Capita Rural Income from Primary Sector (Rs.)		% of district income to State Income	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Yavatmal	19289	17579	149331	136339	7465	6814	1.48	1.51
Amravati	21006	19270	121443	115750	7114	6781	1.72	1.77
Buldhana	16096	14749	75308	71704	4281	4076	1.12	1.15
Maharashtra	32587	29085	4804700	4484200	8614	8039	100.0	100.0

Note: Rural Per Capita Income from Primary Sector (Rs.) = Total Income from Primary Sector/Rural Population.
Source: District Socio-Economic Review of selected districts, 2006-07, and Economic Survey, Govt. of Maharashtra, 2008-09.

3.1.4 Rainfall in Sample Districts:

Monsoons play a critical role in the agricultural development of the state, as till date over 82 percent of cropped area is cultivated under rainfed condition. Though the average rainfall of the state is relatively higher as compared to many states in India, its timeliness and spread across months as well as across different regions are not very much favourable (Narayanamoorthy and Kalamkar, 2004). As mentioned earlier, though the selected districts falls under moderate to assured rainfall zone and receives average rainfall above 700 mm in a year, there are substantial variations in the level of rainfall across months/years as well as between the talukas. The average annual rainfall

of Maharashtra state was more than 1000 mm, but it ranged between 724 to 961 mm in the selected districts during the last two decades (Table 3.3). All the three districts get over 75 per cent of total rainfall during the south-west monsoon especially between June and October. It can be seen from the table that during the period 2000-01 to 2004-05, the average rainfall received by the selected districts was very low as compared to state average as well as corresponding figures for earlier years of the respective districts. The coefficient of variation (CV) in three districts is much higher than for the state as a whole. Failure in monsoon has serious implications on the growth of agriculture in all the three selected districts. This wide variation in rainfall acts as one of the major constraints in agriculture. An analysis shows that the productivity of agricultural commodities goes down sharply whenever there is a reduction in rainfall (Narayanamoorthy and Kalamkar, 2004). This is because of the fact that foodgrains and other crops are cultivated predominantly in those districts which receive relatively less-normal rainfall. The wide variation in the normal rainfall across talukas within district not only discourages the farmers to adopt the required quantity of various yield increasing inputs but ultimately results in lower productivity most of the time.

Table 3.3: Average Annual Rainfall of the Selected Districts (in mm)

Period	Parameters	Yavatmal	Amravati	Buldhana	Maharashtra State
1960-61 to 1964-65	<i>Av. Rainfall</i>	1196.70	865.90	878.72	1225.22
	<i>C.V.</i>	12.19	19.47	12.83	12.08
1965-66 to 1969-70	<i>Av. Rainfall</i>	964.20	721.62	787.94	1053.33
	<i>C.V.</i>	12.46	15.94	19.99	12.16
1970-71 to 1974-75	<i>Av. Rainfall</i>	1018.88	809.48	761.42	1046.20
	<i>C.V.</i>	38.04	38.66	23.85	23.78
1975-76 to 1979-80	<i>Av. Rainfall</i>	1111.86	901.32	859.24	1066.16
	<i>C.V.</i>	13.50	41.03	17.52	9.65
1980-81 to 1984-85	<i>Av. Rainfall</i>	880.04	795.60	664.96	973.87
	<i>C.V.</i>	39.45	25.82	30.18	15.77
1985-86 to 1989-90	<i>Av. Rainfall</i>	885.55	714.60	745.28	1038.57
	<i>C.V.</i>	11.08	10.43	24.66	21.27
1990-91 to 1994-95	<i>Av. Rainfall</i>	961.96	868.18	802.38	1131.48
	<i>C.V.</i>	33.49	23.92	22.20	13.98
1995-96 to 1999-00	<i>Av. Rainfall</i>	910.58	839.62	840.10	1068.84
	<i>C.V.</i>	11.78	22.31	15.58	11.78
2000-01 to 2004-05	<i>Av. Rainfall</i>	768.66	724.58	687.96	1094.27
	<i>C.V.</i>	23.02	16.37	35.43	4.96
2005-06 to 2009-10*	<i>Av. Rainfall</i>	822.3	876.4	796.3	1218.2
	<i>C.V.</i>	28.24	28.16	33.80	16.17

Notes: Figures are five years averages of rainfall, C.V-Coefficient of Variation; * relates to total rainfall during June to October.
Source: GOM (Season and Crop Report of Maharashtra State, various issues), GOM (2006) and Office of the Commissionerate of Agriculture, Government of Maharashtra, Pune.

3.1.5 Size of Land Holdings:

Land holding pattern of three selected districts is somewhat different from that of the state level (Table 3.4). As per Agriculture Census 2000-01, the marginal holdings (below 1.0 ha) accounted for about 43.71 percent of the total holdings in Maharashtra, whereas the same group accounted for only 13.18 percent of total area. While the number of marginal holding in Yavatmal district is lowest (6.91 percent), which accounted for only 1.78 percent of total area, in case of Buldhana district 30.68 percent of total number of operational holdings accounted for 9.77 percent of total area. The percentage of number and size of small holdings to total in all three selected districts is higher as compared to state average (Fig. 2.1). The medium and above (above 2 ha) number of holdings accounts for 26.58 percent of the total holding in Maharashtra with 61.32 percent of total area, while corresponding figures for Yavatmal district are 50.29 percent and 75.01 percent, respectively. The same trend/pattern is also observed in case of Amravati and Buldhana, where about 33 percent of total number land holding accounts about 63 percent of total area. Because of relatively lower number of marginal and small holdings in selected three selected districts, the average size of operational holdings is found to be higher (ranges from 1.93 to 2.70 ha) as compared to the same at the state level (1.66 ha).

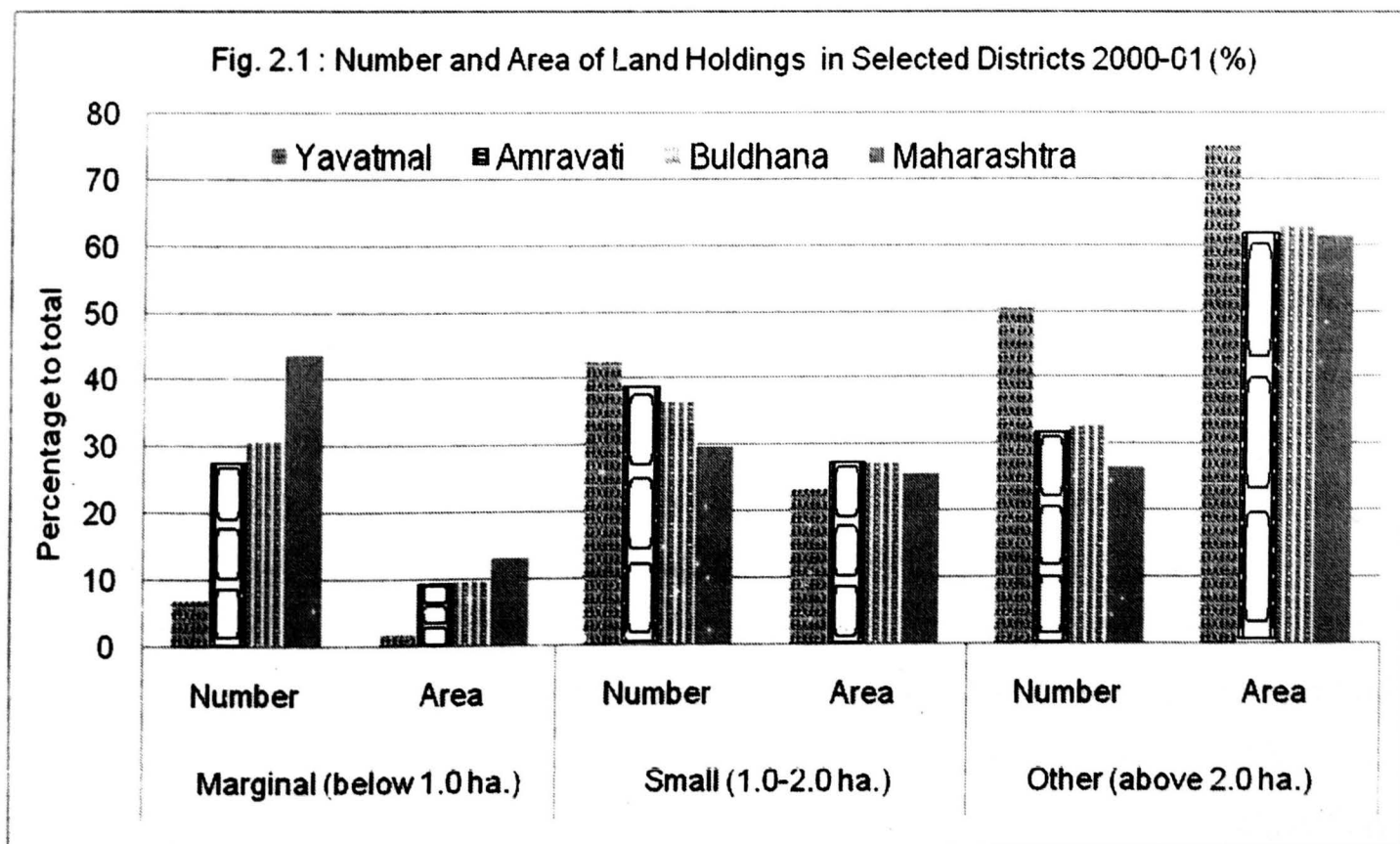


Table 3.4: Number and Area of Land Holdings in Selected Districts (2000-01)

Sr.	Name of District	Marginal (Below 1.0 ha.)		Small (1.0-2.0 ha.)		Other (Above 2.0 ha.)		Total		Av. land holdings (ha)
		No. (‘00)	Area (‘00)	No. (‘00)	Area (‘00)	No. (‘00)	Area (‘00)	No. (‘00)	Area (‘00)	
1	Yavatmal	219 (6.91)	152 (1.78)	1345 (42.50)	1980 (23.20)	1601 (50.59)	6402 (75.01)	3165 (100.0)	8534 (100.0)	2.70
2	Amravati	955 (28.16)	689 (9.62)	1337 (39.42)	1994 (27.87)	1099 (32.42)	4474 (62.51)	3391 (100.0)	7157 (100.0)	2.11
3	Buldhana	1130 (30.68)	696 (9.77)	1349 (36.62)	1943 (27.27)	1204 (32.70)	4484 (62.96)	3682 (100.0)	7123 (100.0)	1.93
	State	53057 (43.71)	26487 (13.18)	36056 (29.71)	51271 (25.50)	32263 (26.58)	123271 (61.32)	121376 (100.0)	201028 (100.0)	1.66

Note: Figures in parenthesis are percentage to total.

Source: Report of Agricultural Census, 2000-01, Maharashtra State, Agricultural Census Cell, Commissionerate of Agriculture, Government of Maharashtra, Pune

3.1.6 Land Use Pattern:

Among inputs, land is the most important input in agricultural production. Data on land use pattern explains how extensively lands are utilized for different purposes in a district/state (Kalamkar, 2003 and 2006). Table 3.5 presents the detailed land use pattern for three selected districts as well as Maharashtra state as a whole. It can be seen from the table that out of total geographical area, about 57 percent land was net sown in the state in 2007-08, however, percent of net cropped area to geographical area was higher in all three selected districts as compared to state average. Among the districts, percentage of net cropped to total geographical area was highest in Buldhana district (69.20 percent), followed by Yavatmal (62.65 percent) and lowest was in Amravati district (61.58 per cent). The area sown more than once was highest in Amravati district and lowest in Yavatmal, which may be due to relatively higher irrigation available in Amravati district. Therefore, cropping intensity is also higher in Amravati compare to state average. However, it is lower in other two selected districts.

Table 3.5: Land Utilisation Pattern of Selected Districts (2007-08)

(Area in '00 ha)

Sr. No.	Particulars	Yavatmal	Amravati	Buldhana	Maharashtra
I	Geographical area (Reporting Area for Land Utilisation Statistics 1 to 5)	13519	12217	9671	307583
1	Forest	2429 (17.97)	3098 (25.36)	883 (9.13)	52128 (16.95)
2	Not Available for Cultivation (a+b)	1043 (7.72)	643 (5.26)	1000 (10.34)	31456 (10.23)
	a) Barren and Uncultivated land	394 (2.91)	196 (1.60)	482 (4.98)	17181 (5.59)
	b) Land under Non-agri. use	649 (4.80)	447 (3.66)	518 (5.36)	14275 (4.64)
3	Other Uncultivated Land excluding Fallow land (a+b+c)	965 (7.14)	492 (4.03)	665 (6.88)	24125 (7.84)
	a) Cultivable waste	227 (1.68)	92 (0.75)	263 (2.72)	9157 (2.98)
	b) Permanent pasture	605 (4.48)	332 (2.72)	392 (4.05)	12485 (4.06)
	c) Misc trees & grooves	133 (0.98)	68 (0.56)	10 (0.10)	2483 (0.81)
4	Fallow Land (a+b)	613 (4.53)	461 (3.77)	431 (4.46)	25147 (8.18)
	a) Current Fallow	360 (2.66)	316 (2.59)	168 (1.74)	13265 (4.31)
	b) Other Fallow	253 (1.87)	145 (1.19)	263 (2.72)	11882 (3.86)
5	Net Area Sown	8469 (62.65)	7523 (61.58)	6692 (69.20)	174727 (56.81)
II	Gross cropped area	9764	11117	8459	226553
III	Area sown more than once	1295	3594	1767	51826
IV	Cropping Intensity (%)	115.3	147.8	126.4	129.7
V	Net Irrigated Area*	518	642	411	29711
VI	Gross Irrigated Area*	639	792	508	36681

Notes: Figures in parentheses are percentage to geographical area (1 to 5); * Figures refers to the year 2002-2003.

Source: Commissionerate of Agriculture, Pune.

3.1.7 Cropped Area and Irrigation Details of Selected Districts:

Irrigation is the most important input in the steady growth of the agricultural sector. It not only increases agricultural production but also minimizes the uncertainty due to unpredictable rainfall. Limited availability of irrigation is one of the main constraints that inhibit the growth of agriculture in Maharashtra. Area under cultivation

and area under irrigation of the selected districts and state are presented in Table 3.6. It can be seen from the table that level of irrigation is very low in all the three selected districts as compared to state average. Infact it ranges between as low as 5.98 percent in Buldhana to 7.55 percent in Amravati district, which is less than half of state average (16.38 percent).

Table 3.6: Cropped and Irrigated Area in Selected Districts- 2002-03

(Area '00 ha)

Particulars	Yavatmal	Amravati	Buldhana	Maharashtra
Net Sown Area (NSA)	8469	7523	6692	174727
Gross Cropped Area (GCA)	9764	11117	8459	226553
Net Irrigated Area (NIA)	518	642	411	29711
Gross Irrigated Area (GIA)	639	792	508	36681
% NIA to NSA	6.10	8.56	5.99	16.90
% GIA to GCA	6.53	7.55	5.98	16.38
Cropping Intensity (%)	115.29	147.77	126.40	129.66
Irrigation Intensity (%)	123.36	123.36	123.60	123.46

Sources: Office of the Commissionerate of Agriculture, Pune and GOM (various years, Season and Crop Reports) and GOM (2006).

With regard to sourcewise irrigation, the well irrigation accounts for major share of irrigation in all three selected districts as well as at state level (see, Table 3.7). Since the quality (in terms of reliability/certainty and controllability) of groundwater irrigation is generally better than surface irrigation (Narayanamoorthy and Kalamkar, 2007), cropping intensity of the selected dry districts was almost same with state average.

Table 3.7: Sourcewise Irrigation details of the Selected Districts- 2002-03

(Area in '00 ha)

Particulars	Yavatmal	Amravati	Buldhana	Maharashtra
Surface Irrigation (SI)	181 (34.94)	225 (35.05)	144 (35.04)	10399 (35.00)
Well Irrigation (WI)	337 (65.06)	417 (64.95)	267 (64.96)	19312 (65.00)
Net Irrigated Area (NIA)	518 (100.00)	642 (100.00)	411 (100.00)	29711 (100.00)
Gross Irrigated Area (GIA)	639	792	508	36681

Note: Figures in parentheses are percentage to net irrigated area.

Source: Commissionerate of Agriculture, Pune.

3.1.8 Cropping Pattern:

Though cropping pattern is determined by various factors, irrigation availability plays a dominant role in determining it. Table 3.8 presents the cropping pattern of three selected districts. It can be seen from the table that the cropping pattern of the selected three districts is different from the state cropping patterns. In view of suitability of black cotton soil, cotton crop is mainly cultivated in all the three districts, which accounts for about 40, 21 and 27 percent of gross cropped area of Yavatmal, Amravati and Buldhana district, respectively. However, it accounts only about 14 percent at state level.

Pulse crops, which are cultivated predominantly under rainfed condition, dominate the foodgrains area in all three selected districts, and account for more than 22 percent gross cropped area in Yavatmal and Amravati; and about 30 percent in Buldhana district. Tur and gram are important pulse crops grown in these districts. As expected jowar is major coarse cereal crop grown in all selected districts. However, wherever irrigation facility is available, wheat crop is also grown during winter season. Though coarse cereals and pulses are relatively less remunerative crops, due to low irrigation availability, farmers preferred to allocate more area for pulse crops. Similar to pulse crops, area under oilseed crops is also found to be higher in all three districts as compared to state average. Except Amravati district, area under fruits and vegetables is negligible in other two districts. On the whole, our data on cropping pattern show low value crops are grown in selected districts due to low irrigation coverage.

3.1.9 Area under Irrigated Crops:

After having analyzed the total cropping pattern of the selected districts, we have also analyzed area under irrigated crops to understand the important crops that are cultivated using irrigation. Table 3.9 presents the cropwise percentage of irrigated area to cropped area. As expected, due to low irrigation facility, most of the crops are grown under rainfed conditions. Wheat, gram, groundnut, fruits and vegetable crops are grown using available irrigation facilities in the district. Less than 1 percent cropped area under cotton crop and about 2 percent of pulse crops are irrigated.

Table 3.8: Cropping Pattern in Selected Districts: 2007-08

(Area in ha)

Crops	Yavatmal		Amravati		Buldhana		Maharashtra	
	Area	% to GCA	Area	% to GCA	Area	% to GCA	Area	% to GCA
Jowar	934	9.56	889	8.12	926	11.02	45019	19.93
Rice	10	0.10	83	0.76	0	0.00	15388	6.81
Maize	2	0.02	18	0.16	474	5.64	5737	2.54
Bajari	15	0.15	2	0.02	36	0.43	13896	6.15
Wheat	315	3.23	320	2.92	479	5.70	11388	5.04
Total Cereals	1282	13.13	1318	12.04	1917	22.82	93559	41.42
Udid	115	1.18	63	0.58	575	6.84	5074	2.25
Tur	1185	12.13	910	8.31	925	11.01	11272	4.99
Gram	658	6.74	763	6.97	644	7.66	12273	5.43
Mung	185	1.89	663	6.06	634	7.55	5892	2.61
Total Pulses	2148	21.99	2419	22.09	2483	29.55	37719	16.70
Total Foodgrains	3431	35.13	3737	34.13	4400	52.37	131278	58.12
Groundnut	100	1.02	23	0.21	12	0.14	4318	1.91
Safflower	2	0.02	47	0.43	41	0.49	2576	1.14
Soybean	2491	25.51	2279	20.82	1752	20.85	25105	11.11
Sunflower	2	0.02	61	0.56	47	0.56	3368	1.49
Total Oilseed	2634	26.97	2440	22.29	1914	22.78	37815	16.74
Cotton	3847	39.39	2245	20.51	2270	27.02	30591	13.54
Sugarcane	91	0.93	10	0.09	15	0.18	8141	3.60
Condiments & Spices*	28	0.29	44	0.40	47	0.56	1197	0.53
Fresh and Dry Fruits**	121	1.24	595	5.43	61	0.73	4815	2.13
Total Vegetables**	36	0.37	63	0.58	40	0.48	3082	1.36
GCA	9766	100.00	10948	100.00	8402	100.00	225893	100.00

Notes: * Figures refers to 2004-05, **TE 2001-02, totals may not match due to rounding off and different year of reference.

Sources: Commissionerate of Agriculture, Pune; Department of Agriculture of the selected districts. <http://agri.mah.nic.in>.

Table 3.9: Cropwise Percentage of Irrigated Area to Cropped Area in Selected Districts: 2002-03.

Crop	Yavatmal			Amravati			Buldhana			Maharashtra		
	GIA (%)	GCA (%)	%IACA	GIA (%)	GCA (%)	%IACA	GIA (%)	GCA (%)	%IACA	GIA (%)	GCA (%)	%IACA
Rice	0.19	0.51	2.08	0.00	1.13	0.00	0.00	0.03	0.00	10.74	7.21	26.43
Wheat	23.19	1.81	73.10	9.68	1.24	73.45	42.20	3.10	77.64	15.58	3.70	74.80
Jowar	0.00	15.43	0.00	0.00	12.01	0.00	0.00	19.16	0.00	12.47	24.43	9.06
Bajra	0.00	0.02	0.00	0.00	0.10	0.00	0.00	2.76	0.00	2.06	6.67	5.49
Maize	0.00	0.00	-	0.23	0.02	100.0	0.23	0.01	100.0	1.29	1.55	14.72
Total Cereals	23.38	18.59	7.18	9.92	15.14	6.18	43.81	26.25	9.53	42.14	44.79	16.71
Gram	8.16	1.65	28.21	4.43	3.69	11.34	8.94	3.12	16.39	5.21	3.60	25.66
Tur	0.00	13.04	0.00	0.00	10.51	0.00	0.00	7.64	0.00	0.45	4.85	1.66
Total Pulses	8.16	22.79	2.05	4.43	22.60	1.85	9.17	30.94	1.69	6.10	16.77	6.46
Foodgrains	31.54	41.37	4.35	14.35	37.74	3.59	52.98	57.19	5.29	48.25	61.56	13.92
Sugarcane	13.91	0.79	100.0	3.97	0.37	100.0	2.98	0.17	100.0	17.82	3.16	100.0
Fruits	24.12	1.38	100.0	65.81	6.21	100.0	16.06	0.92	100.0	10.76	2.62	72.83
Vegetables	8.91	0.51	100.0	8.87	0.00	-	11.01	0.63	100.0	8.47	1.50	100.0
Cotton	3.15	46.31	0.39	0.12	35.73	0.03	0.46	28.83	0.09	2.26	14.79	2.72
Groundnut	11.13	0.67	95.24	0.47	0.39	11.43	1.38	0.43	18.18	2.55	2.05	22.15
Soybean	0.00	7.38	0.00	0.00	16.86	0.00	0.00	9.24	0.00	0.12	5.26	0.41
Oilseed	11.50	9.20	7.14	0.35	18.30	0.18	3.67	11.49	1.82	5.11	11.35	7.99
Gross Area	100.0	100.0	5.71	100.0	100.0	9.43	100.0	100.0	5.71	100.0	100.0	17.75

Note: %IACA- % irrigated area to cropped area.

Source: Office of the Commissionerate of Agriculture, Pune and GOM (various years, Season and Crop Reports) and GOM (2006).

3.1.10 Use of Yield Increasing Inputs:

High yielding variety seeds and fertilisers are the linchpins of the new technologies (Bhalla, 2007). Under this section, we have considered these two inputs namely fertilisers and coverage of HYV/Hybrid varieties. Both of these inputs are proved to be important yield increasing inputs. Let us first look at the spread of HYV/Hybrid varieties in the selected districts. Due to the non-availability of data, we have presented area under HYV/Hybrid only for some selected crops. Data presented in Table 3.10 do not show any significant difference in the coverage of HYV/Hybrid varieties among different crops between selected districts as well as with state. This is against our expectation. Our expectation was that the adoption HYV/hybrid varieties would be lower in selected districts when compared to state average, as risk associated with crop cultivation is higher in less irrigated areas. The high coverage of HYV/Hybrid varieties seems to indicate that the farmers by and large are aware of the importance of using quality seeds in crop cultivation and almost all the area is brought under HYV seed.

Table 3.10: Coverage of HYV/Hybrid Varieties in Selected Districts – 2007-08

(Percentage to total area under crop)				
Crops	Yavatmal	Amravati	Buldhana	Maharashtra
Paddy	100.0	100.0	-	98.2
Jowar	100.0	100.0	98.8	95.3
Bajara	100.0	100.0	93.3	69.9
Wheat	100.0	100.0	100.0	100.0
Gram	100.0	97.0	97.0	97.2
Cotton	100.0	100.0	100.0	100.0

Source: Commissionerate of Agriculture, Pune

The other yield increasing input that we have considered for the analysis is fertiliser. Fertiliser consumption of a region is mostly determined by the availability of irrigation and cropping pattern followed. Macro level estimates indicate that paddy and wheat together consume over 60 per cent of fertiliser at all India level. However, the consumption of fertiliser in the selected districts shows similar trend which is seen generally at the all India level (see Table 3.11). The consumption of fertiliser is relatively lower than state average. Surprisingly, per hectare fertliser is lowest in Amravati district despite having availability of relatively better irrigation facilities as compared to other districts.

Table 3.11: Fertiliser Consumption in Selected Districts: 2007-08

Nutrient	Yavatmal		Amravati		Buldhana		Maharashtra	
	Total (mt)	Per ha (kg)	Total (mt)	Per ha (kg)	Total (mt)	Per ha (kg)	Total (mt)	Per ha (kg)
N	47047	48.2	30130	27.1	45458	53.7	1263509	55.8
P	26697	27.3	16548	14.9	26210	31.0	641511	28.3
K	9371	9.6	7301	6.6	9992	11.8	420844	18.6
Total	83115	85.1	53979	48.6	81660	96.5	2325864	102.7

Note: Per ha= Total Fertilizer Consumption/GCA

Sources: FAI (2007-08) and Commissionerate of Agriculture, Pune.

3.1.11 Use of Machineries in Agriculture:

As expected it is evident from Table 3.12 that use of machineries is lower in selected districts as compared to state average. The availability of agriculture tractor per thousand hectares of net cropped area comes to about 3.4 for Buldhana district followed by 2.6 in Amravati district and lowest in Yavatmal district (1.6), whereas the same was 4.7 at state level. The electric pumpsets available per thousand hectares of cropped area was around 25 for Yavatmal and Amravati districts, however the same comes to about 46 for Buldhana districts, which is little higher than state average. Very interestingly, it is observed that number of drip and sprinkler sets per thousand hectares found to be highest in Yavatmal district (7.52), followed by Amravati (5.9) and Buldhana (4.9). However the same comes to about 6.6 for state level.

Table 3.12: Use of Machineries in Selected Districts – 2002-03

Particulars	Yavatmal		Amravati		Buldhana		Maharashtra	
	Total	Per '000 ha	Total	Per '000 ha	Total	Per '000 ha	Total	Per '000 ha
Tractor and Power operated Equipments								
Power Tillers	88	0.1	170	0.2	112	0.1	10196	0.5
Agriculture Tractor (Wheeled)	1608	1.6	2711	2.6	2893	3.4	105611	4.7
Crawler Tractor	121	0.1	165	0.2	659	0.8	7036	0.3
Mould board Plough/disc plough	1174	1.2	2100	2.0	2230	2.6	76932	3.4
Cultivator	984	1.0	1620	1.5	1089	1.3	54910	2.5
Irrigation Equipments								
Electric pump sets	24906	25.5	25614	24.4	38676	45.5	1005437	44.9
Diesel Engine Pumpsets	4880	5.0	27507	26.2	2756	3.2	168228	7.5
Drip Irrigation Set	1992	2.0	2912	2.8	1720	2.0	102219	4.6
Sprinkler Irrigation Set	5364	5.5	3318	3.2	2444	2.9	46365	2.1
Combined Harvesters (tractor operated)	18	0.0	39	0.0	16	0.0	1566	0.1
Combined Harvesters (Self-propelled)	19	0.0	184	0.2	28	0.0	2381	0.1
Thresher (power operated)	2637	2.7	2847	2.7	3626	4.3	59887	2.7

Source: GOM (2007, 17th All India Livestock, Poultry, Agricultural Implements and Machinery and Fishery Census 2003, Maharashtra State, Government of Maharashtra).

3.1.12 Productivity of Principal Crops:

Productivity of crops is determined by many factors including irrigation. It was observed earlier that in addition to low irrigation availability, fertilizer consumption is found to be much lower in all three selected districts as compared to state average. Therefore, it is expected that there may be a substantial difference in productivity of different crops at district and state level. Table 3.13 presents the productivity of principal crops. However, mix trend can be seen from the table. Among the major crops grown in these three districts, except some pulse crops, the productivity of almost all other crops is lower during TE 2008-09. It has to be noted here that the agriculture year 2008-09 was a bad year and production and productivity of all the crops declined drastically due to bad monsoon (Table 3.14).

If we consider 2005-06 as the period prior to implementation of package, it can be observed that productivity of almost all the crops in all selected districts showed marked improvement in 2006-07 and 2007-08 (post package) as compared to 2005-06. The productivity was notably higher in 2007-08. However, in 2008-09 which was the third year of the implementation of the package, there was sharp fall in yield levels due to severe drought conditions in selected areas. In Yavatmal district, the average rainfall was 72 percent of normal. Soybean which was an important crop in all the three districts, had an average yield of 317.4 kg per hectare across all districts in 2008-09 as compared to a yield of 1652 kg per hectare in 2007-08. The yield was thus one fifth of that in the previous year. It was observed in the fields and also reported by the government officials that some farmers did not even harvest the soybean crop because the cost of hiring labour would exceed that of the value of harvest. Further, the quality of the crop was also very poor. Dismal performance in yield was in fact noted even in case of other major crops such as pulses and cotton.

Table 3.13: Productivity of Principal Crops in Selected Districts (kg/ha)

Districts	Yavatmal				Amravati				Buldhana			
	2005-06	2006-07	2007-08	2008-09	2005-06	2006-07	2007-08	2008-09	2005-06	2006-07	2007-08	2008-09
Kharif Jowar	769	982	1082	968	1316	1177	1359	911	1049	1417	1863	1789
Bajra	500	500	540	533	333	500	540	667	500	486	540	541
Maize	2000	1750	3000	3000	1624	1578	3076	3000	1677	1671	3159	2996
Paddy	500	500	667	400	490	541	823	400	-	-	-	-
Wheat	994	1136	1803	1084	1371	1673	1890	1388	1034	1418	1998	1477
Rabi Jowar	-	-	-	-	-	-	-	-	552	880	1105	1066
Total Cereals	783	1022	1335	1007	1254	1237	1558	1110	1099	1408	2235	2013
Tur	807	980	1082	601	851	791	1071	840	513	806	994	508
Mung	425	473	579	141	205	268	362	130	187	474	698	106
Udid	432	394	696	135	200	372	383	103	151	492	641	151
Gram	612	827	848	740	973	774	1057	728	650	708	960	754
Total Pulses	698	871	929	563	677	631	849	640	345	628	833	436
Total foodgrains	732	929	1070	748	891	843	1091	780	682	963	1439	1157
Groundnut	1712	1087	1129	1104	1304	1478	1035	1261	750	1000	902	952
Soybean	1123	1095	1251	333	1128	1493	1700	333	526	1256	2007	286
Total oilseeds	1130	1085	1239	332	1088	1455	1636	345	513	1186	1890	295
Cotton	148	202	412	319	148	151	342	271	196	214	379	290
Sugarcane	71222	63513	83654	56714	65909	56714	79917	54875	38667	68000	59036	55864

Source: Office of the Commissionerate of Agriculture, Govt. of Maharashtra, Pune.

Table 3.14: Actual Rainfall in Selected Districts during Last Five Years (2005-2009)

Sr. No	District	Actual Rainfall in mm						Actual Rainfall - % to Normal rainfall					
		June	July	Aug.	Sept.	Oct.	June to Oct.	June	July	Aug.	Sept.	Oct.	June to Oct.
	2005												
1	Buldhana	46.6	210.1	128.8	139.4	57.2	582.1	32	101	82	91	128	82
2	Amravati	83.7	276.9	222.6	215.2	67.8	866.3	57	100	108	123	146	102
3	Yavatmal	126.5	446.6	219.3	142.2	87.5	1022.1	72	143	94	74	172	106
	State Av.	227.0	503.3	290.2	301.5	79.5	1401.5	102	125	102	151	120	119
	2006												
1	Buldhana	106.9	188.2	447.6	162.0	42.0	946.6	75.4	92.4	257.4	108.9	93.8	132.8
2	Amravati	65.0	397.5	325.7	164.1	85.2	1037.0	44.5	143.8	148.2	95.3	183.6	120.5
3	Yavatmal	129.7	297.4	379.8	169.9	81.8	1058.7	73.8	96.5	156.3	92.1	160.4	110.0
	State Av.	215.3	421.3	457.4	222.3	62.0	1379.8	96.9	108.0	153.6	111.7	93.5	117.4
	2007												
1	Buldhana	136.4	249.3	173.2	171.0	0.0	729.6	96.2	122.4	99.6	114.9	0.0	102.3
2	Amravati	208.1	494.5	263.3	235.0	0.0	1200.4	142.5	178.8	119.8	136.5	0.0	139.4
3	Yavatmal	180.4	268.2	162.7	222.7	3.7	837.5	102.6	87.0	67.0	120.8	7.3	87.0
	State Av.	329.6	346.4	330.2	267.7	11.3	1285.2	148.4	88.7	111.0	134.7	17.1	109.3
	2008												
1	Buldhana	78.2	150.5	120.9	234.7	37.2	621.5	55.1	73.9	69.5	157.8	83.0	87.2
2	Amravati	84.7	184.3	152.9	196.8	30.4	649.0	58.0	66.7	69.6	114.3	65.5	75.4
3	Yavatmal	86.9	191.0	205.2	147.2	24.1	690.9	49.4	62.0	84.5	79.8	47.3	71.8
	State Av.	193.3	253.3	301.7	279.8	38.0	1066.9	87.0	64.9	101.4	140.7	57.3	90.8
	2009												
1	Buldhana	84.6	235.1	167.9	63.6	79.7	630.8	59.7	115.4	96.5	42.8	177.9	88.5
2	Amravati	71.1	297.6	129.4	92.3	39.1	629.2	48.7	107.6	58.9	53.6	84.3	73.1
3	Yavatmal	100.2	149.5	122.5	110.3	19.6	502.3	57.0	48.5	50.4	59.8	38.4	52.2
	State Av.	100.4	411.4	183.2	166.4	94.4	957.4	45.2	105.4	61.5	83.7	142.2	81.5

Source: Office of the Commissionerate of Agriculture, Govt. of Maharashtra, Pune.

3.1.13 Milk Production:

It can be seen from the Table 3.15 that the average daily collection of milk in selected districts increased significantly after implementation of PM's package. It can be observed from Table 3.15 that immediately after implementation of PM's package, there was a marked increase in milk production/collection in all three selected districts in all three years. The increase was highest in Buldhana which was as high as 290 percent in 2007-08. However, in 2008-09, the milk production declined as compared to 2007-08. This could possibly be due to impact of drought on milk production. Due to failure of monsoon, adequate fodder was not available and also prolonged heat stress in the absence of rainfall reduces the milk yielding capacity of the milch animals.

Table 3.15: Districtwise Yearwise Information regarding Daily Average Milk Collection

Sl. No	District	Milk Collection (in '000 liters/day)				
		2004-05	2005-06	2006-07	2007-08	2008-09
1	Yavatmal	10.0	13.6	21.4 (62.5)	20.0 (47.5)	22.1 (62.5)
2	Amravati	14.9	18.6	44.4 (139.0)	42.9 (130.6)	33.0 (177.4)
3	Buldhana	8.5	10.1	27.9 (176.22)	39.4 (290.0)	26.3 (160.4)
	State*	3810	4009	4500 (12.2)	3861 (-3.70)	4130# (3.02)

Notes: * The average daily collection of milk by the government and co-operative dairies taken together (excluding Greater Mumbai); # up to December 2009. Figures in brackets are percentage to the year 2005-06

Source: Office of the Commissionerate of Animal Husbandry, Govt. of Maharashtra, Pune and GOM (various years, Economic Survey).

While milk production showed a rapid increase in the three selected districts, the same was not observed in the state during the corresponding period. Infact in 2007-08, there was a fall in production/collection of milk by 3.7 percent as compared to 2005-06. Since 2007-08 was good year and farmers experienced high yields of all crops, which increased their income, it is possible that dairy farming took a back seat.

3.2.0 Basic Features of Sample Farmers:

In the earlier section, the agro-economic profile of the selected districts was presented with the help of secondary level information. In this section, using the primary level data, we analyze the basic features of the sample farmers. Specifically, we look into the demographic details including the family size, educational status, land holding details (before and after 2006) and transactions, sources of irrigation, cropping pattern, livestock owned and milk production, major implements and machinery owned by sample farmers and household income.

3.2.1 Socio-Economic Characteristics of Sample Households:

Size of family is determined by number of factors apart from resource base of the family and the educational status of the head of the household. It is argued that poor families tend to have more number of children in order to increase their total earning capacity. Table 3.16 presents the data on socio-economic characteristics of selected sample households. It can be seen from the table that out of the total 40 households selected for analysis, 70 percent are from SC/ST community in Yavatmal district and 55 percent in Amravati district, while general community households share higher percentage in case of Buldhana district (75.0 percent). It was earlier noted that about 30 percent population belongs to SC/ST community in Yavatmal and Amravati districts and this could possibly explain the concentration of these households in our sample. The average size of family of the entire selected household was 5.30, largest in Buldhana (5.50) and lowest in Yavatmal (5.08). In case of education (adults more than 7th standard education), it is observed that about 26 percent of adults were educated. Among the district, Amravati district recorded highest adult education level (about 29 percent) and lowest in Buldhana (23.7 percent).

Table 3.16: Household Characteristics of the Sample Households

Districts	No. of Households					Total Population			Av. family Size	Education	
	General	SC	ST	Minorities	Total	Adults	Children (>15 y)	Total		No.	%
Yavatmal	11 (27.5)	22 (55.0)	6 (15.0)	1 (2.5)	40	146	57	203	5.08	38	26.0
Amravati	14 (35.0)	20 (50.0)	2 (5.0)	4 (10.0)	40	143	70	213	5.33	41	28.7
Buldhana	30 (75.0)	8 (20.0)	1 (2.5)	1 (2.5)	40	169	51	220	5.50	40	23.7
Total	55 (45.8)	50 (41.7)	9 (7.5)	6 (5.0)	120	458	178	636	5.30	119	26.0

Note: Education- Adults with >7th standard education; Figures in brackets are percentage to total hh.
Source: Field Survey data.

3.2.2 Land Holding Details:

In this section, besides presenting the average land holding size of the sample households, rainfed and irrigated land, land owned and operated before and after 2006 is also discussed. Table 3.17 presents the land holding details of the sample households. It is observed that there was no significant difference in land owned by the sample households before and after 2006, i.e. after implementation of PM's package. The average landholding size found was to be 3.04 hectares in both the periods. Out of total land owned by the sample households, more than 97 percent land was operated. Before 2006, out of total land owned, about 57 percent land was irrigated and remaining about 43 percent land was rainfed. The highest irrigated land was in Amravati district (61.41 percent) and lowest was in Yavatmal district (51.41 per cent). The area irrigated which was 57 percent prior to the introduction of the package, increased to 60.5 percent after the implementation of package. Among the districts, major change in irrigated area was observed in Amravati district where more than 10 percent land was brought under irrigation. In case of households from Buldhana district, the increase in irrigated area was small (0.79 percent), while irrigated area was reduced by 0.10 percent in Yavatmal district.

Table 3.17: Average Land holding details of the Sample Households (in ha)

Districts	Average Land holding (ha)				
	Rainfed		Irrigated		Land holdings
	Land owned	Land operated	Land owned	Land operated	
	Before 2006				
Yavatmal	1.22 (48.59)	1.18	1.29 (51.41)	1.27	2.50 (100.0)
Amravati	1.12 (38.59)	1.11	1.78 (61.41)	1.78	2.90 (100.0)
Buldhana	1.59 (42.63)	1.49	2.13 (57.37)	2.05	3.72 (100.0)
Total	1.31 (42.98)	1.26	1.73 (57.02)	1.70	3.04 (100.0)
	After 2006				
Yavatmal	1.22 (48.69)	1.18	1.28 (51.31)	1.27	2.50 (100.0)
Amravati	0.81 (28.09)	0.80	2.08 (71.91)	2.08	2.89 (100.0)
Buldhana	1.56 (41.84)	1.49	2.17 (58.16)	2.08	3.73 (100.0)
Total	1.20 (39.35)	1.16	1.84 (60.65)	1.81	3.04 (100.0)

Note: Figures in parenthesis are percentage to total land owned.

Source: Field Survey data.

The transaction about the land sold and purchased by the selected sample households in the last five years is presented in Table 3.18. It can be seen from the table that out of total three samples from selected districts only 2.5 percent of farmers sold an average 0.05 hectare land during last five years at the average rate of Rs. 144531/- per hectare. The reason stated by the farmers towards selling the land was for meeting household expenditure. As income from agriculture was not adequate to meet their expenses, farmers may have sold land to meet these expenses. Out of selected sample households, four farmers (3.3 percent of total) purchased land during last five years. The two households each from Buldhana and Amravati district purchased on an average 0.04 hectare land at the rate of Rs. 163068/- per hectare. Thus, the average price received by the farmers (those who sold their land) is lower than the price paid by the farmers who purchased it. Of course, the land price depends on the land/soil type and quality and its geographical position in the village and land price may vary among the districts. Overall, there was no significant change in land sold and purchased by the sample households during last five years.

Table 3.18: Land Transactions by Sample Households during Last Five Year

Districts	Sold any land				Purchased any land		
	% of farmers*	Av. Area (ha)	Av. Value (Rs./ha)	Reason for sale	% of farmers*	Av. Area (ha)	Av. Value (Rs./ha)
Yavatmal	-	-	-	-	-	-	-
Amravati	-	-	-	-	5.0	0.04	137333
Buldhana	7.5	0.16	144531	Home Expenditure	5.0	0.09	173280
Total	2.5	0.05	144531	-	3.3	0.04	163068

Notes: * the figures are percentage to total selected farmers, Av.-average.

Source: Field Survey data.

3.2.3 Irrigation Status:

As we have seen earlier that area under irrigation has increased after 2006 in the selected sample households. It would be important to see the sources of irrigation available with the farmers. The information on sources of irrigation available with the farmers is presented in Table 3.19. It can be seen from the table that more than 68 percent of selected households have open well as source of irrigation, followed by 24.32 percent of borewell, and 6.08 percent by tank and 1.35 percent by canal irrigation. Thus, groundwater source was main source available with the sample

household to irrigate the crops. The availability of surface irrigation in the form of tank and canal is very minimal in the selected area.

Table 3.19: Sources of Irrigation with Sample Households (%)

Districts	Sources of Irrigation (% of farmers)				
	Open well	Bore well	Canal	Tank	Any other
Yavatmal	70.73	29.27	0.00	0.00	0.00
Amravati	73.08	26.92	0.00	0.00	0.00
Buldhana	61.82	18.18	3.64	16.36	0.00
Total	68.24	24.32	1.35	6.08	0.00

Source: Field Survey data.

3.2.4 Crops Grown:

As stated earlier, due to low irrigation facility, the farmers from the dry/rainfed region prominently grow low value crops. Therefore, it would be important to see the crops grown by the sample households. The average area under crops grown as per crop groups by the sample households is presented in Table 3.20. It can be seen from the table that food crops are grown on about 30 percent of total gross cropped area, while non-food crops are grown on around 44 percent and plantation crops on about 26 percent area. The food crops grown in these districts include jowar, wheat, tur, gram, mung and udid, non food crops includes oilseeds (such as soybean, safflower, Sesamum), cotton and some other crops. Citrus, lemon, papaya includes under horticulture/plantation crops. As seen earlier, the oilseeds and pulses crops dominate the cropping pattern in the selected districts, and the same trend was observed at sample household level.

Table 3.20: Average area under Crop Groups of Sample Households

Districts	Crops grown (Av. area in ha.)			
	Food Crops	Non Food Crops	Plantation Crops	Total
Yavatmal	0.87 (32.99)	1.34 (50.68)	0.43 (16.33)	2.65 (100.00)
Amravati	0.87 (24.36)	1.34 (35.31)	0.43 (40.33)	2.90 (100.00)
Buldhana	1.17 (32.14)	1.70 (46.60)	0.78 (21.26)	3.65 (100.00)
Total	0.92 (29.93)	1.36 (44.21)	0.79 (25.86)	3.07 (100.00)

Note: Figures in parenthesis are percentage to total.
Source: Field Survey data.

3.2.5 Livestock Owned and Milk Production:

The livestock development is crucial to the rural economy not only because it provides supplementary income to the agriculturists but also because the development of this sector helps to raise the general health level of the people and generate self-employment. Therefore, it would be important to see the livestock owned by the sample households, the income generated from the sale of milk and information about livestock sold and purchased during the last five years. The details on livestock owned by the sample households are presented in Table 3.21. It can be seen from the table that the number of livestock has increased after implementation of package. Infact the total number of households having livestock population increased by 5 percent, from 82 percent before 2006 to 87 percent after 2006. The number of buffalos and goat increased by about 24 percent, while cows by more than 14 percent. The number of goats increased by more than 58 percent. Since poultry farming is backyard poultry the numbers of poultry birds were negligible. The average value of livestock per household increased by 43 percent after implementation of package. The maximum increase in total value of livestock per household was in Amravati district followed by Buldhana district and lowest in Yavatmal district. Since the number of households having livestock as well as number of livestock has increased, it may be possibly due to PM's package.

The details on milk production and income of sample households are presented in Table 3.22. It can be seen from the table that per household income from the sale of milk increased by more than 43 percent after 2006 as compared to the period before 2006. It was also observed from the secondary data that daily collection of milk increased significantly in all three selected districts during the period 2006-07 to 2008-09. A similar picture was observed at household level. As we have seen earlier, there was significant increase in buffalo population after 2006, and therefore income from the sale of buffalo milk may have also increased significantly by more than 50 percent over base period. The income from the sale of cow milk has also increased by about 11 percent in corresponding period. Thus there was increase in livestock population (by 1.7 percent) as well as average income from the sale of milk in the selected households.

Table 3.21: Details about Average Livestock owned by Sample Households (Value in Rs)

Districts	% of HH having livestock	Cows		Buffaloes		Bullocks		Sheep		Goat		Poultry		Any other		Av. value/hh
		Av.No.	Value	Av.No.	Value	Av.No.	Value	Av.No.		Av.No.	Value	Av.No.	Value	Av.No.	Value	
	Before 2006															
Yavatmal	82.5	1.9	10425	1.3	14325	1.8	16950	1.7	1595	0.7	990	0.4	38	0.1	250	44573
Amravati	80.0	1.2	6050	0.8	6650	1.6	13900	2.3	1850	0.2	375	0.0	0	0.1	375	29200
Buidhana	82.5	1.5	5750	1.3	8175	1.7	15850	1.3	705	0.0	0.0	0.0	0	0.0	18	30498
Av.	81.7	1.5	7408	1.1	9717	1.7	15567	1.7	1383	0.3	455	0.1	13	0.1	214	34757
	After 2006															
Yavatmal	87.5	1.9	12975	1.6	19175	2.0	23450	2.9	3285	0.9	1885	0.2	24	0.1	1175	61969
Amravati	85.0	1.6	10975	1.1	9875	1.7	18325	2.2	1925	0.6	800	0.1	13	0.1	800	42713
Buldhana	87.5	1.7	10738	1.4	13100	2.0	19600	1.4	745	0.0	0	1.5	150	0.1	100	44433
Total	86.7	1.7	11563	1.4	14050	1.9	20458	2.2	1985	0.5	895	0.6	62	0.1	692	49705
	Increase/Decrease after 2006 (%)															
Yavatmal	5.0	0.0	24.5	28.0	33.9	12.5	38.3	70.1	106.0	29.6	90.4	-46.7	-36.0	25.0	370.0	39.0
Amravati	5.0	36.2	81.4	41.9	48.5	9.7	31.8	-4.3	4.1	144.4	113.3	-	-	50.0	113.3	46.3
Buldhana	5.0	15.5	86.7	9.6	60.2	13.0	23.7	12.0	5.7	-		-	-	300.0	471.4	45.7
Total	5.0	14.4	56.1	24.1	44.6	11.8	31.4	23.4	43.5	58.3	96.7	380.0	397.3	71.4	223.0	43.0

Source: Field survey data.

Table 3.22: Per Household Average Number of Milch Animal and Income from Sale of Milk

Sr. No.	Districts	% of hh having milch animals	Cows		Buffaloes		Av. total income from sale of milk
			Av. no. of milch animals	Av. Income from sale of milk (Rs.)	Av. no. of milch animals	Av. Income from sale of milk (Rs.)	
		Before 2006					
1	Yavatmal	67.5	1.4	7430	1.2	9210	16640
2	Amravati	62.5	1.1	4235	0.7	5005	9240
3	Buldhana	75.0	1.3	5479	1.1	5877	11356
	Total	68.3	1.2	5714	1.0	6697	12412
		After 2006					
1	Yavatmal	70.0	1.4	7933	1.5	12978	20911
2	Amravati	65.0	1.4	6968	0.9	8060	15028
3	Buldhana	75.0	1.3	8116	1.2	9250	17366
	Total	70.0	1.4	7672	1.2	10096	17768
		Increase/Decrease in after 2006 (%)					
1	Yavatmal	2.5	1.8	6.8	28.3	40.9	25.7
2	Amravati	2.5	28.6	64.5	38.5	61.0	62.6
3	Buldhana	0.0	6.0	48.1	11.4	57.4	52.9
	Total	1.7	10.9	34.3	24.1	50.7	43.2

Source: Field survey data.

Table 3.23: Livestock Sold and Purchased by Sample Households in the last Five Years (2003-2008)

(Value in Rs.)

Districts	No. of HH	Livestock Sold											
		Bullock		Buffalos		Calf		Goat		Cow		Total value/lh	Reasons for Sale
		Av. No.	Value/ animal	Av. No.	Value/ animal	Av. No.	Value/ animal	Av. No.	Value/ animal	Av. No.	Value/ animal		
Yavatmal	57.5	0.2	11250	0.1	7960	1.2	783	1.4	1026	0.4	6400	7930	HE
Amravati	52.5	0.1	5800	0.1	5760	-	-	1.7	1078	0.7	5035	6523	HE
Buldhana	57.5	0.2	5667	0.5	9556	0.2	617	0.7	700	0.6	3867	8053	HE
Av.	55.8	0.2	8053	0.2	8593	0.4	763	1.2	988	0.5	4918	7502	
Districts	No. of HH	Livestock Purchased											
		Bullock		Buffalos	Calf		Goat		Cow		Total value/hh		
		Av. No.	Value/ animal	Av. No.	Value/ animal	Av. No.	Value/ animal	Av. No.	Value/ animal				
Yavatmal	17.5	0.1	2500	0.1	13750	0.0	-	0.1	1670	0.1	5500	2121	
Amravati	15.0	0.1	8667	0.3	1700	0.0	-	0.0	1000	0.3	4773	2413	
Buldhana	12.5	0.1	7000	0.2	8500	0.0	-	0.2	3125	0.2	8000	3875	
Av.	15.0	0.1	6429	0.2	6364	0.0	-	0.1	2454	0.2	5850	2803	

Notes: Value is in Rs per animal, HE-Home Expenditures.

Source: Field survey data.

Though there is increase in average income from milk sale as well as number of livestock with sample households, however, it would be important to see that whether any transaction towards sale of livestock took place by the selected households. The average livestock sold and purchased by sample households in the last five years is presented in Table 3.23. It can be seen from the table that on an average 55.8 percent of sample households (67 farmers) sold their livestock and per household received average value of Rs. 7502/-. The reason towards sale of livestock was home expenditure, which was mainly due to not meeting home expenditures from agriculture income. At the same time, only 15 percent of sample households (7 farmers) purchased the livestock. As income from sale of milk support the family, most of the farmers purchased buffalo and cows.

3.2.8 Farm Assets:

Under farm assets, we have considered farm equipments only such as wooden ploughs, iron plough, tractors, power tillers, sprinkler/drip irrigation sets, and others (bullock cart, intercultural operations equipment, spray pumps, etc.). The number of agricultural implements and machinery owned by sample households are presented in Table 3.24. It can be seen from the table that except wooden ploughs and tractors, there was increase in number of other implements such as iron ploughs, power tiller and sprinkler/drip irrigation sets. There was no increase in number of tractors after implementation of package. Among districts, Yavatmal district household registered decline in number of wooden and iron ploughs. However in case of Amravati district, number of household wooden plough and tractors declined over the base period. Buldhana district sample households registered positive growth in all the agricultural implements. We also observed that only one farmer from Amravati district sold the machineries and bullocks due to fodder and manpower problem as well as to meet home expenditures. Overall, there is no significant change in number of agricultural implements and machinery owned by the sample households.

Table 3.24: Average Number of Agricultural Implements and Machinery owned by Sample Household

Districts	Average Number of Agricultural Implements and Machinery					
	Wooden Ploughs	Iron Ploughs	Tractors	Power Tiller	Sprinkler/ Drip Set	Any other
	Before 2006					
Yavatmal	0.98	0.85	0.05	0.08	0.25	0.60
Amravati	1.13	0.83	0.15	0.03	0.40	0.43
Buldhana	0.60	0.60	0.13	0.08	0.33	0.53
Av.	2.70	2.28	0.33	0.18	0.98	1.55
	After 2006					
Yavatmal	0.95	0.78	0.08	0.08	0.30	0.63
Amravati	0.98	0.90	0.13	0.03	0.50	0.55
Buldhana	0.63	0.65	0.13	0.10	0.48	0.55
Av.	2.55	2.33	0.33	0.20	1.28	1.73
	% Change after 2006					
Yavatmal	-2.63	-9.68	33.33	0.00	16.67	4.00
Amravati	-15.38	8.33	-20.00	0.00	20.00	22.73
Buldhana	4.00	7.69	0.00	25.00	31.58	4.55
Av.	-5.88	2.15	0.00	12.50	23.53	10.14

Source: Field survey data.

3.2.9 Household Income:

It would be very important see the annual income of the household received from all the sources, which includes agriculture, horticulture, livestock, sale of water for irrigation, regular job, business, labour wages and any other to get idea about the present economic conditions. The average household annual income of sample households is presented Table 3.25.

Table 3.25: Average Net Annual Income of Sample Households (2008-09)

(Rs./household)

Income Source	Yavatmal	Amravati	Buldhana	Av.
Agriculture	32165	20070	43895	32043
Horticulture	24126	57255	30075	37152
Livestock	13163	1085	10611	8286
Sale of Water for irrigation	-	-	3000	3000
Regular job	-	7500	1875	4688
Business	1500	1800	900	1400
Labour wages	8630	2845	855	4110
Others (specify)	3750	7933	-	5842
Total	83334	98488	91211	91011

Source: Field survey data.

The annual per household income of sample household from the all the sources is substantially higher in Amravati district as compared to other two districts. This may be due to horticulture plantations and income from non-farm sources.

Impact of PM's Relief Package: Evidence from Field Survey

4.0 Introduction:

As mentioned earlier, the rehabilitation package was sanctioned for 31 identified districts in the State of Andhra Pradesh, Karnataka, Kerala and Maharashtra. Six districts from the Vidarbha region of Maharashtra state were identified as suicide prone districts and a sum of Rs. 3873.26/- crore package was declared for these districts. It was observed in the earlier chapters from the secondary data that almost all the schemes under PM's package were implemented properly and targets were achieved except AIBP. The total expenditure was more than the original sanctioned amount (102 percent). As mentioned earlier, the rehabilitation package aims at maintaining sustainable and viable farming and livelihood support system through debt relief to farmers, complete institutional credit coverage, crop-centric approach to agriculture, assured irrigation facilities, effective watershed management, better extension and farming support services and subsidiary income opportunities through horticulture, livestock, dairying fisheries and other subsidiary activities. The basic objective of this study was to conduct a field survey and observe the ground reality as to whether the benefit of the package is reaching the intended beneficiaries and also the impact of the package on the beneficiaries. This is especially important because the package has a number of relief measures to augment the incomes of the farmers.

4.1.1 Information about Package:

Before analyzing the results, let us have an idea about the sources of information about the PM's relief package to the sample households. We observed that 99.17 percent of total selected farmers received the information about the PM's relief package and various schemes under same through Gram Panchayat of the respective villages and 0.83 percent farmers received information from daily news paper (only one household). Thus, it is clear that the government made the arrangements towards dissemination of information about the PM's package to the farmers and Gram Panchayat had duly informed the farmers about the relief measures.

Table 4.1: Sources of Information about the PM’s Relief Package

Districts	No. of farmers received information from			Total
	Gram Panchayat	Newspaper	Others	
Yavatmal	40 (100.0)	0.0 (0.0)	0.0	40 (100.0)
Amravati	39 (97.5)	01 (2.5)	0.0	40 (100.0)
Buldhana	40 (100.0)	0.0 (0.0)	0.0	40 (100.0)
Total	119 (99.17)	01 (0.83)	0.0	120 (100.0)

Note: Figures in parenthesis are percentage to total selected sample farmers.
Source: Field survey data.

4.1.2 Schemewise Number of Households:

The PM’s rehabilitation package, as noted earlier, had eight major schemes, which were implemented by agriculture, horticulture, animal husbandry, irrigation, and fisheries department. Further, compensation to families of suicide farmers and ex-gratia payment from PM National Relief Fund was paid by the district Collector. From each of the eight schemes, five beneficiaries were selected from each taluka. Thus, in total there were 40 beneficiary samples per taluka. It was observed that sometimes a single household benefited from more than one programme in PM’s package. However, such households have been treated for only one scheme even though information is collected for all the schemes he/she has availed under the package. Thus, in all total 120 households were selected. We also tried to select the sample family where suicide was committed by the family head to get idea about the benefits reached and received by them. We could include two households (one each from Amravati and Yavatmal district) and observed that one household each from Amravati and Yavatmal district received on an average compensation of Rs. 105000/- per family, as suicide family and they have also benefited from a scheme under horticulture.

Table 4.2: Schemewise Number of Sample Households Selected

Districts/Scheme	Yavatmal	Amravati	Buldhana	Total
Credit	5	5	5	15
Animal Husbandry	5	5	5	15
Seed replacement	5	5	5	15
Horticulture*	5	5	5	15
Extension	5	5	5	15
Minor irrigation	5	5	5	15
Watershed	5	5	5	15
Micro irrigation	5	5	5	15
Total	40	40	40	120

Note: * One Household each from Yavatmal and Amravati district received compensation of Rs. 1,10,000/- (Suicide Family)
Source: Field survey data.

The overall average benefits received and total expenditure made to get benefits under PM's package by sample households is presented in Table 4.3. It can be seen from the table that more than 64 percent of total sample households received livestock and other inputs from the department. Among districts, the highest number of sample households which received this benefit were in Buldhana followed by Yavatmal district and lowest in Amravati district. In order to get the benefits under PM's relief package, on an average per farmer Rs. 158/- expenditure incurred by the sample farmers towards visit to the offices, travel, document costs and others, which is other than cost of the items. A farmer from Buldhana district had to spend as high as Rs. 329/- and it was lowest Yavatmal district (Rs. 50/-).

Table 4.3: Overall average benefits received and total expenditure made to get benefits under PM's Package by Sample Households

Districts	% of farmers received livestock and other inputs	Per farmer Expenditure incurred other than cost of items (Rs.)	% of farmers received help from some body	Av. Amount paid to receive the PMP benefits (Rs)	Av. no. of days later to get the benefit
Yavatmal	62.5	50	47.5	191	55
Amravati	52.5	94	35.0	221	25
Buldhana	77.5	329	60.0	161	89
Av.	64.2	158	47.5	191	56

Source: Field Survey data.

In order to get the benefits under PM’s relief package, some of the farmers took help from somebody (farmers did not reveal the person’s name/identity). Overall, 48 percent farmers received such kind of help in pushing their case under PM’s package. Towards help received from someone, on an average per farmer Rs. 191/- was paid by sample household. In Amravati district, highest amount was paid (Rs. 221/-) to get the benefits under PM’s package as compared to the other two districts. On an average, 56 days were spent to avail of the benefit. The numbers of days to get benefits were less in Amravati and highest in Buldhana district. Thus, it is clear that though the government implemented the scheme with the objective to promote the agricultural sector, the time period and expenditure (legal and illegal) to get the benefits are bottlenecks in the system.

4.2 Schemewise details:

After having the information about the benefits and expenditure incurred to get the benefits under PM’s relief package, the schemewise details are analyzed.

4.2.1 Suicide Compensation and Ex-gratia payment:

As mentioned earlier, with a view to alleviate the sufferings of debt stressed families of farmers in the six affected districts of Vidarbha in Maharashtra, ex-gratia assistance of Rs. 50 lakh from Prime Minister’s National Relief Fund, was placed at the disposal of each district Collector. As mentioned earlier, two suicidal sample households were selected for the analysis, one each from Amravati and Yavatmal district. The average grant towards suicide compensation received by sample household was Rs. 1.05 lakh and they used the fund towards consumption expenditure (Table 4.4) and no family received any grant under ex-gratia payment.

Table 4.4: Details about Compensation Received

Districts	No. of households received Suicide Compensation	Ex-gratia payment	Grant Received (Rs./household)	Expenditure incurred (Rs./household)	Use of funds (purpose)
Yavatmal	1 (2.5)	-	100000	29500	Consumption
Amravati	1 (2.5)	-	110000	12000	Consumption
Buldhana	0.0	-	0.0	0.0	-
Av.	2 (1.67)	-	105000	20750	-

Note: Figures in parenthesis are percentage to total sample households.
Source: Field survey data.

4.2.1 Credit related Issues:

The credit related measures included in PM's relief package from the six suicide prone districts were debt relief to the farmers (reschedulement of loans), interest waiver and credit flow. The details on credit borrowed and loan waiver received by the sample households is presented in Table 4.5. It can be seen from the table that about 67 percent sample households borrowed loan from Cooperative Banks and remaining borrowed loan from Commercial banks. The main purpose of borrowing loan was to meet crop cultivation expenditure. The average amount borrowed by the farmers during last five years was Rs. 28777/- per farmer and regular payment was made. The farmers received the benefits of loan/overdue waiver and reschedulement of principal amount during the year 2006-07 and 2007-08.

4.3 Seed Replacement:

The relief package consisted of the programme of distribution of certified seeds to the farmers for a period of three years on 50 percent subsidy basis. The certified and improved seed of maize, tur, moog, udid, soybean, sesamum, and cotton was made available during kharif season, while rabi jowar, wheat, maize, gram, tur, safflower and sunflower was made available during rabi season to the farmers on 50 percent subsidy basis. In some places, the seed distribution arrangement was made through cooperative organization godowns and other institutions, located at central place in that area. The sample farmers purchased certified/improved seed from the agriculture department every year (see, Table 4.6). On an average, 139 kg seed per farmer was purchased, which includes soybean and wheat crop seed, for an average area of about 1.1 hectare. However, soyabean seed was the main seed purchased by the farmers in the sample. This is of course expected as soyabean is an important crop in these districts. Towards seed purchased, total amount of Rs. 1274/- per farmer was paid and the same amount of subsidy was availed. Among the districts, Amravati district farmers received/purchased relatively large quantity of soybean seed than Yavatmal and Buldhana district. Wheat and gram seed was purchased only by Buldhana district farmers. The seed purchased was adequate as per need of all the selected farmers for analysis. Also per hectare yield has increased with certified seeds purchased from the agriculture department. The selected farmers did not specify any adverse comments on this scheme and were satisfied with the scheme.

Table 4.5: Credit borrowed and Interest Waiver received by Sample Households

District	Credit Borrowed by of farmers		Purpose	Regular payment	Year of waiver	Av. Principal Amount (P) (Rs./farmer)	Av. Interest (I) (Rs./farmer)	Both (P+I)	Amount rescheduled (Rs./farmer)
	Institutions	Av. Amt. borrowed (Rs./farmer)							
Yavatmal	A (2), B (3)	44000	Crop	Y	2006-07, 2007-08	21000	3200	24200	21000
Amravati	A (2), B (3)	17730	Crop	Y	2006-07, 2007-08	15700	2329	18029	15700
Buldhana	A (1) B (4)	24600	Crop	Y	2006-07, 2007-08	13500	2950	16450	13500
Total	A (5) B (10)	28777	--	--	--	16733	2826	19560	16733

Notes: A- Commercial Banks, B- Co-operative banks, Y- Yes, N-No

Source: Field survey data.

Table 4.6: Seed Replacement by Sample Households

District	Seed replacement	Average Seed quantity (kg/farmer)				Av. Amount (Rs./Farmer)		Av. land under seed (ha.)	Whether seed was adequate?	Yield increase
		Soybean	Wheat	Gram	Total	Paid Amount	Subsidy Amount			
Yavatmal	Every year	76	0	0	76	772	772	0.6	Yes (100.0)	Yes (100.0)
Amravati	Every year	196	0	0	196	1264	1264	1.28	Yes (100.0)	Yes (100.0)
Buldhana	Every year	72	36	36	144	1786	1786	1.36	Yes (100.0)	Yes (100.0)
Av.		115	12	12	139	1274	1274	1.08	Yes (100.0)	Yes (100.0)

Note: Figures in parentheses are percentage of farmers saying Yes to total sample household .

Source: Field survey data.

4.4 Micro-Irrigation- Sprinkler/Drip irrigation:

In order to increase the per hectare yield as well as the income of the farmer households, the scheme of development of micro irrigation in six districts of Maharashtra was sanctioned, with target of 53400 hectares area to be brought under sprinkler and drip irrigation. The sprinkler and drip irrigation sets were made available at 50 percent subsidy. The maximum limit for land holding to avail this scheme was 5 ha land. Also it was made compulsory to spend certain amount for SC and ST as well as female beneficiaries by making Panchayat Raj Institutions involved in the operation of this scheme. The details on the benefits availed by the sample farmers under micro irrigation scheme is presented in Table 4.7. It can be seen from the table that selected farmers were having all together 14 functioning open wells and 5 bore wells, i.e on an average 0.93 functioning open wells and 0.33 bore wells. Among the districts, Buldhana district sample farmers have more number of open wells and bore wells, while Yavatmal had lowest. On an average 1.31 hectares of land was covered earlier under irrigation and wheat, chana and orange are the main crops grown using available irrigation facility by sample households. About 67 percent farmers purchased sprinkler irrigation equipment and others purchased drip irrigation equipments. Mostly the farmers preferred sprinkler irrigation in Yavatmal and Amravati district, while drip

irrigation system was availed in Buldhana district. In order to get the benefit under this scheme, average own investment was Rs. 13000/- per farmer and an amount of Rs. 17528/- subsidy was received. Above 93 percent of farmer have opinioned that due to sprinkler and drip irrigation, the area under irrigation increased and 87 percent farmers mentioned that it helped them in expanding the area under double cropping. Obviously, there must be increase in output and net income due to increase in area under irrigation and double cropping. About 60 percent farmers incurred Rs. 300/- expenditure (i.e. documentation, travel and other cost) to avail the benefit under this scheme. Out of total 15 farmers, one farmer commented that more subsidy should be given to the farmers. Overall selected farmers benefited from this scheme, by increasing their area under irrigation and double cropping.

4.5 Extension:

Public research and extension has played a major role in increasing production and productivity in agriculture and allied sectors in the past. It has been argued that agricultural extension system in the state is in disappearing/fading stage. Therefore, under this scheme, effective and efficient extension service mechanism was put in place in the identified districts for empowering the farmers. Agriculture Technology Management Agencies (ATMA) was operationalized in all the districts to ensure extension support and convergence at district level. The details on demonstration and exposure attended by sample households are presented in Table 4.8. It can be seen from the table that all the selected sample households' farmers have attended crop demonstration as well as exposure. Above 93 percent of the farmers opinioned that they benefited from this scheme. Among the districts, the corresponding figures are 100.0 percent in case of Amravati and Buldhana, while it was 80 percent in Yavatmal district. Overall all the farmers availed the facility under this scheme and almost 94 percent benefited by scheme.

Table 4.7: Micro Irrigation (Sprinkler /Drip irrigation) Scheme

District	Av. Nos. of functioning open wells	Av. Nos. of functioning bore well	Av. area covered (ha.)	Crops irrigated	Sprinkler purchased	Drip purchased	Av. own investment (Rs./farmer)	Av. subsidy Amount (Rs./farmer)	% of farmers opinioned that irrigated Area increased	% of farmers opinioned that it helped in double crop (Y)	% of farmers incurred any expenditure to avail the benefits (Y)	Av. expenditure incurred (Rs./farmer)
Yavatmal	0.80	0.20	0.92	1,2,3	0.80	0.20	11500	14190	80.0	60.0	60.0	333
Amravati	1.00	0.20	1.82	1,2,3	0.80	0.20	17700	17700	100.0	100.0	60.0	300
Buldhana	1.00	0.60	1.20	1,2,3 & 4	0.40	0.60	9800	20694	100.0	100.0	60.0	267
Av.	0.93	0.33	1.31	-	0.67	0.33	13000	17528	93.3	86.67	60.0	300

Notes: 1-Wheat, 2-Chana/Gram, 3-Orange and 4- Other fruit crops; Y- Yes

Source: Field survey data.

Table 4.8: Demonstration and Exposure attended by Sample Households

District	% of farmers attended any crop demonstration (Y) %	% of farmers attended any exposure (Y)	% of farmers benefited (Y)
Yavatmal	100.0	100.0	80.0
Amravati	100.0	100.0	100.0
Buldhana	100.0	100.0	100.0
Total	100.0	100.0	93.33

Notes: Figures are percentage to total selected farmers under scheme, Y- Yes

Source: Field survey data.

4.6 Horticulture:

Horticulture is an important segment of agricultural sector. Over the years, horticulture has emerged as one of the potential agricultural enterprise in accelerating the growth of the economy and augmenting the incomes of farmers. It can be seen from Table 4.9 that on an average Rs. 42693/- investment was made by each farmer, out of which 71.1 percent amount was received as subsidy from government and remaining amount invested by farmer from his own funds. In order to avail the benefit under this scheme, each farmer had to spend Rs. 2580/- towards travel, documentation and other cost. Among the districts, other expenditure on travel and documentation was relatively higher (Rs. 6260/- per farmer) in Buldhana than other two districts. About 67 percent farmers received assistance in getting these benefits, however, nobody paid any amount to those helpers/middlemen. Due to the benefits under this scheme, 20 percent of farmers were opinioned that additional employment and income was generated in their area.

4.7 Animal Husbandry and Dairying:

Animal husbandry and dairying sector plays a significant role in supplementing family incomes and generating employment in the rural sector, particularly among the landless, small and marginal farmers and women, besides providing nutritional security. In order to support the income of farmers, the component relating to livestock and fisheries was involved in this package. The components of the special livestock and fisheries sector package for the suicide prone district of the state are induction of high yielding milch animals, calf rearing programme, providing cattle/buffalo breeding

services, provision of health care to dairy animals, establishment of milk chilling units, feed and fodder supply programme, establishment of fodder block making units, fisheries programme, conducting fertility camps, pregnant animal feeding programme, introduction of goatery, piggery, and poultry and sheep farming.

It can be seen from the table 4.10 that under the government scheme for suicide prone districts, selected sample households altogether purchased 20 animals (average 1.3 per household) and also received benefits such as health care to dairy animals. The animals purchased by the farmers were cattle and bullock under subsidy scheme. The average cost per animal worked out to be Rs. 14114/- and about Rs. 6147/- subsidy (44 percent subsidy) per farmers was received and remaining amount was invested by the farmer. Government also provided subsidy to the farmers for construction of shed/feed/calf rearing of about Rs. 10851/- per farmer household. The cost per animal, amount invested by farmer and subsidy given by government towards construction of shed was recorded highest in Buldhana district. The average net income from the livestock purchased was Rs. 3860/- per household, in which Buldhana district household income was highest (Rs. 7400/-), and lowest was in case of Yavatmal (Rs. 1380/-). Towards documentation and travel, farmer had to spend Rs. 300/-. However, among the district, it is observed that there was no travel as well as documentation cost recorded in Yavatmal district. Though about 27 percent farmers received some kind of assistance from somebody in getting the benefits under this scheme, no amount was paid to them for their assistance by the farmers. Despite these investments, selected farmers have opinioned that there was no additional employment and income generated from the same. Most of the farmers opinioned that the cattle purchased under this scheme could not sustain due to heat stress in these regions and this affected milk productivity.

Table 4.9: Benefits received under Horticulture Scheme to Sample Households

District	Average Area (per farmer) ha	Average total investment (Rs./farmer)	Av. own fund (Rs./farmer)	Av. govt. subsidy received (Rs./farmer)	Other Expenditure (Rs./farmer)	% of farmers received assistance in getting benefits (Y)	Av. amount paid to middleman, if any (Rs.)	% of farmers opinioned that additional employment & income generated (Y)
Yavatmal	1.06	42300	8000	34300	500	100.0	0.0	40.0
Amravati	0.94	33200	9800	23400	980	80.0	0.0	20.0
Buldhana	1.24	52580	19240	33340	6260	20.0	0.0	0.0
Av.	1.08	42693	12347	30347	2580	66.7	0.0	20.0

Note: Y- Yes

Source: Field survey data.

Table 4.10: Animal Purchased and Subsidy received by Sample Households

District	Av. Number of animal purchased (per farmer)	Av. cost of animals (Rs./animal)	Average own amount (Rs./hh)	Av. Subsidy amount for construction of shed/feed/calf rearing, etc. (Rs./hh)	Av. income from livestock (Rs./hh)	Av. expenditure incurred for documentation and travel (Rs./hh)	% of farmers who received help to get benefit under this scheme (Y)	Av. amount paid to middleman (Rs./hh)	% of farmers opinioned that additional employment & income was generated
Yavatmal	1.4	12727	8400	9418	1380	0.0	20.0	0.0	0.0
Amravati	1.2	10863	3400	9636	2800	140	20.0	0.0	0.0
Buldhana	1.4	18286	12100	13500	7400	760	40.0	0.0	0.0
Av.	1.3	14114	7967	10851	3860	300	26.7	0.0	0.0

Note: Some of the farmers received benefits as health care to dairy animals

Source: Field survey data.

4.8 Minor Irrigation:

As mentioned earlier, under the Accelerated Irrigation Benefit Programme (AIBP) and Rural Infrastructure Development Fund (RIDF), 8 major, 9 medium and 557 minor projects were included in the scheme. The details about the increase in irrigated area and benefits through intervention to sample households is presented in Table 4.11. It can be seen from the table that there was significant increase in area irrigated, by about 76 percent. The highest increase in area irrigated was recorded from Amravati district and lowest was in Buldhana. Overall, due to this scheme, there was increase in irrigated area, which obviously must have helped the selected households to increase the output as well as income from the agriculture.

Table 4.11: Increase in Irrigated Area under Minor Irrigation Scheme

District	Average Irrigated Area (ha.)			% of farmers benefited through intervention*
	before package	after intervention	% increase	
Yavatmal	1.32	2.16	63.64	80.0
Amravati	1.48	3.20	116.22	100.0
Buldhana	1.86	2.84	52.69	100.0
Total	1.55	2.73	75.97	93.33

Notes: * Increase in irrigated area, Y-Yes

Source: Field survey data.

4.9 Watershed:

As mentioned earlier, three components were included in this scheme namely participatory watershed development, construction of check dams and rainwater harvesting. The construction of check dam was taken in the state, which was funded by NABARD under RIDF. The land treated under watershed programme and water harvesting structure constructed in sample household farms is presented in Table 4.12. It can be seen from the table that on an average 1.75 ha (all together more than 26 hectare) land was treated under watershed. Total eight farm ponds, three check dams were constructed on the farm and four check dams were constructed near farm of the sample households. About Rs. 37073/-average expenditure was incurred on construction of one farm pond/check dam in selected areas and average amount of Rs. 11282/- was contributed by the sample household in same. Out of the total farmers, only 40 percent farmers anticipated that scheme would benefit them. However, farmers also opinioned that area under irrigation would increase due to construction of check dam on the farm/near the farm.

Table 4.12: Land treated under Watershed Programme and Water Harvesting Structure Constructed

District	Av. Area covered (ha)	Water harvesting structure constructed			Cost of farm pond and check dam (Rs./pond/check dam)	Av. Own contribution (Rs./pond)	% of farmers think it would benefit them (Y)	Any check dam constructed near farm		Benefits from check dams
		Av. Farm ponds (No.)	Av. Check dam (No)	Av. Check dam Near the farm (No)				% of HH to total	Av. Cost of construction (Rs./check dam)	
Yavatmal	1.56	0.4	0.4	0.2	24952	3500	0.0	20.0	100000	increase in area irrigated
Amravati	2.24	0.2	0.2	0.6	27500	13500	40.0	80.0	200000	
Buldhana	1.44	1	0	0.0	50600	16620	80.0	0.0	-	
Total	1.75	0.5	0.2	0.3	37073	11282	40.0	33.3	175000	

Note: Y- Yes

Source: Field survey data.

4.10 Any other Government Programme:

After having information about the benefits availed by the farmers under PM's relief package, it would be important to have idea about the other government programmes availed by the sample household family. It can be seen from the Table 4.13 that 46.7 percent of household availed benefits of ration cards, 13.3 percent availed benefits of dairy animals scheme and 6.7 percent households availed benefits under janta house, old age pensions and such other schemes.

Table 4.13: Other Government Program availed by the Selected Farmer Household

District	Government program availed (% to total no. of households)							
	Dairy animals	Janta house	Baghyajoty/ kutirajyothi	Free electricity for bore well	Small ruminants	old age pension	Ration card	Other
Yavatmal	0.0	20.0	0.0	0.0	0.0	0.0	80.0	0.0
Amravati	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0
Buldhana	40.0	0.0	0.0	0.0	0.0	20.0	40.0	20.0
Av.	13.3	6.7	0.0	0.0	0.0	6.7	46.7	6.7

Note: Y- Yes

Source: Field survey data.

4.11 Serving any Organization:

It is observed that family members of selected households are actively involved in operation of various organizations. The family members from these family served as member of cooperative society, self help group (SHG), milk cooperative society, Gram Panchayat, watershed committees, taluka Panchayat member and on some other bodies.

Table 4.14: Family Members serving as a Member of Any Organization

District	Av. Number of family members serving with the following organizations						
	Society	SHGs	Milk Society	Gram Panchayat	Watershed committees	Taluka Panchayat member	other
Yavatmal	2.6	3.6	0.4	2.2	1.2	1.0	0.6
Amravati	4.0	3.6	2.2	2.6	1.8	0.6	0.8
Buldhana	3.6	2.4	2.4	2.0	2.4	0.4	1.4
Total	3.4	3.2	1.7	2.3	1.8	0.7	0.9

Note: Y- Yes

Source: Field survey data.

4.12 Suggestions:

One of the objectives of the study is to observe the constraints in the implementation of the package. The farmer's suggestions were collected on short coming in PM's relief package or on any component to improve the implementation of different schemes/ programmes. The farmers' suggestions on shortcoming and improvement of PM package are presented in Table 4.15. It can be seen from the table that all the selected farmers have opinioned that there is no shortcoming in PM relief package or in any components of the PM's package. Overall, the selected farmers have opinioned that they were satisfied with the measures in the PM's package and its components. However farmers have given some suggestions/additions to improve the implementations of different schemes/ programmes or some modification in some schemes. Farmers felt that the subsidy component should be increased especially for drip and sprinkler sets, extension services scheme should be further disseminated and more milch animals should be distributed. Also the time taken to avail of the benefit of the package was sometimes too long. Overall farmers felt that the package was satisfactory but the subsidy amount should be further enhanced.

Table 4.15: Farmers' Suggestions on Shortcoming and Improvement of PM's package

District	Any short coming any PM Package Yes/No (% of farmers)	If Yes, code of short coming	Any other suggestions (code)	Number of Farmers suggested	% to total households
Yavatmal	No (100.0%) Yes (0.00%)	Nil	A	07	17.5
			B	01	2.5
			C	05	12.5
			D	01	2.5
Amravati	No (100.0%) Yes (0.00%)	Nil	B	02	5.0
			C	08	20.0
Buldhana	No (100.0%) Yes (0.00%)	Nil	A	11	27.5
			C	05	12.5
			D	04	10.0
Total	No (100.0%) Yes (0.00%)	Nil	A	18	15.0
			B	03	2.5
			C	18	15.0
			D	05	4.2

Notes: A- Necessity of more irrigation facilities/schemes to increase area under irrigation;

B-Demand of sprinkler and drift irrigation facilities;

C-Necessity of Information Assistant to provide information to farmer;

D-Milch animal should be provided by the government

Source: Field survey data.

Summary and Conclusions

5.1 Backdrop

Indian agriculture is currently passing through a period of severe crisis. Although certain features of the crisis such as deceleration in growth rates, declining share of agriculture in Gross Domestic Product (GDP) and falling public investment in agriculture, started manifesting themselves in certain parts of India during the late 1980s, the crisis assumed a serious dimension since the middle of the 1990s. The share of agriculture in GDP which was 30 percent in 1992-93 declined to 19.6 per cent in 2005-06. While the annual compound growth rate of GDP during the period 1992-93 to 2005-06 was 6 per cent, the growth rate of the agricultural sector during the corresponding period was 2.57 percent. In contrast, the growth rate in the service sector was 7.72 percent. There was sharp decline in growth rate of yield of all crops in the period 1990-91 to 2003-04 as compared to the period 1980-81 to 1990-91. In case of important cash crops such as cotton and sugarcane (1990-91 to 2003-04) there was negative growth rate in yield while pulses showed a growth rate of 0.16 per cent per annum. The share of public sector investment in agriculture which was 43 percent in 1980-81 declined to 15.5 percent in 2002-03. Another important manifestation of the crisis in agriculture was the stagnant if not deteriorating terms of trade for agriculture (GOI, 2007).

One of the tragic manifestations of the crisis is the large number of suicides committed by the farmers in some parts of India (GOI, 2007). In fact so alarming was the problem, that it attracted nationwide attention and generated frantic debates in the union and state legislatures. The spiraling of suicides in the past decade or so is clearly a symptom of agrarian distress and impoverished condition of farmers. The Situation Assessment Surveys of the National Sample Survey Organization (2005) has reconfirmed the worsening situation of farming households which indicated that 48.6 percent of the farmers' households in India are indebted, and about 40 percent farmers' households in the country did not like farming because it is not profitable, risky and it lacks social status and felt that, given a choice, they would take up some other career (NSSO, 2005 and 2005a). Considering that around 59 percent of the workforce in the

country (as per Census 2001) is still dependent on agriculture for its livelihood, the wave of suicides has received considerable media attention and a matter of policy concern.

Farmers' suicides have been receiving a lot of social and public policy attention. Suicides were mainly concentrated in Karnataka, Andhra Pradesh and Maharashtra. A large number of suicides were reported in Karnataka in the first three years of the decade starting 2000-01, while Andhra Pradesh had maximum in 2004-05. In 2006, there was virtually a suicide epidemic in Maharashtra. These incidents raised serious questions of the state of the agrarian economy and the economic hardships faced by farmers. Agricultural GDP in Maharashtra which was growing at an annual compound growth rate of 5.4 percent in 1983-84 to 1993-94 declined to 1.27 percent in the following decade. Per worker productivity in agriculture in Maharashtra was only Rs 9130/- while it was Rs 82,316/- in non-agriculture (2004-05). This indicates that the ratio of non agriculture to agriculture productivity was 11.7 in Maharashtra (GOI, 2007). These figures are certainly symptoms of crisis in the agrarian economy of the state.

In order to deal with the problem of suicides and provide relief to the distressed households, the Government identified 31 districts in the four states of Andhra Pradesh, Maharashtra, Karnataka and Kerala where the incidence of farmers' suicides had been very high. In Maharashtra, suicides were concentrated in Vidarbha regionⁱ which accounts for 10 percent of population of the state in 2001. The *Vidarbha Jan Andolan Samiti*, a farmers' movement, reported that between June 2005 and December 2006, 1158 farmers had committed suicide in Maharashtra. Vidarbha, with only 10 percent of the population of Maharashtra accounted for 55 percent of its suicides (Mitra and Shroff, 2007). Concerned with farmers' suicides in some parts of the country, the Hon'ble Prime Minister of India, after visiting some parts of the Vidarbha region in Maharashtra, announced a rehabilitation package on July 1, 2006 to mitigate the distress of farmers in the identified districts. On 29th September, 2006, Union Cabinet approved the rehabilitation package for 31 identified districts in the State of Andhra Pradesh, Karnataka, Kerala and Maharashtra called as "Prime Minister's Rehabilitation Package for the Farmers in Suicide Prone Districts of Andhra Pradesh, Karnataka, Kerala and Maharashtra". The implementation period of Prime Minister's

(PM's) package is fixed for 3 years and included both immediate and medium term measures.

5.2 PM's Rehabilitation Package:

The rehabilitation package aims at maintaining sustainable and viable farming and livelihood support system through debt relief to farmers, complete institutional credit coverage, crop-centric approach to agriculture, assured irrigation facilities, effective watershed management, better extension and farming support services and subsidiary income opportunities through horticulture, livestock, dairying fisheries and other subsidiary activities. For mitigating the hardship faced by the debt stressed families of farmers, ex-gratia assistance from Prime Minister's National Relief Fund (PMNRF) @ Rs.50.00 lakh per district has also been provided. The package covers the following:-

- Complete credit cover through institutional credit sources;
- Debt relief to farmers by restructuring overdue loans and interest waiver;
- Provision of assured irrigation facilities;
- Watershed management;
- Seed replacement programme;
- Diversification of activities into horticulture, livestock, dairying and fisheries etc. for generation of additional employment and income opportunities; and
- Extension support services.
- Subsidiary income activities

The rehabilitation package envisages completion of all irrigation schemes, major, medium and minor, in the identified districts in a time bound manner. Watershed management includes construction of 500 check dams and 1000 rainwater harvesting structures per district per year and bringing 15,000 hectare per district per year under participatory watershed management programme. The rehabilitation package involves total amount of Rs.16,978.69/-crore consisting of Rs.10,579.43/- crores as subsidy/grants and Rs. 6399.26 crores as loan. It was observed that the share of Maharashtra in the Rehabilitation package was 22.8 percent.

5.3 Need for the study:

The rehabilitation package in these states is being implemented by the State Government through state level coordination and supervision Committee, district level Committee and Panchayat raj institutions and local level institutional structure and special purpose cooperative/community based organizations. The basic objective of this study was to conduct a field survey and observe the ground reality as to whether the benefit of the package is reaching the intended beneficiaries and also the impact of the package on the beneficiaries. This is especially important because the package has a number of relief measures to augment the incomes of the farmers.

5.4 Objectives:

The rehabilitation package in these states is being implemented by the State Government through state level coordination and supervision Committee, district level Committee and Panchayat raj institutions and local level institutional structure and special purpose cooperative/community based organizations. The basic objective of this study is to conduct a field survey and observe the ground reality as to whether the benefit of the package is reaching the intended beneficiaries. The study is related to the state of Maharashtra where the PM's Relief package was implemented in six districts namely - Amravati, Akola, Washim, Yavatmal, Buldhana and Wardha. The study is especially important as the purpose of the package was not only to provide immediate relief measures to farmers such as restructuring overdue loans and interest waiver but also long term relief by implementing a number of schemes which would revive the agricultural economy of Vidarbha.

More specifically, the broad objectives of the study are:

1. To observe whether the benefits of package has reached the intended beneficiaries.
2. To assess the overall social and economic impact of the rehabilitation package.
3. To study the constraints in the implementation of the package and suggest improvement/policy measures.

5.5 Methodology:

This study has been carried out for Maharashtra state by using primary and secondary level information. The secondary data on implementation status of PM'S package, number of farmers' suicides has been collected from the Office of Director General, *Vasantrao Naik Sheti Swalamban Mission* (VNSSM), Maharashtra State, Amravati, which is a nodal agency appointed by the Government of Maharashtra towards implementation of Prime Minister's Rehabilitation Package. The data on area, production and productivity of major crops, land use pattern, cropping pattern and other related aspects of this study have been mainly compiled from Season and Crop Report of Maharashtra State (various issues), District-wise Agricultural Statistical Information of Maharashtra State, Economic Survey of Maharashtra, various documents published by the Ministry of Agriculture, Government of India, New Delhi, and related websites such as <http://agricoop.nic.in>, <http://agri.mah.nic.in>, <http://www.censusindia.net>, etc. Recent data on Maharashtra's agricultural development have been directly compiled from the Office of the Commissionerate of Agriculture, Government of Maharashtra, Pune. For the data analysis, the simple statistical tools like average, percentages, growth rates, etc. have been used.

The primary data for the study has been collected from the three districts of Maharashtra state, out of six suicide prone districts selected in Prime Ministers' package in Maharashtra. The three districts were selected on the basis of having the highest number of suicide cases (cumulative for the period from 2001 to June 10, 2009) among the six districts. It was observed that Yavatmal had highest number of suicides in the state (1507 or 29 percent), followed by Amravati district, which had 1127 number of suicides (21.5 per cent). Buldhana ranked third in number of suicides which were 907 (17.3 percent of total). Thus, about 68 percent of farmers' suicides were concentrated in these three districts. Accordingly Amravati, Yavatmal and Buldhana district were selected. After selection of district, one taluka from each district having the highest number of suicide cases (cumulative) among the talukas in the selected district was selected for primary data collection. In Prime Minister's Rehabilitation Package, there are eight major schemes implemented by agriculture, horticulture, animal husbandry, irrigation, and fisheries department. Further, compensation for families of suicide

farmers and ex-gratia payment from PM National Relief Fund was paid by the collector. For each of the eight schemes, five beneficiaries were selected from each taluka. Thus, in total there were 40 beneficiary samples per taluka. It was observed that sometimes a single household benefited from more than one programme in PM package. However, such households have been treated for only one scheme even though information is collected for all the schemes he/she has availed under the package. Thus, in total data from 120 households (for three districts) in specially designed questionnaire was collected in the month of June 2009. The reference year for data collection was 2008-09.

5.6 Main Findings:

As mentioned earlier, the study was based on secondary and primary data. The secondary data was mainly collected from the office of Director General, *Vasantrao Naik Sheti Swalamban Mission* (VNSSM), Maharashtra State, Amravati, which is a nodal agency appointed by the Government of Maharashtra towards implementation of Prime Minister's Rehabilitation Package. The primary data was collected from field survey in which the beneficiaries of the PM's package were addressed with a questionnaire.

5.6.1 Findings from Secondary Data:

The main findings from secondary data were:

1. The credit related measures included three sub schemes, viz. debt relief to the farmers (reschedulement of loans), interest waiver and credit flow. Under this scheme, the overdue loans of the farmers as on July 01, 2006 were rescheduled over a period of 3 to 5 years with a one year moratorium. The entire interest on overdue loans to farmers as on July 01, 2006 was waived and all the farmers had no past interest burden as on that date. Thus, they were immediately eligible for fresh loan from the banking system. Also adequate credit flow for fresh requirement was made available by the banks. It was observed that a principal sum of Rs. 1418.48 crore of agricultural loans to about 9.38 lakh farmers was rescheduled. Also the interest amount of Rs. 837.5 crore on above

mentioned principal amount was waived. Private bank also given loan waiver of total Rs. 4.48 Crore. Further, fresh loans were also given to the significant numbers of farmers during last three years. While additional credit flow to agriculture in the six suicide prone districts was about Rs 747/- crores in 2005-06, the same was Rs 2013/- crores in 2006-07, Rs. 1738 crore in 2007-08 and Rs 1180/- crores in 2008-09. This clearly indicates that credit flow to farmers increased immediately after the package was announced. Further, the number of farmers availing of loans also increased substantially from 4.48 lakhs in 2005-06 to 10.07 lakhs in 2006-07.

2. Under Accelerated Irrigation Benefit Programme (AIBP), central assistance was provided for major/medium and minor irrigation projects. The assured irrigation project included 8 major, 9 medium and 557 minor irrigation projects for six districts of Maharashtra. In the identified six districts of Maharashtra, an area of 1.6 lakh hectares was targeted to bring under assured irrigation facilities at a cost of Rs 2177.27 crore over a period of three years through completion of all irrigation projects. Total funds of Rs. 2679 crores were released out of which Rs. 2641 crore were utilized by March 31, 2009. However, the irrigation potential created was only 88644 hectares as against the targeted irrigation potential of 167871 hectares. Hence with the funds released only 53 percent of targeted potential could be created.
3. In order to provide immediate assistance to the farmers, a massive Seed Replacement programme was launched with 50 percent subsidy in the identified six districts of Vidarbha in Maharashtra. The entitlement for quality seed increased from half acre per farmer to one hectare per farmer. The programme was expected to cost Rs.180/- crore over a period of three years. Under this programme about 10.77 lakh quintals of seed were distributed and the total subsidy amount was Rs. 143.98 crore from the rabi 2006 season to rabi 2008 season. It is expected that the remaining amount must have been spend during the kharif 2009 season by the department. The crops which are covered under this programme are jowar, wheat, gram, tur, soybean, sunflower,

safflower, maize, moog, udid and cotton. It was also observed that the number of beneficiaries in kharif season (around 8.58 lakh) was more than double that in the rabi season (between 3.3 lakh to 3.8 lakh) under this programme. This is naturally expected since 94 percent of area in these districts is rainfed and hence farmers take more crops in the kharif season. Further, if we take into consideration the total number of farmers in these six selected districts, which are 15.58 lakh in number (as per Agricultural Census, 2000-01), we can infer that approximately 23 percent of farmers were beneficiaries of seed replacement programme in the rabi season and 55 percent were beneficiaries in the kharif season. Thus, the benefits of the seed replacement programme seem to have penetrated in the suicide prone districts.

4. In view of more than 94 percent area (to total gross cropped area) being rainfed in the six identified districts, watershed development scheme was included in order to increase the production and productivity of crops. The scheme was subdivided into three sub-schemes, viz., check dams, watershed development programme and rain water harvesting scheme. Under the scheme, it was targeted that on an average 500 check dams every year at an average cost of Rs 2.0 lakh per check dam will be constructed in six districts over three years period. Thus, all together target of construction of 9000 check dams in six districts over a period of three years was set. The estimated cost per year for this programme was Rs. 60/- crore which entails a total cost of Rs 180/- crores for three years. It was observed that at the end of three year period 7970 check dams were constructed which indicates that 88 percent of the target was achieved.

In addition to this, about 15000 hectares area per district was targeted to treat under participatory watershed development programme for which grant support of Rs. 60 lakh per watershed of 1000 hectare area each, entailing an outlay of Rs 54 crore was provided. Against the target, about 90188 ha area was treated under participatory watershed development programme with an expenditure of Rs. 18.65 crore against sanctioned amount of Rs. 54.0 crore, by May 31, 2009. Also about 3000 farm ponds were constructed under

NREGA/EGS under water harvesting programme with an expenditure of Rs. 6.0 crore during same period.

5. Horticulture development was also included in the PM's package and funds were sanctioned under the National Horticulture Mission (NHM) which was launched in 2005-06. Under this scheme while the sanctioned amount for the three years was Rs 225/- crores, the amount received was only Rs 115.26 /- crores (51 percent) and expenditure was Rs 112.19/- crores. Under this scheme, new plantation of fruit perennial, floriculture, spices and aromatic plants were taken up on 52128 ha area since 2006. Also 1267 community water tanks have been completed. Old and senile orchards in an area of 8097 ha area are being rejuvenated. As NHM is an ongoing programme, the funds would be available till the year 2012.
6. Micro Irrigation Programme was targeted to cover 17800 hectares area under drip and sprinkler irrigation, by involving an investment of Rs. 26.0 crore per year. In all, 53400 hectares land in all six identified districts was to be brought under sprinkler and drip irrigation. Accordingly, Maharashtra was allocated total Rs. 78.0 crores under micro irrigation scheme in order to develop the drip and sprinkler irrigation base in the six districts over the period of three years. It was observed that the total fund received under this scheme, expenditure incurred and area under micro irrigation was higher than the target that was prescribed. An amount of Rs 112.54/- crores was received as against which Rs. 103.32/- crores expenditure was incurred. The amount received was thus higher than the amount sanctioned. During the three year period (up to May 31, 2009) of implementation of the package, altogether an area of 92061 hectares was brought under sprinkler and drip irrigation in six identified districts. Thus actual area brought under micro irrigation was more than that targeted by 72 percent. Amravati, Buldhana and Yavatmal districts together accounts for 75 percent of total allocation.

7. Extension services were also included under PM's package as agricultural extension in the state is very weak and its presence on the field is negligible/ disappearing. It was thus decided to put an effective and efficient extension service mechanism in place in the identified districts for empowering the farmers. Through Agriculture Technology Management Agencies (ATMA) of all the districts, farmers were provided extension support and convergence at district level. The districtwise physical and economical achievement under Agriculture Technology and Management Agency (ATMA) extension services as on March 31, 2009 revealed that the total allocation for this programme under PM package was of Rs. 3.00 crore for six identified districts. However, during the period of three years, total Rs. 1275.61 lakh was sanctioned; the sum of Rs. 1150.26 lakh was received and against that total expenditure of Rs. 1043.76 lakh was incurred in six districts. Though the sanctioned amount was almost equally distributed over three years, the expenditure incurred was highest during first year (2006-07) and then lower down in the other two years.
8. In order to support the subsidiary income of the farmers, schemes relating to livestock and fisheries were included in PM's package. The initially total package involved a total investment of Rs. 98.87/- crores in six districts over a period of three years, which increased to Rs. 135 crore by 2008-09. The component relating to livestock and fisheries mainly involved, i) induction of 1000 high yielding milch animals per district with 50 percent subsidy (balance bank credit); ii) induction of 500 female calves per district with 50 percent of rearing cost; iii) providing cattle/buffalo breeding services (through door- to-door services); iv) feed and fodder supply programme; v) establishment of fodder block making units with 50 percent subsidy (balance bank credit); and v) provision of adequate health care to all animals.

It was observed that the out of total sanctioned amount of Rs. 135.0 crore, Rs. 60.92 crore were received, against that total expenditure of Rs. 59.05 crore was incurred by May 31, 2009. Total 12140 farm families were supplied with milch animals and total 19459 animals are distributed so far. Total 12995 farm families have been assisted under calf rearing programme and 543625

Artificial Inseminations were carried out. Under the scheme of food and fodder supply scheme, 17459 farmers household from the six selected districts were benefited. As implementation period of this scheme under PM's package was over a period of three years (2006-07 to 2008-09), however, government has extended the period for implementation by two more years, i.e. up to 30.09.2011 for non credit component.

The fisheries component of subsidiary income activities has been implemented along with livestock in Maharashtra. However, this component received negligible allocation and finally only 4 percent of allocated amount was received. Towards the construction/ repairs and renovation of fish ponds and input subsidies, while total amount of Rs. 621 lakh was allocated, only Rs. 23 lakh were received and total of Rs.18.93 lakh expenditure was incurred. Against the target of 101 ponds, 91 fish ponds (102.34 ha area) were constructed and 91 famers are benefited by this scheme. The fisheries component was thus very limited in the package.

9. If we consider 2005-06 as the period prior to implementation of package, it can be observed that productivity of almost all the crops in all selected districts showed marked improvement in 2006-07 and 2007-08 (post package) as compared to 2005-06. The productivity was notably higher in 2007-08. However, in 2008-09 which was the third year of the implementation of the package, there was sharp fall in yield levels due to severe drought conditions in selected areas. In Yavatmal district, the average rainfall was 72 percent of normal. Soybean which was an important crop in all the three districts, had an average yield of 317.4 kg per hectare across all districts in 2008-09 as compared to a yield of 1652 kg per hectare in 2007-08. The yield was thus one fifth of that in the previous year. It was observed in the fields and also reported by the government officials that some farmers did not even harvest the soybean crop because of cost of hiring labour would exceed that of the value of harvest. Further, the quality of the crop was also very poor. Dismal performance in yield was in fact noted even in case of other major crops such as pulses and cotton.

10. It is observed that average daily collection of milk in selected districts increased significantly after implementation of PM's package. Immediately after implementation of PM's package, there was a marked increase in milk production/collection in all three selected districts in all three years. The increase was highest in Buldhana which was as high as 290 percent in 2007-08. However, in 2008-09, the milk collection declined as compared to 2007-08. This could possibly be due to impact of drought on milk production. Due to failure of monsoon, adequate fodder was not available and also prolonged heat stress in the absence of rainfall reduces the milk yielding capacity of the milch animals. While milk production showed a rapid increase in the three selected districts, the same was not observed in the state during corresponding period. Infact in 2007-08, there was a fall in production/collection of milk by 3.7 percent as compared to 2005-06. Since 2007-08 was good year and farmers experienced high yields of all crops, which increased their income, it is possible that dairy farming took a back seat.
11. Ex-gratia assistance of Rs 3.0 crores/- from the Prime Minister's National Relief Fund was placed at the disposal of respective District Collectors. Total amount of Rs. 3.00 crore has been received from PMNRF during 2006-08 and Rs. 3.60 crore from Chief Minister's Relief Fund during 2008-09. Under this scheme health and education assistance was provided to 5581 beneficiary farmers out of which 5422 farmers were in crisis and 142 farmers were from families where suicide had been committed.

Overall, it was observed that except target under irrigation potential creation, the package implementation was satisfactory and the targets were achieved. The benefits under AIBP under which assistance was provided for completion of all projects would take time and it would have long term benefits. It is by and large clear from the secondary data that the package is implemented properly and its expenditure was more than original sanctioned budget amount.

5.6.2 Findings from Field Survey:

1. The socio economic characteristics of the sample households indicated that 41.7 percent belonged to Scheduled Caste, 7.5 percent belonged to Scheduled Tribe and 5 percent were minorities and remaining general category. Thus, it is clear that nearly half of the beneficiaries belonged to SC/ST category. The average family size of the households was 5.3 and 26 percent of adults were educated. The average land holding size showed virtually no change after implementation of the package (3.04 ha). The area under irrigation which was 57 percent before implementation of package increased to about 61 percent after the package was introduced.
2. It is observed that out of total farmers of three selected districts, only 2.5 percent of farmers sold an average 0.05 hectare land during last five years at the average rate of Rs. 144531/- per hectare. The reason stated by the farmers towards selling the land was for household expenditure. As income from the agriculture was not adequate to meet their expenses, farmers may have sold land to meet these expenses. Out of selected sample households, four farmers (3.3 percent of total) purchased land during last five years. The two households each from Buldhana and Amravati district purchased on an average 0.04 hectare land at the rate of Rs. 163068/- per hectare. Thus, the average price received by the farmers (those who sold their land) is lower than the price paid by the farmers who purchased it. Of course, the land price depends on the land/soil type, quality and its geographical position in the village. Further, the land price may vary among districts. Overall, there was no significant change in land sold and purchased by the sample households during last five years.
3. It was observed that more than 68 percent of selected households have open well as source of irrigation, followed by 24.32 percent of borewell, and 6.08 percent by tank and 1.35 percent by canal irrigation. Thus, groundwater source was main source available with the sample household to irrigate the crops. The

availability of surface irrigation in the form of tank and canal is very minimal in the selected area.

4. The cropping pattern of the sample households revealed that on an average around 44 percent of the area was under non food crops while 30 percent area was under food crops. This is expected as cotton and soyabean are major crops in the selected districts. With respect to food crops, pulses were dominant in the cropping pattern. Further, 26 percent area was under horticultural/plantation crops such as citrus, papaya, etc.
5. The number of households having livestock increased by 5 percent after implementation of the package. The number of buffalos and goat increased by about 24 percent, while cows by more than 14 percent. Also per household income from the sale of the milk increased by more than 43 percent after implementation of the package.
6. It was also observed that 55.8 percent of sample households sold livestock during the period 2003-08 and on an average received Rs 7502/- as sales revenue. The main reason for selling their livestock was due to their inability to cope up with household expenditures as income from agriculture was insufficient to meet their requirements. At the same time only 15 percent of sample households purchased livestock at an average cost of Rs 2803/-. As income from sale of milk supported family income, most of the farmers purchased cows and buffaloes.
7. As far as agricultural equipment was concerned, it was observed that there was about 24 percent increase in the number of sample households who owned sprinkler and drip sets.
8. Surprisingly, the annual per household income of sample household from all sources is substantially higher in Amravati district as compared to other two

districts. This may be due to horticulture plantations and income from non farm sources.

9. It was observed that the gram panchayats had duly disseminated the information to the farmers in the selected districts about the relief measures in the PM's package. Only one household in the sample had received the information from local newspapers.
10. On an average about 64.2 percent of farmers received livestock and other inputs under the package. About 56 days time was spent to avail on an average across three districts to get the benefit of the package after application for the same. Farmers had to also seek help to push their case in order to ensure that they could avail of the relief measures and the average amount they paid to receive the benefits were Rs 191/- .
11. Out of the total sample, two households, one in Yavatmal and one in Amravati received suicide compensation of about Rs 1.05 lakh/- and they have used this fund mostly for consumption purpose.
12. About 33 percent of farmers from the sample borrowed from commercial banks while 67 percent borrowed from co-operative banks. The average amount borrowed per farmer was Rs 28777/-. With respect to the amount of loan rescheduled, it was observed that on an average Rs. 16733/- across the three selected districts was rescheduled.
13. The Seed Replacement Programme as a relief measure was also successful and farmers availed of certified seed every year of the package. The main seed purchased was soyabean and on an average the farmer received a subsidy of Rs 1274/- which was 50 percent of the cost of the seed. The seed received by farmers was sufficient and farmers experienced increase in yield due to use of certified seeds. However, in 2008-09 there was severe drought in all districts which led to drastic fall in yields of all crops. Thus although the relief package

laid stress on irrigation through assured irrigation facilities, popularization of micro irrigation and watershed programmes, the impact of drought was greatly felt in these districts which had a major impact on yield.

14. About 93.3 percent of farmers responded that due to sprinkler and drip irrigation, area under irrigation increased and 87 percent of farmers opined that it helped in double crop. About 66 percent of farmers purchased sprinkler sets and 33 percents purchased drip equipment. The average subsidy received per farmer was Rs 17528/- and the farmer's own investment was Rs 13000/- to purchase these sets. About 60 percent of farmers incurred on an average Rs. 600/- expenditure (travel, documentation and others) to avail the benefit under this scheme.

15. It has been argued that agricultural extension system in the state is in disappearing/fading stage. Therefore, under this scheme, effective and efficient extension service mechanism was put in place in the identified districts for empowering the farmers. Agriculture Technology Management Agencies (ATMA) was operationalized in all the districts to ensure extension support and convergence at district level. It is observed that in all the selected sample households' farmers have attended crop demonstration as well as exposure. Overall all the farmers availed the facility under this scheme and almost 94 percent farmers opined that they are benefited by this scheme.

16. Horticulture is an important segment of agricultural sector. It was observed that on an average Rs. 42693/- investment was made by each farmer, out of which 71.1 percent amount was received as subsidy from government and remaining amount invested by farmer from his own funds. In order to avail the benefit under this scheme, each farmer had to spend Rs. 2580/- towards travel and documentation cost. About 67 percent farmers received assistance in getting these benefits; however, nobody paid any amount to helpers/middlemen. Due to the benefits under this scheme, 20 percent of farmers were opined that additional employment and income was generated in their area.

17. In order to support the income of farmers, the component relating to livestock and fisheries was involved in this package. It was observed that on an average 1.3 animals (total 20 animals) were purchased. Farmers also received benefits such as health care to dairy animals. The animals purchased by the farmers were cattle and bullock under subsidy scheme. The average cost per animal worked out to be Rs. 14114/- and about Rs. 6147/- subsidy (44 percent) per farmers was received and remaining amount was invested by the farmer. Government also provided subsidy to the farmers for construction of shed/feed/calf rearing of about Rs. 10851/- per farmer household. Towards documentation and travel, farmer had to spend Rs. 300/- per farmer. Though about 27 percent farmers received some kind of assistance from somebody in getting the benefits under this scheme, no amount was paid to them by farmers for their assistance. Despite these investments, selected farmers have opinioned that there was no additional employment and income generated from the same. Farmers also stated that due to heat stress, the milk yielding capacity of animals was reduced.
18. There was significant increase in area irrigated under Accelerated Irrigation Benefit Programme by about 76 percent (from 1.55 ha to 2.73 ha). The highest increase in area irrigated was recorded in farmers household from Amravati district and lowest was in Buldhana district. Overall, due to this scheme, there was increase in irrigated area, which obviously must have helped the selected households to increase the output as well as income from the agriculture.
19. With respect to watershed development programmes, it was observed that on an average 0.5 farm ponds and 0.2 check dam were constructed on farm and 0.3 check dam constructed near farm of sample household. The farmers felt that check dams helped in increasing the area under irrigation.
20. Besides the above mentioned programmes, the government also has a number of schemes for the benefit of the poor. It was however observed from our

sample that 46.7 percent of household availed benefits of ration cards. 13.3 percent availed benefits of dairy animals scheme and 6.7 percent households availed benefits under jantha house, old age pensions and such other schemes.

21. It was also observed that some family members of certain households in the sample were actively involved in operation of various organizations. Their family members served as member of cooperative society, self help group (SHG), milk cooperative society, Gram Panchayat, watershed committees, taluka Panchayat member and on some other bodies.

22. The farmer's suggestions were collected on short coming in PM's relief package or on any component to improve the implementation of different schemes/ programmes. Overall, the selected farmers have opinioned that they were satisfied with the measures in the PM's package and its components. However, farmers felt that the subsidy component should be increased especially for drip and sprinkler sets, extension services scheme and more milch animals should be distributed.

5.6 Policy Implications:

The above study leads us to the following policy implications:

1. The PM's rehabilitation package aimed at maintaining sustainable and viable farming in the suicide prone districts through eight schemes. Out of these eight schemes, three schemes namely – Accelerated Irrigation Benefit Programme, Watershed Development Programme and Micro Irrigation scheme aimed at increasing area under irrigation. These schemes did increase area under irrigation and yield impact was felt in 2007-08 when all major crops cultivated in the districts experienced substantially higher yields. The yield of cotton which was 148 kg per hectare in Yavatmal in 2005-06 (the year before implementation of the package) rapidly increased to 412 kg per hectare in 2007-08. A similar increase was experienced in other districts. The yield of soyabean which was 1128 kg per hectare in

2005-06 in Amravati increased to 1700 kg per hectare in 2007-08 while the corresponding figures for Buldhana were 526 kg per hectare and 2007 kg per hectare. Pulses also showed increase in yield in 2007-08. Thus supplementary and protective irrigation made possible by the package possibly had an impact on yield. However, these benefits could not be sustained in the following year of the package viz. 2008-09 when these districts suffered from major drought. All three districts suffered from much below than normal rainfall especially from the months of June to August. This shortfall in rainfall had an adverse impact of yield which showed drastic fall. The yield of soyabean in 2008-09 was as low as 333 kg per hectare in Yavatmal and 286 kg per hectare in Buldhana district. Infact all crops showed steep fall in yields. It is obvious that farmers could not overcome the drought through protective irrigation. Thus, though emphasis has been placed on the package to increase irrigation potential, the impact of the drought was still severe. Thus irrigation projects have to be completed and watershed activities have to be further promoted so as to recharge ground water. Only when protective irrigation is available, the farmers will be in a position to face the drought (Attention: Water Resources Department/Irrigation Department, Government of Maharashtra).

2. Horticulture development under National Horticulture Mission was covered under this programme. Farmers in the sample opinioned that additional employment on their farms had been generated. However, it was observed on field visit that in Amravati district, a number of orange plantations had suffered high mortality due to failure of monsoon and lack of protective irrigation. Orange plantations have a gestation period of six years and after fruit bearing stage is reached, plants are sometimes unable to survive. Hence efforts of six years of farmers as well as huge expenditures are wasted. Thus horticultural activities which are known as high value agriculture require irrigation in case of failure of monsoon. Water also adds to the size and sweetness of the fruit which can then fetch a higher price in the market. Farmers also complained that ground water was not being recharged and

they faced declining water tables. Several hours of load (electricity supply) shedding added to their problems. Even though a farmer had to have drip irrigation facilities to avail of funds under NHM, the problem of water shortage was not solved. Under these circumstances, horticulture development had its own limitations and this issue needs to be addressed (Attention to: Water Resources Department/Irrigation Department and Directorate of Soil and Water Conservation, Government of Maharashtra, Pune).

3. Animal Husbandry and Dairy farming were also promoted under the relief package. Milch animals and fodder were distributed so that milk production could add to the income of farmers. While farmers did receive subsidy to purchase milch animals and also augmented their incomes from sale of milk, they continued to face problems about availability of fodder. Further, the milch animals were not capable of coping with heat stress which reduced the milk yield substantially. Thus, even if sale of high yielding milch animals were given subsidy in the PM's package, the full potential of milk yield could not be attained due to heat stress and poor availability of fodder. Government officials felt that traditional breeds are sometimes more suitable as they can sustain the heat and require less fodder (Attention: Commissionerate of Animal Husbandry and Dairying, Government of Maharashtra, Pune).
4. While the Seed Replacement Programme did provide certified seeds to farmers, there was no impact on yield in 2008-09 due to severe drought. Thus certified seeds alone cannot have an impact on yield without protective irrigation. The State Agricultural Universities should therefore develop HYVs that suit the agro-climatic regions and area drought resistant (Attention: State Agricultural Universities/Department of Agriculture, Government of Maharashtra).

5. Public research and extension has played a major role in increasing production and productivity in agriculture and allied sectors in the past. There is a need of strong links between research, extension and farmers. Therefore, agricultural extension system in the state needs to be strengthened for effective and efficient extension service mechanism (Attention: State Agricultural Universities/Department of Agriculture, Government of Maharashtra).

Overall the study concluded that farmers in the suicide prone districts of Vidarbha were aware of the PM's package and the gram panchayats in every village had given due publicity to this programme. Farmers had availed of relief measures such as interest waiver and rescheduling of loans and also subsidy under various schemes which enabled them to be eligible for fresh loans and also augment their incomes through subsidiary activities. However their capacity to cope up with drought conditions whenever monsoons failed was still weak and PM's package through its multiple schemes had limited impact on this front. Productivity levels of major crops declined in 2008-09 (the third year of the package) due to drought conditions in all three selected districts. The same was observed with milk production. Thus despite the broad based comprehensive nature of the PM's package with several schemes and issues being addressed (Accelerated Irrigation Benefit Programme, Watershed Development and Micro Irrigation), agriculture in Vidarbha continues to be a gamble of the monsoons.

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- Irrigation Department (Vidarbha Irrigation Development Corporation), Amravati
- Commissionerate of Animal Husbandry, Government of Maharashtra, Pune

Progress in Implementation of the Package in Four States

The component wise progress as on 30th of June, 2008, the latest data is available, is presented below:

A. Credit related measures:

(i) Debt relief to farmers (Re-schedulement of Loans)

Name of the State	Target Amount (Rs. in crore)	Loans rescheduled as on 31 st December, 2007	
		No. of Accounts	Amount (Rs. in crore)
Andhra Pradesh	5,745.76	1,053,766	7650.84
Karnataka	1,194.52	2,29,620	1248.78
Kerala	815.53	N.A.	802.63
Maharashtra	1,296.00	9,33,000	1384.38
Total	9051.81	22,16,386	11,086.63

(ii) Interest Waiver (Rs. in crore)

Name of the State	Overdue interest to be waived	Overdue interest waived
Andhra Pradesh	1436.44	1978.11
Karnataka	209.81	706.35
Kerala	360.00	218.93
Maharashtra	712.68	824.98
Total	2718.93	3728.37

(iii) Credit Flow

Name of the State	Target 2007-08	Disbursement as on 31.03.2008	Target 2008-09	(Rs. in crore)
				Disbursement As on 30.06.08
Andhra Pradesh	15032.50	15326.76	17588.35	587.19
Karnataka	3749.41	3270.30	4479.13	NA
Kerala	2395.45	2750.71	3005.22	NA
Maharashtra	2225.35	1737.86	2402.27	111.35
Total	23,402.71	23085.63	27474.97	698.54

Note: The achievement data for 2008-09 relates to RRBs & cooperatives.

B. Assured Irrigation Facilities

I. Major Irrigation

(Rs. in crore)

State	Allocation			Progress		
	Physical (No. of Projects)			Financial	Expenditure by State Govt.	Release by Gol
	Original Package	Additional	Total			
Andhra Pradesh	04	10	14	3233.00	4198.50*	1995.25*
Karnataka	04	05	09	1204.05	654.62*	323.08*
Kerala	-	01	01	-	-	2.72
Maharashtra	08	-	08	1260.43	486.62*	637.94*
Total	16	16	32	5697.48	5339.74*	2958.99

Notes:* including medium irrigation, Gol- Government of India

II. Medium Irrigation

(Rs. in crore)

State	Allocation			Progress		
	Physical (No. of Projects)			Financial	Expenditure by State Govt.	Release by Gol
	Original Package	Additional	Total			
Andhra Pradesh	06	05	11	325.00	\$	\$
Karnataka	01	07	08	04.66	\$	\$
Kerala	01	04	05	35.00	-	-
Maharashtra	09	-	09	468.15	\$	\$
Total	17	16	33	832.81	-	-

Note: \$ Included in major irrigation.

II. Minor Irrigation

(Rs. in crore)

State	Allocation under package		Progress (Expenditure)	
	Physical (No. of Projects)	Financial	Expenditure by State Govt.	Sanctioned by NABARD
Andhra Pradesh	932	2231.00	232.06	265.28
Karnataka	897	458.10	-	232.19
Kerala	179	70.03	Nil	8.74
Maharashtra	557	448.68	323.38	187.52
Total	2565	3207.81	555.44	693.73

C. Seed Replacement Programme

(Rs. in crore)

State	Allocation Package Amount	Seeds supplied		Amount released during 2006-07 to 2008-09	Amunt Utilized
		Agency	Qty (lakh qtls)		
Andhra Pradesh	470.18	A.P. State Seeds Dev. Corporation	16.07	278..87	278.87
Karnataka	178.00	NSC and Karnataka State Seeds Corporation	8.02	27.87	17.84
Kerala	1.92	-	0.10	1.92	1.92
Maharashtra	180.00	NSC /Maharashtra State Seeds Corporation	5.81	121.18	121.18
Total	830.10		30.00	429.84	419.81

D. Watershed Development

I. Check Dams

(Rs. in crore)

State	Allocation under package		Progress	
	No. of check dams	Financial	Physical (No.)	Amount sanctioned
Andhra Pradesh	24000	480.00	7707	102.87
Karnataka	9000	180.00	-	-
Kerala	4500	90.00	23	12.26
Maharashtra	9000	180.00	7994	151.53
Total	46500	930.00	15724	266.66

* Sanctioned by NABARD under RIDF

II. Watershed Development Programme

(Rs. in crore)

State	Allocation under package		Progress	
	Physical (lakh ha)	Financial	Physical (lakh ha)	Amount sanctioned by NABARD
Andhra Pradesh	7.20	432.00	3.380	15.84
Karnataka	2.70	162.00	0.964	4.74
Kerala	1.35	81.00	0.156	1.53
Maharashtra	2.70	162.00	0.147	13.96
Total	13.95	837.00	4.647	36.07

Note: * Amount Sanctioned by NABARD

III. Rain Water Harvesting Scheme

(Rs. in crore)

State	Allocation under package		Progress	
	Physical (No. of beneficiaries)	Financial	Physical (No.)	Amount released by NABARD
Andhra Pradesh	4800	48.00	Nil	-
Karnataka	18000	18.00	-	-
Kerala	9000	9.00	Nil	Nil
Maharashtra	18000	18.00	295	5.40
Total	93000	93.00	295	5.40

E. Horticulture Development

(Rs. in crore)

State	Allocated amount under package	2006-07			2007-08 and 2008-09		
		Outlay	Release*	Exp\$	Outlay	Release*	Exp\$
Andhra Pradesh	75.3	93.92	66.67	67.74	147.02	66.58	96.38
Karnataka	106.15	55.03	44.54	36.15	54.47	53.23	22.63
Kerala	46.33	36.14	29.39	1.01	42.93	13.24	38.17#
Maharashtra	225	60.8	46.88	26.86	69.98	4.29	15.95
Total	452.78	245.89	187.48	128.76	314.4	137.34	173.13

Notes: * Release by government of India, \$ Expenditure by State Government, # Expenditure upto October, 2007, All the identified 31 districts have been included under NHM.

F. Micro Irrigation

(Rs. in Crore)

State	Allocation under package		Progress		
	Physical (lakh ha)	Financial	Physical (lakh ha)	Amount released by Gol	Expenditure by State Govt.
Andhra Pradesh	8.00	640	6.11	137.52	163.8
Karnataka	0.43	64	0.085	16.09	25.68
Kerala	0.13	19.53	0.007	6.36	0.5
Maharashtra	0.534	78	0.485	57.8	68.76
Total	9.094	801.53	6.687	217.77	258.74

G. Extension services

(Rs. in crore)

State	Amount Allocated under package	2006-07		(2007-08)		(2008-09)	
		Release*	Expn.\$	Release*	Expn.\$	Release*	Expn.\$
Andhra Pradesh	8.00	4.67	3.15	21.85	8.85	-	00.13
Karnataka	3.00	Nil	Nil	1.25	0.33	-	-
Kerala	1.50	1.17	-	Nil	-	-	-
Maharashtra	3.00	3.83	3.82	3.64	3.09	2.89	0.25
Total	15.50	9.67	6.97	26.74	12.27	2.89	00.38

Note: * Amount release by Government of India; \$ Expenditure by State Government

H. Subsidiary income Activities

(Rs. in crore)

State	Amount allocated under package	Amount release by Govt. of India	Expend. as on 30.06.08	Physical progress
Andhra Pradesh	263.63	123.35	59.52	<ul style="list-style-type: none"> 10602 milch animals inducted and 4050 calves enrolled. 21,000,00 animals covered under estrus synchronization. 419369 AI carried out 22 BMC established. 312.73 ha. of ponds constructed Construction of 193 ha of ponds taken up.
Karnataka	98.87	35.33	12.85	<ul style="list-style-type: none"> 4202 beneficiaries identified and 3123 milch animals purchased and 953 calves enrolled. 1009747 AI carried out and estrus synchronization carried out in 26332 animals. Orders placed for purchase of 10 bulk milk Coolers. 3123 animals given health care. 14 ponds constructed.
Kerala	49.42	31.54	20.31	<ul style="list-style-type: none"> 2552 milch animals inducted and 2064 calves enrolled. 460795 artificial inseminations carried out. 81 ha area developed.
Maharashtra	98.87	37.49	17.77	<ul style="list-style-type: none"> 11987 milch animals inducted. 6148 calves inducted 229889 AI carried out 1236 animals given healthcare. 1 fodder block making units set up 32 units of chilling units set up 23 ponds completed(11.287 ha)
Total	510.79	227.71	110.45	

Note: * Release by Government of India (up to 31.03.08)

Annexure II

Annexure II: Number of Farmers' Suicides in Six districts of Maharashtra: 2001-2009

Year/District		Amravati	Akola	Yavatmal	Buldhana	Washim	Wardha	Total
2001	Eligible	7	5	7	4	7	2	32
	Not Eligible	4	1	10	4	0	1	10
	Total	11	6	17	8	7	3	52
2002	Eligible	16	7	23	6	5	15	72
	Not Eligible	4	0	15	3	1	9	32
	Total	20	7	38	9	6	24	104
2003	Eligible	22	15	30	12	6	8	93
	Not Eligible	19	6	22	2	0	6	55
	Total	41	21	52	14	6	14	148
2004	Eligible	49	39	82	38	29	17	254
	Not Eligible	52	7	60	47	15	12	193
	Total	101	46	142	85	44	29	447
2005	Eligible	59	37	97	39	25	19	276
	Not Eligible	43	6	70	42	1	7	169
	Total	102	43	167	81	26	26	445
2006	Eligible	78	81	145	99	108	54	565
	Not Eligible	191	93	215	207	77	100	883
	Total	269	174	360	306	185	154	1448
2007	Eligible	74	51	103	42	24	43	337
	Not Eligible	190	74	256	151	153	85	909
	Total	264	125	359	193	177	128	1246
2008	Eligible	62	78	76	46	25	14	301
	Not Eligible	197	83	229	144	87	73	813
	Under Enquiry	5	4	6	5	12	1	33
	Total	264	165	311	195	124	88	1147
2009 (up to 10.06.2009)	Eligible	2	1	1	3	1	0	8
	Not Eligible	2	0	14	0	1	6	23
	Under Enquiry	51	16	46	13	29	20	175
	Total	55	17	61	16	31	26	206
Total	Eligible	369	314	564	289	230	172	1938
	Not Eligible	702	270	891	600	335	299	3097
	Under Enquiry	56	20	52	18	41	21	208
	Total	1127	604	1507	907	606	492	5243

Source: Office of the Director General, VNSSM, Govt. of Maharashtra, Amravati.

Annexure III

Annexure III: Guidelines issued by the State Government, Central Government, NABARD and RBI towards implementation of various schemes under PM's Relief Package in Maharashtra

Sr. No.	Scheme	Resolution/Circular/Letter No.& Date	Agency
1	2	3	4
A.	Credit Related Measures		
i)	Debt relief to farmers (Reschedulement of Loans)	NB PCD (OPR)/ 990/A-10/2006-07, dated July 17, 2006	NABARD
ii)	Interest Waiver	RBI/2006-07/81, UBD(PCB) Cir No. 3/13.05.000/06-07, dated July 21, 2006	Reserve Bank of India (RBI)
iii)	Credit Flow	NB PCD (OPR)/ 990/A-10/2006-07, dated July 17, 2006	NABARD
		NB PCD (OPR)/ 990/A-10/2006-07, dated July 17, 2006	NABARD
B.	Assured Irrigation Facilities		
i)	Major Irrigation	CWC ID No.-8/46/2006-Mon(C)/29-40, dated January 5, 2007	Central Water Commission, Monitoring (Central) Dte
ii)	Medium Irrigation	No. P.L.N.-2007/(8/2007) N.V.S.-1, dated January 19, 2007	Irrigation Department, Govt. of Maharashtra, Mumbai
iii)	Minor Irrigation		
C.	Seed Replacement Programme		
		i) No. SEED/QC1/2/ Vidarbha Package/51/07, dated April 1, 2008	Commissionerate of Agriculture, Govt. of Maharashtra, Pune
		i) No. SEED/QC1/2/ Vidarbha Package Rabi/103/08, dated August 28, 2008	Commissionerate of Agriculture, Govt. of Maharashtra, Pune

1	2	3	4
D.	Watershed Development		
i)	Check Dams	Letter dated August 11, 2006	Department of Soil Conservation and Watershed Development, Commissionerate of Agriculture, Govt. of Maharashtra, Pune
ii)	Watershed Development Programme		
iii)	Rain Water Harvesting Scheme		
E.	Horticulture Development	National Horticulture Mission, Maharashtra (http://mahanhm.gov.in/)	National Horticulture Mission, Maharashtra
F.	Micro Irrigation	i) CRS-11-08-09/MASU/HORTI-6/288, dated July 25, 2008 ii) CRS-10-07-08/MASU/HORTI-6/221, dated June 1, 2007 iii) CRS-20-06-07/E&T/MASU/HORTI-6/604, dated August 29, 2006	Commissionerate of Agriculture, Govt. of Maharashtra, Pune Commissionerate of Agriculture, Govt. of Maharashtra, Pune Commissionerate of Agriculture, Govt. of Maharashtra, Krishi Bhavan, Pune
G.	Extension Services	ATMA/MASU 2007-08/E&T-7/315/2008, dated April 17, 2008	Commissionerate of Agriculture, Govt. of Maharashtra, Pune
H.	Subsidiary Income Activities	Letter No. 25-1(7)/2009-AHD (Coord), dated May 18, 2009 Govt. of Maharashtra Resolution. No. IVC1007/L.No. 651/PDM-4, dated September 30, 2008 Letter No. 25-1 (6)/2006-AHD (Coord), dated August 30, 2006	Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, Government of India Department of Agriculture, Animal Husbandry, Dairy Development and Fishery Department, Government of Maharashtra Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, Government of India

Annexure IV

Scheme-Assured Irrigation Facilities

• Details of scheme under PM's package:

Project head	No. of Project	Allocated Amount (Rs. in crore)	Target for Irrigation Potential Creation (ha)
A. Water Resource Department (Irrigation Department)			
1. Major Irrigation Projects	08	1260.43	80270
2. Medium Irrigation Projects	09	468.15	39660
3. Minor Irrigation Projects	64	356.75	24815
Total A	82	2085.33	144745
B. Water Conservation Department			
1. Minor Irrigation Projects	492	91.88	14530
Total B	492	91.88	14530
All Total	574	2177.21	159275

- The following projects have been identified for completion under the Prime Minister's package for distressed districts of Maharashtra

Name of the Project:

1. Wan
2. Upper Wardha
3. Pothra Nala
4. Utawali
5. Purna
6. Lal Nala
7. Kar
8. Arunavati
9. Lower Wardha
10. Bembla
11. Sapan
12. Pen takli
13. Khadakpurna
14. Chandra Bhaga
15. Dham
16. Nawargaon
17. Lower Pedhi

Source: Office of the Chief Engineer, Irrigation Department, Amravati (Vidarbha Irrigation Development Corporation, Nagpur)

Annexure VI

Comments on the report received from Agricultural Development and Rural Transformation (ADRT) Centre, Institute for Social and Economic Change (ISEC), Bangalore.

1. Title of the draft report examined : Prime Minister's Rehabilitation Package for the Farmers in Suicide Prone Districts of Maharashtra
2. Date of receipt of the Draft report : March 11, 2010
3. Date of dispatch of the comments : March 31, 2010
4. Comments on the Objectives of the study :
5. Comments on the methodology : The report has come out well as expected.
6. Comments on analysis, organization, presentation etc. :
7. Overall view on acceptability of report : I would like to inform you that one component on subsidiary income activities, i.e. on fisheries is missing in the report.

I am not sure whether this component has been implemented along with livestock in Maharashtra.

If it has not been implemented please confirm otherwise provide some information about allocation, release of funds, actual expenditure and area covered to incorporate the same in consolidated report by email.

Annexure VII

Action taken by the authors based on the comments received from the Coordinator of the study

Comment made by the Coordinator of the study has been addressed at the appropriate place in the report .

S. S. Kalamkar and Sangeeta Shroff
April 8, 2010