Chapter 2

Review of Literature

Contains

2.1 Introduction
2.2 Review from Research paper
2.3 Review from Government & other report
2.4 Review from Articles in magazines & newspaper
2.5 Review from Books
2.6 Review from Thesis
2.7 Review from Bulletins, White Paper, Working Paper, Periodicals & Others
2.8 Summary
2.9 References
2.1 Introduction

The study comprises the review of relevant past literature on various aspect of the subsidy & their impact on agricultural sector, impact of fertilizers subsidy, role of subsidy, agricultural policy, growth of agricultural sector, investment in Indian agriculture, agricultural credit etc. With the help of research paper in journals, government reports, books, working papers, white papers, Ph.D thesis, documents from internet and websites etc.

2.2 Reviews from Research Papers

(Rajwindar Kaur, Oct- Dec 2012)\(^1\) Author concludes that, the centre government should adopt some criteria to give away subsidies to states either on the basis of gross cropped area or productivity. Subsidies which have direct relationship on productivity and income like seeds, fertilizers should be given to farmers, on the other hand, subsidies on electricity can be withdrawn as supply of electricity in Punjab is irregular moreover farmers prefer regular supply of power even if they have to pay for it. If implemented, it will reduce state electricity board’s burden and this amount can be used for production of more electricity, reducing the need of purchasing electricity at very high prices, which adds to the deficit of state finance.

(S.P. Sinha, 1982)\(^2\) In their study attempt to assess the impact of subsidies on agricultural productivity, income & employment. The study was related to selected beneficiary farmers in Musahati block, Muzaffarpur in Bihar during 1979-80(Pre subsidy period) and 1981-82 (Post subsidy period). The cropping intensity on beneficiary farms increased from 154 to 160 % after used of subsidy also increase productivity of farms. Finally they conclude on the subsidy programme must be selective & discriminating. Proper identification of the beneficiaries must be given due to importance to check misuse of fund.

(Mitra, 1982)\(^3\) The effectiveness of subsidy & credit programme of the small farmers development agency (SFDA) in improving the economic condition of the marginal & small farmers in the District of Ganjam, Orissa. It found that when subsidy & credit was available, it was difficult to utilize it properly due to inadequate availability of
HYV seeds, chemical fertilizers & pesticides. It prevents many recipients of subsidy to take full advantage of new technology improved their economic condition.

(Mohammed, 2013) Authors has stated that fertilizer subsidy can lead to high income, reduced poverty and improve food production is based on specific claims with respect to broad range of underlying objectives of stimulating agricultural production, compensating for high cost of transportation, making fertilizer affordable to farmers who lacks access to credit and teaching farmers new technology Factors that will make the benefit of the subsidy accrue to unintended channels should be eliminated. This can be done by making sure that fertilizer gets to the farmers directly reduce role of middle man

(Harshal A. Salunkhe, 2012) Authors made comparison of total amount of agricultural subsidies & gross cropped area was of India. The total amount of subsidies is increases year by year. In 1980-81 total amount was Rs.1, 228.5 crore & in year 2008-09 is 1, 15,952.20 crore. In year 1980-81 gross cropped area was 1, 73,324 hectares, it was increase up to 1,88,403 hectares & again it was decrease in year 2006-07 up to 1,75,678 hectares. At same time population in India is increases in year 1980-81 was 68.52 crore, 84.39 crore in 1991, 102.70 crore in 2001 & 121 crore in 2012. These all things clearly show that agricultural subsidies increases from 1980-81 to 2008-09 & gross cropped area is likely to be same but population of country gradually increases.

(HOSSAIN, 2010) Does government subsidy on agricultural sector cause agricultural development in Bangladesh? Authors have addressed the issue of long-run consequences between agricultural production and government subsidies on agricultural sector and also the impacts of government subsidies on agricultural development. From the graphical presentation it has been found that both the series have upward trending over the sample period. Thus to know, whether these trend arises either from the positive drift term or not of a random walk an empirical investigation has been done on the basis of the modern econometric techniques

(S.R. Yadav, 1982) Tries to determine the impact of subsidy on income of small & marginal farmers in Ajitwal block in Etawah District UP in 1980-81. Authors
observed that the provision of subsidy resulted in an increase in total income of beneficiary. It was estimated to be around 50% for beneficiaries in comparison to those non-beneficiaries. The study shows that on the beneficiary farm income from crop growing were about 70% more higher than non-beneficiary.

(Sambrani, 1982)\(^8\) Authors examined that the impact of subsidies on national income, agricultural and industrial production saving and investment. They used a general equilibrium model in study. The study covered fertilizer, food, electricity and agricultural loan interest subsidies. The result of study showed, they all had influenced national income positively.

(V.A. Thorath, 1986)\(^9\) Study attempt to examine the impact of subsidy on financial burden & employment and income. The study was based on data collected by authors in Kokan region of Maharashtra. Authors found that income of mango growers who availed the subsidy, increased by more than three times to their counterparts who had not availed the subsidy.

(Sharma R. a., 2012)\(^10\) Authors have analyzed the electricity subsidy in Punjab state during 1996-97 to 2011-12. Punjab State Government is giving free electricity to Punjab farmers through Punjab State Electricity Board. The income of farmers is depending on the agriculture. Due to free electricity, cost of inputs on agricultural is reduced as compared to the previous years when free electricity was not given. The electricity subsidy is regressive as large farmers, who have capacity to pay the electricity charges are getting more benefit from this subsidy than the small and medium farmers. The main reason is that they have more land, more electric load, new types of pump sets and more than one electricity connections. Due to irregular supply of electricity farmers have to use diesel pump sets to irrigate the crops. The expenditure of diesel pump sets is very high as compared to flat rates of electricity.

(T.C. Mohan, 1982)\(^11\) In their study examined in agricultural operations by small, medium & large farmers in South Arcot. The risk taking was interpreted as application of fertilizers & pesticides to the optimum level. The difference between the need & the actual practice was defined as the risk gap. The study revealed that
proportion of risk taking increases with the size of farm. Therefore, risk gap is maximum in case of small farmers & minimum in case of the large farmers. (Gulathi, 1989)\textsuperscript{[12]} The input subsidies on fertilizers, irrigation, electricity and credit for 1980-81 to 1986-87 indicated that on an average, during 1980-81 to 1986-87 the input subsidies were about Rs.9000/- crores. They increased at a compounded growth rate of more than 10% over period from Rs.6560/- crores in 1980-81 to Rs.11790/- crores in 1986-87.

(Yuneng Du, 2011)\textsuperscript{[13]} Authors mentioned that, from 2004 the Chinese government started to subsidize farmers when they buy means of agricultural production, especially the large agricultural machinery. The policy was very important in reducing agricultural production cost, increasing food farmers’ income and promoting food production. From 2006 the Chinese government issued a fresh policy which was called agricultural material synthesis subsidy. This kind of subsidy was to offset the price inflation of diesel oil, chemical fertilizer and pesticide. This policy was implemented especially in major food-producing Districts and counties

(Halmandage, 2009)\textsuperscript{[14]} Author concludes that, before removed of subsidy so many thinks were helped to Indian economy. The fertilizer subsidy more benefited to marginal farmers and weaker section of society. The marginal farmers purchasing capacity were increased by subsidies. It helps to increase the agricultural production in Indian economy. The central Govt. removed the subsidy of fertilizer in the year of 2003. There after agricultural production will be gradually decreasing. The farmers are not able to purchase fertilizer on the higher price. In case farmers are using the fertilizer their agricultural production was gradually decreased compare to subsidy period. The overall rate of agricultural production is decreasing and production cost is increasing due to removed agricultural subsidy.

(Hosseini-Yekani, 2011)\textsuperscript{[15]} Authors said that, the effects of elimination and redistribution of subsidies according to the law of targeting subsidies in Iran are investigated in a CGE framework. High income and average income groups lose. Income rising (in the case of quintiles which their income rise) causes to increasing demand of agricultural products, food products and services in both urban and rural households. Income of unskilled labors increase more than income of skilled labors.
The level of production in agricultural and food industrial sectors increase and in the other sectors decrease. Agricultural, food industrial and services exports rise and petroleum, industrial and mineral exports reduce. Agricultural imports increase and the level of imports in other sectors decrease.

(Regina Birner, 2011)\(^{[16]}\) Author has analyzed that the agricultural has suffered adversity during the past decade despite high overall growth rates experienced by other sectors in the Indian economy. Increasing growth rates in the farm sector would require, among other things, a more equitable use of fertilizers. Thus far, the trends in fertilizer use have been uneven across states and across farms of different sizes. Reform options for fertilizer policy should take into account these realities as well as India’s continued need for food security. The reform process itself has made very modest progress.

(Abhiman Das, 2009)\(^{[17]}\) An author has observed that. Over the years there has been a significant increase in the access of rural cultivators to institutional credit and, simultaneously, the role of informal agencies, including moneylenders, as a source of credit has declined. The agricultural credit has been rising in recent years as a share of both the value of inputs and the value of output. Among the striking features of the agricultural credit scene in India are the wide regional disparities in the disbursement of agricultural credit by scheduled commercial banks. At the same time the share of agricultural GDP is falling in total GDP. The analysis suggests the direct agricultural credit amount has a positive and statistically significant impact on agricultural output and its effect is immediate.

(Anjani Kumara, 2010)\(^{[18]}\) Authors stated that, the agricultural performance engrosses many production factors; agricultural credit is one of them. The performance of institutional credit to agricultural and the determinants of institutional agricultural credit use at households’ level have been analyzed. The study has shown that the institutional credit flow to the agricultural has been increasing for the past four decades. However, different patterns in the growth of agricultural credit have been observed during different sub-periods. The structure of the sources of credit has witnessed a clear shift and commercial banks have emerged as the major source of institutional credit to agricultural in the recent years.
Authors concluded that sustainable development of agricultural sector possible only through subsidies because of India has large agricultural land & 50% of labor in India working agricultural sector. The farmer in India mostly depends on government support for cultivation. But only eco friendly & sustainable subsidies are help in sustainable development of agricultural sector. If we want to fulfill future demands of food according population of county, the sustainable development of agricultural sector is important.

Authors concluded that subsidies make some positive & negative impact on agricultural sector of India. In last few year percentage of agricultural sector in GDP is decrease but at same time production of agricultural sector is also increases with investment. The increase in population & inflation is measure factor for low contribution of agricultural sector in India GDP. But agricultural subsidies play vital role in growth of agricultural sector in India. Without help of subsidies development of agricultural sector is very difficult. Due to corruption & ineffective management of subsidies in India, it has not reach to end users i.e. farmers & another side due to illiteracy of farmer regarding agricultural subsidies, he can’t take benefit in farming & faced financial crisis.

It shows complex nature and enormity of global agricultural subsidies and support. It also shows that WTO agreement provides enough room for maneuvering subsidies to provide protection to domestic produce. Level of subsidies is so high in developed countries that level playing field in agricultural trade is a far cry. To counter adverse effect of such support and subsidies on Indian agricultural are in the next round of negotiation in WTO, India should seek clubbing of all kinds of support to agricultural in one category and seek some parity among developed and developing countries.

Applies dynamic programming to the political economy of American agricultural subsidies. Their model emphasizes that a farmer's expectations about farm yield and government policy influence the decision to seek subsidies. The model was calibrated using an adjustment cost penalizing farms for expanding plantings. Government explored alternative policies, some of which may be outcomes of the Uruguay Round of the GATT. If farmers perceive a policy reform is permanent, there may be an increase in current output in order to increase future subsidies. That
some farms do build up base in anticipation of higher subsidies in an important consequence of these programs.

(R.K.Khatkar, 1992) [23] The Study showed that on an average total input subsidy constituted about 16 percent of gross domestic product. They were of the view that the fall in per hectare returns ranging from 10 percent to 59 percent cautions against the withdrawal of input subsidies. They conclude that to sustain the present pace of growth of agricultural production there is a need to continue the input subsidies by controlling leakage.
2.3 Reviews from Government & Other Reports

(Commerce, 2013)[24] The U.S. government’s subsidies enforcement program is contributing to the NEI’s goal of expanding U.S. exports, advancing economic growth and encouraging job creation. In this report he mentions detail about Subsidies Enforcement programmer for 2011. It is cleared that developed countries gives subsidies to agricultural sector & it’s positive impact on agricultural sector.

(Karel Mayrand, 2003)[25] The analysis of the potential impacts of the 2002 US Farm Bill and the Doha Round conducted in this study shows that the reform of agricultural domestic support policies can generate significant economic and environmental impacts. While the overall level of subsidies has significant impacts on the price of commodities, farm revenues, production and trade, the form that agricultural support takes is also very significant when determining the economic and environmental impacts of domestic support.

(Maria Wanzala-Mlobela, 2013)[26] Authors has suggested to Governments should withdraw from direct involvement in the importation and distribution of fertilizers. Instead, governments should allow for open competition in the importation and distribution of fertilizers with minimum government regulation and focus on providing the financial and economic incentives for market development. That is, the governments should provide farmers with the necessary purchasing power support to gain access to fertilizer while allowing private sector importation and distribution businesses to develop and expand their markets according to government regulations. The governments should decide on the level of support to provide to smallholder farmers and allocate the necessary funds for the subsidy.

(NickGrossman, 2006)[27] Input subsidies are the most expensive aspect of India’s food and agricultural policy regime, requiring a steadily larger budget share. India subsidizes agricultural inputs in an attempt to keep farm costs low and production high. GOI’s intended result is for farmers to benefit from lower costs, but also for them to pass some of the savings on to the consumers in the form of lower food prices. GOI pays fertilizer producers directly in exchange for the companies selling fertilizer at lower than market prices. Irrigation and electricity, on the other hand, are
supplied directly to farmers by GOI at prices that are below the cost of production. These policies result in effective subsidies to the farmer of 40 to 75 percent for fertilizer and 70 to 90 percent for irrigation and electricity. Input subsidies can also produce unintended effects. In calendar year 2007, India’s input subsidies were equal to 9.6 percent of the value of its total agricultural output compared to less than 5 percent for Brazil, Russia, and China.

(GOI, 2007)[28] A target was set in 2004-05 to double agricultural credit in three years. This goal was achieved in two years. The target for the credit flow to agricultural and allied sector had been fixed at Rs.1,75,000 crore during 2006-07. Against this target, the total credit flow to agricultural by Public & Private Sector Commercial Banks (CBs), Cooperative Banks and Regional Rural Banks (RRBs) was of the order of Rs.2,29,400 crore exceeding annual target by Rs. 54,400 crore. As against the farm credit target of Rs. 2,25,000 crore, an amount of Rs.1,62,701 crore has been disbursed up to December 31, 2007. It was proposed to assist 50 lakh new farmers through Commercial Banks and Regional Rural Banks during 2006-07 against which almost 60 lakh new farmers were assisted during 2006-07. For 2007-08, an additional 50 lakh new farmers are to be covered by the banking system against which 51.59 lakh new farmers have already been financed up to December 2007.
2.4 Reviews from Articles in Magazines, Website, Case Study

( Sumner )[29] Author mentioned that Modern agricultural subsidy programs in the United States began with the New Deal and the Agricultural Adjustment Act of 1933. Since the early 1930s, governments of wealthier countries around the world have used a dizzying array of schemes to support and subsidize farmers. Many countries shifted from penalizing farmers to subsidizing them and protecting them from imports of food grain. The U.S. government heavily subsidizes grains, oilseeds, cotton, sugar, and dairy products. Most other agricultural including beef, pork, poultry, hay, fruits, tree nuts, and vegetables (accounting for about half of the total value of production) receives only minimal government support. U.S. farm programs have cost about $20 billion per year in government budget outlays in recent years.

(Barry K. Goodwin, 2004)[30] Authors have found that subsidies have a significant impact on farm land values especially the subsidies with a built in insurance feature. They also report evidence that lease rates incorporate a significant portion of agricultural support, even if the farm legislation mandates that benefits must be allocated to farm operators. Taking advantage of the fact that some farmers rent land on both cash and share basis, authors find that farm programs that are meant to stabilize farm prices provide a valuable insurance benefit.

(Shah, 2007)[31] Author concluded that due slower growth in institutional finances through commercial banks, credit cooperatives, RRBs and LDBs, particularly during the decade of 1991-2000, and poor performance thereafter is mainly due to adverse environment created by the financial sector reforms. Due to unfavorable policy framework, the entire rural credit delivery system encompassing rural branches of commercial banks, cooperative credit institutions and RRBs is reduced to a moribund state NABARD has already taken several initiatives in this respect and revised unit cost for various farm sector investments on 10th September 2004 through unit cost committee, aside from providing a complete list of completed watersheds through RIDF to banks on farm development works with credit.

(McGraw−Hill, 2009)[32] Overall EU farmers receive approximately $134 billion a year in subsidies. Total agricultural subsidies in the United States amount to some $43
billion a year according to OECD figures. Japan is also a large subsidizer, providing some $47.4 billion in subsidies to farmers every year. European Union subsidies equaled 32 percent of that trading block farm economy, while the United States figure was 16 percent. One outcome of such subsidies is to create excess production. (Mookherjee, 2011)[33] Authors found that minikit delivered by local governments in West Bengal had a large impact on farm productivity, contributing 17%, 16% and 8% respectively to productivity growth in each of the three periods studied (1982-85, 1986-90, 1991-95). Collectively this amounts to over 40% growth, out of a total observed growth of 67%. The kits had no significant effect on cropping patterns or areas, implying that they were effective principally by raising crop yields. These benefits accrued uniformly across farms of varying size, and raised agricultural earnings of hired workers by an extent slightly smaller than the effect on farm incomes. Some of the other programs also contributed to rising productivity, such as tenancy registration, local government minor irrigation programs, and IRDP credit provision. But the most significant contribution was made by the minikit program.
2.5 Reviews from Books

(N.A. Mujumdar, 2006) Authors have mentioned relationship between agricultural subsidies & investment along with focus on agricultural policy in India. They also mention Agricultural price policy & development, some facts & emerging issue in Indian Agriculture. They also state that emerging trends & issue in public & private investment in Indian Agriculture. Finally conclude on state level analysis of investment & Agricultural productivity.

(Gupta, 2002) The subsidization of Indian agricultural has increases over the period. There if positive effect of subsidies on agricultural sector in India. Subsidy scheme would more beneficial to big farmers as compare to small farmers because of better resource position & high risk bearing capacity of big farmers in India. Finally he said that agricultural subsidies do effect on production, cropping intensity & cropping pattern in the desired direction. If government continuously provided subsidies to agricultural sector we can easily achieve set target of production.
2.6 Reviews from Thesis

(BRADSHAW, 1999)\(^{(36)}\) The model suggested that the removal of (or reduction in) any subsidy directed towards a specific activity, such as an input subsidy for fertilizer use, can be expected to, ceteris paribus; result in a short term reduction in that activity. This short term response was generally read as a positive outcome for the condition of the biophysical environment. Over the long term, subsidy removal was hypothesized to promote a variety of strategic responses from farmers, such as output diversification and production intensification, with mixed implications for environmental condition.

(Maliro, 2011)\(^{(37)}\) Author concluded that input subsidy programme has both positive and negative features. There is evidence that coupons have reached the intended target of 60 per cent of small farmers, and the fertilizer purchased has almost certainly gone beyond this coverage due to secondary redistributions that occur subsequent to primary allocations. And other hand some of the misallocation that occurs with regard to coupon distribution.

(TEOTIA, 2007)\(^{(38)}\) It was found that lower categories of beneficiaries after availing subsidies, devoted a lesser area for fodder cultivation and reverse was the case for higher categories of beneficiaries as compared to their counterpart’s non beneficiaries. Subsidy would benefit the big farmers more in view of their better resource position and high risk bearing capacity. Agricultural subsidies do effect production, cropping intensity and cropping pattern in the desired direction, therefore they should continue to be provided and judiciously used so as to achieve the set targets.

(Lister, 2011)\(^{(39)}\) In this study author made a comparative analysis between subsidy beneficiaries and non-beneficiaries. It found that Farmer Input Support Programme (FISP) has had a positive effect on asset accumulation and maize productivity for farmers in Mwembeshi Chibombo District of Zambia. This study discovered that food insecurity, poor governance structures, distress selling, lack of personal motivation and property rights to land were compounding factors for the persistent poverty among these farmers.
The study found that the intervention is overall household poverty reducing, comparison of the proportion of poor and non poor households that benefited from the subsidy programme indicates that the programme is biased to higher income households. Subsidies improve fertilizer adoption by smallholder farmers.
2.7 Reviews from White Paper, Working Paper, Periodicals & Others

(Grewal, 1992)[41] It found that progress of Punjab in agricultural sector is unparalleled in the annals world history. The state was deficit in food at time of independence. Due green revolution state has turns surplus in food grains. The Punjab state is one of the major beneficiaries of the agricultural subsidies provided by center & state Governments. The subsidies are provided on fertilizers, irrigation & electricity.

(Edwards, 2009)[42] Author has mentioned eight types of farm subsidy i.e Direct Payments, Marketing Loans Countercyclical Payments, Conservation Subsidies, Insurance, Disaster Aid, Export Subsidies & Agricultural Research and Statistics. And mention six reasons to repeal farm subsidies i.e. Farm Subsidies Redistribute Wealth, Farm Subsidies Damage the Economy, Farm Programs Are Prone to Scandal, Farm Subsidies Damage U.S. Trade Relations, Farm Programs Damage the Environment & Agricultural Would Thrive without Subsidies. The U.S. Department of Agricultural distributes between $10 billion and $30 billion in cash subsidies to farmers and owners of farmland each year. The particular amount depends on market prices for crops, the level of disaster payments, and other factors.

(Shenggen Fan, 2007)[43] Initial subsidies in credit, fertilizer, and irrigation helped farmers, especially the smallholders, to adopt the new technologies. Small farms are often losers in the initial adoption stage of a new technology because the increased supply of agricultural products from large farms that have benefited from new technologies pushes prices down. Agricultural research, education, and rural infrastructure are the three most effective public spending items for promoting agricultural growth and poverty reduction throughout the periods under study. In contrast, in more recent years, input subsidies (including fertilizer, electricity, credit, and irrigation) yielded very low marginal returns in both agricultural growth and poverty reduction, despite their large impact in earlier decades.

(Reddy, 1992)[44] Authors made micro level study of four District of Maharashtra Akola, Latur, Ahamadnagr & Nasik. In study authors found that majority famers felt that intensity of input due to subsidies. In case of Nasik District farmers felt that
subsidies are not only input increasing factor. Finally authors conclude that there is impact of fertilizer subsidies on agricultural development of Maharashtra.

(Barry K. Goodwin A. K.-M., 2011)[45] The farmers are in need of governmental support to remain in business. It demonstrates that land owners capture substantial benefit from agricultural policy. Many farmers are also landowners and thus have an important stake in maintaining agricultural policy benefit. A farmer that purchased land which react the value of anticipated benefit would certainly suffer a damaging capital loss if such support were to be withdrawn. As owners they benefit from the unexpected capital gains. The 2002 and 2008 Farm Bills, with their large increases in support expenditures, may have been such nice surprises. Increase in the share of transfers captured by farm operators. One valuable provision of the bill is that it owners to farmers the opportunity to update the factors which determine the level of some of the payments they receive.

(Antonio La Vina. Lindsey Fransen, 2006)[46] Agricultural subsidies and their impacts on the poor and the environment are part of a complex web that determines whether agricultural can serve as an effective vehicle for poverty alleviation and sustainability in all countries. Poor farmers in developing countries may not receive benefits unless these international decisions are accompanied by domestic policy reforms (summarized in Box 7) directed at making agricultural pro-poor and pro-environment. This reform agenda is relevant to developing country governments, and also to development organizations such as bilateral assistance agencies, multilateral cooperation institutions, private foundations, and development NGOs. It can serve as a guide for their financial and technical supports for development particularly their agricultural and environment portfolios.

(Pulapre Balakrishnan, 2008)[47] Authors analyzed that from 1949 to 1990 there is growth in agricultural sector but after 1991-2007 there is very slow growth due to government policy towards agricultural sector. They are also suggested that Agricultural policies in India have been reviewed from time to time to maintain pace with the changing requirements of the agricultural sector, which forms an important segment of the priority sector lending of scheduled commercial banks (SCBs) and target of 18 per cent of net bank credit has been stipulated for the sector.
Author stated that fertilizer subsidy accounts for a large share (about 37%) of total subsidies that the government provides and has increased by about 560 per cent during the last decade between 2003-04 and 2010-11. Though subsidy has contributed to an increase in use of fertilizers that has helped in achieving self-sufficiency in food-grains production but in some cases it has resulted in an overuse, which has an adverse effect on productivity. The findings of study indicate that withdrawal of subsidies will make farming unprofitable, particularly for small and marginal farmers and in less developed states/regions. Therefore, there is a rationale for subsidizing fertilizers in case of small and marginal farmers as well as less developed regions.

This paper develops and empirically tests a model that describes the channels through which these subsidies should impact agricultural productivity. To isolate the impact of electricity prices on groundwater extraction and agricultural revenues, exploit year to year variation in state electricity prices across Districts that differ in hydro-geological characteristics. Authors have found that a 10 percent decrease in subsidies would reduce groundwater extraction by 4.3 percent, costing farmers 13 percent in agricultural revenues. As predicted, electricity subsidies increased agricultural productivity along both the intensive - crop yields and extensive crop acreage margins. Authors have calculated small inefficiency costs from these subsidies roughly 96 to 97 paise of every Rupee spent by the government are passed along to consumers and producers.

Authors have said that, fertilizer is the single most important input underlying the growth in food and other crops during last four decades and it holds key to future growth in agricultural output in the country. Fertilizer use has witnessed spectacular growth in some parts of the country but its use is quite low in many states where it offers considerable scope to raise agricultural production. Further, fertilizer use at country level and in many states is highly concentrated towards nitrogenous fertilizer and a large imbalance has emerged between ratio of N, P and K applied by farmers and the ratio that is considered optimum. This is raising concerns regarding soil fertility, productivity and efficiency of fertilizer use. Structure of subsidy on fertilizer is often held responsible for distortions in use of N, P and K but empirical evidence on this is missing.
Authors have discussed theory and evidence on the incidence of U.S. farm commodity programs. Specifically, it has attempted to answer the question: what are the impacts of agricultural subsidies on consumers, taxpayers, and landowners as opposed to farm operators, who may be seen by some as the intended recipients of subsidy payments? The focus of the question is contemporary or forward-looking (that is, rather than a question about past impacts, concerned with economic history that may be relevant for understanding the present); and it is holistic, referring to the full impact of all of the programs together, allowing for the interactions among all the affected markets for agricultural products and factors.

Authors conclude that the significant increase in the access of rural cultivators to institutional credit and, simultaneously, the role of informal agencies, including moneylenders, as a source of credit has declined. They are suggesting that agricultural credit has been rising in recent years as a share of both the value of inputs and the value of output. Among the striking features of the agricultural credit scene in India are the wide regional disparities in the disbursement of agricultural credit by scheduled commercial banks. At the similar time the share of agricultural GDP is falling in total GDP.

The stagnation of agricultural investment has meant that enough productive capacity to sustain agricultural growth has not been forthcoming. At the same time political economy considerations have led to a burgeoning of the agricultural subsidies bill. The subsidy mix has not been well thought out and, more importantly, the subsidies are available for current production and not addition for productive capacity. Furthermore, there is widespread evidence that the more affluent farmers are able to garner a disproportionately large part of the subsidies. Hence the subsidy incidence is inequitable. At the same time, the stagnation of agricultural has led to a spillover of problems into other areas particularly, but not exclusively, in the area of unemployment. Indian agricultural subsidies, though at historic high levels, are low when compared to European or US levels. However, there is an urgent need to put into effect an expenditure switch from subsidies to investment to lift Indian agricultural from its current stagnation.
Author examined some of the leading issues on subsidies and investments in India Agriculture. The conclusions of the paper are summarized. During the initial stages of the adoption of new technology in agricultural some of these subsidies may be justified as ‘front-up costs’. Some estimates show that cultivators receive only 50 per cent of the budgeted fertilizer subsidy. Withdrawal of fertilizer subsidy may have adverse consequences on agricultural production in the short run. Improvement in the efficiency of supplying inputs is important while withdrawing subsidies. There has been an absolute decline in public investment during the 1980s. It further declined in early 1990s before picking up in 1994/95. The real gross capital formation in agricultural by the private sector has increased since 1987/88. The total agricultural investments were higher since 1992/93 mainly due to higher private investment.

Author analyzed that, the input subsidies have played an important role in successful agricultural development in the past, offering major potential gain when effectively applied to overcome market failures constraining growth in poor rural areas, but also carrying substantial risks of costly, ineffective and inappropriate design and implementation using large amounts of scarce government and national resources for little gain.
2.8 Summary
In review of literature chapter researcher has gives review of twenty three research papers in national & international journals, five government and other reports, two books, five thesis and fifteen combination of Bulletins, White Paper, Working Paper, Periodicals & Others. The subsidies are beneficial to agricultural sector but problem in distribution of subsidies to agricultural sector. Agricultural subsidies make effect production, cropping intensity and cropping pattern in the desired direction, government should continue to be provided and judiciously used so as to reach the set targets. Withdrawal of subsidies will make farming unprofitable, particularly for small and marginal farmers and in less developed states/regions. The subsidy programme has both positive and negative features. The subsidies in credit, fertilizer, and irrigation helped farmers, especially the smallholders, to adopt the new technologies
2.9 References


Chapter – 2: Review of Literature

http://www.usitc.gov/publications/332/executive_briefings/EBOT_IndiaAgSubsidies.pdf

   http://eml.berkeley.edu/~webfac/bardhan/papers/wbfarmprodbraejrev2jan115.pdf


