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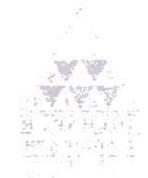
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Editorial Note

In India with the change of guard at the centre there is lot of hope and expectations from the new regime. New policies and areas of focus are sending positive signals to the business communities in India and abroad. Discussions are already taking place on various platforms regarding environment protection, improving the business climate, reviving the lagging sectors and others. Accordingly in the present issue we have chosen the research work done on these related themes. The first article takes up the issue of environment. The author summarizes the issues and concerns in this aspect and introduces the reader to the latest terms being introduced world over in this important field. The concept of mergers and acquisitions is examined in the second research study. Based on the primary and secondary level data the authors attempt to throw more light on the trend of mergers and acquisitions taking place in the business world. With the new governments in the different states of India there is unwarranted haste to appease the farmers by way of debt waivers and debt relief. The author in the third article of this issue examines the usefulness of such schemes in the state of Andhra Pradesh. It gives useful insights into the reach and the utility of such schemes. It is concluded that instead of straining the exchequer by floating populist schemes it will be wise to design long-term asset generating schemes for the poor farmers. This will not only reduce the suicide rates being observed in different states but also help the farmer families to rise in their economic status.

In all the present issue covers the latest topics being discussed in the academic and policy making field. The rigor of these research articles and the new observations will definitely benefit the researchers and professionals in these fields.

Dr. T. V. G. Sarma
Editor

Agricultural Debt Waiver and Debt Relief Scheme-2008: A Case of Adverse Selection and Moral Hazards in the Agriculture Credit Mechanism of India

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Abstract : This paper attempts to analyze the impacts of the Agricultural Debt Waiver and Debt Relief Scheme of 2008 (ADWDRS-2008) on the beneficiary farm households, banks / financial institutions and the central fiscal position of India. From the farm households' point of view, mainly the paper analyzes the impacts of the debt relief – 2008 on investments, productivity, cropping pattern, access to irrigation, crop insurance, debt performance, credit composition and the immediate pre and post debt waiver demand and supply pattern of farm credit. Apart from the pre and post ADWDRS debt composition of institutional vs non-institutional credit, the history and post debt waiver credit repayment pattern are looked at as a proxy of the impact of debt waiver on the banks. We carry out a survey of 360 debt relief recipient farm households from two districts each of Andhra Pradesh (Anantpur and West Godavari) and Maharashtra (Nanded and Nasik) state. In addition to this 10 farm households per district were interviewed as the control group. This group consisted of farmer households which had obtained bank loan but were not the recipients of the debt relief of 2008. The study of these households being beneficiaries of the largest debt relief scheme of India brings out that there had not been any positive impact on the farm yield levels and the net incomes received from cultivation. Viz-a-viz the debt waivers, apart from immediate farm credit swap could not improve the credit repayment behaviors thereby left banks with moral hazard and adverse selection. Also the debt waiver does not improve investment or productivity of beneficiary households, but leads to a strong and persistent shift of borrowing from all available sources and purposes including non-formal and non-cultivation ones. The investigation further documents strong effect of debt relief on beliefs about the seniority of debt and the reputational consequences of default. The result from the entire exercise resonate with findings on personal bankruptcy and suggests that the arbitrary debt bailout programmes are of limited and immediate short term use in addressing problems of debt overhang, but have significant behavioral implications. Finally we dwell upon the possibility of the 'Nationwide Penetration of Crop Insurance', in the form of policy debate i.e. the "Nationwide Crop insurance can it be the alternative to debt waivers?"

Key words : Debt Waiver, ADWDRS, Repayments, Pendency, Farm Households, Control Group

1.0 Introduction

Most of the Indian farmers belonging to all categories of land-holding need credit both for the farm operations and agricultural investments. Also during the lean seasons and the unforeseen situations like drought they need credit for self consumption and maintaining their livestock. Many a time farmers are found

borrowing for the repayment of earlier debts. Therefore an access to formal credit becomes an indispensable matter for the farming community. Limited access to the institutional farm credit and low penetration (about 26 per cent) of agricultural insurance have been underlying causes of the persistent poverty in rural parts of the country (Townsend, 2006).

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This is true especially in the case of poor and predominantly agricultural economies like India, where bank credit is expected to serve the dual purpose of enabling productive investment and providing insurance against highly volatile income streams. However, in the Indian case the absence of sophisticated instrument to mitigate income risk, such as the insurance risk and future contracts, even farmers with initial access to institutional credit have found accumulating an extreme levels of debt (accruing to both the institutional and private agencies), factually excluding them from bank credit in future. This has resulted in about half of the (49 per cent) Indian farmers carrying cultivations and their pending debt. In Indian case, generally the pending of farm debt is mainly on account of crop vagaries and low insurance penetration. Credit linked crop insurance launched in the 1970s has remained confined to about 24 per cent where the unit of application is the area and not the individual farmer. Low penetration of agricultural insurance coupled with frequent crop failures on many occasions has led to accumulation of farm credit. This has its political repercussions on one hand. On the other hand low recovery of the farm credit also weakens the credit mechanism leaving the lending institutions with an option of adverse selection. As a result of the farm credit accumulation and the political repercussions of the same, successive governments, in the past resorted to credit waivers.

Potentially far-reaching macro-economic and political implications of extreme farm indebtedness have resulted into a range of large scale debt relief initiatives in the past. In India, during the period between 2000 and 2006, average household debt increased six-fold where as in Mexico, annual increase in the outstanding consumer credit was 35 per cent

and the same was more than doubled in Brazil (Fibelman, 2009). The recent farm credit waiver which was announced in the budget of 2008 for about Rs. 71, 000 crores (actual spending incurred Rs. 51340.47 crore) was off-course not the first of its kind. Earlier India enacted a nationwide farm debt relief programme was in 1989 and the same was for US \$ 3 bn. This debt relief of 1989 was based on outstanding debt and was not based on the landholding criteria. The question that arises from such fiscal instruments is whether the credit waiver does actually benefit farmers or it is just a temporary relief to them and leaves the banks with adverse selection in future. Therefore the post waiver response of farmers and the assessment of the same on banks need a careful scrutiny. Most often, the farmers regular in repayment are excluded from the debt waiver schemes hence the post waiver trends of repayment and a surge in credit demand may leave banks with adverse selection. With this context the study has focused on the comparison between the pre and post debt waiver pattern of farm credit demand and repayment patterns. And with this approach the impact of credit waiver both on banks and the farming economy benefitted by the waiver programme is assessed. It is widely acclaimed that the benefit of such debt relief programmes are substantial. But their merit as an instrument to promote financial inclusion, investment and boost to agricultural productivity remains highly controversial. But in this context, Mayers (1977) while building on theories of debt overhang and risk shifting has argued that the extreme level of household debt distorts investment and production decisions so that the debt waiver holds the promise of productivity improvements. Whereas; commenting on the Agricultural and Rural Debt Relief Scheme – 1989 (ARDRS) Shailendra and Kartar Singh (1994) observed that the loan waiver schemes

are bound to severely hamper the functioning of credit institutions, as they did in Karnataka's co-operatives.

2.0 Data and Methodology

The entire analysis that forms the present study is predominantly based on the primary data obtained from the ADWDRS – 2008 beneficiary farm households from two districts from each of the states of Maharashtra and Andhra Pradesh respectively. These districts were Nashik and Nanded from Maharashtra and West Godawari and Ananthpur from Andhra Pradesh. All these four districts from the two states were selected on the basis of the availability and an extent of irrigation cover. The primary information(s) were obtained mainly through the household survey of beneficiary farmers' households from the states of Maharashtra and Andhra Pradesh. Andhra Pradesh is a state which happens to be the largest beneficiary state of the ADWDRS-2008 whereas, Maharashtra happens to be the agriculturally unique state in the country and also one of the severely affected states by farmers suicides and most of the suicides have been due to the credit pendency on account of both the institutional and non institutional sources (Parchure & Talule 2012).

Usually the schemes like debt waiver are not expected to bring any direct benefit to the farm households nor does it improve the financial efficiency of the banking sector in the long term. On the contrary as the debt waiver usually includes only the defaulting farmers and excludes the regularly repaying ones, the schemes like debt waiver leaves the entire banking sector with a mandatory option of an adverse selection. Therefore it is necessary to work out the feasibility of public investment in the agricultural and allied sectors and find out whether an efficient subsidy mechanism can be

a substitute or can it replace the requirement of frequent farm debt waivers which usually do not bring any long term transformation in the country's agricultural sector.

2.1 Sample Plan

For the purpose of the collection of the primary data two districts each from the state of Maharashtra and Andhra Pradesh were selected and while selecting the districts from both the states the basis was the availability and the extent of irrigation cover. 90 farmer households from each of the districts have been covered for the purpose and thus in total the sample covered 180 farm households from each of the state. Hence the total number of the sample of the beneficiary households belonging to the four districts from two states is 360. In order to cover the farm credit delivery points one District Central Cooperative Bank (DCCB), one Nationalized Commercial Bank (NCB) and one Regional Rural Bank were identified from the selected districts of both the states of Maharashtra and Andhra Pradesh. For this purpose the basis was the amount of debt waived under the ADWDRS – 2008 as well as the banks suggested by lead bank managers from the respective states or the NABARD officials. Further three (03) branches of each of these banks were selected on the basis of the higher benefits received under the ADWDRS – 2008 or as suggested by the concerned bank higher authority. Hence the selection of the concerned bank branches was based upon combination of two factors viz. the amount of the money received under the ADWDRS – 2008 as well as, the suggestions of bank officials. Therefore the selection of the bank branches had a strong and mutual base between the implementing banks and the study team which happened to be helpful in bringing a higher degree of accuracy in the collection of the data.

The list of beneficiaries of the ADWDRS - 2008 available at the selected financial institutions was used as a source list to draw a sample of 30 farm households from each of the selected financial institution. This way in all 90 farm households were surveyed from every selected district and the total of 180 farmers from each of the state.

In addition to this, 10 farm households per district were interviewed as the control group. This group consisted of the farmers' households which had obtained bank loans but were not the recipients of the ADWDRS - 2008 (may be the regularly repaying households of loans, hence didn't get the ADWDRS benefits). Also the officials from the financial institutes from the respective state were contacted in person. They were the branch managers, lead bank managers, chief officers of selected banks. The attempt was also made to contact and interview the Insurance officials to strengthen the understanding about different aspects of the problem related to farm credit and insurance.

3.0 Results and Discussion

As the ADWDRS-2008 policy document itself has stated, all pending loans of Small, Medium and the Marginal farmers stand

waived under the scheme inclusive of principal plus interest amount. Therefore the lending institution wise waiver - principal ratios for most of these institutions happened to be more than 100 per cent. Therefore the amounts waived shown in row 03 of table 2.4 is inclusive of interest and pending principal. Since sanctioned loans are of long standing duration, the accumulated interest amount has become high and hence the amount waived in every case exceeds the principal lending. The state and credit institution wise ratios for the state of Andhra Pradesh are observed as; 140 per cent for the Co-operatives, 105 per cent for the Nationalized Banks, 123 per cent for the rural banks. The overall state waiver-principal ratio for Andhra Pradesh is 124.81 per cent. The data about the sample ADWDRS farmers from the state of Maharashtra shows the credit institution wise debt waiver that was received as; 120.57 per cent for Co-operatives, 53.71 per cent for the Nationalized Banks, 91.24 per cent for the Rural Banks and the overall state specific ratio as 77.07 per cent. The combined institution wise ratios and the debt waiver received under the ADWDRS-2008 for both the states of Andhra Pradesh and Maharashtra are; 132.30 per cent for the co-operatives, 62.19 per cent for the Nationalized Banks and 117.21 per

3.1 Details of Credit Waiver and the Use of Waiver Amounts by Beneficiary Farmers

Table.1. Details of the Credit Waiver Received under the ADFWDRS-2008 by the Sample ADWDRS beneficiaries from Andhra Pradesh and Maharashtra

Loan Details	Andhra Pradesh				Maharashtra				Andhra Pradesh & Maharashtra Aggregate			
	Cooperatives	Nationalized	RRBs	Total	Nationalized	RRBs	Cooperatives	Total	RRBs	Cooperatives	Nationalized	Total
Loan Amount	1889802	1355530	1595707	4841039	1254701	6851947	385800	8492448	3144503	8207477	1981507	13333487
Amount Repaid	236972	98000	67669	402641	33880	2225321	70900	1957101	270852	2323321	138569	1729742
As % of (1)	12.54	7.23	4.24	8.32	2.70	32.48	18.38	23.05	8.61	28.31	6.99	12.97
Amount Waived	2647375	1423975	1970510	6041860	1512758	3680048	352000	6544806	4160133	5104023	2322510	12586666
As % of (1)	140.09	105.05	123.49	124.81	120.57	53.71	91.24	77.07	132.30	62.19	117.21	94.40

cent for the Rural Banks whereas, the combined average for both the states and for all three categories of the lending institutions emerges as 94.40 per cent. The conclusion that can be inferred from the analysis is that because of the

multiple borrowing and inability of farmers to repay the loans in time, the accumulated amounts shot up high and therefore the waiver – principal ratios also shot up very high.

Table. 2. Utilization of the Money the Beneficiary Farmers Received / Saved due to the Receipt of the ADWDRS-2008

Use of ADWDRS Money	Study HHs		Total
	Andhra Pradesh	Maharashtra	
Bank Deposit	1	17	18
per cent	0.54	9.44	4.92
Business	1	1	2
per cent	0.54	0.56	0.55
Family	1	39	40
per cent	0.54	21.67	10.93
Farm related work	20	74	94
per cent	10.75	41.11	25.68
Not Utilized	148	2	150
per cent	79.57	1.11	40.98
Others	4	1	5
per cent	2.15	0.56	1.37
Purchase of livestock		2	2
per cent	0.00	1.11	0.55
NR	11	44	55
per cent	5.91	24.44	15.03
Grand Total	186	180	366
per cent	100.00	100.00	100.00

In fact no beneficiary farmer of the ADWDRS-2008 was to get any direct benefit in the form of money. Their credit accounts were to be cleared and the banks' NPAs were to be made nil. So that the clearance of both; the NPAs of the banks and the farmers' credit accounts were supposed to restore the credit ability of the loanee and the credit paying capacity (monetization) of the banks. Another aspect about the farm credit use is that mostly the farmers use their credit money either for unproductive or for ceremonial purposes. But both i.e. our earlier study (*Parchure & Talule 2012, Agricultural Distress and Farmers Suicides in Yavatmal District, NABARD Study*) and the present study show that such type of opinion is negative and biased. In the case of the present study no sample ADWDRS farmer

from any of the two states is observed to have used the ADWDRS money for unproductive purposes. When their debt accounts were cleared through the ADWDRS and the money they were supposed to pay to the banks were saved in such cases some of them have purchased livestock such as the milching cows, a pair of bullocks or small animals like sheep and goats. But the proportion of such farmers is almost negligible and that it is 1.1 per cent in Maharashtra. Many of them have used the saved installment money for agricultural cultivation and their proportion is 10.75 per cent in Andhra Pradesh and 41.11 per cent in the state of Maharashtra. A few farmers from Maharashtra also used this money in the form of the bank deposits. The overall conclusion that emerges from this information also coincides

with our earlier study proving that the farmers have no tendency of using their credit money for the unproductive purposes. On the contrary this i.e. the farming segment of the rural society has a higher degree of common sense sometimes even more than the urban middle class which has developed the habit of borrowed consumption that means using the bank borrowings for consumptions such as the buying of consumable durables and going at vocational destinations with the bank loans.

3.2 Impacts of Debt Waiver on Farmer Beneficiaries from Andhra Pradesh and Maharashtra

a) Pattern of Holding

The comparative analysis for the sample ADWDRS-2008 beneficiary farmers for Andhra Pradesh and Maharashtra presented in the table 05 points out that as the size of holding for these farmers increases, their proportion for both the states initially increases and again it declines when the size of holding reaches beyond the medium size of the land (i.e. between 05 and 10 Ha.). For both the states the proportion of beneficiaries of the sample ADWDRS farmers and the size of holding bare positive relation at the initial stage and then becomes negative when the land holding enters the phase of medium size of the land. This is indicative that most of the farmers from the marginal and the small group of holders are more dependent on the debt borrowings for their agricultural operations and also for investments. Therefore any eventuality in cultivation can push them into an adverse economic condition. Therefore this is the category of farmers that needs to be protected from adverse cultivation conditions. These protections may be in the form of crop, life, cattle and general insurance and the rural and agricultural investments by the government. Therefore such farmers need protection either through the compulsory, crop specific or

through the part sponsorship of insurance premium payments by the government. The proportion of the sample beneficiaries from Andhra Pradesh shows that it is; 25.81- for the holding up to 01 Ha. and 48.92 per cent – for the holding up to 02 Ha. and then it goes on declining and becomes 16.67 per cent for the category of holding up to 05 Ha. (12.50 acres). As the holding pattern crosses the limit of 10 Ha. (25 acres), the proportion of the ADWDRS beneficiaries strikingly declines to 00.54 per cent. The case of the state of Maharashtra is similar to that of Andhra Pradesh. The proportion of the sample ADWDRS beneficiaries from both the states is 30.11 per cent for the size group of holding of up to 01 Ha. (05 acre) and as the size of holding increases to 02 and 05 hectares the proportion of the sample ADWDRS beneficiaries become 21.67 per cent for Maharashtra and 48.92 per cent for Andhra Pradesh. Then it starts to decline for the greater size of holding i.e. from the size of up to 10 Ha. onwards. But for Andhra Pradesh the proportion of the sample ADWDRS beneficiaries starts declining from the size of holding from 05 Ha. onwards. Similar is the proportion for the correlation between the ADWDRS beneficiaries and the size of holding. First it increases from 25.81 per cent for the holding size of up to 01 Ha. (2.5 acres) to 48.92 per cent for the holding up to 02 Ha. (05 acres) then it declines to 16.67 per cent for the holding size up to 05 Ha. (12.5 acres). Thereafter it shows a declining trend of 06.45 per cent (05 to 10 Ha.) to become 00.54 per cent for the size of holding larger than 10 Ha. (25 acres).

For the control group, evidently it emerges from the information about the pattern of holding and the proportion of the sample ADWDRS beneficiaries that relatively the size of holding of the farmers from Maharashtra is greater than their counterparts from Andhra Pradesh. For this category when the proportion

of the farmers from Andhra Pradesh is 44.44 per cent for the holding size up to 01 Ha. For the same category in the state of Maharashtra it is 11.76 per cent ; it strikingly touches 00 per cent for the holding size of up to 02 Ha. and again increases to 29.41 per cent for the higher size of holding of up to 05 Ha.. Subsequently it increases to 41 per cent for the higher size of holding of up to 10 Ha. and becomes 17.65 per cent for the size exceeding 10 (25 acres) hectares.

The overall holding and cultivation pattern of the sample ADWDRS-2008 beneficiary farmers from both the states is almost similar. The patterns are representative of the average Indian farmers. But the interstate comparison of these two states is indicative of Maharashtra having an edge over Andhra Pradesh. The Average size of holding of the ADWDRS farmers of Andhra Pradesh is 2 Ha. while the same for Maharashtra it is 3.32 Ha. As regards the average size of the land that is brought under

cultivation for Andhra Pradesh it is 1.95 Ha. and for Maharashtra the same is 2.82 Ha.. This shows the overall soil quality and intensity and thereby the higher cultivability of the land in Maharashtra than in Andhra Pradesh. Also in the case of irrigation the average for Maharashtra being 00.55 Ha. is greater than Andhra Pradesh where it is 00.02 Ha.. But for the control group the scenario for Maharashtra is substantially different from its counterpart i.e. the Andhra Pradesh. From the averages of land held by the farmers' families, land cultivated, irrigated and the cultivable waste it could be seen that just apart from cultivable waste (0.05 Ha.) and waste land (0.07 Ha.) the sample ADWDRS farmers from Maharashtra having average of 4.45, 4.44 and 3.50 Ha. of average land holding, average land under cultivation and the average irrigated land respectively are ahead of Andhra Pradesh.

b) Irrigation : Access, Sources and Problems of Irrigation

Table.3. Access to Irrigation to the Study and Control Farmers from Andhra Pradesh and Maharashtra

Study Group Access to Irrigation									
Row Labels	Andhra Pradesh				Maharashtra				Total
	Co-Op	National	RRBs*	Total	Co-Op	National	RRBs	Total	
Yes	59	60	63	182	37	79	11	127	309
%	95.16	98.36	100.00	97.85	60.66	88.76	36.67	70.56	84.43
No	3	1		4	24	10	19	53	57
%	4.84	1.64	0.00	2.15	39.34	11.24	63.33	29.44	15.57
Total	62	61	63	186	61	89	30	180	366
%	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Control Group Access to Irrigation									
	Andhra Pradesh				Maharashtra				Total
	Co-Op	National	RRBs*	Total	Co-Op	National	RRBs	Total	
Yes	7	6	5	18	9	7	00	16	34
%	100	100.00	100.00	100.00	100.00	87.50	00	94.12	97.14
No						1	00	1	1
%						12.5	00	5.88	2.86
Total	7	6	5	18	9	8	00	17	35
%	100	100	100	100	100	100	00	100	100

The proportion of farmers having irrigation cover is more than dry land farmers. But sources revealed by farmers to us show that for Maharashtra the irrigation cover available is not perennial being dependent more on Wells and Tube wells. The comparatively greater irrigation cover of AP than MH is indicative of the interstate irrigation disparities which need to be addressed.

The data on irrigation status provided in the earlier tables on the sample ADWDRS farmers from both the states of Andhra Pradesh and Maharashtra reveal that the penetration of irrigation is at the lower side and also below the national average. The data in the present table (3.13) reveals that the farmers face various difficulties in maintaining and managing their irrigation infrastructure. Difficulties in managing irrigation infrastructure push them to the low yield conditions and thereby accumulation of debt. It is clear that the sample ADWDRS farmers of Andhra Pradesh do not have any source of canal irrigation but the farmers who have canal irrigation also have to face the problems like untimely canal rotations. Those who want to create their own source of irrigation have to face problem of capital investment and the proportion of such farmers from Andhra Pradesh is 13.76 per cent. As noted in the foregoing analysis; even though the irrigation infrastructure is ready; the power cut off (load shedding) is a major problem during the peak agricultural season. In such cases, irrigation infrastructure such as the wells, pump sets and pipelines is available, there is water in the wells but the farmers cannot operate this infrastructure because there is no power. This is reported by the sample ADWDRS farmers from both the states and the proportion is 40.37 per cent for Andhra Pradesh and 52.63 per cent for the Maharashtra. Not even a single sample ADWDRS farmer from Andhra Pradesh has reported that there is no problem in the irrigation whereas, the same is true for

Maharashtra also, where the proportion of farmers, who feel that there is no problem in irrigation is 00.75 per cent, which is negligible. As stated in the foregoing analysis (based on irrigation); the electric pump sets equipped with pipelines driven irrigation network in Maharashtra is dominant for 64 per cent of the irrigated areas. The surveyed ADWDRS farmers from the state of this category do have the problems related to the pipeline network. For 33.88 per cent of the sample ADWDRS farmers the source of irrigation available is very weak and the same cannot be helpful in augmenting the crop yields and ensure the timely debt repayment.

The irrigation problems faced by the control group farmers from both the states have the same grievances like their ADWDRS counterparts. The average proportion that emerges for two states for control group farmers who have these problems is as follows: capital (03.85per cent), load shedding (50.00per cent) and the weak source of irrigation (38.46per cent) respectively. State specific disaggregated proportion for the control group regarding the irrigation problems show that there happen to be 11.11, 77.78 and 66.67 per cent of the farmers from Andhra Pradesh who have the problems of capital, load shedding and the weak source of irrigation respectively, whereas, for Maharashtra 35.29 per cent of the ADWDRS farmers face the problem of load shedding and another set of 23.53 per cent have to face the problem of the weak source of irrigation.

Disaggregated information on the pattern of the holding according to the irrigation cover, land leased in and leased out by the farmers from the two states of Andhra Pradesh and Maharashtra as per the lending institutions shows that of the total sample ADWDRS farmers from Andhra Pradesh 109 have irrigation cover available for 187.13 hectares of

the land with proportion of 58.60 per cent whereas, 11 farmers have been cultivating on leased in land and the hectarage of the same is 12.4. 03 farmers have leased out their land of 06 Ha. and the average of the sample is of 02 Ha. per farmer. The information for Maharashtra is that 133 sample ADWDRS farmers have the irrigation cover available for their 347.35 Ha. of land whereas, 03 of them have leased out 04 Ha. of the land and 06 Ha. is leased in by 04 sample ADWDRS farmers from the two districts of the state. For the control group there happened to be 09 farmers having irrigation cover for their 27.03 Ha. of the land, 03 have leased in 15.4 Ha. and 0.8 Ha. is leased out by one farmer from the state of Andhra Pradesh. Information for Maharashtra is slightly different than the counterpart state of Andhra Pradesh. 17 control group farmers Have irrigation cover for their 95.55 Ha. of the land whereas, there is no leasing in or leasing out done by this group of farmers.

c) About the Impact on Productivity and Net Income Received from Cultivation

The basic purpose of the debt waiver being the clearance of unpaid bank debt and restoring back both the farmers and bankers to the credit and financing ability, The focus was not on any other areas like productivity. It is true that the farmers from both the states have brought in some amount of change in their cropping pattern, but during the group discussions when queried specifically to respond about the productivity improvements, the blanket response was negative. It is because there was no in-built mechanism in the debt waiver scheme which could have brought the productivity improvements. The striking fact is that the debt waiver scheme has not resulted in any agricultural infrastructural development. As mentioned in the foregoing analysis it was not the objective of the scheme. As such, on the productive front the debt waiver proves to be non-impacting one.

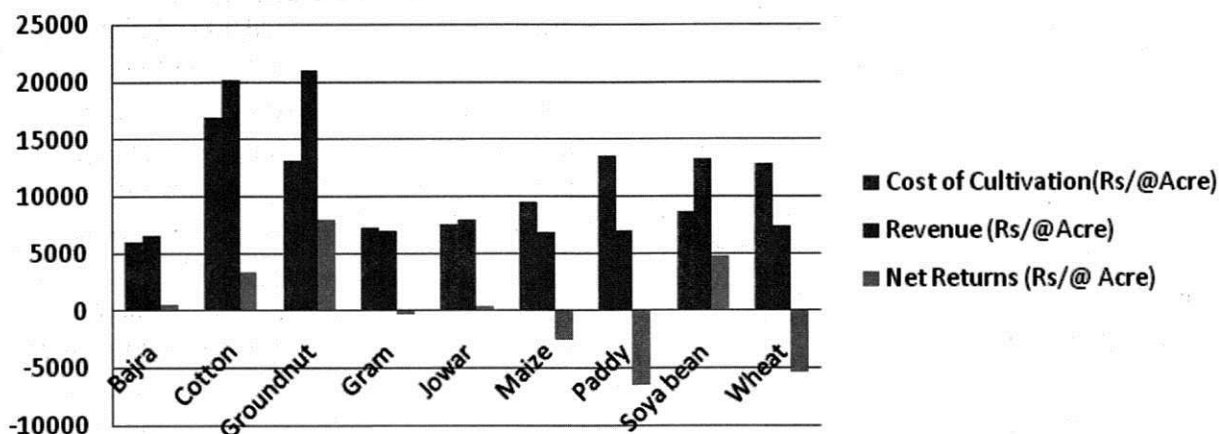
Table.4. Major Crops Cultivated, Yield Levels and Net Income from Cultivation Received by the ADWDRS Farmers from Andhra Pradesh and Maharashtra

Crop	Yield @ Ha (Qntl)	Yield @ Acre (Qntl)	MSP/Rs. (@ Qntl. /2013-14)	Cost of Cultivation (@ Acre/Rs.)	Revenue @ Acre/Rs. (Cl. 2*Cl. 3)	Net Income (@ Acre/Rs.) (Cl. 5-Cl.4)
	(1)	(2)	(3)	(4)	(5)	(6)
Bajra	13.08	5.23	1250	6019.40	6537.50	518.09
Cotton	13.08	3.23	3850	16857.34	12435.50	-4411.84
Groundnut	13.08	3.34	4000	13064.56	13360	295.44
Gram	13.08	2.23	3100	7258.4	6913	-345.40
Jowar	13.08	5.23	1510	7520.17	7897.30	377.12
Maize	13.08	5.23	1310	9442.64	6851.30	-2591.34
Onions	13.08	5.23	MSP Not Applicable			
Paddy	13.08	5.23	1327.50	13478.78	6942.82	-6535.95
Soya bean	13.08	5.23	2530	8592.21	13231.90	4639.68
Wheat	13.08	5.23	1400	12755.60	7322	-5433.60

Note:

1. Per Ha @ Per Acre Yield calculations are based on field data while the MSP and Cost of Cultivation are based on CACP-2013-14.
2. Cost of Cultivation is Cost 'C2' which is exclusive of Marketing, Transportation Costs and the Insurance Charges

Per Acre Cost of Cultivation, Revenue and Net Income Received by the ADWDRS Farmers from the Cultivation of Major Crops (At MSP & Cost 'C2' of CACP-2013-14)



Apart from a small amount of per acre profit for cultivating the crops like Bajra, Groundnut, Jowar and Rs. 4639 for Soya beans, all other crops are cultivated at net negative income. When crop-wise per acre revenue as per the MSPs of 2013-14 are compared to the CACP's corresponding 'C2' (cost of cultivation) the crop-wise net negative returns received by the

ADWDRS farmers for cultivation were as; Cotton Rs. - 4411.84, Gram Rs. -345.40, Maize Rs. - 2591.34, Paddy Rs. - 6535.95 and for Wheat Rs. - 5433.60 respectively. Since the ADWDRS didn't bring any improvement in crop/land productivity it was also not possible for the scheme to bring any significant changes in the levels of revenue and net farm incomes.

Table.5. Post ADWDRS Change in Cropping Pattern Introduced by the Beneficiary Farmers from Andhra Pradesh and Maharashtra

Response	Andhra Pradesh				Maharashtra				Andhra Pradesh & Maharashtra Aggregate			
	Cooperatives	Nationalized	RRBs	Total	Cooperatives	National	Rural	Total	Cooperatives	Nationalized	RRBs	Total
YES	23	6	31	60	31	54	9	85	54	60	40	154
per cent	37.10	9.84	49.21	32.26	50.82	60.67	30.00	47.22	43.90	40.00	43.01	42.08
No	39	55	32	126	30	31	20	90	69	86	52	207
per cent	62.90	90.16	50.79	67.74	49.18	34.83	66.67	50.00	56.10	57.33	55.91	56.56
NR						4	1	5	0	4	1	5
per cent	0.00	0.00	0.00	0.00	0.00	4.49	3.33	2.78	0.00	2.67	1.08	1.37
Grand Total	62	61	63	186	61	89	30	180	123	150	93	366

d) Change in Cropping Pattern

Aggregate average for the change in cropping pattern after the ADWDRS-2008 that is reported by the sample beneficiaries for Andhra Pradesh is 32.26 percent and the same for Maharashtra it is 47.22 per cent. This means that the proportion of the ADWDRS beneficiary farmers from both the states is confined to less than a half of them. The state specific proportion of the sample ADWDRS beneficiary farmers who have not introduced

any change in the cropping pattern after they received the ADWDRS benefits is 67.74 per cent in Andhra Pradesh and 50 per cent in the state of Maharashtra respectively. The state specific credit institution wise disaggregated proportion about the change in cropping pattern shows that it was 37.10, 49.21 and 9.98 per cent for the Cooperatives, Rural Banks and the Nationalized Banks from Andhra Pradesh and the same for Maharashtra it was 50.82, 30 and 60.67 per cent respectively.

When a specific question pertaining to the post ADWDRS-2008 change in cropping pattern was posed to the beneficiary farmers (Qu. No. 10) in a manner enquiring the addition of new crops in the list of earlier cropping

pattern practiced by them, we could obtain a positive information from about two-third respondents from Andhra Pradesh and about half of them from Maharashtra.

Table. 6. The Crop Specific Disaggregation of Post ADWDRS Change in Cropping Pattern Introduced by the Beneficiary Farmers from Andhra Pradesh and Maharashtra

Crops	Andhra Pradesh				Maharashtra				Andhra Pradesh & Maharashtra Aggregate			
	Cooperatives	Nationalized	RRBs	Total	Cooperatives	Nationalized	RRBs	Total	Cooperatives	Nationalized	RRBs	Total
Cotton	1	1		2		2		2	1	3	0	4
per cent	4.35	16.67	0.00	3.33	0.00	3.70	0.00	2.13	1.85	5.00	0.00	2.60
Horticulture				0	5	15		20	5	15	0	20
per cent	0.00	0.00	0.00	0.00	16.13	27.78	0.00	21.28	9.26	25.00	0.00	12.99
Maize	7			7				0	7	0	0	7
per cent	30.43	0.00	0.00	11.67	0.00	0.00	0.00	0.00	12.96	0.00	0.00	4.55
Paddy	7		17	24				0	7	0	17	24
per cent	30.43	0.00	54.84	40.00	0.00	0.00	0.00	0.00	12.96	0.00	42.50	15.58
Semi cash crop oilseed	5	5	7	17	8	6		14	13	11	7	31
per cent	21.74	83.33	22.58	28.33	25.81	11.11	0.00	14.89	24.07	18.33	17.50	20.13
Semi cash crop Ha.lad				0	2			2	2	0	0	2
per cent	0.00	0.00	0.00	0.00	6.45	0.00	0.00	2.13	3.70	0.00	0.00	1.30
Sugarcane			5	5	1	3		4	1	3	5	9
per cent	0.00	0.00	16.13	8.33	3.23	5.56	0.00	4.26	1.85	5.00	12.50	5.84
Tobacco	2			2				0	2	0	0	2
per cent	8.70	0.00	0.00	3.33	0.00	0.00	0.00	0.00	3.70	0.00	0.00	1.30
Vegetables				0	1	1		2	1	1	0	2
per cent	0.00	0.00	0.00	0.00	3.23	1.85	0.00	2.13	1.85	1.67	0.00	1.30
Wheat				0	1			1	1	0	0	1
per cent	0.00	0.00	0.00	0.00	3.23	0.00	0.00	1.06	1.85	0.00	0.00	0.65
NR	1		2	3	13	27	9	49	14	27	11	52
per cent	4.35	0.00	6.45	5.00	41.94	50.00	100.00	52.13	25.93	45.00	27.50	33.77
Total	23	6	31	60	31	54	9	94	54	60	40	154

Data given in the above Table No. 6 brings out the post ADWDRS crop specific and disaggregated direction of the change in cropping pattern introduced by the sample ADWDRS farmers from the state of Andhra Pradesh and Maharashtra. This is the proportion of the farmers from both the states who have gone in for the change in cropping pattern after they received the ADWDRS benefits. The proportion is presented in the credit institution wise disaggregated and the

overall state wise aggregate manner for both the states. The other angle that emerges from the data is that the proportion of these ADWDRS farmers also brings out the lending institution wise crop specific change in the cropping pattern. Looking at the change in the cropping pattern of these farmers it shows that the farmers are not enterprising by nature. Rather, being enterprising in cultivation is almost beyond their affordability. Just 0.25 per cent of the farmers have started to cultivate a cash crop

like Chilly whereas; the proportion of the farmers who have resorted to cultivation of Cotton from both the states is confined to 02.60 per cent. The combined proportion for both the states of the sample ADWDRS beneficiary farmers who have started developing the horticultural orchids is 12.99 per cent. All these farmers who have started to develop the orchids belong to the state of Maharashtra and not even a single farmer from Andhra Pradesh has taken up this specific change in the cropping pattern. Same is the information about the development of Grape orchids by these farmers from both the states. The proportion of this category of farmers is very small which is just 0.75 per cent and all them are from Maharashtra. As regards cultivation of Ground nuts by ADWDRS beneficiary farmers who happened to be the respondents of this study it infers that only the respondents from Andhra Pradesh have started cultivating the Ground nuts, whereas no sample ADWDRS farmer from the state of

Maharashtra has shown any interest in this crop to be cultivated newly. In the case of proportion of these ADWDRS farmers resorting to some other crops like Turmeric, Gram, Wheat, Sugarcane, Maize, Oilseeds, Onions, Paddy, Soya beans, Tobacco, etc. the proportion is almost insignificant. The state specific proportion of such farmers shows that in both the states this change is almost negligible. The proportion of the sample ADWDRS farmers from both the states of surveyed districts who have not undertaken any change in their post ADWDRS cropping pattern is 32.26 per cent for Andhra Pradesh and 47022 per cent for Maharashtra. The state specific crop wise change in cropping pattern for Andhra Pradesh is; (Sugarcane) 08.33 per cent, (Maize) 30.43 per cent, (Paddy) 30.43 per cent and (Tobacco) 08.70 per cent and for the Maharashtra only 04.26 per cent of the farmers have changed their cropping pattern in favor of sugarcane.

Table.7. Status of the Crop Insurance Subscription by the Sample ADWDRS-2008 Beneficiary Farmers from Andhra Pradesh and Maharashtra

Insurance	Andhra Pradesh				Maharashtra				Andhra Pradesh & Maharashtra Aggregate			
	Cooperatives	Nationalized	RRBs	Total	Cooperatives	Nationalized	RRBs	Total	Cooperatives	Nationalized	RRBs	Total
Yes	38	16	12	66	6	12	11	29	44	28	23	95
per cent	61.29	26.23	19.05	35.48	9.84	13.48	36.67	16.11	35.77	18.67	24.73	25.96
No	24	45	51	120	55	77	19	151	79	122	70	262
per cent	38.71	73.77	80.95	64.52	90.16	86.52	63.33	83.89	64.23	81.33	75.27	71.58
Grand Total	62	61	63	186	61	89	30	180	123	150	93	366
percent	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	97.54

e) Crop Insurance

Indicator of the development of agricultural insurance in a country is its penetration. The crop insurance in India has achieved a penetration of about 25 per cent. Approximately it covers 22.5 million Indian farmers. This figure is impressive considering that the NAIS having been launched in 1983 is

just to complete three decades of its existence. Of the 22.5 million crop insured farmers, about five million of them are loanees and of these about 2.5 million are insured. The remaining farmers can easily be covered provided the funds that are periodically spent on agricultural debt waiver are routed through India's crop insurance mechanism. By doing this not only

the debt waiver funds will be uniformly spent among all farmers but such disbursement will enhance creditworthiness of farmers and will also help to enhance the flow of organized credit to agriculture (Parchure, 2013). Looking at the combined proportion of both the states of Andhra Pradesh and Maharashtra related to the penetration of agricultural insurance among the sample ADWDRS farmers, it shows that the same is closer to the National average (25.69 per cent). But looking at the state wise average of the same; for Andhra Pradesh 34.31 per cent is ahead if the National average and for Maharashtra 16.75 per cent is lower than the national average. Disaggregated lending institution wise proportion for the subscription of crop insurance for these states is 33.09, 23.47

and 20.73 per cent respectively for the ADWDRS farmers borrowing from the Cooperatives, Rural Banks and the Nationalized Banks. But at the same time a glance at the state and lending institution wise proportion of the ADWDRS farmers show that for Andhra Pradesh it is 47.97, 17.65 and 26.87 per cent for the Cooperatives, Rural Banks and the Nationalized Banks whereas, the same for Maharashtra is 8.57, 36.67 and 16.49 per cent respectively. The overall proportion of the sample the ADWDRS farmers having crops insured is; 34.31 per cent for Andhra Pradesh and 16.75 per cent for Maharashtra. This is indicative that in Maharashtra the spread of crop insurance needs to be taken on war footing

Table.8. Details of the Crop Insurance Subscription by the Sample ADWDRS-2008 Beneficiary Farmers from Andhra Pradesh and Maharashtra

Yes/No	Andhra Pradesh				Maharashtra				AP & MH			Grand Total
	Co-Op	National	Rural	Total	Co-Op	National	Rural	Total	Co-Op	National	Rural	
Yes	38	16	12	66	6	12	11	29	44	28	23	95
%	61.29	26.23	19.05	35.48	9.84	13.48	36.67	16.11	35.77	18.67	24.73	25.96
No	24	45	51	120	55	77	19	151	79	122	70	262
%	38.71	73.77	80.95	64.52	90.16	86.52	63.33	83.89	64.23	81.33	75.27	71.58
Grand Total	62	61	63	186	61	89	30	180	123	150	93	366
%	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	97.54

	Andhra Pradesh	Maharashtra	Grand Total
Yes	4	4	8
%	22.22	23.53	22.86
No	14	13	27
%	77.78	76.47	77.14
Total	18	17	35
%	100.00	100.00	100.00

Penetration of crop insurance is one of the crucial challenges faced by Indian agricultural sector. As it is confined to about 24 per cent at the national level, it could not make any

impressive dent in the states under present study also. Overall proportion of non subscription for the crop insurance by the ADWDRS farmers of these two states is more

than two third (71.58 per cent) and the non-penetration of the same among Control farmers

is 77.14 per cent which is indicative of the similar picture.

Table.9. Reasons for Non-subscription of the Crop Insurance by the Sample ADWDRS Farmers from Andhra Pradesh and Maharashtra

Reasons Cited	Andhra Pradesh				Maharashtra				Andhra Pradesh & Maharashtra Aggregate			
	Cooperatives	Nationalized	RRBs	Total	Cooperatives	Nationalized	RRBs	Total	Cooperatives	Nationalized	RRBs	Total
Financial Problem	4	36	18	58	1			1	5	36	18	59
per cent	6.45	59.02	28.57	31.18	1.64	0.00	0.00	0.56	4.07	24.00	19.35	16.12
No timely repayment					14	4		18	14	4	0	18
per cent	0.00	0.00	0.00	0.00	22.95	4.49	0.00	10.00	11.38	2.67	0.00	4.92
Not applicable					3	8		11	3	8	0	11
per cent	0.00	0.00	0.00	0.00	4.92	8.99	0.00	6.11	2.44	5.33	0.00	3.01
Not Aware/Interested	21	1	34	56	36	65		101	57	66	34	157
per cent	33.87	1.64	53.97	30.11	59.02	73.03	0.00	56.11	46.34	44.00	36.56	42.90
NR	37	24	11	72	7	12	30	49	44	36	41	121
per cent	59.68	39.34	17.46	38.71	11.48	13.48	100.00	27.22	35.77	24.00	44.09	33.06
Grand Total	62	61	63	186	61	89	30	180	123	150	93	366
per cent	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Awareness and affordability are the two predominant determinants of the penetration of Crop Insurance in a country like India. Therefore these two are the important reasons for the limited penetration of (about 21 per cent) the crop insurance and the lowest premium GDP ratio (about 01 per cent) in India. About two third (31.18 per cent) of the sample ADWDRS farmers do not have the capacity of payment of the premium for the crop insurance, whereas at the same time 30.11 per cent of them are not aware of the existence of any crop insurance scheme. But it is surprising to note that despite the financial (0.56 per cent being in financial crunch) ability for crop insurance subscription, 56.11 per cent of the sample ADWDRS farmers from Maharashtra are not

aware of the crop insurance. In the case of the control group farmers, same two reasons i.e. 1) the financial crunch and 2) unawareness are predominant in non-subscription of the crop insurance in both the states. 55.56 per cent from Andhra Pradesh and 52.94 per cent of the farmers from Maharashtra are not aware about crop insurance whereas, 22.22 per cent of them from Andhra Pradesh have the financial problems in subscribing to the crop insurance. Therefore looking at the information emerging from both the groups of farmers i.e. the sample ADWDRS and the control group farmers it is necessary that either the state should finance the crop insurance premium or otherwise make it compulsory at least for some crops coupled with insurance education in the rural areas.

3.3 Pre and Post Debt Waivers Comparative Performance of Borrowing and Repayments: A Proxy to Estimating the Impacts on Banks

Table.10. Pre and Post ADWDRS Reason wise Details of Borrowing and Repayments by the Sample ADWDRS beneficiaries from Andhra Pradesh and Maharashtra

Pre ADWDRS					
Purpose of Borrowing	Loan Amount	Repayment	Repayment (%)	Overdue	Overdue (%)
Agriculture	2211000	641400	29.01	1195000	54.05
Irrigation	86000	2081000	2419.77	1108000	1288.37
Education	900000	594000	66.66	400000	44.44
Consumption/Health	150000	00	0.00	150000	100.00
Housing	590000	800000	135.59	1250000	211.86
NR	40000	30900	77.25	20000	50.00
Total	3977000	3553300	89.35	4123000	103.67
Post ADWDRS					
Agriculture	9191000	2355013	25.62	17156820	186.67
Irrigation	550000	1219000	221.64	1935000	351.82
Education	3035000	147200	4.85	2652700	87.40
Consumption/Health	2764000	487000	17.62	4152800	150.25
Housing	6580000	688000	10.46	6371000	96.82
NR	105000	111500	106.19	75000	71.43
Total	22225000	5007713	22.53	32343320	145.53

The inferences based on primary data in the above table (10), clearly reveals the case of moral hazard / adverse selection for the banks / lending institutions. Comparing the total amount of pre ADWDRS loans borrowed and repaid with the corresponding proportions of the same during post ADWDRS period it is seen that the proportion of repayment of agricultural loans has declined from 29.01 per cent (which already was unsatisfactory) to 22.53 per cent,

whereas the proportion of overdue has shot up from the earlier 54.05 per cent to 186.67 per cent. The overall (all purpose credit) credit performance between pre and post ADWDRS shows that the overdues have increased from 103.67 to 145.53 per cent. As the overdues have been pending for over a long period the 'overdue-principle' ratio becomes greater than 100 per cent. It is mainly because of the accumulation of long pending interest amounts.

Table.11. Source-wise Pre and post ADWDRS Comparison of Loan Account Performance of the Sample ADWDRS Beneficiaries from Andhra Pradesh and Maharashtra

Pre ADWDRS					
Source of Borrowing	Loan Amount	Repayment	Repayment (%)	Overdue	Overdue (%)
Gramin Bank	472300	739700	156.62	935300	198.03
Nationalized Bank	642000	3012000	469.16	2115000	329.44
Pvt. Persons	2120000	95000	4.48	840000	39.62
Total	3234300	3846700	118.93	3890300	120.28
Post ADWDRS					
Gramin Bank	1270000	840123	66.15	3827000	301.34
Nationalized Bank	3160000	3402430	107.67	14059000	444.91
Pvt. Persons	14023000	1469200	10.48	13177300	93.97
SHG	470000	10000	2.13	480000	102.13
Total	18923000	5721753	30.24	31543300	166.69

The striking character of the comparison of pre and post ADWDRS source wise credit, its repayment and its overdue emerges as a significant indicator of moral hazard / adverse selection for the banks and lending institutions. The overall performance of repayment appears declined by almost four times, whereas; the proportion of overdue shows an exponential rise of more than 40 per cent. The available primary data for both the institutional and non-institutional sources indicate that no lending

institution has an exception of better recovery performance during both the periods of pre and post ADWDRS. But the post ADWDRS picture indicates a worsened situation. This means that the debt waiver could not bring any better recovery performance for the lending institution. During the post ADWDRS period the SHGs have added to the earlier sources of lending but the recovery rates remains confined at the drastic lower rate of 2.13 per cent and the overdues exceed 100 per cent.

Table.11 (A) Pre and Post ADWDRS Comparative Picture of Credit Access

Loan Particulars	Pre ADWDRS	Post ADWDRS	Proportion of change (%)
No. of Loan Accounts/Cases	133	613	460.90
Total amount of Loan (Rs.)	3234300	18923000	585.07
Average Amount of Loan per Account (Rs.)	24318	30869	126.94

Attempt based on primary data of assessing the comparative change between the pre and post ADWDRS in credit access for farmers through change in number of loan accounts, total amounts of loans borrowed and the average amount of loans per account borrowed indicated that post ADWDRS period has emerged as the greater access of credit for farmers. The number of loan accounts of the same farm households of two states has increased by more than four times and the total borrowings by about six times (585.07 per cent). The average amount of loan per account indicates an increase of about 126 per cent

4.0 Conclusion

Farmers from Maharashtra are not observed as the staunch expectants of the debt waiver to be continued in future but having the past experience of such benefits the farmers from Andhra Pradesh do have the expectation of the re-occurrence of the debt waiver in future too. Many of the ADWDRS farmers despite being beneficiaries of the ADWDRS-2008 were not

insistent on the continuation of the programme; instead they expected the policies helping their self reliance. In such a context the policies like the compulsory or state sponsored insurance or the capital formation and investment policies strengthening the agricultural economy will be more useful and strength building in nature.

The development of crop insurance in India has achieved a penetration of about 25 per cent. Approximately it covers 22.5 million Indian farmers. This figure is impressive considering that the NAIS having been launched in 1983 is just to complete three decades of its existence. Of the 22.5 million crop insured farmers, about five million of them are loanee and of these about 2.5 million are insured. The remaining 10 million can easily be covered provided the funds that are periodically spent on agricultural debt waiver are routed through the India's crop insurance mechanism. By doing this not only the debt waiver funds will be uniformly spent among all farmers but will enhance the creditworthiness and help to increase the flow of organized credit to

agriculture. The information that has emerged from the field level data advocates for that the National insurance policy that needs to take into account the faster penetration of life, crop and general insurance for the farmers across all states of the country. It also should have a greater focus on covering the rural areas in general and the farming community in particular. Both at the National and at the state specific level of Andhra Pradesh and Maharashtra, the penetration of the Life and Crop Insurance is confined to unsatisfactory penetration. The subscription of General Insurance among the sample ADWDRS and Control group farmers in Andhra Pradesh is nil whereas, for Maharashtra it is 23.89 and 23.53 per cent respectively.

The farmers from both the states are multi time borrowers and from all available sources but have not been observed serious in repayments. Relatively the productive borrowing was of greater order. The reasons for their borrowing were; Agricultural operations, Setting a business, Consumption and the Medical loans, Education, Irrigation infrastructure, Livestock and for Buying the vehicles and Tractors. Most of the proportion of these loans of the ADWDRS beneficiaries from both the states is unpaid. Post ADWDRS proportion of overdue of loans is at the higher side. Purpose wise borrowing and the proportion of the pendency of loans by the ADWDRS farmers from Andhra Pradesh is as; Agriculture (60.05 per cent), Business (86.67 per cent), Consumption (88.29 per cent), Education (73.79 per cent), Irrigation (40 per cent), Livestock (42.86 per cent), non specified other loans (100 per cent), Vehicle loans (89.52 per cent) and the overall average of all these for the state ADWDRS farmers is 74.01 per cent. The proportions of pendency of the loans that were borrowed for the same purposes by the ADWDRS farmers from Maharashtra were; 84.55, 93.65, 70.23, 100, 68.50, 76.52, 78.22, 43.18, 87.20, 40.88 per cent and the overall state level pendency is 76.25 per cent

respectively. This leads to the conclusion that most of the farmers had borrowed for all the purposes irrespective of agricultural or non-agricultural and were unable to repay the same during the specified time frame and hence both the borrowers and the lending institutions have no substitute but to face the problems of credit inability and the adverse selection. The comparison of pre and post ADWDRS situation about the purpose and source-wise borrowing and the proportion of repayment and overdue indicates post ADWDRS decline in the proportion of repayment and increase in overdue clearly indicates the case of moral hazard / adverse selection. But when looked at the change in credit access to farmers through the pre and post ADWDRS comparison of the number of credit accounts, total amount of credit and the average amount of credit per account the primary data elucidates that there has been a substantial growth in all these indicators which clearly shows that the post ADWDRS access of credit to farmers has grown. The proportion of the pendency exceeds the proportion of repayment and thereby the pendency – principal ratio becomes greater than the repayment – principal ratio for both the states' ADWDRS farmers. The lending institution wise proportions of pendency for Andhra Pradesh was of the order of; Bank (99.18 per cent), Friends (75.55 per cent), Gold Bank (96 per cent), Nationalized Banks (100 per cent), Other sources (non- specified) (42.86 per cent), Private Organizations (63.35 per cent), Rural Bank (100 per cent), SHGs (97.87 per cent) and the overall state pendency was 74.01 per cent. The same for the control group for Andhra Pradesh it was; 95.63, 689.62, 88.89, 100 and 100 per cent for the Bank, Friends, Gold Bank, Nationalized Bank and Private Organizations and the state average was 94.49 per cent. The source wise pendency scenario of the ADWDRS farmers from Maharashtra was; DCCBs (84.53), Friends (102 per cent), Money lenders (90.94 per cent), Nationalized banks (74.76 per cent), Rural banks (100 per cent) SHGs (97.87 per cent) and

the overall state proportion for the same was 74.01 per cent. The control group farmers also have borrowed from many available sources and could not repay the same within the time frame.

The purpose of the ADWDRS was to clear the NPAs of the banks and restore the farmers' credit accounts with the future credit ability and the credit paying capacity (monetization) of the banks. When the farm debt accounts were cleared and the money they were supposed to pay to the banks was saved, in such cases the farmers have used the saved amount of money in purchasing of livestock such as the milching cows, a pair of bullocks or the small animals like sheep and goats. The proportion of such farmers from Maharashtra is almost negligible (1.1 per cent) but the proportion of such farmers from AP is observed to be higher. The programmes like the ADWDRS-2008 or the ARDWS-1989 exclude by default the regular debt repaying farmers and leave credit institutions with the option of adverse selection. This is bound to demoralize both the lenders and the borrowers. The (demoralized) regular repaying farmers cannot be in favor of introducing such programmes like the ADWDRS. Even some beneficiary farmers are

not in favor of such debt waivers. There are farmers who feel demoralized and do not want to continue such schemes in future. Instead they expect agricultural development policies. In conclusion this means that the government, instead of spending money in popular programmes like the ARDWS-1989 or ADWDRS-2008 can use the same money either for capital formation in agriculture, agricultural investments or for part or full payments of crop insurance.

The main conclusion is that the programmes like debt waiver being completely an arbitrary gift of money to loanee farmers create conditions for moral hazards in the utilization of scarce government resources, it undermines at stroke all the hard work done both by the lending and insurance agencies in disbursing and recovering the loans. There is a relative merit in the credit linked Crop Insurance system such as the one operating in India over the policy of debt waiver. In fact the debt waivers are costlier not only than indemnities paid out through Crop Insurance, but the indemnities and subsidies together stand less than the debt waivers such as the ADWDRS-2008.

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