

AERC STUDY No. 48

**IMPACT EVALUATION OF FARM DEBT WAIVER SCHEME ON FARMERS
LIVELIHOOD IN INDIA**

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PREFACE

The Green Revolution has enabled the states of Punjab, Haryana and Western Uttar Pradesh to achieve the quantum jump in production and productivity of staple food grains with the adoption of new farm technology in agriculture. This was achieved with the use of HYV-seeds, chemical fertilizers, adequate irrigation, price support mechanism and marketing related infrastructure. It has been observed that by the end of last century, the impact of technology has slowed down resulting in stagnation in yield and rising cost of inputs resulted in shrinking profit margins of the farmers. Thus, the increased dependence of farmers on credit to meet out the rising cost of cultivation and decreased returns due to additional costs has mainly caused the indebtedness of farmers. The scenario commonly described as 'Agrarian Crisis' has caused distress among Punjab and Uttar Pradesh farmers as well as in other states. Considering the gravity of the situation among the farming community, Government of Punjab and Uttar Pradesh had announced 'Farm Debt Waiver Scheme' for marginal and small farmers in 2017. Therefore, the present study was undertaken to evaluate the impact of 'Farm Debt Waiver Scheme' announced by the respective states on the livelihood of beneficiaries.

We express our gratitude to the Directorate of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, Government of India, New Delhi for providing financial support to take up this study. We are also grateful to the participating Agro Economic Research Center (AERC), Paryagraj for providing very productive and useful inputs for preparing this report. We are also thankful to Dr P.K. Joshi, Honorary Director, Agricultural Economics Research Centre, University of Delhi for providing constructive comments to the report, which has helped immensely in improving the present report.

Authors

Abstract

The present study was undertaken to evaluate the impact of Farm Debt Waiver Schemes announced by the Governments of Punjab and Uttar Pradesh in 2017 on the livelihood of beneficiary farmers in both the states. The data were collected for the pre-debt waiver year period (Before redemption) and post debt waiver period (After redemption) by selecting 180 beneficiary farmers each from the selected states. The results of the study revealed that in Punjab, major change in the occupational status of beneficiaries after debt redemption was observed in case of dairy as secondary occupation, since more farmers started rearing dairy animals by adopting it as an enterprise. On the contrary in Uttar Pradesh, slight change was observed in agricultural labour as secondary occupation adopted by beneficiaries followed by a meager change in adoption of dairy enterprise. Beneficiary farmer's income increased after redemption of debt in Punjab and Uttar Pradesh however, it's not just because of debt waiver but it may be due to some other associated factors also. There was no major change in operational holding and ownership of different farm assets owned by beneficiary farmers after redemption of debt in both the states. In fact, there was impact of Farm Debt Waiver Scheme in terms of higher investment made by beneficiaries on female crossbred cattle and buffaloes in the study area in both Punjab and Uttar Pradesh. There was no change in the cropping pattern on sample beneficiary farms after loan waiver and hence there was no effect of Farm Debt Waiver Scheme on type of crops grown in Punjab and Uttar Pradesh. The operational cost of cultivation of all the crops cultivated on selected farms in both Punjab and Uttar Pradesh increased owing to rise in input prices viz. seed, fertilizer, human labour etc. rather than benefits accrued under debt waiver scheme. There was considerable increase in the disposal pattern of most of the crops; especially paddy, wheat and potato on sample farms after debt redemption in both the states, however, it may also be due to innovative/ changing cultivation practices adopted by beneficiary farmers. The increase in household expenditure was found to be higher for Uttar Pradesh as compared to Punjab after the redemption of debt. Major benefit of debt waiver scheme in Punjab was availed by beneficiary farmers for the crop loan taken from co-operative societies being major source of institutional finance followed by commercial banks. Institutional loan waiver resulted in significant decline in dependence of sampled households on non-institutional sources. Due to loan waiver of institutional liability, sampled farmers in Punjab were able to return higher quantum of non-institutional loan also. Thus, loan waiver scheme in Punjab had somehow resulted in decline of indebtedness on the sampled household farms. In Uttar Pradesh also, there was change in amount borrowed as well as decline in the amount outstanding for the selected beneficiaries which confirms the impact of debt waiver scheme in Uttar Pradesh. After loan waiver, some of the respondents repaid their commercial bank loan, debt of commission agent, purchased agricultural implements and invested in some insurance policy. Thus, loan waiver scheme helped the farmers to diversify their pattern of savings in more rational manner. The debt waiver had resulted in slight decline in the dependence of farmers on non-institutional sources of finance and some relief measures provided under the scheme to the farmers can somehow rejuvenate this sector. The farmers opined that they lost man days to fulfil the requirements for availing scheme benefits, found it to be time consuming/ cumbersome and cost incurring also. These constraints/difficulties should be taken care of to make the scheme more lucrative. Major policy issues suggested are; expanding the reach of scheme to include more farmers, increasing subsidies on farm machinery and facilitating the farmers to rear crossbred cattle, buffaloes etc. for increasing their income.

CHAPTER-I

INTRODUCTION

I.1. Background of the Study

India adopted significant policy reforms in order to achieve the goal of food grain self-sufficiency in India's Green Revolution era. In the initial stage of green revolution (1967-68 to 1979-80), they mainly included limited crop (wheat) and geographical coverage only in states of Punjab, Haryana and Western Uttar Pradesh (Bhalla 2007). Irrigated areas which accounted for about one-third of the total cropped area, largely benefited from improved seeds and new technology extended to these areas. Some of the states like Punjab, Haryana, and Uttar Pradesh have achieved tremendous growth in green revolution era and their productivity has jumped many folds as compared to other states where the impact of green revolution was not so much. New technology spread to eastern states of India such as Bihar, Odisha and West Bengal during 1970s and 1980s, after the new technology reached their limits in the states of initial adoption. In 1980s, the policy of Indian agriculture shifted to "evolution of a production pattern in line with the demand pattern" leading to a shift in emphasis to other agricultural products such as fruits, vegetables and oilseeds. Farmers started the adoption of improved techniques and technologies in dairying, fisheries, livestock and meeting the diversified food requirements of the growing population.

In the history of Indian agriculture, the attainment of self-sufficiency in food grains was one of the most important purposes during 1970s and 1980s. During 1980s, India achieved significant growth in output and productivity of agricultural commodities. However, this growth in productivity was uneven across the states and regions in the country. In India the increase of productivity in agriculture did not get translated into significant higher levels of economic growth, more especially in the rural areas. Moreover, in the reform era during 1990s, situation deteriorated leading to a significant deceleration in agricultural output and productivity. The deceleration in agricultural production largely affected the rural poor, which unfavourably further increased disparity in rural areas. Different weather conditions, varied agro-climatic factors, varying levels of resources, irrigation facilities, varied infrastructural development and high pressure of the population in rural areas across the states and regions were the factors for unevenness and deceleration in agricultural growth and development (Banerjee and Kuri 2015).

Loan waivers are a fairly recent phenomenon when viewed in the context of India's 71 year democratic history. The first loan waiver was announced about three decades ago in 1987 by the then Chief Minister of Haryana, Chaudhary Devi Lal. The 1980s was a period that witnessed

the emergence of new social groups on the national political stage following the success of the green revolution in the 1970s. The resulting economic ascendance of the middle peasants coalesced with the political ascendance of the Other Backward Classes (OBCs) to deliver a new level of political mobilisation to this hitherto under-represented group. Alongside the strengthening of the political organisation of the farmer community came a number of demands ranging from subsidies for inputs such as fertilisers, farm equipment, irrigation power, minimum support price (MSP) for farm produce and more recently the calls for loan waiver. Here as well, the central government of the day declared the first agricultural loan waiver at the national level. Post these early announcements there have been 16 waivers. After the initial thrust there was virtually a moratorium on waivers for more than a decade until mid-2000. The next half-decade from 2005 to 2010 witnessed four waivers: Two in the southern states of Kerala and Tamil Nadu, one in Maharashtra and the one large central waiver in 2008. The following five years between 2010 and 2015 witnessed a significant ramp-up with five loan waivers, all from state governments such as Karnataka, Chhattisgarh, Uttar Pradesh, Andhra Pradesh and Telangana. Since 2016, there have been seven loan waiver announcements from the state governments of Tamil Nadu, UP, Punjab, Maharashtra, Rajasthan and two waivers in Karnataka alone. This broad trend suggests a steady acceleration in the number of loan waivers after 2005. The loan waivers seem to be more popular among state governments as compared to the central government. Sixteen of the 18 waivers listed above came from state governments while only two came from the central government. In fact post 2008 all the waivers announced were by different state governments and none came from the centre. This suggests that waivers are largely a matter of state policy.

The Green Revolution has enabled the states of Punjab, Haryana and Western Region of the state of Uttar Pradesh to achieve the increase in production and productivity of staple food grains with the adoption of new technology in agriculture in respects of HYV-seeds, fertilizers and adequate irrigation water with the price support and other desired infrastructure. It has been observed that since 1980s the impact of technology has adversely resulted into stagnation in yield, rising costs of inputs and shrinking profit margins. Thus, the increased dependence of farmers on credit to meet out the rising cost of cultivation and decreased returns from additional costs has mainly caused the indebtedness of farmers in these states. The scenario commonly described as 'Agrarian Crisis' has caused distress in Punjab and Uttar Pradesh farmers and considering the gravity of situation/distress among the farming community, Government of Punjab and Uttar Pradesh has announced 'Farm Debt Waiver Scheme' for marginal and small farmers in 2017. Keeping this in view, states of Punjab and Uttar Pradesh were selected for

concurrent evaluation of debt waiver schemes for studying their likely impact on the livelihood of beneficiaries.

I.2. Specific Objectives of the Study:

This study was undertaken with the following specific objectives:

1. To examine socio-economic characteristics of the beneficiaries under Farm Debt Waiver Scheme.
2. To study the nature and extent of indebtedness among the beneficiaries.
3. To document the perceptions of beneficiaries about the likely impact of scheme on their livelihood.

I.3. Status of Farm Debt Waiver Scheme in Punjab and Uttar Pradesh:

The Farm Debt Waiver Scheme as announced by the Government of Punjab in the year 2017 covered the crop loans of marginal and small farmers. In case of marginal farmers, the entire eligible amount of those farmers who have total outstanding crop loan liability up to Rs 2 lakh was to be provided as debt relief and in case of eligible amount of more than Rs 2 lakh, only Rs 2 lakh was to be provided as debt relief. In case of small farmers, the entire eligible amount of those farmers who have total outstanding crop loan liability up to Rs 2 lakh, was to be provided as debt relief by the lending institutions namely; Co-operative Credit Institutions, Commercial Banks and Regional Rural Banks. To start with, the scheme was implemented for loans availed only from Co-operative Credit Institutions and then covering the loans forwarded by the commercial banks. The amount eligible for debt relief under the scheme comprised of outstanding liability under crop loan (principal and interest) as on March 31, 2017. Later on, the benefits of debt waiver scheme were also provided to the landless laborers. The scheme envisaged providing debt waiver to the tune of Rs. 5.1 thousand crores for 6.6 lakh farmers and 2.85 lakh landless laborers be given a relief of Rs. 520 crores. Though the scheme is still in progress in the state, the district wise status of beneficiary farmers was not available for the Punjab state.

A perusal of Table 1.1 reveals the status of the beneficiary farmers under loan waiver scheme in the state of Uttar Pradesh. This indicates that the total number of non-NPA farmers in the state of U.P. was 34,91,798 on 1st April, 2019 and the amount paid to them was estimated at Rs. 21,018.15 Cr. The number of non-NPA loanee farmers was the highest (1,22,270) in Sitapur district with total amount (Rs. 682.68 Cr) against the lowest (9,345) with amount paid (Rs. 72.06 Cr.) in Ghaziabad district. District Kheri ranked 2nd, Hardoi ranked 3rd and district Bulandshahar ranked 4th among Non-NPA farmers. While the total complaints by non-NPA farmers were reported as 487439 and the total amount paid was estimated at Rs. 3,192.04 Cr. in the state as a whole. Among the NPA farmers the total number reported in the whole state of Uttar Pradesh was

4,72,734 and the amount paid was estimated at Rs. 602.12 Cr. The highest number of NPA farmers (16,260) was reported in Bareilly district against the lowest (468) in Balrampur district of Uttar Pradesh. In the whole state of Uttar Pradesh, district Bareilly ranked 1st (16,260) with total amount paid as Rs. 26.76 Cr., district Badaun ranked 2nd (15,737) with total amount paid as Rs. 14.06 Cr. and district Azamgarh ranked 3rd (13,221) with amount paid as Rs. 12.20 Cr. The total number of complaints by NPA farmers were reported as 2,093 and the amount of total loan paid was estimated at Rs. 8.99 Cr. in the whole state of U.P. Thus, the total number of farmers in the state of U.P. on 01.04.2019 (44,54,064) were reported as beneficiaries under Farm Debt Waiver Scheme and the total amount paid to them was estimated at Rs. 24821.30 crores.

Table-1.1 Status of benefited farmers under loan waiver scheme in U.P. as on 01.04.2019 (as per portal)

Sn. No.	District Name	NON-NPA		NON-NPA Complaints		NPA		NPA Complaints		Total Status	
		Number of Farmers	Amount Paid (Rs. In Crore)	Number of Farmers	Amount Paid (Rs. In Crore)	Number of Farmers	Amount Paid (Rs. In Crore)	Number of Farmers	Amount Paid (Rs. In Crore)	Number of Farmers	Amount Paid (Rs. In Crore)
1	Agra	65934	482.89	14091	114.38	9556	15.78	44	0.1	89625	613.15
2	Aligarh	78813	566.1	23858	182.33	4630	8.97	32	0.18	107333	757.58
3	Ambedkar Nagar	37334	191.71	4328	22.18	2514	2.9	17	0.08	44193	216.87
4	Amethi	36427	180.94	2977	14.99	3814	4.36	27	0.12	43245	200.41
5	Amroha	45859	300.16	5191	37.46	3319	3.69	2	0.01	54371	341.32
6	Auraya	24321	130.32	3285	19.84	4127	3.79	16	0.07	31749	154.02
7	Ayodhya	36425	184.28	8815	51.72	4802	6.4	94	0.43	50136	242.83
8	Azamgarh	44606	252.47	4519	28.65	13121	12.2	41	0.13	62287	293.45
9	Badaun	60277	411.66	21499	110.1	15737	14.06	19	0.09	97532	535.91
10	Bagpat	21348	172.44	1985	15.69	1124	3.01	4	0.02	24461	191.16
11	Ballia	48839	216.72	5123	27.62	4891	8.38	41	0.15	58894	252.87
12	Bairampur	38569	233.59	5490	36.1	468	1.53	7	0.02	44534	271.24
13	Banda	49085	311.91	6838	43.53	5321	8.73	37	0.14	61281	364.31
14	Barabanki	95979	553.39	14153	83.56	9771	16.03	87	0.35	119990	653.33
15	Bareilly	66039	400.02	11809	77.49	16260	26.76	97	0.3	94205	504.57
16	Basti	61547	286.71	2095	11.98	3274	2.7	34	0.13	66950	301.52
17	Behraich	84116	569.64	6657	46.82	4473	9.06	80	0.38	95326	625.9
18	Bhadohi	9789	61.85	1846	12.51	3544	3.25	19	0.06	15194	77.67
19	Bijnor	72323	466.79	10324	70.53	7114	10.97	26	0.13	89787	548.42
20	Bulandshahar	87851	668.39	14071	107	5160	10.65	35	0.16	107117	786.2
21	Chandauli	11170	67.86	2158	11.13	6308	4.84	12	0.05	19648	83.88
22	Chitrakoot	20894	121.16	1336	7.52	4650	6.8	7	0.04	26887	135.52
23	Deoria	40759	173.11	4287	23.89	3751	2.02	12	0.04	48809	199.06
24	Etah	43371	293.17	10037	67.03	9728	10.96	15	0.06	63151	371.22
25	Etawah	33979	192.34	3806	25.86	4722	5.39	22	0.1	42529	223.69
26	Farrukhabad	42898	277.65	2614	16.9	7255	12.71	5	0.03	52772	307.29
27	Fatehpur	49452	281.01	1972	13.16	8310	10.22	10	0.05	59744	304.44
28	Firozabad	36750	261.02	8675	62.83	7055	12.14	14	0.06	52494	336.05
29	G.B. Nagar	11153	87.87	3607	31.41	508	1.18	1	0	15269	120.45
30	Ghaziabad	9345	72.06	1064	7.73	909	3.43	3	0.02	11321	83.24
31	Ghazipur	40816	251.39	4731	33.33	10385	12.78	51	0.24	55983	297.74
32	Gonad	81767	521.3	15241	103.02	670	2.28	43	0.23	97721	626.83
33	Gorakhpur	41884	178.28	3660	19.38	11365	7.28	29	0.08	56938	205.02
34	Hamirpur	30023	176.03	4858	26.95	5322	6.26	18	0.08	40221	209.32
35	Hapur	16920	122.31	3634	26.61	1394	3.77	0	0	21948	152.69

36	Hardoi	101214	565.34	10060	66.38	7179	9.81	67	0.34	118520	641.87
37	Hathras	40602	287.1	7348	52.83	6999	10.3	50	0.25	54999	350.48
38	Jalaun	43783	277.13	5441	37.4	7361	6.12	6	0.02	56591	320.67
39	Jaunpur	60520	348.2	8738	55.22	7787	13.83	10	0.03	77055	417.28
40	Jhansi	48161	271.74	6403	37.79	5127	6.53	28	0.1	59719	316.16
41	Kanmauj	51283	334.35	5943	41.1	6769	10.16	108	0.47	64103	386.08
42	Kanpur Dehat	45361	238.2	4658	26.12	7904	10.43	19	0.07	57942	274.82
43	Kanpur Nagar	31232	168.02	5428	31.35	6590	7.16	30	0.1	43280	206.63
44	Kasganj	36809	238.91	6991	43.01	7342	7.63	3	0.01	51145	289.56
45	Kaushambhi	19965	123.15	1635	10.97	2715	2.92	5	0.04	24320	137.08
46	Kheri	112869	747.05	19429	136.67	12170	14.24	107	0.5	144575	898.46
47	Kushi Nagar	87090	418.66	8597	47.41	4963	4.55	17	0.07	100667	470.69
48	Lalitpur	36279	212.58	10821	70.79	5747	4.56	22	0.13	52869	288.06
49	Lucknow	31779	184.68	3129	19.88	6546	5.88	19	0.08	41473	210.52
50	Maharajanj	64932	277.17	3343	19.2	11196	5.91	21	0.09	79492	302.37
51	Mahoba	33166	211.09	6215	36.75	5429	5.22	22	0.09	44832	253.15
52	Mainpuri	38001	251.98	4904	31.95	9005	10.4	31	0.17	51941	294.5
53	Mathura	49384	372.43	7620	57.04	13038	21.62	9	0.04	70051	451.13
54	Mau	23309	119.91	2220	13.19	3447	4.45	3	0.01	28979	137.56
55	Meerut	40577	291.49	10322	77.73	3550	8.71	18	0.11	54467	378.04
56	Mirzapur	40346	242.34	5745	36.25	9632	12.1	26	0.13	55749	290.82
57	Moradabad	50725	296.69	3617	22.21	3499	3.31	8	0.03	57849	322.24
58	Muzaffar Nagar	40357	292.32	5119	38.71	4945	11.85	15	0.09	50436	342.97
59	Pilibhit	36008	226.63	5370	36.93	12009	16.98	14	0.09	53401	280.63
60	Pratapgarh	40273	216.01	3399	13.78	12282	9.61	6	0.03	55960	239.43
61	Prayagraj	47942	265.64	3095	20.65	7186	6.55	18	0.1	58241	292.94
62	Raibareli	66661	318.98	4226	21.84	10245	10.2	17	0.06	81149	351.08
63	Rampur	52173	336.08	4578	26.57	8896	11.96	19	0.08	65666	374.69
64	Saharanpur	51024	386.9	12302	90.45	10185	19.28	59	0.34	73570	496.97
65	Sambhai	48033	305.32	13742	92.21	3256	3.24	32	0.16	65063	400.93
66	Shahjahanpur	53250	356.14	5455	39.21	7984	11.21	72	0.24	66761	406.8
67	Shamali	23849	176.21	2664	20.43	2481	5.06	4	0.01	28998	201.71
68	Shravasti	29601	185.12	1944	13.95	1730	3.34	4	0.02	33279	202.43
69	Sidharth Nagar	37218	173.52	2630	15.14	927	0.65	17	0.06	40792	189.37
70	Sitapur	122270	682.68	13992	90.16	10497	12.61	37	0.16	146796	785.61
71	S.K. Nagar	29134	138.03	1620	10.17	3495	2.95	18	0.07	34267	151.22
72	Sonbhadra	33773	201.05	5679	33.99	4951	6.43	35	0.16	44438	241.23
73	Sultanpur	44438	206.12	5013	28.36	1506	1.91	29	0.12	50986	236.51
74	Unnao	60723	292.02	6596	32.61	6607	5.07	46	0.16	73972	329.86
75	Varanasi	11022	62.63	774	4.81	4205	2.1	25	0.03	16026	69.57
	Grand Total	3491798	21018.15	487439	3192.04	472734	602.12	2093	8.99	4454064	24821.3

I.4. Review of Literature

Loan waivers have emerged as the prominent policy choice for addressing the issue of agricultural distress. Over the last one year waivers of farm loans were announced by a number of State Governments such as Uttar Pradesh (UP), Maharashtra, Rajasthan, Punjab and Karnataka and the policy is under serious consideration by the state governments of Madhya Pradesh and perhaps even by the central government. This expansion of the loan waiver policy has prompted many studies and commentaries by scholars that have presented a variety of perspectives on the issue which are classified into sections:

- a) Impact of farm loan waiver schemes on beneficiaries
- b) Implications of farm loan waiver schemes & agrarian distress

a) Impact of farm loan waiver schemes on beneficiaries

Shylendra~~s~~ (1995) studied the national loan waiver of 1990 in India. His empirical evidence demonstrates that loan waivers primarily benefit the better-off households and waivers adversely impact the repayment behaviour of borrowers.

Vaidyanathan (2008) and Rath (2008) analysed that the farm loan waiver policy works as a temporary palliative to the debt stress faced by farmers but will not have a long-term impact on improving their living conditions in India.

Mukherjee *et al* (2014) differentiated the impact of loan waivers on distressed and non-distressed borrowers in India. Their research shows that waivers have had a positive effect on the loan performance of distressed beneficiaries but have had no effect on non-distressed beneficiaries. Further, they find that loan waivers also lead to rationing of future credit by banks to the non-distressed borrowers.

Ravi (2015) argues that it is poor mental and physical health and not indebtedness that is the leading cause of suicides among farmers in India. Loan waivers are a reactionary policy emerging from a simplistic diagnosis of the causes for farmer suicide.

Kanz (2016) demonstrates empirical evidence that is inconsistent with the debt overhang theory. His study of the 2008 loan waiver granted by the central government of India shows that loan waiver beneficiaries tend to make lower investments and have less productive farms than similar non-beneficiaries.

b) Implications of farm loan waiver schemes & agrarian distress

Ramachandra (1992) studied the Agricultural and Rural Debt Relief Scheme of 1990 and found loan waivers as inflationary in effect and a fraud on the tax-payers. The study suggested instead of waiver, a deferment of the repayment period and also quick settlement of bank cases through special courts and tribunals as the means to improve the repayment culture.

Shylendra and Katar (1994) found that rural debt relief scheme of 1990 adversely affected the functioning and performance of the primary agricultural credit societies and the primary land development banks. The scheme led to increase in the loan over dues and a consequent decline in the flow of rural credit from co-operatives. Authors also suggested a ban on general loan waivers and call for measures like implementation of effective insurance scheme and for following an incentive based loan recovery system.

Gaur (2008) highlighted that the loan waiver scheme of the Union Budget 2008 was perfectly fine because the outreach of any government measure is limited, and some section of the society would be benefited more than the other. But the most important consideration is the fact that agriculture is facing a serious crisis and some productive measures have to be undertaken by the government in this regard. The scheme had a very limited number of beneficiaries, and with such huge amount of money the least to be expected from a government scheme is to reach a large number of people.

Sriniwasan (2008) identified that the loan waiver scheme is an effort that cures symptoms rather than the causes. It has high visibility, but unlikely to produce lasting results in the development of farm sector. The large amount of money being spent could have been used to usher in fundamental reforms in agriculture and make it market oriented and profit centered. It was suggested that the government intervention in farming should move towards improving profitability and target farm incomes through measures in the real sector than merely making marginal changes through the financial sector.

Anand (2009) concluded that gift of the then finance minister to the farmers in the form of Rs. 71,600 crore agricultural debt waiver has actually resulted into boon for the banks as through this agricultural debt waiver they were able to recover the Non Performing Asset of Rs. 71,600 crore. Further, the waiver was only for the loans taken from the commercial or Regional Rural Banks and no care has been taken of the farmers who have taken loans from the informal sources. Also the limiting of landholding to 5 acres only has caused problems for the farmers as there are some areas in the country where farmers have more than 7 acres of land but they are still poor as the land is not fertile.

John *et al* (2010) have given an insight into the agricultural history of India and have also touched upon the role of liberalization in aggravating the agrarian crisis experienced by the country. According to them, Indian agriculture flourished under the phenomenal success of the Green Revolution during the 1980s. But now rural indebtedness is the single biggest challenge facing India, as the farmers of India are suffering under the burden of debt and penury. In order to arrest the increasing number of farmers' suicides, the government of India implemented the Agricultural Debt Waiver and Debt Relief Scheme, 2008. The cost of the scheme worked out to be INR 71, 600 crore. It has been widely criticized to be a populist measure proposed by the government, paying least regard to the root-cause of the problem.

Sidhu *et al* (2011) conducted census survey on suicides committed by farmers in the two most affected districts of the Punjab state. The census survey enumerated all the farmers who have committed suicide in the two most affected districts during the years 2000 to 2008. The study also tried to document the reason(s) for suicides. The census was conducted from village to village covering 876 villages. The association of suicides with indebtedness was studied examining the size of the debt, value of assets sold, debt-income ratio and the observations of the key informants of the villages. In total 1757 farmers committed suicide in the selected districts, out of which 1288 (73.3%) were committed primarily due to indebtedness while 469 (26.7%) were committed due to other reasons such as marital discord, drug addiction, property dispute within the family, prolonged illness, etc. Most of the victims (79%) belonged to small and marginal farmers category and were resource poor. Their level of education was low and about 38 per cent were drug addicts. The average amount of debt was relatively higher vis-a-vis income of the victims in the debt caused suicide cases. The average size of holding in such cases was 3 acres and the average debt was Rs 1.15 lakh while average income was only Rs 58 thousand. Significant fall in cotton productivity during the period of 1997 to 2003, heavy investments on digging/deepening of bore wells due to steep fall in groundwater table and unproductive expenditure on social ceremonies were primarily responsible for causing economic distress among the farming families in these districts. Social and cultural backwardness in this belt coupled with economic distress resulted into the occurrence of large number of suicides in the farming sector.

Sharma (2012) has analyzed the agricultural debt waiver scheme which was the major highlight of the Union Budget 2008-09. It was concluded that this scheme was a total disaster and such waiver never worked in the past also. If the government would had spent this waiver amount on constructing warehouses, irrigation, canals, rural roads, power and other rural infrastructure farmers would had benefitted much more. Further, the study concluded that the waiver in the current context is a pretentious panacea. It will do no real good to most farmers in the short term

and also in the long term. The causes of the woes that wreck farmers will remain. One of the major drawbacks of this agricultural debt waiver scheme is that it does not benefit every needy person. According to the study, the Government could have extended the benefit of waiver to all the people below the poverty line.

Salve and Birader (2014) evaluated the Agricultural Debt Waiver and Debt Relief (ADWDR) Scheme announced by Government of India in 2008. The study concluded that the benefit of this Scheme was not equally distributed among the various regions in India. Secondly, the Scheme was not implemented by banks during the period of eleventh Plan and due to this credit availability to agricultural sector declined as compared to tenth Plan, addition to this sustainability in supply of credit also disappeared. Thirdly, after announcement of ADWDR Scheme, the growth in the number of account holders immensely decreased. The total amount of finance also declined as compared to previous Plans for CBs direct credit to farmers in India. The study suggested that for the success of Schemes like ADWDR in a country like India, more weightage need to be given to the financial and economic aspects. The objectives and the approach should be more professional rather than popular. The Scheme should have a region specific base and farmer targeted approach like growers of certain crops, dry land farmers etc.

Phadnis and Gupta (2019) observed that loan waiver policies in India are driven more by electoral exigencies rather than a deeply held ideological conviction. This is important to note because it suggests that it is difficult to connect the policy of loan waivers with any particular development philosophy, either to the left end or the right end of economic ideological spectrum. While the policy rationale given by politicians is to help farmers meet the adverse conditions emerging from drought, the study suggested that the application of the policy did not reflect a serious consideration of drought. Waivers were announced in states that faced acute drought as well as states where drought was not widespread. Further, the data suggested that politicians have been fairly conscious of the state's fiscal condition when they make decisions regarding loan waivers. Until recently the bulk of loan waiver announcements coincided with the period when states were making active efforts at restraining their public debt. Unfortunately, this trend seems to have been broken since 2016 where high debt states have also begun announcing large loan waiver packages. It was concluded that waivers have not even worked as an effective palliative, which means there should be more creativity even while designing immediate relief measures.

The above studies make it clear that the existing empirical evidence does not portend an encouraging picture of the farm loan waiver policy. Loan waivers tend to disproportionately benefit the better-off farmers, lead to lower future investments and productivity, and also result in selective credit rationing by banks. The overarching thrust reflected in many of the studies is that

the long-term investments in agriculture and the rural economy may result in higher and sustained dividends to farmers rather than the instinctive payouts in the form of waivers. This inconsistency between the intellectual discourse and the observed proliferation of loan waivers impels an answer to the question on why policymakers in India have increasingly resorted to short-term reprieves when there is opportunity to make more sustained interventions in the rural economy. We believe this is an important and complex question that needs careful reflection and analyses. The evidence cited above suggests that the rationale for loan waivers does not lie so much in the economic benefits that it delivers to distressed farmers but it is more likely a product of the peculiarities of the policymaking process in India. Therefore, in order to understand the impact of farm debt waivers as their pre-eminent policy choice for addressing the distress of the rural sector, we need to analyse the role of these incentives in upliftment of farming community.

I.5. Study Design and Methodology

The present study is based on the primary data collected from the beneficiary farmers of the Farm Debt Waiver Schemes initiated by the Punjab and Uttar Pradesh state Governments during the year 2017. In order to see the impact of debt waiver on the livelihood of beneficiary farmers, Before and After approach was employed. The data were collected from the scheme beneficiaries for the pre-debt waiver year period (Before redemption) and post debt waiver period i.e. (After redemption) in which year the debt waiver scheme was implemented.

In order to select the sample in Punjab, three districts representing different agro-climatic zones of the state viz. Jalandhar from Central Plain Zone, Hoshiarpur from Sub-mountainous Zone and Bathinda from South-Western Zone were randomly chosen. In Uttar Pradesh also, three representative districts were randomly selected from each of the three distinct agro-climatic zones of the Western Region of Uttar Pradesh. These districts were namely; Bulandshahar from Western Plain zone, Moradabad from Mid-Western Plain zone and Agra from South-Western Semi-Arid zone. Two blocks from each selected district were taken for both Punjab and U.P. Further, two clusters from each selected block were chosen for the field survey and the list of beneficiary farmers was collected from co-operative societies located in the respective areas. The selected clusters in each block comprised of varying number of villages according to the location of sample beneficiaries in different villages. Thus, 15 beneficiaries of the scheme were selected randomly from each cluster. Hence, the total sample comprised of 180 beneficiary farmers each from Punjab and Uttar Pradesh.

Table 1.2: District-wise debt waiver beneficiary households selected, Punjab and UP

Agro-climatic zone	Districts	Blocks	No of villages	Total
Punjab				
Central Plain Zone	Jalandhar	Nakodar	7	30
		Shahkot	4	30
		Sub-total	11	60
Sub-mountainous Zone	Hoshiarpur	Bhunga	3	30
		Hoshiarpur-I	2	30
		Sub-total	5	60
South-Western Zone	Bathinda	Phool	2	30
		Rampura	2	30
		Sub-total	4	60
Grand Total			20	180
Uttar Pradesh				
Western Plain Zone	Bulandshahar	Bulandshahar	2	30
		Khurja	2	30
		Sub-total	4	60
Mid-Western Plain Zone	Moradabad	Moradabad	2	30
		Chhijlat	2	30
		Sub-total	4	60
South-Western Semi-Arid Zone	Agra	Achhnera	2	30
		Barauli Ahear	2	30
		Sub-total	4	60
Grand Total			12	180

CHAPTER-II

SOCIOLOGICAL CHARACTERISTICS OF BENEFICIARY FARMERS

The sociological characteristics are the important parameters, which affect the production and marketing decisions of the households. This chapter deals with the important sociological indicators viz. age of the head of the household, literacy level and family composition of beneficiary sample households of Farm Debt Waiver Scheme in Punjab and Uttar Pradesh. Age of the family head and literacy level plays an important role for decision making in day-to-day farm related activities. The compiled information regarding sociological characteristics of beneficiary households has been discussed in the following paragraphs.

2.1 Age

Table 2.1 shows that the majority of beneficiaries in both the states were reported to be above 50 years age-group but the proportion was higher in Uttar Pradesh (about 62%) as compared

Table 2.1: Sociological profile of beneficiary households, India

Particulars	(Per cent)	
	Punjab	Uttar Pradesh
Age (years)		
Up to 35	5.56	7.78
36-50	37.77	30.00
>50	56.67	62.22
Total	100.00	100.00
Educational qualification		
Illiterate	23.89	26.11
Primary	15.00	11.67
Middle	21.11	13.89
Matriculate	32.22	24.44
Secondary	5.56	12.22
Graduate	2.22	6.11
Post Graduate	-	5.56
Total	100.00	100.00

Figures in parentheses are percentages of the total

to Punjab (about 57%). The proportion of beneficiaries between 36-50 years age group was higher in Punjab (37.77%) as compared to Uttar Pradesh (30%) showing higher number of young beneficiaries of debt waiver scheme in Punjab.

2.2 Education

A perusal of Table 2.1 reveals that among the beneficiaries, the proportion of illiterates was higher in Uttar Pradesh (about 26%) as compared to Punjab (about 24%). In Punjab, among the beneficiary farmers, the highest proportion i.e. nearly 32 per cent were matriculate followed by about 21 per cent having education up-to middle, 15 per cent up-to primary and about 6 per cent up-to secondary level of education. The farmers having graduate degrees were only about 2 per cent. Thus, in Punjab nearly one third of the beneficiaries were educated up-to matric level. In Uttar Pradesh, about 25 per cent of the selected beneficiaries were matriculates followed by about 14 per cent having education up-to middle, about 12 per cent studied up-to secondary and also about 12 per cent up-to primary level. The farmers having graduate and post graduate degrees in aggregate were about 12 per cent. Thus, the status of education among the beneficiary farmers was deplorably poor.

2.3 Household Composition of Respondent Farmers

Table 2.2 shows the household composition of sample beneficiary farmers. The family size of the sample households was found to be 4.73 for Punjab as compared to 5.54 for Uttar Pradesh farmers. It shows that family size was higher in case of Uttar Pradesh farmerø vis-à-vis Punjab. The numbers of male adults were dominating in both the states and number of minors was less than one.

Table 2.2: Household composition of beneficiary households, India

Family composition	(Number/farm)	
	Punjab	Uttar Pradesh
Adult male	2.13 (45.03)	3.37 (60.83)
Adult female	1.68 (35.52)	1.69 (30.51)
Minor	0.92 (19.45)	0.48 (8.66)
Total	4.73 (100.00)	5.54 (100.00)

Figures in parentheses are percentages of the total

CHAPTER-III

IMPACT OF FARM DEBT WAIVER SCHEME ON BENEFICIARY HOUSEHOLDS

The present chapter deals with the impact of 'Farm Debt Waiver Scheme' in Punjab as well as Uttar Pradesh. It encompasses the perceptions of beneficiaries about the realized impact of scheme on different aspects of their livelihood viz. occupational structure of the beneficiary households, operational holding, capital investment, livestock inventory, cropping pattern and operational cost of cultivation of crops. The chapter also includes production and disposal/utilization pattern of produce, annual household expenditure, credit structure and saving pattern of sample farmers before and after redemption of debt under farm debt waiver scheme. All the above cited aspects have been explained in the following paragraphs:

3.1. Occupational Structure

Table 3.1 indicates that agriculture and allied (except dairy) was the primary occupation of most of the beneficiary farmers in the selected states and which did not change even after the redemption of debt. In Punjab, the next primary occupation was non-agricultural labour, and about 3 per cent farmers had opted it as primary occupation before and after redemption of debt. Besides this, some of the farmers were also having salaried work, pension, household work, small shopkeeper and mechanics whose percentage remained same after redemption of debt. As far as secondary occupation opted by the beneficiary farmers is concerned, in relative terms, about 6 per cent had opted agriculture and allied as secondary occupation before redemption of debt which remained same after redemption. The highest change in secondary occupation of beneficiaries was observed in case of dairy, which changed from about 44 per cent to 50 per cent after redemption of debt. All other occupations viz. agricultural labour, non-agricultural labour, salaried work and household work showed relative decline after the redemption of debt, except in case of self employed in services which showed no change.

In Uttar Pradesh also, major occupation of the beneficiaries was agriculture and allied (except dairy) and their number slightly increased after redemption of loan. Similarly, slight decline in the adoption of other primary occupations i.e. non agricultural labour, household work of the beneficiary farmers was observed. As regards the secondary occupation opted by beneficiary farmers, 7.2 per cent had opted agriculture and allied as secondary occupation before redemption of debt and which after redemption decreased to 6.7 per cent. In relative terms, 28.9 per cent farmers had opted dairy as secondary occupation before redemption which increased to 29.4 per cent after redemption showing a meager change. In case of dairy as secondary occupation, there

was slight increase which shows that debt waiver scheme had somehow helped few beneficiary farmers to invest in dairy enterprise. Also, about 17 per cent farmers had opted agricultural labour as secondary occupation before redemption which increased to about 19 per cent after redemption.

In other secondary occupations, no change was observed in case of selected beneficiaries.

Thus in Punjab, major change in the occupational status of beneficiaries was observed in case of dairy as secondary occupation since more farmers started rearing dairy animals by adopting it as an enterprise. On the contrary in Uttar Pradesh, slight change was observed in agricultural labour as secondary occupation adopted by beneficiaries followed by a meager change in adoption of dairy enterprise.

Table 3.1: Impact of farm debt waiver scheme on occupational status of beneficiary households, India

(Per cent)

Type	Punjab			Uttar Pradesh		
	Before redemption	After redemption	Change	Before redemption	After redemption	Change
Primary						
Agriculture and allied (except dairy)	91.67	91.67	0.00	77.22	78.33	1.11
Dairy	0.56	0.56	0.00	0.56	0.56	0.00
Non-agricultural labour	3.33	3.33	0.00	2.78	2.22	-0.56
Agricultural labour	0.00	0.00	0.00	0.00	0.00	0.00
Salaried work	1.11	1.11	0.00	2.22	2.22	0.00
Self employment in household industry	0.00	0.00	0.00	1.11	1.11	0.00
Household work*	1.67	1.67	0.00	8.33	7.22	-1.11
Self employed in services	0.00	0.00	0.00	0.00	0.00	0.00
Pension	0.56	0.56	0.00	1.11	1.11	0.00
Others (Small shopkeeper, mechanics)	1.11	1.11	0.00	6.67	7.22	0.56
Secondary						
Agriculture and allied (except dairy)	5.56	5.56	0.00	7.22	6.67	-0.56
Dairy	43.89	50.00	6.11	28.89	29.44	0.56
Agricultural labour	9.44	8.89	-0.56	17.22	18.89	1.67
Self employment in household industry	1.11	0.00	-1.11	2.22	2.22	0.00
Self employed in services	1.67	1.67	0.00	1.11	1.11	0.00
Non-agricultural labour	7.78	5.56	-2.22	7.22	7.22	0.00
Salaried work	3.33	2.78	-0.56	3.33	3.33	0.00
Household work*	2.22	1.67	-0.56	0.00	0.00	0.00
Pension	0.00	0.56	0.56	0.56	0.56	0.00
Others	3.33	2.78	-0.56	0.56	0.56	0.00
No secondary occupation	21.67	20.56	-1.11	31.67	30.00	-1.67

*Household work refers to the housekeeping activities like cleaning, washing, cooking etc. Most of the respondents belongs to this occupation were females.

3.2 Annual Household Income

Table 3.2 shows that the annual income of the beneficiary farmers was more in Punjab as compared to Uttar Pradesh before and after redemption of debt. However, the relative increase in annual income was higher for beneficiaries in Uttar Pradesh (about 21%) as compared to Punjab (about 16%). In Punjab, of the total beneficiaries, the maximum number i.e. about 35 per cent were in the income group of up to Rs. one lakh before redemption of debt while their percentage decreased to about 31 per cent after redemption. While in the income group of Rs. 1-2 lakh, the percentage of households decreased from about 21 per cent before redemption to about 18 per cent after redemption. Like-wise in the income group of Rs. 2-4 lakh also, slight decline in the percentage of beneficiaries was observed after debt redemption. On the other hand, in the income group of more than Rs. 4 lakh, there was increase in the percentage of beneficiaries from about 23 per cent to 30 per cent after redemption of debt in case of Punjab farmers.

In Uttar Pradesh, out of total beneficiaries, about 39 per cent were in the income group of up to Rs. one lakh before redemption of debt and their percentage decreased to about 23 per cent after debt redemption showing huge decline. However, in the income group of Rs. 1-2 lakh, the percentage of households increased from about 32 per cent before redemption to about 37 per cent after redemption. Like-wise in income group of Rs. 2-4 lakh also, the percentage of beneficiaries increased from about 22 per cent to about 27 per cent. In the income group of more than Rs. 4 lakh, the increase in the percentage of households after redemption of debt was from about 8 per cent to about 13 per cent in case of Uttar Pradesh farmers.

Thus, it is quite evident that farmer's income increased after redemption of debt in Punjab and Uttar Pradesh. However, it's not just because of debt waiver but it may be due to some other associated factors also.

Table 3.2: Impact of farm debt waiver scheme on the distribution of beneficiary annual household income, India

(Per cent)

Income (Rs)	Punjab			Uttar Pradesh		
	Before redemption	After redemption	Change	Before redemption	After redemption	Change
Up to one lakh	34.44	31.11	-3.33	38.89	23.33	-15.56
1 ó 2 lakh	21.11	17.78	-3.33	31.67	36.67	5.00
2-4 lakh	21.67	21.11	-0.56	21.67	27.22	5.55
More than 4 lakh	22.78	30.00	7.22	7.78	12.78	5.00
Average annual income	339686	395404	16.40*	180556	218056	20.77*

BR- Before redemption, AR- After redemption and * Per cent increase

3.3 Operational Holding

The change in operational holdings for Punjab and Uttar Pradesh after the redemption of debt has been depicted in Table 3.3. The increase in operational holding of the beneficiary farmers was lower in Punjab (2.3%) as compared to Uttar Pradesh (2.42%) after redemption of debt. In Punjab, before redemption of debt the operational holding size was 6.1 acres per farm which increased to 6.24 acres per farm after the redemption of debt. Thus, there was only 2.3 per cent increase in the operational holding after the redemption of debt on an average but there was slight decline i.e. 1.32 per cent in owned land and 4.44 per cent increase in leased-in land.

In Uttar Pradesh, the operational holding of all farmers before the redemption of debt was estimated at 2.89 acres per farm which had increased to 2.96 acres per farm after the redemption of debt. Thus, there was 2.42 per cent increase in the operational holding after the redemption of debt on an average. While the total land owned per farm was reported as 1.73 acres before redemption which had continued as such after the redemption of debt. Therefore, there was not any change in the owned area on all the farms. The leased-in land per farm was estimated at 1.29 acres before redemption of debt which remained as such after the redemption of debt too. In uncultivated land, there was change by (-) 54.55 per cent after redemption.

Thus, there was no major change in the size of operational holding after redemption of credit on the selected farms in Punjab and Uttar Pradesh.

Table 3.3: Impact of farm debt waiver scheme on operational holding of beneficiary households, India

(Acres/farm)

S No	Type of Land	Irrigated			Un-irrigated			Overall		
		BR	AR	PC	BR	AR	PC	BR	AR	PC
Punjab										
1	Total owned land	2.28	2.25	(-) 1.32	-	-	-	2.28	2.25	(-) 1.32
2	Leased-in	3.83	4.00	4.44	-	-	-	3.83	4.00	4.44
3	Leased -out	0.01	0.01	0.00	-	-	-	0.01	0.01	0.00
4	Uncultivated land				-	-	-			
5	Total operational land (1+2-3-4)	6.10	6.24	2.30	-	-	-	6.10	6.24	2.30
Uttar Pradesh										
1	Total owned land	1.73	1.73	0.00	--	--	--	1.73	1.73	0.00
2	Leased-in	1.29	1.29	0.00	--	--	--	1.29	1.29	0.00
3	Leased -out	--	--	--	--	--	--	--	--	--
4	Uncultivated land	0.19	0.07	(-) 63.16	0.11	0.05	(-) 54.55	0.13	0.06	(-) 53.85
5	Total operational land (1+2-3-4)	2.83	2.95	4.24	--	--	--	2.89	2.96	2.42

BR- Before redemption, AR- After redemption and PC: Percent Change

3.4 Capital Investment

In order to work-out present value of the capital investment made by respondent farmers on farm-machinery, implements, farm building and irrigation infrastructure, they were asked to take into account depreciation of different assets while divulging details during data collection. A perusal of Table 3.4 reveals that the increase in capital investment was found to be higher for Uttar Pradesh (6.29%) as compared to Punjab (0.32%) after debt redemption.

Table 3.4: Impact of farm debt waiver scheme on capital investment of beneficiary households, India

Type of machine	Before redemption		After redemption		Per cent Change	
	No./farm	Present Value (Rs./farm)	No./farm	Present Value (Rs./farm)		
Punjab						
1. Farm machinery and Implement						
Tractor	0.42	90084	0.42	83894	0.00	-6.87
Trolley	0.22	7250	0.22	6650	0.00	-8.28
Disc harrow	0.08	831	0.08	828	0.00	-0.36
Cultivator	0.36	2306	0.36	2144	0.00	-7.03
Rotavator	0.04	4100	0.04	4117	0.00	0.41
Seed-drill	0.06	516	0.06	398	0.00	-22.87
Generator	0.02	972	0.02	972	0.00	0.00
Spray pump	0.44	729	0.44	695	0.00	-4.66
Potato planter	0.02	333	0.03	1445	50.00	333.93
Potato digger	0.01	333	0.01	333	0.00	0.00
Ridger	0.01	28	0.01	28	0.00	0.00
Thresher	0.01	500	0.02	773	100.00	54.60
Laser land leveler	0.01	1667	0.01	1667	0.00	0.00
Happy seeder	0.01	555	0.01	555	0.00	0.00
Mulcher	0.01	278	0.01	572	0.00	105.76
Others (Small tools etc.)	6.37	976	6.37	932	0.00	-4.51
2. Farm Buildings						
Implements/storage shed	0.06	1214	0.07	1830	16.67	50.74
Cattle shed	0.38	3659	0.38	3494	0.00	-4.51
3. Irrigation Structure						
Electric motor	0.26	3036	0.26	2775	0.00	-8.60
Diesel engine	0.21	1096	0.21	1002	0.00	-8.58

Submersible pump	0.32	5222	0.32	5071	0.00	-2.89
Total	9.32	125685	9.35	120175	0.32	-4.38
Uttar Pradesh						
1. Farm machinery and Implements						
Tractor	0.08	16,611	0.07	14583	(-) 12.50	(-) 12.21
Trolley	0.08	3317	0.07	2756	(-) 12.50	(-) 16.91
Harrow	0.04	550	0.04	883	0	60.55
Cultivator	0.06	847	0.05	622	(-) 16.67	(-) 26.56
Rotavator	0.01	83	0.01	214	0	157.83
Seed drill	0	0	0	0	0	0
Generator	0	0	0	0	0	0
Spray pump	0	0	0	0	0	0
Potato planter	0	0	0	0	0	0
Thresher/Chaff cutter	0.10	564	0.10	647	0	14.72
Small tools	4.99	814	5.07	900	1.60	10.57
Other (specify)	0	0	0	0	0	0
2. Farm Buildings						
Implements/storage shed	0.01	56	0.01	56	0	0
Cattle shed	0.58	27163	0.91	36402	56.90	34.01
other (specify)	0	0	0	0	0	0
3. Irrigation Structure						
Electric motor	0.08	2158	0.07	1917	(-) 12.50	(-) 11.17
Diesel Engine	0.17	3699	0.19	4182	11.76	13.06
Submersible pump	0	0	0	0	0	0
Drip System	0	0	0	0	0	0
other (specify)	0	0	0	0	0	0
Total	6.20	55862	6.59	63162	6.29	13.07

In case of Punjab farm households, the numbers of farm machinery and implements, farm buildings and irrigation structures were estimated at 9.32 per farm before the redemption of debt, but the same had changed to 9.35 per farm after redemption of debt. While the present value of these assets had declined from Rs. 125685 before redemption period of debt to Rs. 120175 after redemption period of debt showing a percentage change by 4.38 per cent mainly due to the depreciation in their value. Hence, after redemption of debt under Farm Debt Waiver Scheme in Punjab, there was no significant change in ownership of different farm assets owned by the sampled households, however, the value of capital invested declined due to usage, wear and tear.

For Uttar Pradesh, the numbers of farm machinery and implements, farm buildings and irrigation structures were estimated at 6.20 per farm before the redemption of debt, but the same had changed to 6.59 per farm after redemption of debt. While the value of these assets had increased from Rs. 55862 before redemption period of debt to Rs. 63162 after redemption period of debt showing a percentage change by 13.07 percent on all farms. This evidently confirms that after redemption of debts the capital investments on implements like harrow, rotavator, thresher/chaff cutter and small tools as well as on cattle sheds and on irrigation structure particularly diesel engine had increased on all farms due to implementation of farm debt waiver scheme in Uttar Pradesh. On the other hand, the capital investments particularly on tractors, trolleys, cultivators and electric motors had decreased i.e. 12.21 per cent on tractors, 16.91 per cent on trolleys, 26.56 per cent on cultivators and 11.17 percent on electric motors after the redemption of debts on all farms in Uttar Pradesh. Therefore, it was found that the redemption of debt under the Farm Debt Waiver Scheme in Uttar Pradesh had not been effective on changing the ownership of machinery like; tractors and electric motors as well as on heavy implements like trolleys and cultivators on all the sample farms on an average in the study area.

3.5 Livestock Inventory

The change in livestock inventory for Punjab and Uttar Pradesh after the redemption of debt has been depicted in Table 3.5. In case of Punjab farms, the livestock population was reported as 2.41 per farm before redemption which increased to 3.07 per farm after redemption of debt showing an increase of about 27 per cent and the present value increased from Rs.59448 to Rs.78429 per farm and it was about 32 per cent after redemption. The increase in ownership of female crossbred cattle in Punjab was about 22 per cent while in case of buffalo it was nearly 39 per cent. However, there was slight (3.37%) decline in the investment on female indigenous cattle. Also, slight increase in investment on male crossbred cattle and adult male

buffalo was observed on the sample farms. Hence, after redemption of debt there was slight increase in the investment on adult female buffaloes and female crossbred cattle in case of Punjab farms, which can be seen as positive impact on livestock investment pattern.

In case of Uttar Pradesh, total number of livestock was reported to be 3.28 per farm before redemption of debt which increased to 3.83 per farm after redemption of debt and this increase was about 17 per cent. The present value of the livestock inventory increased from Rs. 104317 to Rs. 139966 per farm and in relative terms, it was about 34 per cent after redemption of debt. The increase in ownership of female indigenous cattle in Uttar Pradesh was 11.40 per cent while in case of female crossbred cattle, it was 60.27 per cent and for buffalo it was 23 per cent. Also, there was slight increase in the number and investment on male indigenous cattle, male crossbred cattle and adult male buffalo on the selected farms in Uttar Pradesh. Hence, after redemption of debt in Uttar Pradesh, there was higher increase in the investment on female crossbred cattle as compared to buffalo and female indigenous cattle. It shows higher investment pattern on livestock inventory on sample farms in Uttar Pradesh after redemption of debt.

Thus, there was clear impact of Farm Debt Waiver Scheme on higher investment on female crossbred cattle and buffaloes in the study area in both Punjab and Uttar Pradesh.

Table 3.5: Impact of farm debt waiver scheme on livestock inventory of beneficiary households, India

Livestock	Before redemption		After redemption		Per cent change	
	No./farm	Present Value (Rs./farm)	No./farm	Present Value (Rs./farm)		
Punjab						
1. Indigenous Cattle						
Adult female	0.29	4806	0.28	4644	-3.45	-3.37
Adult male	0.03	561	0.03	394	0.00	-29.77
Young stock	0.05	103	0.03	28	-40.00	-72.82
2. Crossbred Cattle						
Adult female	0.48	11767	0.53	14344	10.42	21.90
Adult male	0.02	53	0.03	92	50.00	73.58
Young stock	0.14	375	0.22	470	57.14	25.33
3. Buffalo						
Adult female	1.05	40333	1.37	55872	30.48	38.53
Adult male	0.03	244	0.04	694	33.33	184.43
Young stock	0.32	1206	0.54	1891	68.75	56.80
Total	2.41	59448	3.07	78429	27.39	31.93
Uttar Pradesh						
1. Indigenous Cattle						
Adult Female	0.17	2668	0.18	2972	6.45	11.40
Adult Male	0.04	363	0.05	471	28.57	29.84
Young Stock	0.06	58	0.07	78	18.18	33.03
2. Crossbred Cattle						
Adult Female	1.24	31842	1.66	51034	33.63	60.27
Adult Male	0.03	142	0.04	241	60.00	70.10
Young Stock	0.04	32	0.07	73	71.43	123.99
3. Buffalo						
Adult Female	1.53	68292	1.55	84001	1.45	23.00
Adult Male	0.02	80	0.03	137	66.67	70.96
Young Stock	0.12	90	0.15	139	22.73	54.58
4. Others						
Adult Female	0.03	750	0.03	820	0.00	9.38
Adult Male		0				
Young Stock		0				
Total	3.28	104317	3.83	139966	16.95	34.17

3.6 Cropping Pattern

Table 3.6 reveals the impact of farm debt waiver scheme on cropping pattern of beneficiary households. In Punjab, paddy and wheat were the major *kharif* and *rabi* crops in the study area. The gross cropped area per farm was 12.28 acres per farm before the redemption of debt while after redemption of debt the gross cropped area per farm slightly increased to 12.50 acres per farm showing a change by 1.79 per cent. The proportionate area under paddy was about 38 per cent of gross cropped area (GCA) before and after redemption of debt while for wheat it was nearly 42 per cent. Other crops grown on the sample farms were; maize, cotton, potato and fodder crops. Also, there was no major change in the cropping intensity on the selected farms showing that after redemption of debt, there was no major shift in area under crops on the sample farms in Punjab.

In Uttar Pradesh, the gross cropped area per farm on all farms together accounted for 5.78 acres per farm before the redemption of debt. While after redemption of debt, the gross cropped area per farm had slightly increased to 5.92 acres per farm showing a change by 2.42 per cent. The crop coverage during *kharif* season indicates that the major area sown was under paddy and sugarcane and the minor area was covered under bajra and sorghum crops. While during *rabi* season, the major area was covered under wheat and minor area was covered under mustard, vegetables and berseem on all the sample farms. Regarding coverage during the *kharif* season, before and after redemption of debt, it was found that about 27 per cent of GCA was cropped under paddy and about 11 per cent under sugarcane followed by some minor area under bajra and sorghum. Thus, there was no major change in the area under principal *kharif* crops after redemption period of debt except some minor crops. While during *rabi* season, wheat was cultivated on nearly 36 to 37 per cent of GCA on sample farms, after and before redemption of debt, and in case of other crops such as; rapeseed-mustard showed slight change while vegetables and berseem didn't show any change in area under cultivation. Thus, on cropping pattern there was not any effect of the Farm Debt Waiver Scheme in the study area both in Punjab and Uttar Pradesh.

Table 3.6: Impact of farm debt waiver scheme on cropping pattern of beneficiary households, India

(Per cent)

Season/crop	Punjab			Uttar Pradesh		
	BR	AR	Change	BR	AR	Change
A. Kharif season						
Paddy	38.27	38.32	0.05	27.68	27.03	-0.65
Maize	8.39	8.24	-0.15	-	-	-
Bajra	-	-		7.09	8.11	1.02
Cotton	0.16	0.16	0.00	-	-	-
Sugarcane	-	-	-	11.25	10.81	-0.44
Kharif fodder (Bajra/ sorghum)	2.85	2.80	-0.05	3.98	4.05	0.07
Others (Eucalyptus etc.)	0.00	0.40	0.40	-	-	-
Kharif total	49.67	49.92	0.25	50.00	50.00	0.00
B. Rabi season						
Wheat	42.43	42.32	-0.11	36.68	35.81	-0.87
Rapeseed & mustard	-	-	-	8.13	9.12	0.99
Vegetables	-	-	-	1.04	1.01	-0.03
Rabi fodder (Barseem)	2.77	2.64	-0.13	1.90	1.86	-0.04
Potato	4.48	4.64	0.16	-	-	-
Others (Eucalyptus etc.)	0.00	0.32	0.32	-	-	-
Rabi total	49.67	49.92	0.25	47.75	47.80	0.05
C. Zaid season						
Potato (Late sown)	0.33	0.16	-0.17	-	-	-
Others	0.33	0.00	-0.33	2.25	2.20	-0.05
Gross cropped area (acres)	100.00 (12.28)	100.00 (12.50)	- (1.79)*	100.00 (5.78)	100.00 (5.92)	- (2.42)*
Cropping intensity (%)	201.31	200.32	-0.99	200.00	200.00	0.00

BR- Before redemption, AR- After redemption and * Per cent Change

3.7 Operational Cost of Cultivation

The change in operational cost of cultivation for Punjab and Uttar Pradesh for different crops after the redemption of debt has been depicted in Table 3.7. In Punjab, the cost of cultivation for paddy per acre was Rs. 14384 before the redemption of debt which increased to Rs. 17032 per acre after redemption of debt showing a change by about 18 per cent. For maize and cotton it increased by about 4 and 10 per cent, respectively. During *rabi* season, for wheat crop, the cost of cultivation per acre increased by about 16 per cent while that of berseem by 5 per cent and potato by about 9 per cent after redemption of debt. Though increase in operational cost of cultivation can be attributed to increase in input prices.

In Uttar Pradesh, for paddy, the cost of cultivation per acre showed an increase of about 17 per cent after redemption of debt. For bajra it had increased by 11.52 per cent, sugarcane by 3.62 per cent and sorghum by 12.58 percent. While during *rabi* season for wheat, the cost of cultivation per acre had increased by 10.33 per cent, mustard by 38.61 per cent, vegetables by 8.88 per cent and berseem tremendously by 29.95 per cent.

Thus, the operational cost of cultivation of all the crops cultivated on selected farms in both Punjab and Uttar Pradesh, increased owing to rise in input prices such as seed, fertilizer, human labour etc.

Table 3.7: Impact of farm debt waiver scheme on operational cost of cultivation of beneficiary households, India

(Rs./Acre)

Season/crop	Punjab			Uttar Pradesh		
	BR	AR	PC	BR	AR	PC
A. Kharif season						
Paddy	14384	17032	18.41	13846	16250	17.36
Maize	8222	8582	4.38	-	-	-
Bajra	-	-	-	8,056	8,984	11.52
Cotton	8600	9460	10.00	-	-	-
Sugarcane	--	-	-	33,475	34,686	3.62
<i>Kharif</i> fodder (Bajra/ sorghum)	4517	4888	8.21	4,267	4,804	12.58
Others (Eucalyptus etc.)	0.00	1171	NC	-	-	-
B. Rabi season						
Wheat	9204	10668	15.91	8134	8974	10.33
Rapeseed & mustard	-	-	-	6,065	8,411	38.61
Vegetables	-	-	-	16,640	18,117	8.88
<i>Rabi</i> fodder (Barseem)	6113	6441	5.37	3,683	4,786	29.95
Potato	14964	16332	9.14	-	-	-
Others (Eucalyptus etc.)	1128	1228	8.87	-	-	-

BR- Before redemption, AR- After redemption and PC: Percent Change

3.8 Disposal Pattern

The change in disposal pattern after the redemption of debt for Punjab and Uttar Pradesh has been depicted in Table 3.8. In case of Punjab farmers, as there is assured marketing of paddy and wheat in the state, the government agencies are purchasing these crops at minimum support price (MSP) from the farmers in the state. Therefore, entire quantity of paddy and wheat was sold to the government agencies. The increase in price was due to the increase in MSP for these crops. The highest increase in marketed surplus as well as price was observed for potato crop. Cotton, maize and potato were sold to the private traders. The increase in price for maize was only about 2 per cent after debt redemption.

In Uttar Pradesh, for paddy, the percentage change after the redemption of debt in quantity of paddy sold to Govt. agencies was by 9.32 per cent with change in price received by farmers by 9.93 per cent. In case of quantity sold to private traders, increase was by 8.60 per cent while change in price was 5.73 per cent. The changes in the quantity of wheat sold to Govt. agencies after debt redemption was 6.62 per cent while in prices it was by 13.77 percent and similarly, the quantity sold to traders increased by 8.18 percent while the prices by 6.12 percent. However, in Uttar Pradesh, selected farmers received higher price for paddy and wheat sold through private traders as compared to Govt. agencies

Therefore, it is quite clear that there was considerable increase in the disposal pattern of most of the crops especially paddy, wheat and potato on sample farms after redemption of debt both in Punjab and Uttar Pradesh.

Table 3.8: Impact of farm debt waiver scheme on disposal pattern of beneficiary households, India

(Quantity in Qtls/farm)

(Price in Rs/Qtl)

Crop	Total qty. sold		To whom and quantity sold in quintals							
			Govt. Agencies				Pvt. Trader/ Commission agent			
			Qty.		Price		Qty.		Price	
			Punjab	Uttar Pradesh	Punjab	Uttar Pradesh	Punjab	Uttar Pradesh	Punjab	Uttar Pradesh
Before redemption										
Paddy	136.02	37.67	136.02	23.84	1510	1,480	-	13.83	-	1,610
Wheat	78.55	21.69	78.55	35.33	1625	1,525	-	13.66	-	1,635
Cotton	0.15	-	-	-	-	-	0.15	-	4800	-
Maize	11.98	-	-	-	-	-	11.98	-	1206	-
Potato	34.61	-	-	-	-	-	34.61	-	415	-
After redemption										
Paddy	132.54	43.17	132.54	25.59	1770	1,550	-	17.68	-	1,660
Wheat	82.31	37.37	82.31	23.68	1840	1,735	-	13.65	-	1,760
Cotton	0.13	-	-	-	-	-	0.13	-	5000	-
Maize	12.17	-	-	-	-	-	12.17	-	1223	-
Potato	37.22	-	-	-	-	-	37.22	-	705	-
Percent change										
Paddy	-2.56	14.6	-2.56	9.32	17.22	9.93	-	8.60	-	5.73
Wheat	4.79	5.77	4.79	6.62	13.23	13.77	-	8.18	-	6.12
Cotton	-13.33	-	-	-	-	-	-13.33	-	4.17	-
Maize	1.59	-	-	-	-	-	1.59	-	1.41	-
Potato	7.54	-	-	-	-	-	7.54	-	69.88	-

3.9 Household Expenditure Pattern

The increase in household expenditure was found to be higher for Uttar Pradesh (11.65%) as compared to Punjab (6.16%) after the redemption of debt (Table 3.9). In Punjab, the total domestic expenditure per household per annum was Rs. 101188 before redemption of debt which increased to Rs. 107426 per household per annum after the redemption of debt, increasing by about 6 per cent. Grocery was the major item of domestic expenditure on which Rs. 41720 per household per annum was spent before the redemption of debt which increased to Rs. 46333 per household per annum after the redemption of debt, an increase of about 11 percent. The other major items of domestic expenditure were; health care, electricity bill, conveyance fuel and education and the expenses on these changed by about (-) 20 per cent, 4 per cent, 6 per cent and 7 per cent, respectively after the redemption of debt.

In Uttar Pradesh, the total domestic expenditure per household per annum was Rs.35022 before redemption of debt. It has increased to Rs. 39103 per household per annum after the redemption of debt. Therefore, there has been an increase of 11.65 per cent after the redemption of debt on all farms on an average. The item-wise analysis on domestic expenditure on all farms indicate that grocery was the major item of domestic expenditure on which Rs. 8564 per household per annum was incurred before the redemption of debt which had increased to Rs. 10510 per household per annum after the redemption of debt. Thus, there was an increase of 22.72 per cent on all farms after the redemption of debt. The other major items of domestic expenditure were; health care, education, electricity bill and payment of loans etc. The relative changes on healthcare was by 18.82 per cent, on electricity bill by 39.51 per cent and on payment of loans etc. there was a change by (-) 89.13 per cent on all the farms after the redemption of debt.

Thus in both Punjab and Uttar Pradesh, after loan redemption there has been increase in household expenditure for beneficiary farmers majorly on; grocery items, education, health care and electricity/ phone bills. Although this change may be due to increase in prices of grocery items, education fee and healthcare facilities also.

Table 3.9: Impact of farm debt waiver scheme on household expenditure pattern of beneficiary farmers, India

(Rs/farm/annum)

Particular	Before redemption	After redemption	Percent change
Punjab			
Grocery items	41720	46333	11.06
Durable items	1257	1603	27.53
Health care	11848	9427	-20.43
Education (<i>fees/books/uniform, IELTS coaching others</i>)	9607	10300	7.21
Entertainment (<i>cable/Dish/internet charges etc.</i>)	2657	2900	9.15
Electricity bill	11530	11957	3.70
Phone bill	3280	3347	2.04
Conveyance fuel	10013	10613	5.99
Social ceremonies	1587	1837	15.75
Any insurance payment (life/car/home etc)	107	0	-100.00
House construction/Maintenance	1676	2533	51.13
Legal issues	33	73	121.21
Others	5873	6503	10.73
Total Domestic Expenditure	101188	107426	6.16
Uttar Pradesh			
Grocery items	8564	10510	22.72
Durable items	2960	3817	28.95
Health care	4635	4559	1.64
Education (<i>fees/books/uniform, IELTS coaching others</i>)	4410	5240	18.82
Entertainment (<i>cable/Dish/internet charges etc.</i>)	1129	1234	9.30
Electricity bill	3022	4514	39.51
Phone bill	1487	1700	14.32
Conveyance fuel	1065	1755	64.79
Intoxicants	307	374	21.82
Social ceremonies	1603	1913	19.34
Any insurance payment (life/car/home etc)	881	657	(-) 25.43
House construction/Maintenance	4027	1997	(-) 50.41
Payment of any installment (debt, home loan, car etc)	5722	622	(-) 89.13
Legal	61	50	(-) 18.03
Others	300	159	(-) 47.00
Total Domestic Expenditure	35022	39103	11.65

3.10 Impact of farm debt waiver scheme on credit structure of beneficiary households

3.10.1 Loan from institutional sources in Punjab:

Institutional loan play a major role in undertaking various crop growing operations by timely purchase of farm inputs by the farmers. Co-operative societies and commercial banks are the major institutional sources of finance which provide loan to the farmers.

A perusal of Table 3.10.1 reveals that in Punjab, per farm crop loan from co-operative societies was Rs.65282 which declined to Rs.38238 per farm after loan redemption and hence there was about 41 per cent significant decline in quantum of crop loan taken by farmers from co-operative societies. On the other hand, in case of commercial banks, the quantum of loan was Rs. 140900 per farm before loan redemption and was estimated at Rs. 137494 after redemption of loan and this decline was only 2.42 per cent. In aggregate, the loan liability of farmers from both co-operative societies and commercial banks was Rs. 206182 before loan redemption and was estimated at Rs. 175732 per farm after redemption of loan.

Table 3.10.1: Impact of farm debt waiver scheme on nature and extent of institutional loans of beneficiary households in Punjab, India

(Rs/farm)		
Name of the agency	Amount borrowed	Outstanding loan amount
Before redemption		
Co-op. Society: Crop loan	65282 (31.66)	63917 (31.21)
Commercial bank:	140900 (68.34)	140900 (68.79)
Total	206182 (100.00)	204817 (100.00)
After redemption		
Co-op. Society: Crop loan	38238 (21.76)	38238 (21.76)
Commercial bank:	137494 (78.24)	137494 (78.24)
Total	175732 (100.00)	175732 (100.00)
Per cent change		
Co-op. Society: Crop loan	-41.43**	-40.18**
Commercial bank:	-2.42 ^{NS}	-2.42 ^{NS}
Total	-14.77**	-14.20**

** Significant at one per cent level of significance

NS=Non-significant

The percentage change in the amount borrowed from co-operative societies was (-) 41.43 percent after redemption of debt and the change in outstanding loan amount was by (-) 40.18

per cent. Similarly, on sample household farms, the change in the amount borrowed as crop loan from commercial banks was by (-) 2.42 per cent and the change in the outstanding loan amount was also (-) 2.42 per cent per farm after redemption of debt. The decline in loan liability was about 14.77 per cent of the amount borrowed and nearly 14.20 per cent of outstanding loan amount from both co-operative societies and commercial banks and this decline in loan liability was also significant. Thus, major benefit of crop loan waiver scheme in Punjab was availed by beneficiary farmers from co-operative societies being major source followed by commercial banks.

3.10.2 Loan from non-institutional sources in Punjab:

Non-institutional sources of finance play an important role in providing loan to the farmers especially for input purchase and consumption purposes. Commission agents/ arhtias are the most common and reliable non-institutional source of finance and farmers rely on them for getting loan even during odd hours also.

Table 3.10.2: Impact of farm debt waiver scheme on nature and extent of non-institutional loans of beneficiary households in Punjab, India

(Rs/Farm)		
Name of the agency	Amount borrowed	Outstanding loan amount
Before redemption		
Commission agent/ Arhtia	51722 (97.08)	51722 (97.08)
Relatives and friends	1556 (2.92)	1556 (2.92)
Total	53278 (100.00)	53278 (100.00)
After redemption		
Commission agent/ Arhtia	39361 (99.02)	39361 (99.02)
Relatives and friends	389 (0.98)	389 (0.98)
Total	39750 (100.00)	39750 (100.00)
Per cent change		
Commission agent	-23.90**	-23.90**
Relatives and friends	-75.00 ^{NS}	-75.00 ^{NS}
Total	-25.39**	-25.39**

Note: Figures in parentheses are percentages to total

** Significant at one per cent level of significance

NS=Non-significant

The loan liability from commission agents/ arhtias was Rs. 51722 per farm household in Punjab before redemption of loan and was worked out to be Rs. 39361 after redemption of

loan and this decline was 23.90 per cent after institutional loan redemption and was also significant. The loan from relatives and friends was reported as meagre amount i.e. Rs. 1556 per farm before redemption by the sampled households and decline was by 75 per cent (Rs.389 per farm). Thus, institutional loan waiver off resulted in significant decline in dependence of sampled households on non-institutional sources viz. commission agents/ arhtias, relatives and friends.

3.10.3 Impact of farm debt waiver scheme on nature and extent of Indebtedness

3.10.3 (a) Nature and extent of indebtedness in Punjab:

The impact of farm debt waiver scheme on nature and extent of indebtedness in Punjab and Uttar Pradesh has been depicted in Table 3.10.3. A perusal of the table reveals that in Punjab, the amount of loan borrowed on sampled farm households declined from Rs. 2.59 lakh per farm to 2.15 lakh with relative decline of about 17 per cent. The proportionate share of institutional sources of finance remained about 80 per cent of the total loan taken while it was about 20 per cent from non-institutional sources. The quantum of institutional loan decline after loan redemption was about 15 per cent while non-institutional loan decline was nearly 25 per cent and both of these were significant. Due to loan waiver of institutional liability, sampled farmers were able to return higher quantum of non-institutional loan also. Thus, loan waiver scheme had resulted in decline of indebtedness on the sampled household farms in Punjab.

3.10.3 (b) Nature and extent of indebtedness in Uttar Pradesh:

The extent of debt waived on all sample farms in Uttar Pradesh as shown in Table 3.10.3 indicates that on an average the amount borrowed from the banking institutions before redemption of debt was reported as Rs. 99778 per farm and the outstanding loan amount was estimated as Rs. 106762 per farm. The borrowing from non-institutional sources was reported to be nil. Thus, the total amount borrowed was estimated as Rs. 99778 per farm and the total outstanding amount was estimated as Rs. 106762 per farm before redemption of debt.

After redemption of debt, the amount borrowed from financial institutions was estimated as Rs. 74558 per farm and the outstanding amount was estimated as Rs. 79777 per farm. The borrowings from non-financial institutions was nil on all the sample farms. Thus, the total amount borrowed was Rs. 74558 per farm and the outstanding amount was Rs. 79777 per farm after redemption of debt on all farms. Therefore, the change in amount borrowed as well as in the amount outstanding declined by 25.28 per cent and it confirms the impact of debt waiver scheme in Uttar Pradesh.

Table 3.10.3: Impact of farm debt waiver scheme on nature and extent of Indebtedness among beneficiary households, India

(Rs/farm)

Name of the agency	Amount borrowed	Outstanding loan amount
Punjab		
Before redemption		
Institutional	206182 (79.47)	204817 (79.36)
Non- Institutional	53278 (20.53)	53278 (20.64)
Total	259460 (100.00)	258095 (100.00)
After redemption		
Institutional	175732 (81.55)	175732 (81.55)
Non- Institutional	39750 (18.45)	39750 (18.45)
Total	215482 (100.00)	215482 (100.00)
Per cent change		
Institutional	-14.77**	-14.20**
Non- Institutional	-25.39**	-25.39**
Total	-16.95**	-16.51**
Uttar Pradesh		
Before redemption		
Institutional	99778 (100.00)	106762 (100.00)
Non- Institutional	--	--
Total	99778 (100.00)	106762 (100.00)
After redemption		
Institutional	74558 (100.00)	79777 (100.00)
Non- Institutional	--	--
Total	74558 (100.00)	79777 (100.00)
Per cent change		
Institutional	- 25.28	- 25.28
Non- Institutional	--	--
Total	- 25.28	-25.28

Note: Figures in parentheses are percentages to total

** Significant at one per cent level of significance NS=Non-significant

3.11: Impact of farm debt waiver scheme on saving pattern of beneficiary households in Punjab

Annual changes in the saving pattern of sampled farm households have been shown in Table 3.11. After crop loan being waived off, selected respondents also started spending towards other day-to-day activities and asset formation. Before redemption of loan, most of the savings were utilized by sampled farm households (81.11%) towards meeting household expenditure but after loan waiver, higher number of respondents repaid their commercial bank loan (17.78%), debt of commission agent (16.67%), purchased agricultural implements (5.00%) and invested in some insurance policy (4.44%). Also, starting of recurring deposit, durable items and milch animals purchase were some of the additional expenses incurred by the respondents after redemption of loan. Thus, loan waiver scheme helped the farmers to diversify their pattern of savings in more rational manner.

Table 3.11: Impact of farm debt waiver scheme on annual change in saving pattern of beneficiary households in Punjab, India

(Percent)			
Means of saving	Before redemption	After redemption	Percent change
Insurance policy	3.33	4.44	1.11
Recurring deposit	0.00	2.22	2.22
Others:			
Consumed in household expenditure	81.11	42.78	-38.33
Purchased agricultural implements, irrigation structure etc.	0.00	5.00	5.00
Purchased land	0.00	0.56	0.56
Repaid commercial banks loan	2.78	17.78	15.00
Repaid debt of commission agent	4.44	16.67	12.22
Purchased durable items	0.00	2.22	2.22
Purchased milch animals	0.00	2.22	2.22
Medical treatment	5.56	3.33	-2.22
Social ceremonies	1.67	1.67	0.00
Child education	1.11	1.11	0.00

CHAPTER-IV

CONSTRAINTS, PERCEPTIONS AND SUGGESTIONS REGARDING FARM DEBT WAIVER SCHEMES

The present Chapter deals with the extent of debt waived off on beneficiary sample farms, types of constraints/difficulties confronted in getting the benefits of scheme and the suggestions/perceptions regarding the farm debt waiver scheme implemented in Punjab and Uttar Pradesh. These are discussed in the following paragraphs:

4.1 Economic impact of debt waiver scheme:

The economic impact of debt waiver scheme has been given in Table 4.1.1. A perusal of the table reveals that under debt waiver scheme, sampled household farmers were entitled for waiving off crop loan up to Rs.2.00 lakh while the amount of loan waived off was Rs. 69656 per farm which was about 35 per cent of the entitled amount under the debt waiver scheme. As far as institution-wise debt waive off is concerned, the relative share of co-operative societies loan waiver was 31.83 per cent in total entitlement of loan waived off. Similarly, in case of commercial banks, the loan waiver of the entitled amount was just 3 per cent. Thus, the quantum of loan waiver was nearly one third of the entitled amount with major constituent of the crop loan being advanced by the co-operative societies followed by commercial banks.

Table 4.1.1: Economic impact of debt waiver scheme on beneficiary households in Punjab, India

Particulars	(Rs/farm)
	All farmers
Entitlement	200000 (100.00)
Amount waived off	
Co-operatives	63667 (31.83)
Commercial banks	5989 (3.00)
Total	69656 (34.83)

Note: Figures in parentheses are percentages to total entitlement

4.2 Difficulties/ constraints in getting benefit of loan waiver scheme:

The farmers were also asked about the difficulties/ constraints faced in availing the benefits of loan waiver scheme. A perusal of the Table 4.2.1 reveals that about 92 per cent of the sampled farmers in Punjab lost man days to fulfil the requirements for availing the benefits under loan waiver scheme. Also, 25 per cent respondents reported the scheme to be very time consuming since they have to spend enough time to prepare the documents to get relief under the scheme. The respondent farmers also revealed that they have to incur different type of costs in terms of delayed dairy/ farm related activities while availing benefits of the scheme and it was reported by 5 per cent beneficiaries. So, the farmers in Punjab lost man days to fulfil the requirements for availing scheme benefits, found it to be time consuming/ cumbersome and cost incurring also.

In Uttar Pradesh, 28.88 per cent of the farmers in the study area reported that the debt waiver scheme being cost incurring, 24.44 per cent had told that many man days were lost in getting the benefits of the scheme. Also, 12.77 per cent of the farmers had faced humiliation and 32.77 per cent had expressed different problems and other constraints such as giving bribe etc. while 1.11 per cent of the sampled farmers revealed that getting benefits of scheme was time consuming/ cumbersome. Majorly the farmers in Uttar Pradesh incurred different type of costs in terms of delay in farm/ dairy related activities, lost man days to take benefits of the loan waiver scheme and have to bribe the concerned officials also.

Table 4.2.1: Type of constraints /difficulties confronted in getting the benefits of debt waiver scheme, India

(Percent multiple response)

Particular	Punjab	Uttar Pradesh
Time consuming/ cumbersome	25.00	1.11
Cost incurring	5.00	28.88
Man days lost	92.22	24.44
Humiliation	-	12.77
Others (Giving bribe etc)	-	32.77

4.3 Perceptions and suggestions regarding debt waiver scheme

A perusal of the Table 4.3.1 reveals that in case of beneficiary farmers in Punjab, 36.67 per cent reported that the debt waiver scheme helped in moderate reduction of agrarian distress followed by 30 per cent reported as extreme, 13.89 per cent as low and 3.33 per cent as high. Also, 16.11 per cent reported that there was not at all reduction in agrarian distress. As far as perception about increased farm profitability is concerned, majority of the farmers i.e. 84.44 per cent have said it to be not at all followed by 11.11 per cent as low and 2.22 per cent each as moderate and high. Regarding perception about waiving off loan taken from commission agent/ arhtia, 41.67 per cent said it to be not at all followed by 17.78 per cent as low, 22.22 per cent as moderate, 15 per cent as extreme and 3.33 per cent as high. Due to implementation of debt waiver scheme while, 33.89 per cent reported it to be moderate resulting in decreased indebtedness followed by 23.33 per cent told it as extreme, 22.78 per cent as low, 17.78 per cent as not at all and 2.22 per cent as moderate.

Table 4.3.1: Suggestions/ perceptions of beneficiary farmers regarding the farm debt waiver scheme

Particular	(Per cent)				
	Extreme (5)	High (4)	Moderate (3)	Low (2)	Not at all (1)
Punjab					
Reduction in agrarian distress	30.00	3.33	36.67	13.89	16.11
Increased farm profitability	0.00	2.22	2.22	11.11	84.44
Loans taken from commission agent/arhtia should also be waived off	15.00	3.33	22.22	17.78	41.67
Decreased indebtedness	23.33	2.22	33.89	22.78	17.78
Uttar Pradesh					
Reduction in agrarian distress	0.00	27.22	23.89	12.22	36.67
Increased farm profitability	4.44	35.56	38.33	8.84	12.78
Loans taken from commission agent/ arhtia should also be waived off	1.11	4.44	35.00	16.67	42.78
Decreased indebtedness	6.11	17.78	52.22	18.33	5.56

In case of Uttar Pradesh, the maximum i.e. 36.67 per cent beneficiary farmers had said that there was 'not at all' reduction in agrarian distress, 12.22 per cent had reported it 'low', 23.89 per cent as 'moderate', 27.22 per cent as 'high' and no farmer had reported it 'extreme'. About increased farm profitability, 12.78 per cent revealed it as 'not at all', 8.84 per cent as 'low', the maximum i.e. 38.33 per cent had reported it 'moderate', 35.56 per cent as 'high' and only 4.44 per cent had told it 'extreme'. About loans taken from commission agent/ arhtia should also be waived off, the maximum i.e. 42.78 per cent had said 'not at all', 16.67 per cent reported it 'low', 35.00 per cent as 'moderate', 4.44 per cent as 'high' and only 1.11 per cent had reported it as 'extreme'. About decreased indebtedness, 5.56 per cent beneficiary farmers had reported it as 'not at all', 18.33 per cent as 'low', the maximum i.e. 52.22 per cent reported it 'moderate', 17.78 per cent as 'high' and only 6.11 per cent as 'extreme' in the study area in Uttar Pradesh.

Thus in Punjab, some of the farmers reported about reduction in agrarian distress, decrease in indebtedness due to the implementation of farm debt waiver scheme and suggested waiving off loans taken from commission agent/ arhtias also. On the contrary in Uttar Pradesh, some of the farmers reported increase in farm profitability, reduction in agrarian distress and decrease in indebtedness as a result of farm debt waiver scheme implementation.

CHAPTER-V

MAJOR FINDINGS AND POLICY IMPLICATIONS

The present chapter brings out the major findings of 'Farm Debt Waiver Scheme' in Punjab as well as Uttar Pradesh. The emphasis has been laid on pinpointing the change in the livelihood of the beneficiary farmers due to implementation of the scheme, constraints/problems faced to avail the scheme benefits and suggestions required to improve the scheme. The major findings of the study undertaken have been given under the following heads:

5.1 Impact of loan waiver on beneficiaries' livelihood

- In Punjab, major change in the occupational status of beneficiaries after redemption was observed in case of dairy as secondary occupation, since more farmers started rearing dairy animals by adopting it as an enterprise. On the contrary in Uttar Pradesh, slight change was observed in agricultural labour as secondary occupation adopted by beneficiaries followed by a meager change in adoption of dairy enterprise.
- Beneficiary farmer's income increased after redemption of debt in Punjab and Uttar Pradesh. However, it's not just because of debt waiver but it may be due to some other associated factors also.
- There was no major change in the size of operational holding on the selected farms in Punjab and Uttar Pradesh after redemption of loan showing no impact of the scheme on land holding status of beneficiaries.
- After redemption of debt under 'Farm Debt Waiver Scheme' in Punjab, there was no major change in ownership of different farm assets owned by the sampled households. Similarly, in Uttar Pradesh also it was found that the redemption of debt had not been effective in changing the ownership of assets owned by the farmers.
- There was clear impact of 'Farm Debt Waiver Scheme' in terms of higher investment made by beneficiaries on female crossbred cattle and buffaloes in the study area in both Punjab and Uttar Pradesh.
- There was no change in the cropping pattern on sample beneficiary farms after loan redemption and hence there was no effect of 'Farm Debt Waiver Scheme' on type of crops grown in Punjab and Uttar Pradesh.

- The operational cost of cultivation of all the crops cultivated on selected farms in both Punjab and Uttar Pradesh, increased owing to rise in input prices such as seed, fertilizer, human labour etc. rather than benefits under debt waiver scheme.
- There was considerable increase in the disposal pattern of most of the crops; especially paddy, wheat and potato on sample farms after redemption of debt in Punjab and Uttar Pradesh, however, it may be due to innovative/ changing cultivation practices adopted by beneficiary farmers.
- In both Punjab and Uttar Pradesh, there has been increase in household expenditure by beneficiary farmers majorly on; grocery items, education, health care and electricity/ phone bills. Although, this change may be due to increase in prices of grocery items, education fee and healthcare facilities also.
- Major benefit of crop loan waiver scheme in Punjab was availed by beneficiary farmers from co-operative societies being major source of institutional finance followed by commercial banks. Institutional loan waive off resulted in significant decline in dependence of sampled households on non-institutional sources viz. commission agents/ arhtias, relatives and friends.
- Due to loan waiver of institutional liability, sampled farmers in Punjab were able to return higher quantum of non-institutional loan also. Thus, loan waiver scheme had resulted in decline of indebtedness on the sampled household farms in Punjab.
- In Uttar Pradesh also, there was change in amount borrowed as well as decline in the amount outstanding for the selected beneficiaries which confirms the impact of debt waiver scheme in Uttar Pradesh.
- After loan waiver, some of the respondents repaid their commercial bank loan, debt of commission agent, purchased agricultural implements and invested in some insurance policy. Thus, loan waiver scheme helped the farmers to diversify their pattern of savings in more rational manner.

5.2 Constraints/ problems in availing scheme benefits

- In Punjab, majority of the farmers reported having lost man days in availing benefits of the scheme as they have to spend time in procuring the requisite documents to fulfill the scheme requirements.
- Some of the farmers in Punjab also reported the entire procedure to avail debt waiver being time consuming and cumbersome which needs improvement by making the scheme more lucrative.

- Majorly the farmers in Uttar Pradesh have to spend time to avail scheme benefits and thus incurred different type of costs in terms of delayed farm/ dairy related activities. Farmers also lost man days to take benefits of the loan waiver scheme and have to bribe the concerned officials also.

5.3 Perceptions/ suggestions regarding the scheme

- In Punjab, some of the farmers reported about reduction in agrarian distress, decrease in indebtedness due to the implementation of farm debt waiver scheme.
- Some of the farmers in both the states also suggested waiving off loans taken from commission agent/ arhtias also. Although it doesn't come in the preview of farm debt waiver scheme.
- On the contrary in Uttar Pradesh, some of the farmers reported increase in farm profitability, reduction in agrarian distress and decrease in indebtedness as a result of farm debt waiver scheme implementation.

5.4: Policy Implications

Based on the findings, following Policy Implications are given for Punjab & Uttar Pradesh:

- It has been observed that major benefit of loan waiver scheme was availed by those farmers who took loan from co-operative societies, which are leading public sector institutions giving crop loan to the farmers. However, some meagre amount being waived off was of loans given by commercial banks. Thus, there is a need to expand the quantum of 'Farm Loan Waiver Scheme' to give relief to eligible farmers.
- Debt waive off had resulted in slight decline in the dependence of farmers on non-institutional sources of finance in Punjab. It should be viewed as positive impact of the debt waiver scheme in the sense that interest liability of farmers to non-institutional sources declined and they took more loan from institutional sources with lower interest rate. Thus, there is a need to further strengthen the debt waiver scheme for the farmers benefit.
- The amount of loan waived off for the selected beneficiaries in Punjab was Rs. 69656 per farm which was about 35 per cent of the entitled amount (Rs.2 lakh) under the 'Farm Debt Waiver Scheme'. But the most important implication is that since agriculture is in distress and some relief measures provided under the scheme to the farmers can somehow rejuvenate this sector. There is a need to start another debt waiver scheme to include higher number of farmers with no cap on holding size.

- Farmers also reported decreased indebtedness after loan waiver off since the amount of loan borrowed per farm declined from Rs. 2.59 lakh before redemption to 2.15 lakh after redemption in Punjab while corresponding figures in case of Uttar Pradesh for beneficiary households were Rs. 99.78 thousand and Rs. 74.56 thousand, respectively. Thus, with loan waiver there was decline in the indebtedness on the sampled farms in both Punjab and Uttar Pradesh.
- The farmers opined that they lost many man days to fulfil the requirements for availing scheme benefits, found it to be time consuming/ cumbersome and cost incurring also. These constraints/difficulties should be taken care of to make the scheme more lucrative.
- Standard of education among farmers must be elevated for proper awareness about the Government Schemes for their benefits. All the farmers must be benefited under Farm Debt Waiver Scheme with poor resource base. The scheme must be implemented transparently avoiding discrimination with the farmers who repay installments of loan regularly.
- Farmers should be encouraged and assisted to shift from their primary occupation of agriculture to other allied and secondary occupations for increasing their income.
- The subsidies on farm machines particularly; rotavators, power threshers etc. must be increased to benefit the farmers. For increasing farmer's income, they should be facilitated and encouraged to rear crossbred cattle, buffaloes and improved breeds of goats on their farms.
- Farmers must minimize their domestic expenditure, litigations and on social ceremonies. To alleviate indebtedness, farm profitability of farmers must be increased through modern and improved techniques of farming.

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Appendix I: Comments on the draft report

Title of the draft report examined: Impact evaluation of farm debt waiver scheme on farmers livelihood in India

1. **Date of receipt of the Draft report:** 30, May 2020
2. **Date of dispatch of the comments:** 30,May, 2020
3. **Chapter-wise comments:**

Chapter-I:

- Background of the study is very poorly written. Please make a case, why this study is implemented. Initially, you may mention for Indian agriculture experiencing agrarian distress. Mention how many loan waiving schemes were announced. It will be good to provide a brief history of loan waiving. Later you may mention that for this study, Punjab and Uttar Pradesh were selected.
- Review of literature section is very weak. You need to divide review based on the broad objectives of the study. The review should have been done from professional journals. There are only two papers reviewed from EPW; and only one by Sidhu *et al* is evidence based article. Another one is the Perspective and not based on any evidence. A brief write-up at the end of the review of literature on what were the key observations and how your study will add value to the literature.
- I am not sure if sampling is right. There is no non-beneficiaries in the sample. This means there is no control. And, how can you conclude that the changes were due to loan waiving. You should have taken difference-in-difference for sampling as well as for analysis.

Chapter-III:

- Your results are good but need lot of improvement in presenting them. There is no statistical test, nor any analysis to arrive at conclusions. In many instances, the change is so negligible (1% or 2%), which may be due to other factors than loan waiving.

Chapter-V:

- The last chapter repeats some of the previous chapters. In conclusions, you may mention: (1) how loan-waiving affected beneficiaries; (2) what were the major constraints in implementing the schemes; (3) what problems farmers faced to avail the scheme; and (4) how the scheme could have been improved.

5. General comments.

- The report needs lot of editing. I shall appreciate if the report is edited technically as well as professionally.
- I think there is no need to consolidate Punjab and UP report. These can be made two independent reports so that respective states can make use of these.

6. Overall view on acceptability of report

- I am sorry for so many suggestions. I hope you will incorporate the suggestions before submitting the report. Despite lots of limitations, I enjoyed the report and for that I congratulate you and your team.

P.K.Joshi
Hon. Director
(AERC, Delhi)

**Appendix II: Action taken report on the comments of draft report entitled
'Impact evaluation of farm debt waiver scheme on farmers livelihood in India'**

All the comments were taken into consideration while finalizing the report. The most appropriate answer to the comments has been incorporated, wherever necessary, in the relevant chapters. The point-wise detail of the answers to various queries is as follows:

Chapter-I:

As per reviewer's comments, background of the study undertaken has been revised by adding brief history of loan waiving in India and developing a case thereby selecting Punjab and Uttar Pradesh for the study. Table regarding the status of Farm Loan Waiver has been provided for Uttar Pradesh but similar information was not available for Punjab as the scheme is still continuing in Punjab. Review of literature has been updated by adding more study related articles and bifurcated according to the broad objectives of the study.

As far as sampling is concerned, the study has been undertaken by adopting Before and After approach rather than With and Without approach i.e. why there were no non-beneficiaries in the sample selected. Sincere efforts have been put forth by the team members to analyse the collected data to bring out good output and fulfill the objectives of the study.

Chapter-III:

The entire chapter has been edited according to the suggestions of the learned reviewer.

Chapter-V:

The chapter has been revised as per suggestions of the learned reviewer.

Separate reports have also been prepared for Punjab and Uttar Pradesh as per reviewer's comment. As desired, report has been edited and discussion strengthened wherever required.

J.M.Singh
Director
(AERC, Ludhiana)