



## **River-Linking, Flipside to Loan Waiver**

**Swamy H.M, Sanjay\*\*, Basavaraju G.\***

Department of Agricultural Economics, Choudhary Charan Singh Haryana Agricultural University, Hisar-125004

Corresponding authors's Email ID: [sanjaybhyan@gmail.com](mailto:sanjaybhyan@gmail.com)

\*Regional Horticulture Research and Extension Centre

CHS, Campus,

GKVK, Bangalore-560065

### **ABSTRACT**

*Agriculture occupies a key position in Indian economy. Despite the workforce involved in agriculture sector, it contributes around 16 per cent to the national GDP. Agricultural sector has not reached its full potential primarily due to insufficient irrigation, ongoing land fragmentation, farmer's indebtedness etc. On the other hand population continues increasing in geometric progression, resulting to more demand for food which must be satisfied with higher yields and better crop security. Both of which require adequate irrigation and for which Indian agriculturists primarily rely on monsoon and depleting ground water resources. River interlinking is claimed to be a possible means of assured and better irrigation for more farmers, and thus better food security to growing population. Agriculture here is highly vulnerable to floods and droughts triggered by failure of monsoon. Lots of funds being allocated to Disaster Relief Funds. On the other hand under the loan waiver scheme is becoming a bandwagon in recent days. But the fact is that they do not take into account the loans farmers have taken from the informal sector, also no distinction between voluntary and involuntary defaults, so it actually rewards those who have willfully defaulted. In a sense, loan waivers are a story of unfinished reforms in India. Our idea of the review is that instead of investing cores and cores on loan waiving which is not on permanent solution and as relief fund. If they would have invested this amount in river-linking would have created whole net-cultivated area irrigated, saved lives of people and livestock's who died due to natural calamities and prevented converting agricultural land into non-agricultural purpose, avoided migration of rural youth, saved lives of people from committing suicides and solved many climate change issues, thereby it becomes permanent solution for the farming community and nation as a whole.*

**Key Words:** Loan Waiver, River-Linking, SDRF

Received 12.12.2018

Revised 02.01.2019

Accepted 16.01.2019

### **INTRODUCTION**

Agriculture still continues to be the principal source of livelihood for more than 55 percent of the population of the country. Despite of workforce in agriculture sector, contributes only around 15 percent of national GDP. Agricultural sector has not reached its full potential due to small land holdings; over dependency on Monsoon, insufficient irrigation facilities, Floods and droughts, unavailability of cheap credit & insurance etc. On the other hand population of India still continues to increase by about 10 to 15 million people every year. The resulting more demand for food must be satisfied with higher yields and better crop security, both of which require adequate irrigation of about 140 million hectares of net cultivable area. Currently, only 47.6 per cent of it is irrigated and most of it still relies on monsoon. River interlinking is claimed to be a possible means of assured and better irrigation for more farmers, and thus better food security for a growing population. India also relies excessively on groundwater, which accounts for over 50 percent of net irrigated area, about 15 percent of India's food is being produced using rapidly depleting groundwater. India is highly vulnerable to floods and droughts. Out of the total geographical area of 329 million hectares (mha), more than 40 mha is flood prone. On an average annual flood damage in the last 10 years period from 1996 to 2005 was Rs. 4745 crore. About 210 districts of the country have witnessed a drought like-situation, triggered by failure of south-west monsoon and the Allocation of relief funds under SDRF almost doubled from Rs.37001 cores during 2010-15 to Rs. 61,220

crores during 2015-2020. Under the loan waiver scheme so for both state and central government has sanctioned nearly 5 lakh cores from 1990 to 2016. Debt relief programmes fail to provide assistance to landless farmers, who do not have access to bank loans and some other farmers who depend on money-lenders. Loan waiver schemes vitiate the credit culture and make it tougher for banks to continue lending to these segments. This amount if they would have invested in river-linking they would have created additional 55 percent of more irrigated area and avoided floods, droughts, saved millions lives of people and livestock's and solved many climate change issues, thereby it becomes permanent solution for the farming community.

### LITERATURE REVIEW

A large volume of literature is available on the concept of loan waiver, river- linking, farmer's suicides, agricultural credit, natural disaster etc. This study was mainly focusing on how investment in river linking is a better option to tacked farmers distress over loan waiving. Throughout the studies on comparative advantages of loan waiving, river linking and creating reservoirs on farming community being discussed. A brief review of relevant literature is done below.

### METHODOLOGY

The study has been conducted mainly on the basis of literature survey more of secondary information. Various journals, research papers, Annual reports, E-sources and Newspaper articles have been surveyed in making this study.

### RESULTS AND DISCUSSIONS

**Table 1: Deviation between projected demand and actual supply of food commodities in India**

Crop/Group of Crops	Projected Demand (mt) 2020-21	Actual Supply (mt) 2015-16	Deviation
Rice	117	104.32	-12.68
Wheat	98	93.5	-4.5
Maize	22	-	0
Coarse Cereal	38	37.93	-0.07
Cereals	253	230.24	0
Pulses	25	16.47	-8.53
Food grains	277	252.22	-24.78
Oilseeds	71	25.3	-45.7
Sugarcane	312	352.16	40.16
Vegetables	189	-	0
Fruits	124	-	0
Milk	173	-	0
Fish	-	-	0
Meat	5	-	0
Poultry meat	4.3	-	0

Sources: Ministry of Agriculture and Farmers Welfare, Govt. of India

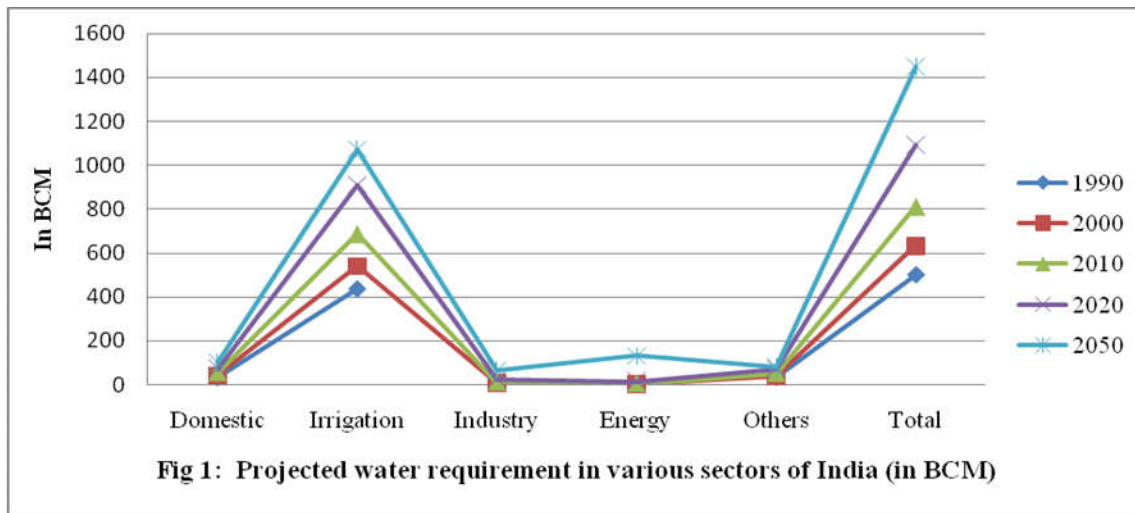
As we all know that more than 80 percent of irrigation water is being utilized by rice, wheat and sugarcane in India as their production and requirement also more as indicated in the Table 1. The deviation between projected demand and supply of rice, wheat, pulses, oil seeds and sugarcane would be -12.68 mt, -4.5 mt, -8.53 mt, -24.78 mt and -45.7 mt respectively. The production has to increase in accordance with the growing population as it is rising at a growth rate of 1.2 % (10-15 million) per year. Besides this, it also meets the raw material requirement of industrial sectors and animal fodder requirement.

**Table 2: Projected water requirement in various sectors of India (in BCM)**

Years	Domestic	Irrigation	Industry	Energy	Others	Total
1990	32	437	-	-	33	502
2000	42	541	8	2	41	634
2010	56	688	12	5	52	813
2020	73	910	23	15	72	1093
2050	102	1072	63	130	80	1447
Total	305	3648	106	152	278	4489
% Share of Total	6.79	81.27	2.36	3.39	6.19	100.00

Source: Water and related statistics, central water commission, ministry of environment statistics, Govt. of India

Table 2 depicts the growing water requirement of various sectors in India. It is clear, that out of total water requirement agriculture alone accounts 81.27 percent which is highest among all sectors followed by domestic sector accounting to 6.79 per cent and then comes the energy, industry sector standing at 2.36 and 3.39 percent respectively. This humongous being the water requirement for agriculture coupled with abnormal rainfall from past three to four years has lead to frequent occurrence of widespread drought and floods. Whatsoever be the situation, the ever-growing demand for food must be satisfied with higher yields and better crop security both of which require adequate and somewhat assured irrigation coverage of about 140 million hectares of land, which is the ultimate irrigation potential of our available water resources. Currently, only 47.6 per cent of net irrigated area i. e. approx. 65 million hectare mostly relies on monsoon. Making the situation worse the water report in India states that about 50 percent of water is being wasted only due to leakages.



Source: Water and related statistics, central water commission, ministry of environment statistics, Govt. of India

In India currently stores only 30 days of rainfall, while developed nations strategically store 900 days' worth of water demand in arid areas river basins and reservoirs. India also relies excessively on groundwater, which accounts for over 50 percent of irrigated area with 20 million tube wells installed (2015). About 15 percent of India's food is being produced using rapidly depleting groundwater.

**Table 3: Rivers interlinking feasibility reports 2013**

Inter-Link Project	Length (Km)	EC (Crores)	NIC (ha)	AEGC (MW)	DIW (MCM)
Krishna-Pennar link	587.2	6599.8	258334	42.5	56
Nagarjunasagar somasila link	393	6320.54	168017	90	124
Pubati Kalisindh Chambal	243.7	6114.5	225992	17	89
Par Tapi NarmadaLink	395	6016	169000	93	91
Godavari Krishna Link	299.3	26289	287305	70	237
Cauvery -Vaigai-Gundar Link	255.6	2673	337717		185
Mahanadi-Godavari Link	827.7	17540.54	363959	70	802
Ken Betwa Link	231.5	1988.74	47000	72	2225
Srisailam Pennar Link	203.6	1580	187372	17	49
Polavarnam-Vijayawada Link	174	1483.91	314718	72	664
Pamba-Achankovil-Vaippar Link	50.7	1397.91	91400	500	150
Damanganga-Pinijal Link	42.5	1278	-	-	44
<b>Total</b>	<b>3703.8</b>	<b>79281.94</b>	<b>2450814</b>	<b>1043.5</b>	<b>4716</b>

NIC= New Irrigation Capacity added, AEGC= Additional Electricity generation potential created, DIC= Drinking & Industrial water capacity added, EC= Estimated cost in the year 2003 or Earlier

Source: National Water Development Agency, Ministry of Water Resources, Govt. of India and Suman Bery, Economic Impact of Interlinking of Rivers Programme

The rivers interlinking feasibility reports 2013, reported the above-mentioned investment needs and potential economic impact. India has a growing population, and large impoverished rural population that relies mostly on monsoon irrigated agriculture. Weather uncertainties and potential climate change induced weather volatilities, raise concerns of social stability. The population of India is expected to grow further at a decelerating pace and stabilize around 1.5 billion by 2050 i.e. another 300 million people are going to be added as compared to the 2011 census. To feed this population we require significantly improved irrigation network than the current state. The average rainfall in India is about 3566 billion cubic metre, of which annual surface water flow in India is estimated at 1,869 billion cubic metre. Of this, for topological and other reasons, only about 690 billion cubic metre of is the available surface water which can be utilised for irrigation, industrial, drinking and ground water replenishment purposes. The remaining amount of water i.e. 1179 BCM which is lost is adequate for irrigating 140 million hectares. This potential can only be realized by utilizing the abundant monsoon water bounty through a well developed irrigation network i.e. by storing it in reservoirs, and using this water through these canals in areas which face water scarcity, occasional inadequate rainfall or are regularly drought affected. Additionally, it would also help in managing flooding of regions to some extent. In terms of capital it would have a large sum of money spent on draught and flood relief programmes i.e. 37,500(2010-15) crores and 4745 crores (1996-2005) respectively. Seeing from another angle we deduce that total amount spent on river inter-linking so far in India accounts to 79281.94 crores which intern created the irrigation potential of 2.46 million hectare. Further it created the additional electricity generation potential of 1043.5 megawatt and backup for 4716 million cubic metre of drinking & industrial water demand. If you see the cost of damage occurred through various problems like droughts, floods and other natural disasters which is close to the cost of river inter-linking, this shows that there is a huge potential in creating irrigation facility and avoiding these kinds of hazards by investing in river inter-linking in India.

**Table 4: Status of loan waivers in India**

State/Centre	Amount (Crores)	Year	SMB (Million)	Total Suicides(FAL)	% Share
Tamil Nadu	7,760	2014	1.70	606	4.81
Karnataka	8,165 +50000	2016	2.20	1,569	12.45
Telangana	17,000	2014	3.60	1,400	11.11
Andra Pradesh	54,000	2014		916	7.27
Uttarpradesh	36,359	2016	9.40	145	1.15
Panjab	30,000	2016	0.87	100	0.79
Maharashtra	30,000	2016	3.10	4,291	34.05
Janata Gov.	10000	1990	-	-	-
UPA Gov.	65000	2008	-	-	-
<b>Total</b>	<b>2,58,279</b>		<b>49.98</b>	<b>12,602</b>	<b>100.00</b>

SMB=No. of small and marginal farmers benefitted, FAL= Farmers and agricultural labourers

Source: Compiled from the published E-Source [10]

Note :Karnataka again did the farmers loan demand of about 50000 crores in 2018-19 this year.

#### **INSTITUTIONAL VS. NON-INSTITUTIONAL CREDIT**

Even though there has been an impressive growth in institutional credit since 1951, the dependence of farmers on non-institutional sources for agricultural credit remains as high as 36 per cent in 2013. There was a steep fall in the share of non-institutional sources in the total outstanding agricultural credit from 89.8 per cent in 1951 to 33.7 per cent in 1991. However, in the next decade, non-institutional sources wrested back some of their lost share, which stood at 38.9 in 2002. In 2013, there was a small decline in their share of outstanding loans but, at 36 per cent, it was still above the 1991 level. What is striking is that there is a rising trend in the share of private moneylenders from 17.2 per cent in 1981, 17.5 percent in 1991, 26.8 per cent in 2002 and 29.6 per cent in 2013.

This clearly indicates that again governments are creating roof for the money lender by adopting loan waiver schemes because Debt relief programmes fail to provide assistance to landless farmers, who do not have access to bank loans and some other farmers who depend on money-lenders. Loan waiver schemes vitiate the credit culture and make it tougher for banks to continue lending to these segments. The first waiver decision was taken in India in 1990 by Janata party and the Agriculture and Rural Debt Relief Scheme (ARDRS) was approved. Later another loan waiver scheme, the Agricultural Debt Waiver and Debt Relief Scheme (ADWDRS) was announced in May 2008, significantly just before the 2009 general elections, seeking to address the problem of indebtedness and difficulties faced by the farming community, particularly by small and marginal farmers.

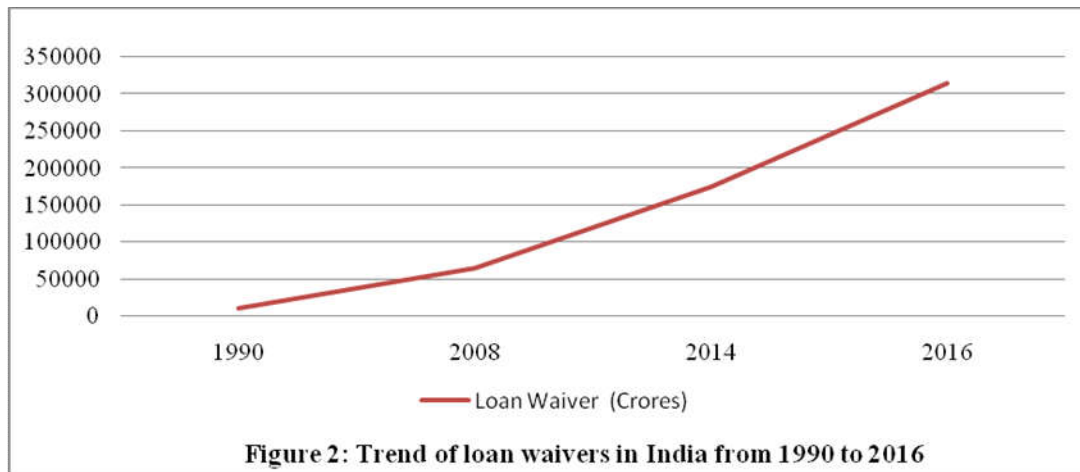
**Table 5: Farm loan waivers being demanded during 2016-2017**

State	Waiver demanded (Rs.)	SMF (million)	Source
Uttar Pradesh	36,359	9.4	Hindustan Times
Maharashtra	30,000	3.4	The Economic Times
Punjab	36,600	1.7	LiveMint
Madhya Pradesh	56,047	6.3	Hindu Business Line
Gujarat	40,650	3.2	Hindu Business Line
Haryana	56,000	1	Indian Express
Tamil Nadu	7,760	1.9	The Hindu
Karnataka	52,000	5.9	DailyO
<b>Total</b>	<b>3,15,416</b>	<b>33</b>	

SMF= Small and Marginal farmers

Note\* Maharashtra and Uttar Pradesh have sanctioned the loan waiver

Amid the growing agitations among farming sector demanding debt waivers in Haryana, Tamil Nadu, Gujarat and Madhya Pradesh, states like Uttar Pradesh, Karnataka, Punjab and Maharashtra wrote off loans worth Rs 36,359, Rs. 8,165 crores Rs 30,000 crore and Rs 30,000 crore respectively in the year 2016. India faces a cumulative loan waiver demand of Rs 3.1 lakh crore which accounts for 2.6 per cent of its GDP in 2016-17. A waiver of this scale could pay for the increase in India's irrigation potential by 55 per cent more than the achievements of the last 60 years.



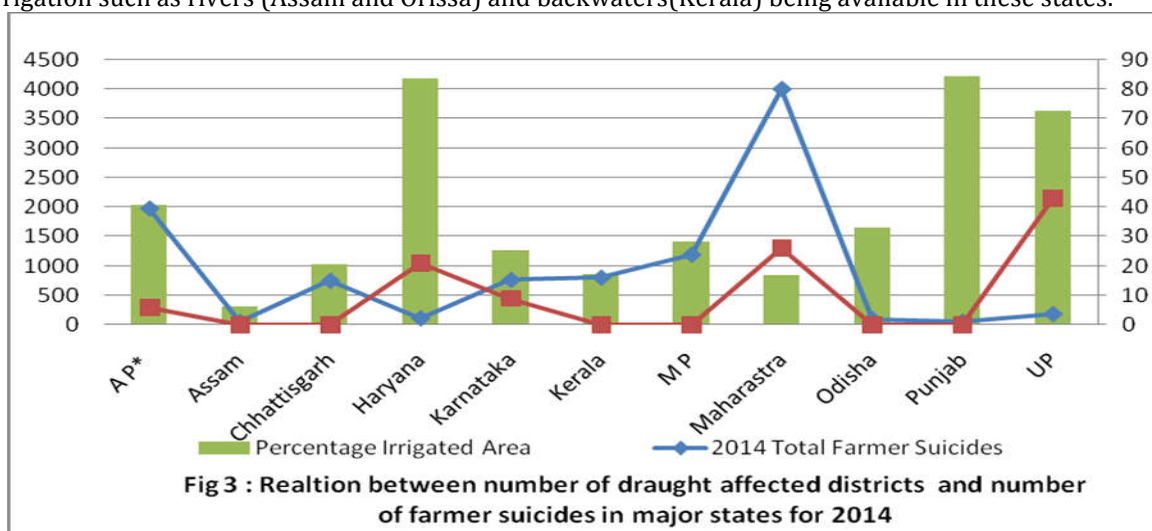
**Figure 2: Trend of loan waivers in India from 1990 to 2016**

Note\* In the financial year 2016-17 the actual loan waived off collectively by four states as mentioned in Table 4 amounts to Rs 1.04 lakh crores

This trend of loan waiver is now becoming a bandwagon and if we see the cost of loan waiver it accounts 2.58 lakh crores so for it accounts around 2.1 per cent of GDP (2016-17). But the interesting fact is that in the 2016-17 only the demand for loan waiver grew up to 3.15 lakh crores but so far waived debt accounts around 1.5 lakh crore rupees from state such as Uttar Pradesh, Maharashtra, Punjab and Karnataka. But if you consider number of farmers (small and marginal) benefited out from the scheme during 2016-17 was 15.7 million out of total 20.4 million small and marginal farmers in these states. This can be expected to go up in coming years. But till today flow of credit from the non-institutional sources accounts to 36 per cent of total credit available to these farmers (2013). Non-institutional sources have shown resilience in retaining a large share of the outstanding debt despite the fact that the rates of interest charged by them are exorbitantly higher than those charged by institutional sources. Anwarul and Prerna [1] in their study also reported that as much as 71 per cent of the outstanding dues from non-institutional sources attracted interest rates of more than 15 per cent in 2013 whereas the corresponding figure for institutional sources was only 10 per cent. Farmers with higher holding sizes could get as high as 79 per cent of their loans from institutional sources that too mainly commercial banks. In comparison, just 47 to 65 per cent of the loan amount of small and marginal holdings is from institutional sources. Agricultural Money lenders constitute a major source of credit for smaller farmers. This gives an idea of loan waiver does not serve the purpose of farmers. Therefore, instead of debt waiving creating irrigation facility and infrastructure would give the permanent solution to the farming community.

**DRAUGHTS AND FARMER SUICIDES**

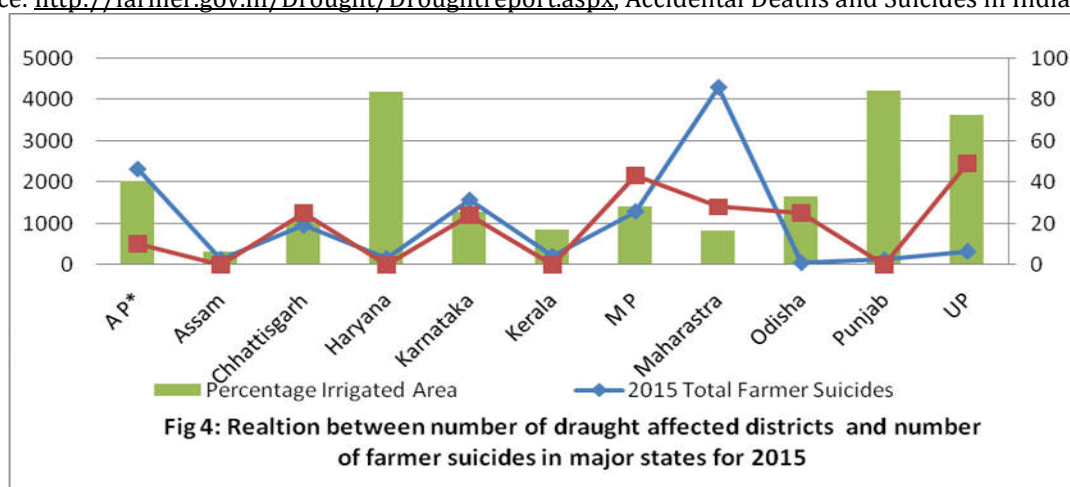
One of the major purposes of river lining projects is that they create additional and permanent in nature sources of irrigation thereby increasing the net irrigated area. As the net irrigated area increases, the distress of farming community in draught years is significantly reduced. This is clearly depicted by empirical data plotted in Fig 3 & 4. Here major states suffering from farmer suicides have been taken up along-with state-wise net irrigated area and draught affected districts in 2014 and 2015. In Maharashtra, Andhra Pradesh (Including Telangana), Karnataka and Madhya Pradesh account for more than 70 per cent of total farmer suicides in the country. As the data shows for the states Maharashtra, Karnataka, Andhra Pradesh (including Telangana), for the year 2014 and 2015 there is a direct relationship between number of draught affected districts and number of farmer suicides. This may be due to the lower percentage of area under irrigation in Maharashtra (16.78), Karnataka (25.40) and Andhra Pradesh\* (40.73) and The states of Andhra Pradesh and Maharashtra with large cotton-growing areas and with relatively higher incidence of farmers’ suicides, in contrast to the all India trend (Srijit Mishra, 1995-2012). However in the states such as Madhya Pradesh and Chhattisgarh thought they being sparsely irrigated there is weak direct relationship between these factors. In contrast states such as Haryana, Punjab and Uttar Pradesh where net irrigated area was 83.90, 84.47 and 72.76 per cent respectively, the number of farmer suicides are very less even during draught years. Regarding Assam, Kerala and Orissa though the net irrigated areas is low i.e. 6.22, 17.37, and 33.16per cent respectively; there is a negligible increase in farmer suicides even during draught years. This is mainly because of alternative sources of irrigation such as rivers (Assam and Orissa) and backwaters(Kerala) being available in these states.



**Fig 3 : Relation between number of draught affected districts and number of farmer suicides in major states for 2014**

\*= Andhra Pradesh (Including Telangana)

Source: <http://farmer.gov.in/Drought/Droughtreport.aspx>, Accidental Deaths and Suicides in India [9].



**Fig 4: Relation between number of draught affected districts and number of farmer suicides in major states for 2015**

\*= Andhra Pradesh (Including Telangana)

Source: <http://farmer.gov.in/Drought/Droughtreport.aspx>, Accidental Deaths and Suicides in India [9]

**CONCLUSION**

By seeing some of the consequences of loan waiver, it is clear that it's not a permanent solution and is just like opportunity cost. Farmers can't expect the same waivers every year and even if it is done it raises the anxiety of other small and marginal farmers which are left out of the ambit of debt waiver and the ones clearly dependent on non-institutional sources. Also, the free riders problem i.e. willful defaulters, created due to loan waiver is a major issue that leads to a bandwagon effect come into play that works negatively. Additionally, it leads to a heavy burden being put up on the economy as it nearly accounts to around two percent of GDP. Despite loan waivers the actual workforce of the nation i.e farmers between 18-60 years of age are suffering the most. This is completely uneconomical and short-lived measure. Due to such policies it negatively affects the perceived credit worthiness of farmers by banks. As we know that apart from green and white revolutions no such considerable efforts were made to address the problems in agriculture. As it's been around 10 years from the date of submission of final report by Swaminathan committee; however, still the recommendations such as Minimum Support Price (MSP) being 50 percent more than the weighted average cost of production, mass availability of data pertaining price signals, timely and adequate supply of credit at 4 percent, expanding the outreach of credit facilities system such as Kisan Credit Cards to women farmers, establishing an Agriculture Risk. Along with the above-mentioned recommendations to bring out the farmers entangled in a fatal nexus of hardships we need to shift from temporary (loan waiver) to a perpetual solution by providing a well developed irrigation network that can be achieved by spending on river inter linking projects as irrigation is bloodline for agriculture sector. Although, before considering such a massive shift in policy, holistic and reliable studies including all parties of interest should be made for weighing all the pros and cons of the project.

**REFERENCES**

1. Anwarul Hoda Prerna Terway, (2015), Credit Policy for Agriculture in India - An Evaluation Supporting Indian Farms the Smart Way: Rationalizing Subsidies and Investments for Faster, Inclusive and Sustainable Growth.
2. Harsh Kumar Bhanwala,(2016), Challenges in Financing Small and Marginal Farmers in India with Special Reference to Eastern India. Shri Nabakrushna Choudhury Memorial Lecture- Organized by Nabakrushna Choudhury Centre for Development Studies. NABARD, Mumbai.
3. Ujjwal gaur BA,(2008), loan waiver scheme and Indian agriculture, Delhi University Submitted to Centre for Civil Society. Working Paper No. 195.
4. Srijit Mishra, (1995-2012) Farmers' Suicides in India: Measurement and interpretation Asia research centre working paper 62.
5. National Water Development Agency (<http://nwda.gov.in/>) Ministry of Water Resources, Govt of India and Suman Bery, Economic Impact of Interlinking of Rivers Programme.
6. Water and related statistics, central water commission, ministry of environment statistics, Govt. of India.
7. Ministry of Agriculture Cooperation and Farmers Welfare, Govt. of India.
8. Swaminathan, M. S.,(2006), Serving farmers and saving farming fifth and final report,Nnational commission on farmers, Government of India, Ministry of agriculture, p(30).
9. Accidental Deaths and Suicides in India, NCRB-(2015). <http://farmer.gov.in /Drought /Droughtreport.aspx>.
10. E-Sources: Hindustan Times, The Economic Times, Live Mint, Hindu Bussiness Line, Indian Express, Indian Express, The Hindu, Daily.

**CITATION OF THIS ARTICLE**

Swamy H.M, Sanjay, Basavaraju G. River-Linking, Flipside to Loan Waiver. Bull. Env. Pharmacol. Life Sci., Vol 8 [3] February 2019: 01-07