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Enriching Indian agriculture: A Vedic point of view (Special focus on farmers suicides in India)

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Abstract

Agriculture sector in Indian economy plays pivotal role for the growth and development of an economy. In India Agriculture sector at present provides livelihood to 65% to 70% of total population. The sector provides employment to 54.6% of country's workforce and is the single largest private sector occupation. But it can be observed that its contribution in real GDP has fallen to 13.9% in 2013-14^[1] which is a matter of great serious concern. Every year various types of policies are being adopted by Government of India for the welfare of farmers but it is a matter of great concern that every year government has to waive of loans of most of the farmers as they are unable to repay the loans and hence commit suicide. Farmers' suicide cases is a serious threat for our economy. The aim of the paper is to focus light on the ways and means from our ancient Vedic philosophy to make our Indian Agriculture prosperous one as well as to extract the farmers from the heavy burden of loans. The Researcher has searched out the knowledge about Vedic literature for the welfare of farmers from Swami Ramswarup Yogacharya who is a great philosopher of four Vedas

Keywords: Indian agriculture, farmers suicides, GDP, economy.

1. Introduction

History of Indian agriculture dates back to the Rigveda, written about 1100BC^[2]. India is an agrarian country with around 60% of its people depending directly or indirectly upon Agriculture. The share of agriculture and allied sectors in India's GDP has declined to 13.7% in 2012-13 due to shift from traditional agrarian economy to Industry and service sectors. As per latest estimates released by central statistics office (CSO) the share of agricultural products/Agriculture and Allied Sectors in Gross Domestic Product (GDP) of the country was 51.9 per cent in 1950-51, which has now come down to 13.7 per cent in 2012-13 at 2004-05 prices^[3]. In Indian economy Agriculture sector plays a vital role. Over 70% of the rural households depend on agriculture as their means of livelihood. India holds the second largest agriculture land (179.9 million hectares) in the World Agriculture, along with fisheries and forestry, accounts for one-third of the nation's GDP and is its single largest contributor^[4]. The focus is to throw light on the declining share of GDP in agriculture sector over the years, even lots of schemes and policies are initiated by Government of India for Agriculture sector but still farmers suicide cases are rising which is a matter of serious concern in present scenario. The paper focuses on ways and means to increase agriculture output from Vedic point of view.

Present paper is based on secondary data, keeping in view the importance of Indian agriculture; aim is to find out solutions from ancient Vedic literature to make Indian agriculture prosperous whose share in GDP is declining over the years.

The paper has been organized in five sections including introduction. In second section share of GDP in three sectors of the economy are highlighted. In third section importance of agriculture is highlighted & schemes and policies launched by the government for the benefits of the farmers are also described. Fourth section mentions farmers' suicide cases which is a matter of serious concern in the present scenario along with the policies launched by the government in favor of farmers committing suicide. In fifth section solutions from Vedic literature under the able guidance of Swami Ram Swarup Yogacharya are cited to make Indian agriculture prosperous.

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2. Three Sectors of the Economy

Indian economy can be broadly divided into following three sectors mentioned as under:

Primary Sector: Production of raw materials and basic goods are included in the primary sector. Agriculture (both subsistence & commercial), agribusiness, mining, forestry, farming, grazing, hunting and gathering fishing and quarrying industries are the activities which are associated with primary sector. Processing of raw material is also considered to be the part of this sector.

Secondary Sector: Finished goods are manufactured under secondary sector. This sector generally takes the raw material from primary sector for manufacturing activities of secondary sector. For the growth and development of the economy, manufacturing is an important activity. Secondary sector, mainly includes all manufacturing, processing and construction, etc. metal work and automobile production, textile production, chemical and engineering industries.

Tertiary Sector: The Service industry is referred as tertiary sector of the economy. Insurance, banking, transport and other social and personal services, distribution, entertainment (movie, television, radio, music) aerospace, breweries and bottles, construction and shipbuilding are the activities associated with the service sector^[5].

Share of GDP in Different Sectors

| Sectors | Share of GDP at (2004-05) prices | | |
|------------------|----------------------------------|---------|---------|
| | 2004-05 | 2010-11 | 2011-12 |
| Primary Sector | 21.9 | 16.8 | 16.1 |
| Secondary Sector | 25.1 | 25.6 | 24.9 |
| Tertiary Sector | 53.0 | 57.7 | 59.0 |

Source: www.quora.com (sub source: central statistical organization)

The table mentioned above clearly depicts the share of GDP in three sectors (Primary, secondary and Tertiary). It is clear from the table that the share of GDP in primary sector has declined over the years which is considered to be the main source of livelihood for approximately 60% of the population of the economy whereas share of GDP in Tertiary sector has increased over the years.

Although share of GDP in primary sector has declined over the years but this sector has its own importance.

3. Importance of Agriculture sector

Agriculture is the backbone of our economy. It not only provides food and raw material but also provides employment opportunities to a large proportion of population. The following points highlights the importance of agriculture in Indian Economy:

- **Contribution to National Income:** Agriculture is an important source of our National income. Agriculture including allied activities, accounted for 14.1 percent of gross domestic product (GDP) at 2004-05 prices, in 2012-13 as compared to 14.7 per cent in 2009-10. The share of agriculture and allied sectors in GDP declined to 15.2% during eleventh plan (2007-12) and further to 13.9% in 2013-14. Notwithstanding the declining trend in agricultures share in the GDP, it is critical from the income distribution perspective as it accounted for about 54.6% employment in the country according to census

2011. Hence growth in agriculture and allied sectors remains a 'necessary condition' for inclusive growth

- **Source of livelihood:** In India the main occupation of our working population is agriculture. At present, it provides livelihood to 65% to 70% of total population. It provides 54.6% of employment opportunities to our population^[1].
- **Importance in transport:** Agriculture sector is the main supporter of railways and roadways which transport bulk of agriculture produce from farm to the machines and factories. Internal trade is mostly in agriculture products. Growth of Indian Economy mainly depends upon the prosperity of Agriculture sector.
- **Supply of food and fodder:** Agriculture sector also provides fodder for livestock. Cow and buffalo provide protective food in the form of milk. Moreover it also meets the food requirements of the people.
- **Importance in international trade:** Agriculture sector has deep association with India's foreign trade. Agriculture and allied sector accounts for 9.08% of the total exports during 2011-12 against 6.9% of 2010-11. Besides, goods made with the raw materials of agriculture, agriculture sector also contributes about 20% in Indian exports^[1].

Government of India has launched various schemes and policies for the growth and development of agriculture sector:

3.1 Schemes and Policies

Gramin Bhandaran Yojna: Indian farmers were not having scientific storage Godowns facilities for storing their crops and as a result they have to sell their crops immediately after harvesting. Gramin Bhandaran Yojna was launched in order to provide a Capital Investment Subsidy Scheme for Construction/Renovation of Rural Godowns: The main objective of this scheme is to provide scientific storage facilities to the farmers so that they may store their crops properly and sell it when they are able to get good prices for it. The scheme extended from 26.06.2008 to 31.03.2012. Other objectives of scheme were processed farm produce and agricultural inputs; promotion of grading, standardization and quality control of agricultural produce to improve their marketability; prevention of distress sale immediately after harvest by providing the facility of pledge financing and marketing credit^[6].

- **Livestock Insurance scheme:** Government provides insurance of cattle and attaining qualitative improvement in livestock and their products.
- **Rashtriya Krishi Vikas Yojna (RKVY):** The main aim of this scheme is to boost growth rate of agricultural sector and to incentivize the states to increase public investment in agriculture and allied sectors. On August 16, 2007, the Government approved the RKVY with an allocation of Rs.25000crore for the 11th five year plan it aims at achieving 4% annual growth in the agriculture sector during the XIth Plan period, by ensuring holistic development of agriculture and allied sectors. The main objective of the Schemes are to provide flexibility and autonomy to the states in planning and executing agriculture and allied sectors, to boost agricultural growth rate. Funds utilization under the Scheme by states has improved remarkably. The outlays under RKVY for year 2010-11 have been substantially

increased to Rs. 6722 crore, and Rs. 10350.00 crore is proposed for 2011-12. For the years 2007- 08 & 2008-09, 2009-10, outlays of Rs.1,263 crores, Rs.3165.67 crores and Rs.3777.07 crores were approved at RE stage and for the current year, an amount of Rs.6722 crores has been allocated under this scheme ^[7-10].

- **National e-Governance Plan in Agriculture (NeGP-A):** The underlying vision behind this project is to “create an environment conducive for raising farm productivity and income to global levels through provision of relevant information and services to the stakeholders” ^[7, 8].
- **Mission for Integrated Development of Horticulture:** For the holistic development of Horticulture in the country during XII Five Year Plan a centrally sponsored scheme has been launched. This Scheme has taken off from 2014-15 and various on going schemes has been integrated in it such as National Horticulture Mission; Horticulture Mission for North East and Himalayan States; National Bamboo Mission; National Horticulture Board, Coconut Development Board, Central Institute for Horticulture ^[10].
- **Agriculture Mechanisation:** Under various Government sponsored schemes like Macro Management of Agriculture, Technology Mission for oilseeds, Pulses and Maize, Technology Mission on Horticulture & Technology Mission on cotton, financial assistance is provided to the farmers for the purchase of identified agricultural implements and machines ^[10].
- **New National Agricultural Policy:** On July 28, 2000 NNAP in the parliament has been announced by Union Government. In order to face the challenges of Agriculture Sector, under the provision of WTO this policy has been planned. New Agriculture policy has been described as ‘Rainbow Revolution’ which includes the various revolutions such as Green (Food Grain Production); White (Milk); Yellow (Oilseeds); Blue (Fisheries); Red (Meat/Tomato) Golden (Fruits-Apple); Grey (Fertilizer); Black/Brown (Non conventional Energy Sources) Silver (Eggs); Round (Potato). The Rainbow Revolution also includes “Food Chain Revolution” to put a check on destroying food grains, vegetables and fruits ^[10].
- **Krishi Shramik Suraksha Yojana:** on July1, 2001, the multi- benefit scheme for the agricultural workers, commenced which provides life insurance protection, periodical lump sum survival benefit and pension to those who were between the ages of 18-50 years ^[10].
- **Crop Insurance:** Various crop Insurance schemes are implemented as part of risk management and risk mitigation in agriculture. The National Crop Insurance programme is approved for full fledged implementation from Rabi 2013-14, with modifications like making the insurance unit for major crops the village panchayat or equivalent unit and undertaking individual farm-level assessment of losses in case of localized calamities like hailstorm and landslide to benefit the farmer ^[10].

Above mentioned schemes provides benefits to the farmers for the growth and development of agriculture sector moreover proper protection to their crops. Other than these above mentioned schemes there are various other schemes launched by Government of India But despite so many benefits provided to the farmers through various schemes

launched by the Government the aim of the author is to focus in the paper that still farmers are committing suicides. In the present paper ways and means to make Indian agriculture prosperous are tried to find out through ancient Indian Vedic philosophy

4. Farmers suicide in India

Farmers’ suicide in India is the intentional ending of one’s life by a person dependent on farming as their primary source of livelihood. In 2012, the National Crime Records bureau of India reported 13,754 farmer suicides. Highest numbers. Of farmer suicides were recorded in 2004 when 18,241 farmers committed suicide. The farmers’ suicide rate in India has ranged between 1.4 to 1.8 per 100,000 total population, over a ten year period through 2005 ^[11-13]. According to NCRB From 1995 to 2013 a total of 2,96,438 farmers have killed themselves in India. A total of 11,744 farmers ended their lives in India in 2013, down from 13,754 farmers in 2012. Most farm suicides have been linked to debt, a sharp rise in input costs, serious water crises, price volatility and crop failure due to pest attack and disease ^[12].

Reason’s For Farmers Suicide

Various studies report

There are various reasons because of which farmers committed suicides such as Drought, Debt, use of genetically modified seed, public health and government economic policies. There is no particular reason why farmers commit suicide, but as per various studies Report there is not only one reason for committing suicide but various reasons for committing suicide. Panagariya states, “farm related reasons get cited only approximately 25% of the time as reasons for suicide” and “studies do consistently show greater debt burden and greater reliance on informal sources of credit” among farmers who commit suicide ^[13, 14].

As per study of Agricultural indebtedness by expert group-Prof. Radha Krishnan “Agricultural indebtedness is not the main cause of farmers suicides but stagnation in agriculture, marketing risks, collapse of extension system, growing institutional vacuum and lack of livelihood are the primary causes” ^[15] A study conducted in 2014 found that the characteristics associated with high risk are, farmers“ that grow cash crops such as coffee and cotton, & those with ‘marginal’ farms of less than one hectare.” The study also found that the Indian states in which these characteristics are more common had the highest suicide rates and also accounted for almost 75% of the variability in state level suicides ^[13, 14].

Failure of monsoons

70% to 80% of India’s farm land depends for their irrigation on monsoons. Sometimes there are floods and sometimes drought. Such inadequate rainfall are the reasons for crop failure. It has been seen that the regions experiencing Droughts’ generally face decline in crop production and food for cattle has become scarce there. Agricultural regions that have been affected by droughts have subsequently seen that suicide rate has increased there ^[13, 14].

Economic Reforms

Various Economists like Utsa Patnaik, Jayati Ghosh and Prabhat Patnaik suggest that structural changes in the Macro Economic policy of Indian Government that favored Privatization, Liberalization and Globalization is the root cause of farmers’ suicide ^[13, 14].

Genetically Modified Cotton Blamed for Suicides

It has been called the biggest wave of human suicides in recorded history. In 2002 – US based agriculture business Monsanto began selling genetically modified cotton seeds known as Bt cotton to Indian farmers. The seeds produce insecticides and led to higher yields, but were very expensive than the regular cotton seeds. For purchasing these seeds mostly farmers has took loan from private moneylenders which charged exorbitant interest rate from them and loan was given with a condition that they will sell their crops to them at a price lower that it fetches from the market In addition to this in 2009, Ron Herring Professor of agrarian political economy at Cornell university pointed out that Indian farmers were relying on outdated farming methods and dependent on frequently erratic monsoon season The lure of “White Gold” was strong. Without water, cotton fails. In thin red soils without irrigation the risk was very high; due to lack of proper irrigation facilities and increasing debt ultimately committed suicide [16].

Illiteracy

As most of the farmers are illiterate so they are unaware of the low interest rates provided to them by the government and hence they are influenced by private lenders charging high interest rates and ultimately it becomes difficult for farmers to repay the loan. Being illiterate they don’t have direct access to the market and hence get a very lower price for their crops.

Field survey by State Government

The Government of Maharashtra, concerned about the highest total number of farmer suicides amongst its rural populations, commissioned its own study into reasons. As per the field research conducted by Indira Gandhi Institute of development research in Mumbai it was found that the top cause of farmers suicides is: debt, low income and crop failure, family issues such as illness and inability to pay celebration expenses for daughter’s marriage, lack of secondary income occupations and lack of value-added opportunities [13, 14].

All India figures for farmers suicides from 1995-2013

All India figures for farmers’ suicides as per NCRB (national crime record bureau)

| Year | Total farmer suicides (Not normalized for different Populations of different states) |
|------|--|
| 1995 | 10,720 |
| 1996 | 13,729 |
| 1997 | 13,622 |
| 1998 | 16,015 |
| 1999 | 16,082 |
| 2000 | 16,603 |
| 2001 | 16,415 |
| 2002 | 17,971 |
| 2003 | 17,164 |
| 2004 | 18,241 |
| 2005 | 17,131 |
| 2006 | 17,060 |
| 2007 | 16,632 |
| 2008 | 16,796 |
| 2009 | 17,368 |
| 2010 | 15,964 |
| 2011 | 14,027 |
| 2012 | 13,754 |
| 2013 | 11,744 |

Source (1) NDA UPA failed to curb suicides (http://timesIndia.indiatimes.com/India/NDA _UPA-failed-to-curb-farmer-suicides/articleshow/39501676.cms) (2) Have India’s farm suicides really declined? 14 July 2014 (<http://www.bbc.com/news/world-asia-india-28205741>)

The table above clearly reveals that although with advancement of science and technology and implementation of new policies in agricultural sector the farmer suicide cases has increased from 1995-2009, a slight fall in suicide cases has been seen from 2010-2013.

4.2 Responses to Farmers Suicides

crop failure, shifting to more profitable but risky (in terms of output, quality and prices) cash crops like cotton/ sugarcane/ soybean, exorbitant rate of interest and other terms and conditions of loans availed from money lenders, lack of non farm opportunities, unwillingness to adopt to scientific practices, non availability of timely credit from formal channel, absence of proper climate/ incentive for timely repayment of bank loan, etc. are certain reasons for increasing farmers suicides in India. At some places even though water is available but can’t be exploited fully due to insufficient power supply. A rehabilitation programme which addresses repayment of overdue interest, supply of quality inputs for next crop, insurance against natural calamity, opportunity of supplementary income through non farm activities, provision of forward linkage such as marketing and storage, extension services, etc. has tried to be implemented [15].

Rehabilitation Package

Central as well as State Government has announced the special packages in the State of Maharashtra for rehabilitation of distress farmers and their family members

i) Package of Central Government

A package of Rs.3750 crores to the families of the farmers in Maharashtra was announced by Prime Minister during his visit in the Vidarbha region in July 2006. In the identified region an additional credit of Rs.1275 was earmarked under the package for disbursement Entire interest on overdue loan was waived and principal rescheduled for 3 to 5 years. The other important components of the package are as under:

PM’s Package – goal & means

The main objective of PM’s Package is to establish sustainable and viable farming, livelihood support system by providing assured and better irrigation facilities; to start seed replacement programme; debt relief by restructuring overdue loans and interest waiver; through horticulture, livestock, dairying, fisheries etc. subsidiary income opportunities has to be enhanced; to provide improved marketing facilities and enhancing better extension and farming support services ;to provide effective watershed management for the welfare of farmers [15].

Components & targets

The Government of India also announced an ex-gratia assistance from Prime ministers National Relief Fund to the farmers. A fund for Ex-gratia assistance would be placed from PMNRF of Rs. 50 lakh per district. Debt relief to farmers by rescheduling of over due loan as on June 30, 2006. An important objective of the Government is to provide fresh credit to farmers and to waive of Interest.

Entire overdue interest on agriculture loan as on July 1, 2006, is to be shared equally by Center and State Government. The focus of the Government is to provide assured irrigation facilities by completion of all major, medium and minor irrigation projects under AIBP (Accelerated Irrigation Benefit Programme) and RIDF (Rural Infrastructure Development Fund) within stipulated time period of 3 years. Under the Seed replacement program the 50% subsidy for quality seed over 3 years (entitlement 1 ha / farmer) is to be provided to the farmers. Watershed Development is taken into consideration by construction of check dams. On an average 500 check dams every year at an average cost of Rs.2 lakh per check dam will be constructed in six districts over the next 3 years, the area under watershed development is 15000 ha per district per year for 3 years. The Horticultural Development is taken into priority by covering all districts under National Horticulture Mission. The mission is launched for citrus fruits, for better irrigation facilities, Micro Irrigation coverage to all districts by propagation of Drip and Sprinkler Irrigation. All districts are to be covered under ATMA (Agriculture Technology Management Agencies) to ensure extension support and convergence at district level ^[15, 17]

ii) Package of the State Government

Government of Maharashtra announced the special package of Rs.1075 crores for the affected families. For immediate relief to the family members of the farmers who committed suicide (Rs.1lakh to each family). To overcome the burden of farmers, the Government started rescheduling of the outstanding crop loan and subsidy on interest to the indebted farmers (Rs.225 crores). The State Government has put ban on illegal private lending and had legalized licensed moneylenders and limiting the interest payable to the original principal amount. The Government formulated farmers Self Help Groups which will disburse crop loans to the farmers as per their needs. Authorities enhanced subsidy on crop insurance premium (Rs. 30 crores). The financial assistance (for land development) is given to the farmers by the state Government to acquire farm equipment, inputs like seeds/ pest control measures & bio-fertilizers (Rs.150 crores). To overcome dependence on primary agricultural practices Government promotes agro based subsidiary livelihood options by granting loans to the farmers for Dairy and Poultry of about Rs.30 crores. To Promote the agro-processing industries through cooperative system, the Government of Maharashtra also Promote their indigenous Joint cotton farming. The financial assistance for mass community marriages (Rs.6 crores) Repayment of amount of Capital Operation Fund (Rs.370 crores) financial assistance to cotton growers (Rs.134 crores) Government Organic Farming Technology Mission (Rs.30 crores), Vidarbha Watershed Mission (Rs.100 crores), Establishment of Helpline for farmers was provided to the farmers by the state Government ^[15, 17].

iii) Loan waiver proposed in Budget 2008-09

Highlights

The Government estimates that about three crore small and marginal farmers and about one crore other farmers will benefit from the scheme. The total value of overdue loans being waived is estimated at Rs.50,000 crore and the OTS relief on the overdue loans is estimated at Rs.10,000 crore. The implementation of the debt waiver and debt relief

scheme will be completed by June 30, 2008. Upon being granted a debt waiver or signing an agreement for debt relief under the OTS, the farmer would be entitled to fresh agricultural loans from the banks in accordance with normal rules.

All agricultural loans will be written off in respect of small and marginal farmers, which were given by scheduled commercial banks, regional rural banks and cooperative credit institutions up to March 31, 2007 and overdue as on December 31, 2007. In respect of other farmers, there will be a one time settlement (OTS) scheme for all loans that were overdue on December 31, 2007 and which remained unpaid until February 29, 2008. Under the OTS, a rebate of 25 percent will be given against Payment of the balance of 75 per cent. It is proposed to create a fund of Rs.5,000/- crore in NABARD to enhance its refinance operations to short term cooperative credit institutions ^[15, 17]

Special Rehabilitation package for distressed farmers

In the year 2006, the govt. implemented a special rehabilitation package of Rs.16,978.69 crore for 31 suicide prone Districts in the four states, namely, Andhra Pradesh, Maharashtra, Karnataka, and Kerala and Rs.19,998.85 crore was released to these states. The implementation period of package has ended on 30.11.2011. The approach adopted under the package was basically convergence of the benefits available to the eligible farm households under various on going Government scheme/programmes to improve the income and livelihood of farmers in a time bound and sustainable manner. The package has stabilized the conditions of the farmers in the identified districts and further action can be taken under various ongoing schemes and programmes like RKVY (rashtriya krishi vikas yojna), NFSM etc. to address the problems faced by agriculture sector. The state government have been advised to constitute special teams in the identified districts to oversee the implementation of the various schemes /programmes.

A package for mitigation of agrarian distress in Idukki district of Kerala with financial outlay of Rs.764.65 crore was approved by Govt. of India in November, 2008. As reported by the Government of Kerala, as on October, 2013, Rs.438.21 crore has been sanctioned out of which Rs.237.78 crore has been released and Rs. 167.86 crore has been utilized. The implementation period of the package has ended in November, 2013.

Package for development of Kuttanad wetland ecosystem with financial outlay of Rs. 1840.75crore, was also approved by Government of India in July, 2008. As reported by the state Government of Kerala, projects worth Rs 4,481.56 crore were submitted under the package of which projects involving amount of Rs. 12,66.68 crore were sanctioned. The implementation period of the package has ended in July, 2012 ^[7, 8].

Regional initiatives

Various state governments in India have launched their own initiatives to prevent farmer suicides. A Vasantrao Naik Sheti Swavlamban Mission, based in Amravati has been set up by the government of Maharashtra, a dedicated group is being set up to deal with farm distress in 2006.under the Chairmanship of Dr Veeresh, Former Vice-Chancellor of Agricultural University and Prof Deshpande as member, a group to study the Farmers Suicides was also constituted by the Government of Karnataka ^[14].

2013 diversify income sources package

In Andhra Pradesh, Maharashtra, Karnataka and Kerala suicide-prone regions the Government of India in 2013 launched a *Special Livestock Sector and Fisheries Package* for farmers and it aimed to diversify income sources of farmers. The total welfare package consisted of 912 million (US\$14 million).

Effectiveness of government response

As stated by Surinder Sud the government's response and relief packages have generally been ineffective, misdirected and flawed. It has focused much on credit and loan, rather than income, productivity and farmer prosperity. The private money lender provides the loan to the farmers at a very high rate of interest I, e between 24% to 50%, while income generating potential of farmers is very low as in India agriculture is mainly dependent on weather conditions. Sud states that the government has failed to understand that debt relief just postpones the problem and a more lasting answer to farmer distress can only come from reliable income sources, higher crop yields per hectare, irrigation and other infrastructure security. Golait, in a Reserve Bank of India paper, stated "Indian agriculture still suffers from: i) poor productivity, ii) falling water levels, iii) expensive credit, iv) a distorted market, v) many middlemen and intermediaries who increase cost but do not add much value, vi) laws that stifle private investment, vii) controlled prices, viii) poor infrastructure, and ix) inappropriate research. Thus the approach with mere emphasis on credit in isolation from the above factors will not help agriculture" [14].

From above mentioned points and data available it is clear that despite various schemes and policies adopted by Government of India farmers are both under stress as well as debt, keeping in view these facts researcher has tried to focus certain facts from ancient Vedic philosophy after taking guidance from Swami Ram Swarup Yogacharya, a great philosopher of vedas in paper for the prosperity of agriculture sector

5. Agricultural prosperity from Vedic point of view

In the present section we will find the solutions from Vedas for enriching our Indian agriculture especially through Yajyen

5.1 Benefits of Yajyen

Vedic literature provides some of the earliest written record of Agriculture in India. Rigveda hymns for example describes plowing, fallowing, irrigation, fruit & vegetables cultivation. Various types of packages launched under Green Revolution as well as various technologies introduced in agriculture sector has been adopted by our farmers, along with it they must adopt Agnihotra-Havan/Yajyen in their daily life as it gives both benefits spiritual as well as materialistic. The first mantra of Yayurved (1/1) says that human beings must perform Yajyen in which offerings are put in burning fire with ved mantras, then mantra says it will prevent the infectious diseases and will give constant pleasure. Samved mantra 534 says that ingredients like ghee and samagri when poured on fire while performing yajyen, go in sky and cause rain and purify the atmosphere. Samved Mantra 830 states that god bestows good fortune and happiness on the person who performs Havan /Yajyen. Samved mantra536 says that in YAJYEN, the matters (aahuti/offerings) go up to sun and give strength to sun to cause rain. Samved mantra 537 tells the offerings in a yajyen

must touch the rays of light of sun. Samved mantra 539 says that the offerings in a yajyen, go to the sky to create rain so that the animal, birds, etc.; are increased in number.

Yajurveda mantra1/2 says that yajyen purifies the earth. It reaches to rays of sun and goes to sky and sun through air. Yajyen purifies the air and holds the universe spreading pleasure all over. When yajyen is performed then air touches the burning fire and scientifically is purified just as water is boiled on fire and becomes purified, then the pure air goes up(on being heated) and the impure air starts touching the fire and after becoming purified goes to sky and this procedure is continued till the end of yajyen [18].

Samved mantra 948 states "Yajyen Vajihee Naha Upaagamat" I.e Yajyen bestows all wealth, assets on the aspirant and increases the agricultural yield and food stock of the performers of Yajyen. Samved Mantra 886 states that when the offerings are given in the pious fire of yajyen by the aspirants and learned/Rishis, then the particles offerings, in minutest form, reach the space and cause timely rain, as a result they control pollution and purify the atmosphere. Samved Mantra 1186 states that Som Yajyen increases the intensity of rainfall and production of food grains [19].

If we go back into ancient times, no one on this earth was poor and was suffering with starvation and committing suicides as is the situation in present scenario where most of the people in agriculture sector are hand to mouth and some farmers have to commit suicide despite advancement of science and technology. If we go back to Satyug, Treta and Dwapar, we will find that India was rich of dense forests, pure air, rich in minerals and was also named as "Sone Ki Chidiya". People were followers of Vedas and yajyen was part and parcel of their life and were doing yajyen daily twice a day, as a result there were timely rains, dense jungle and green vegetation etc. everywhere. As per Samved Mantra 529—

"Akrantsamudraha-----Brehatsomo Vavredhae swano adrihi-----"

Means the ingredients which are put in the fire of yajyen are the main cause of bringing timely rains [20]. Yajurveda says that four types of things mainly used to prepare offerings for a yajyen are:

1. Sweet matters like honey, jaggery, raw material etc.;
2. Antibiotics herbs like gyol etc.
3. Nutritive matters like pure ghee, dry fruits etc.;
4. Fragrant materials like elaichi (cardamom),dried petals flowers etc.;

All these ingredients when put into yajyen provide various types of benefits such as keeps body healthy and bring timely rains. It is also proved by our scientist that yajyen is really very helpful for bringing timely rains as well as for maintaining ecological balance. When all these ingredients are offered in fire it happens that just as a household lady in her kitchen fries chilli in ghee the effect of the chili through air even goes to a far distance. So in the case of yajyen and similarly the offerings of all the things goes to the sky and to sun making contact with air and sun rays. chillies leaves its bad effect to the nose whereas the above said things used in yajyen leave the best affect in atmosphere according to the qualities of each thing. That is why Samveda mantra 3 says that burning fire is like a messenger/ambassador which does work to carry the effect of all above things to the sky i.e; spreads them in atmosphere. Everybody knows that things/matters are never destroyed but change their shape only.

There is also a misunderstanding that in a yajyen/havan carbon dioxide gas is generated. Carbon Dioxide is available in whole of the universe. Its huge quantity is harmful but when carbon dioxide comes out from havan, dully mixed with ghee and other things it becomes beneficial to all human beings. Secondly burning of mango twigs does not liberate much of carbon dioxide. Scientist also say that carbon dioxide is taken by human beings in soda lemonade which becomes digestible. Therefore holy yajyen in addition is a scientific action which is beneficial to the whole country^[18, 21]

While discussing with Swami Ramswarupji Yogacharya on the matter about solutions for prosperity of agriculture sector he told that as per Vedas farmers should keep all their seeds in the smoke of yajyen after the yajyen is finished and then should sow their seeds into the soil as with the pious blessing of god they will get good crops.

Aam ki phasal bachaeyga Havan: A news mentioned in Divy Himachal on Monday 11, August 2014. In this news a farmer Mr. Umakant Tiwari explained that he has a big farm of mango trees, as he continuously uses pesticides & fertilizers available in the market, the mango trees of his farm started drying up. Mr. Tiwari told that in 2003-04 an association from Australia, Germany & Europe visited their village and they guided them that how with havan they can save their crops and mango trees from various diseases and insects and it will also increase the productivity of the farm product. He told that in 2004-05, a production of 12 tone of mango took place in his one hectare farm but with continuous havan & the ash left over after havan used as manure in farm has increased the production of his farm to 40 tones in 2012-2013. He also told that use of chemical fertilizers on each hectare costs Rs10-12 thousand where as the ingredients used in Havan used as fertilizers in their farms costs nominal but as this process requires more hard work, farmers escape from it to adopt. He told that he did havan by burning upplae made up of cow dug, cows ghee & without polish rice in copper vessel so that rising rays of sun must touch the smoke and fumes of havan and spread into whole farm which is very beneficial for good productivity of crops.

From above mentioned example and facts from Vedas it is clear that the ways and means for prosperity of Indian agriculture lies in Vedas. Farmers along with adopting modern techniques in their farming activities must also adopt yajyen as one of the most important aspect of farming. Effective implementation by the Government is necessary. Government should formulate expert teams for different regions having good knowledge of Yajyen and they should visit to the fields of farmers to guide them about Yajyen. To sum up we ourselves must revert back towards Vedas.

6. Conclusion

Agriculture sector is the backbone of Indian economy. In India it provides livelihood to 65% to 70% of total population. The sector provides employment to 54.6% of country's workforce and is the single largest private sector occupation. But still we find that its contribution in real GDP has fallen to 13.9% in 2013-14. Although various schemes and policies are implemented for the welfare of farmers but still every year government has to waive of the loans of farmers as farmers suicide cases have been increasing over the years. As a result by going through the in-depth study of Vedas one has to adopt the ways and solution from Vedas for the prosperity

of agriculture sector and we must revert back ourselves towards Vedas to make India once again 'Sone Ki Chidiya'.

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