CHAPTER 2

REVIEW OF LITERATURE

World Trade organization is an international organization based in Geneva that monitors and enforces rules governing global trade. The WTO mediates when trade disputes arise, and generally works to reduce obstacles to freer trade. The agreements in WTO provide the legal ground-rules for international trade, commerce, agriculture and Intellectual property. But there will be a large gap between what developing countries wants from the agriculture negotiations and what they will get, but they are working together better than they ever have before to achieve common goals.

Agriculture has been, and perhaps will remain for some time, a key issue in the WTO, with the power to influence negotiations, packages and the outcomes of Ministerial Conferences.

India is proud to have been a founder Member both of GATT and of WTO. Over the years, our negotiators have played a prominent role in shaping the contours of the multilateral trading system as it exists today. It is equally sensitive in the Indian context. To understand these sensitivities fully, including India’s emphasis on self-sufficiency, it is important to keep in mind the extreme shortage of food grain that the country faced in the 1950s and 1960s and a little over 700 million people that is about 69% of the population, are dependent on the rural economy for their livelihood.

The Doha negotiation is not completed till now. So here India has large to do for agricultural negotiation. Here my study has a large scope to do. The main objective of review of literature was to illustrate the idea of synthesizing the
literature available, stressing the weaving together and integration of threads contained in previous writings on the selected topics. Some of the relevant review is here by discussed following.

Based on some of the available literature on the subject, the present chapter attempts to present a brief review of the recent growth performance of Indian agriculture and some of the agricultural support policies that have a major impact on agriculture. The chapter provides a brief description of the status of WTO negotiations in agriculture and the Indian stand on some of these issues under negotiation. The studies reviewed in the present chapter is devoted some headings like General WTO, AoA, TRIPS, SPS and TBT, Indian foreign trade in Agricultural trade and food security.

For the easiness of study, the literature review has been discussed by categorizing through following sub headings

1. General Outlook of WTO and Indian Agriculture
2. Impact of AoA on Indian Agriculture
3. Implication of TRIPs, SPS, TBT on Indian farmers
4. Impact of WTO on foreign trade on agricultural product
5. WTO and Food security

2.1 General Outlook of WTO and Indian Agriculture

1. Vyas (1999) presented India's attitudes to the second round of WTO negotiations from the standpoint of an emerging dairy nation. The main issues that India wished to be raised in the negotiations were: import duties, particularly in relation to dried milk and dried skim milk, Special Safeguards, export subsidies, Sanitary and Phyto Sanitary measures, and the multi-functional role of dairying.

This book *(Trade Liberalization, WTO And Indian Agriculture)* is an outcome of the series of research studies undertaken by the author on the theme of WTO, Trade Liberalisation and Indian Agriculture during the last six years. The book compares trade performance and trade flows of agricultural commodities in pre and post WTO period to find the impact of Uruguay Round Agreement on India's agricultural trade. The author presents in depth analysis of behavior of international prices and discusses implications of volatility in international prices for domestic agriculture under liberalized trade. The book explains the role of WTO and cyclical nature of international prices in affecting Indian agriculture and its competitiveness. Contentious issues in trade and in implementation of Agreement on Agriculture (AOA) and strategy for future negotiations are discussed in detail. The author emphasizes changes in domestic infrastructural, institutional and legal framework to improve competitiveness of Indian agriculture and its capability to face the threats and opportunities thrown by the new trade agreement. The book presents factual position relating to global agricultural trade before and after WTO and broad issues concerning developing countries. Issue of food security in relation to trade liberalisation has been addressed separately. Policy conclusions and future strategy for adjusting to post WTO situation are presented towards the end.

3. **Samar K. Datta (2002).**

Samar K. Data discusses issues related to India’s non-trade concerns (mainly food security and environmental aspects) and trade matters (import and
export competitiveness) and provides an economists critique of WTO framework. He then attempts to spell out appropriate domestic reform measures and international negotiations strategies to be pursued by India in order to meet the challenge to Indian agriculture posed by the process of globalization and to convert threats into opportunities for developing agriculture and enhancing export earnings.

4. Swaminathan (2002). Discusses about Indian agricultural crisis through “Why Indian farmers need WTO” Now a day’s agriculture crisis in India is excess of production and not the shortage of production. We have a food grain mountain of over 60 million tonnes, as well as a mountain of unsold sugar. The transformation from scarcity to excess should have made India a great agricultural exporter. Instead, Indian farmers are angry and fell in misery. Exporting is reduced because of global agricultural prices have been falling for two decades It shows that between 1980 and 2001, the price of rice crashed from $571/tonne to $179/tonne; of wheat from $219/tonne to $131/tonne. The same step downtrend is evident in other agricultural commodities like cotton, sugar, coffee, soyabean, maize, tea, rubber, beef, coconut oil or palm oil. This was happened because of every country in the world has subsidised agriculture so much for so long that surpluses have grown everywhere. As incomes rise, people spend an ever smaller proportion of income on foods. Meanwhile, the spread of new technology the world over has revolutionized farm yields. The combination has meant rising gluts. Some countries have diversified into non-traditional crops, creating further surpluses. But the biggest reason for gluts remains huge subsidies in Europe, the USA, and Japan.
Farmers are a powerful vote bank the world over. They force governments to keep subsidies and import tariffs high. Every country is subsidising exports at less than cost, so prices are crashing. In such circumstances, global prices represent massive dumping. Obviously, India needs to diversify out of agriculture into industry and services. But 60 per cent of the population is still mainly in agriculture, and cannot be redeployed quickly. Besides, modern technology keeps reducing the employment potential of industry, and indeed of agriculture. So our agricultural crisis is becoming an employment crisis.

In sum, few things are more important for India than a globally agreed reduction in agricultural subsidies under the WTO. Predictably, India’s own stand at the WTO has been myopic and hypocritical. He concludes that Indian farmers do not need ever-rising subsidies. What they need is freer international trade. That is the path to prosperity.


This book (WTO and Regionalism in World Trade) examines and evaluates the impact of the establishment of WTO and the various regional trading blocs on the pattern and development of international trade. It describes the interface between the new rules of international trade given by the WTO and the requirements of different trading blocks. The trading blocks focused on are: European Union (EU) in Europe, Association of South East Asian Nations (ASEAN), South Asian Free Trade Area (SAFTA), Asia Pacific Economic Co-operation (APEC) in Asia, and North American Free Trade Areas (NAFTA) and Common Market of the Southern Cone (MERCOSUR) in Americas. WTO is expected to administer its trade agreements, provide forum for trade negotiations, handle trade disputes, monitor national
trading policies, provide technical assistance and training to developing countries, and co-operate with other international organisations.


This book (Indian Economy in the 21st Century: Prospects and Challenges) explains the key reform measures undertaken in various sectors of the Indian economy since 1991. It examines their rationale, contents, and impact. Furthermore, the work puts in perspective the emerging lessons for the future. To provide the necessary backdrop to the new order, appropriate comparisons are made with the policies pursued prior to reforms period. However, the focus of the study is on current scenario and future prospects in various sectors of the Indian economy. The overall approach to the subject is descriptive, analytical, and at places normative.

The new Government at the Centre, which assumed office in May 2004, has given enough indications, through its Common Minimum Programme (CMP) [later rechristened as National Common Minimum Programme (NCMP)] and the 2004-05 budget proposals presented to Parliament on July 8, 2004, that it intends to proceed further with the economic reforms programme underway.

7. Rais Ahmad (2009)

He deals with the multi-faceted dimensions of Indian agriculture and our relationship with WTO through his edited book “WTO and Indian Agriculture”. The positive and negative aspects of WTO regulations starting with the Uruguay round agreement and extending up to the present day have been brought up very clearly. It also dealt with great clarity, the various implication of farm exports and imports for the well-being of
farmers as well as the Indian economy as a whole. The Author explains food security, the livelihood security of the farmers and the welfare of the consumers.


In his opinion WTO is receiving the deepest indulgence of everyone, as it is affecting the major sectors of Indian economy and agriculture in particular now and more intensively in the coming years. A major concern growing with the increasing impact of WTO is, as to how the small and marginal farmers’ who dominate the Indian agriculture, depend heavily on agriculture for their livelihood, have small marketable surplus and operate under heavy constraints to be competitive in a subsidized agriculture production and trade regime, could benefit from WTO. The concern more often swings to the other side that the spreading tentacle of WTO with reduced tariff regime and increased access to Indian market for the products from subsidized agriculture could severally damage the agriculture based livelihood of majority of Indian farmers.

The challenge to policy makers is how to protect Indian agriculture from the impending WTO threat, enhance the competitiveness of Indian farming and make farming a viable and self sustaining enterprise to improve and ensure livelihood security of the farmers. A strategy to address this challenge shall necessarily involve re-orientation and injection of market linked dynamism in Indian agricultural R&D, strengthening of supportive institutions to serve the resource poor farmers, and steering fast the change with appropriate policies and trained human ware.

He starts his articles by calling readers, if you gone through last 17 years of economic dailies and economic magazines, business dailies and business magazines, even vernacular dailies and books written and also edited by different authors in Indian and abroad, you could see that around forty percent of the research articles and papers, editorials, reviews related World Trade Organization (WTO) and WTO related issues only particularly about agriculture. Why this particular area attracted this much attention from politicians, bureaucrats, academicians, business persons, critics in India and abroad? The simple reason is, this is the only organization at the world level where you could see a clear cut differences exist between developing countries and developed countries. He argues that the root cause of distortion of international trade in agriculture has been the massive domestic subsidies given by the industrialized countries to their agricultural sector over many years. This in turn led to excessive production and it’s dumping in international markets as well as import restrictions to keep out developing countries agricultural products from their domestic markets. Hence, the starting point for the establishment of a fair agricultural trade regime has to be the reduction of domestic production subsidies given by industrialized countries, reduction in the volume of subsidized exports and minimum market access opportunities for agricultural produces worldwide. He suggests that India has a uniquely important contribution to make at this point to restart the Round. This is to show some further flexibility on agriculture. Not to the extent of opening India’s huge agricultural subsistence economy to global competition. But by moving
where you can to allow other limited but real market access, including in some difficult commodity areas.

10. **V. Balasubramanian** discusses the negative and positive benefits of India as WTO member through his paper “WTO and Indian Agriculture Insight, Implication and imperatives”. He notices some problems of Indian farmers. Firstly the governments of developed countries spend huge amounts on agricultural subsidies. This has resulted in the decline of prices of agricultural commodities in the world market. The policies of the Indian Government have compelled the farmers of the country to compete with cheaper foreign agricultural commodities when they have to spend more and more for ever increasing cost of agricultural inputs such as seeds, fertilizers, pesticides, electricity, etc. Increasing cost of inputs, decline in growth rates and lower prices of outputs have adversely affected the farmers and it has accelerated the indebtedness, desperation, destitution and starvation to a vast majority of rural people particularly the small and marginal farmers and tenant cultivators in India. He says two major factors are responsible for the present downfall of Indian agriculture. First, the government has substantially reduced the development expenditure in agriculture sector owing to its eagerness to reduce the fiscal deficit. Secondly, import liberalization has contributed in a big way for the reduction in prices of agricultural products. Having failed to get remunerative prices for their products, many farmers have curtailed their farm operations which in turn have increased unemployment among the agricultural workers. Thus import liberalization is a major cause for the existing plight of poor farmers. He analyzing that the crop uncertainties due to vagaries of nature and perishability of most of the agricultural
commodities make the supply erratic. Hence the alternating shortage and surplus resulting from bad and good harvests destabilise the prices and earnings for the producers. This has made our export earnings uncertain and instable. Export earning instability will have an impact on domestic instability and reduce the efficiency. Hence India’s opening up of agriculture to the world trade and increased emphasis on production for exports is therefore likely to bring economic instability within the country and consequently, instability in the earnings of producers and their patterns of investment.

11. **L. S. N. Prasad ("n d")** is trying to highlight the benefits derived by developing countries especially India from agricultural trade due to WTO through his article “WTO Norms and Indian Agriculture”. According to him it is unjustifiable to criticize WTO by interested politicians, intellectuals and sections of the media have been focusing on some negative aspects of the WTO’s rules and regulations. Actually there are a number of articles in the WTO’s provisions that are useful to developing countries. These articles are meant to curb the exploitation of one member by another. In opines that domestic subsidy given by developed countries is higher than India’s even though where dependent population of agriculture for livelihood is less than 10%. India must reschedule its tariff line according to WTO. Thereby India is committed to reduce tariffs on 686 agricultural products. The average tariff on agricultural commodities was 115% before the agreement. After the agreement it has been reduced to 35%. We must recall, in this context that two decades ago India agreed at an international meeting to reduce the tariff either to zero or to a minimum level on the import of dairy products. And in the case of edible oils we
agreed (binding) to impose a tariff of up to 150 percent but the bounded duty at present is 0. With a duty reduction on edible oils as low as 25%, hundreds of oil mills have closed down, groundnut farmers are unable to get a minimum price and even compelled to dispose of their product at huge losses. Then he point out some challenges of Indian agriculture in WTO contest. Firstly Indian agriculture needs lots of investment to have large scale production. By this we can reduce production costs. Instead of criticizing WTO we have to think of an alternative system. Redistribution of land to the landless poor through the various land ceiling acts leads to fragmentation which will be a hurdle to improved production as well as productivity. Another challenge is concerned to Patent System. Plants such as neem, turmeric and products such as Basmati (scented rice) are patented or about to be patented by American companies. It is strange that in India these have been household plants used in cooking and for medicinal purposes since ancient times. The system of Ayurveda has existed since times immemorial. All medicinal products based on plants and plant products must be patented by Indian companies. Conceding the patent rights to an American based company is ridiculous and we have to take this up with the WTO’s Dispute Settlement Board (DSB) at Geneva.

12. **K.N Ravi at al Kumar**

He says that several recent studies on the causes of poor performance of agriculture, often relate to WTA and its likely adverse implications against promise. It is also a fact that WTO agreements are now a reality and these agreements can only be modified. The global scenario in future is going to become more competitive and the pressure for liberalization of Indian domestic market would also grow. In this context, it is thought appropriate
to critically analyze the implementation experience of WTO provisions on Indian agriculture. This is because, it facilitates to compare the realities faced so far against the myths hypothesized at the time of formation of WTO. An attempt was made in this direction by analyzing the prospects and retrospects for India with reference to exports, imports, net trade, export competitiveness, SPS measures, AMS requirements etc., in the context of WTO and comparative picture was drawn with reference to pre-WTO regime. This facilitates India in taking active part in the future negotiations to its advantages with sound arguments and for designing the policies and economic activities for sustainable agricultural development. Further, it facilitates to devise appropriate domestic policies and strategies, identification of strengths and weaknesses of domestic produce vis-a-vis major competing players and to improve export competitiveness. This book is timely, in the sense that, it provides critical appraisal of the major issues of Indian agricultural trade and suggests the potential areas for making the Indian agricultural trade a viable perspective in the global market.

13 Anwarul Hoda described as an editor through his book entitled ‘WTO Agreement and Indian Agriculture’ indicates that in India, the WTO Agreement has been dogged by controversy from the very beginning. This volume attempts to capture this ongoing debate. An interesting feature of this book is that it is interactive. Nine papers on the subject have been interspersed with arguments and counterarguments on them to flesh out the various strands in the controversy making it comprehensible to the interested reader while placing a wealth of data before the expert.
2.2 Impact of AoA on Indian Agriculture


   He discusses on the implementation of Uruguay Round commitments by the major industrialized countries with special reference to dairy products. He brings out the deficiencies and shortcomings both in the framework of the WTO agreement and the modalities of the negotiations, which led to the wide gap between expectations and actual liberalisation effected by these countries. In conclusion, he lists out a number of issues that need to be addressed in the resumed negotiations in order to reduce or eliminate the economic distortions that continue to afflict world agriculture in general and the area of dairy products in particular.

2. **Sompal (2002)**

   Sompal examines in general terms the implications for India of the Agreement on Agriculture for India and makes some suggestions on the stand that India must adopt at the current negotiations on the subject. He covers also the questions relating the widening of the agenda of the proposed round of multilateral trade negotiations and the stand that India must take on these border issues. He also dwells on the need for domestic policy reforms in India including deregulation and decontrol of internal and external trade and processing of farm products and pleads for increasing public investment in agricultural infrastructure.

3. **Vandana Shiva (2003)**

   Critically examining WTO Agreement on Agriculture through her article “Free Trade Industrial Agriculture Rules Threaten the World’s Farmers: The World Trade Organization Agreement on Agriculture. According to her modern day’s agriculture is ruling by corporate world
where small farmers are unable to compete with cheaper imports. WTO predicts that through Domestic Support the developing countries and developed countries scientifically reduce subsidies to producers. However there is a false assumption that this will make small farmers and the Third World more competitive and lead to prices that reflect the true cost of production. And, the articles on Domestic Support target only a small fraction of subsidy reductions in agriculture. Additional subsidies enjoyed by global agribusiness and trading interests, such as subsidies for investment, fertilizer, marketing, and infrastructure, meanwhile, all are exempted. Through Market Access WTO demand to convert all non-tariff measures on imported foods to ordinary custom duties. Through this developing countries compelling to avoid even quantitative restriction which is used to protect domestic farmers from highly subsidized food imports. So farmers of developing countries are suffering big losses. Through export competition WTO asks for removal of export subsidies, but this article helped E.U and U.S to sell more of their product on world market. She also given some suggestion measures like there should be a freeze on all further trade liberalization of agriculture and on implementation of current rules. And an exemption clause should be introduced into the WTO that allows countries to keep agriculture outside trade liberalization. Export subsidies in all forms should be removed, including the disguised subsidies in export guarantee and credit schemes, investment and transport.

4. Parthapratim Pal (2005) discusses through his paper “Current WTO Negotiations on Domestic Subsidies in Agriculture: Implication for India” about domestic support and their bad effect on developing countries on
special reference to Indian agriculture. He opines that agriculture was among the most distorted sectors in international trade. The principal source of these distortions was the coexistence of very high level of domestic and export subsidies and almost impenetrable import barriers for temperate zone agricultural goods in developed countries. The Uruguay Round negotiations explicitly recognized the extreme trade distorting impact of domestic support and the necessity to impose restrictions on it. Domestic support encourages overproduction, which in turn increases supplies in world markets (by reducing import demand or increasing export supply) and depresses world prices. This paper analyses the present state of play of WTO negotiations and evaluates how effective the current WTO provisions will be to reduce domestic subsidies in developed countries. This paper looks closely at the domestic subsidy reduction provisions of the July Framework and analyses these issues, particularly from India’s point of view. This paper also reviews the post-July framework negotiations on agriculture and analyses the draft Honk Kong Ministerial text. The July Framework has been seen by many developing countries as a breakthrough that would eliminate billions of dollars in farm subsidies. The findings of the paper suggests that the broad framework of subsidy reduction, as outlined in the July package, can be considered as a step towards the right direction but it does not guarantee significant reduction in subsidies. India has followed a two pronged approach towards domestic subsidies in the current negotiations. On the one hand, India wants substantial reduction in domestic subsidies in developed countries. On the other hand, it proposes that there should be sufficient flexibility in the rules to allow developing countries pursue support measures towards non-trade concerns like poverty
alleviation, rural development, rural employment and diversification of agriculture.

5. **Kaliappa Kalirjan and Kanhaiya Singh (2006)** discussing about issues related to the WTO’s Agreement on Agriculture from India’s point of view through their paper “India and the WTO's Agreement on Agriculture (A-o-A)”. Why India should work towards the success of the Doha Round is also discussed. They opine that, India does not have to worry about its subsidy, as it is already below the required line and it also does not have any domestic support to reconcile. Moreover, the ongoing negotiations are likely to yield enough flexibility in product choice and tariff selection. Therefore, India should work towards the success of the Doha round and in the mean time make use of the opportunity to reform its domestic market to bring in more efficiency. With favorable bound rates for agriculture onboard, the negotiating framework of India must be different from that of other developing countries. The situation is highly tenacious for India, particularly in view of the fact that the developed countries have managed to link agriculture subsidy with the market access in services and industry.

6. **Anwarul Hoda and Ashok Gulati (2007)** described about Indian agriculture in Doha Round of WTO point of view, through their book entitled by “WTO Negotiations on Agriculture and Developing Countries Book Description”. The World Trade Organization's Doha Round of trade talks has been plagued by a lack of concrete progress toward establishing a fair and harmonious agricultural trading system. Because the results of the Doha Round could have far-reaching implications for the trade and economic prospects of developing countries in the twenty-first century, it is critical for these countries to fully understand the issues involved in the negotiations
on agriculture. However, there has been no authoritative analysis of the rules and modalities on which governments of developing countries can rely. This book, coauthored by an insider to the trade talks that led to the establishment of the WTO, fills this gap. It examines the implementation experience of key members of the WTO, and then traces the developments in the negotiations up to the recent impasse. In light of these considerations, and on the basis of a case study of India, the authors propose various elements of a negotiating position and strategy for developing countries. The authors offer tough but realistic recommendations regarding tariffs, market access, treatment of sensitive or special products, and other aspects of international trade.


The book entitled “The WTO Agreement on Agriculture” provides an in-depth examination of the substantive provisions and the disputes that have arisen in each of these three areas. The WTO Agreement on Agriculture subjected agriculture to a set of international rules for the first time in the history of international trade. Ever since its negotiation, the Agreement has been at the forefront of the controversy surrounding the purpose and impact of the WTO itself. The commentary is structured around the three areas of reform initiated by the Agreement - market access, domestic support and export competition.

In addition, the book situates these provisions against their background in pre-WTO regulation. It analyzes the operation of the 'Peace clause' and assesses the impact of the clause's expiration. The commentary concludes by assessing the Agreement's accommodation of and impact on developing
economies, and examining the process of reforming domestic farm subsidies, one of the dominant issues currently confronting the WTO.

8. Munisamy Gopinath (2008), wrote a paper about Domestic support in India’s point of view entitled “India: Shadow WTO Agricultural Domestic Support Notifications”. In this study, he broadly outlined India’s domestic support (DS) policies and our understanding of their classification and measurement for the purposes of official notifications. First of all he is describing about Indian agriculture at the beginning of WTO in 1995. India’s official notifications began in 1995 with green box support of nearly US$2 billion and limited use of special and differential treatment. The product-specific aggregate measure of support (AMS) was negative because external reference prices were larger than minimum support prices. Non-product-specific AMS, by way of fertilizer, electricity, irrigation, credit, and seed subsidies, accounted for about 7 percent of the value of agricultural production in 1995. In subsequent notifications, for 1996 and 1997, several key changes were observed. The first was the transfer of 80 percent of fertilizer, irrigation, and electricity subsidies from non-product-specific Aggregate Measurement of Support to special and differential treatment of low-income and resource-poor farmers. Shadow notifications, based on our understanding of the underlying methods, showed that green box support had grown to nearly US$8.0 billion in 2005. Non product-specific AMS accounted for about 1 percent of the annual value of agricultural production for 1998-2005. With India’s general elections expected in early 2009, the immediate future includes popular policies such as credit subsidies and significant growth in minimum support prices. Nevertheless, non product-specific AMS would not likely exceed the limits proposed in the Doha
Round (that is, 10 percent of value of production) even with popular policies. However, product-specific AMS would turn positive, especially in cereals, with high growth in support prices and the appreciation of Rupee as seen in recent years. There is a declining importance of agriculture as a source of India’s exports since 1995. Except for meat products, none of the major agricultural exports shows a clear upward or downward trend.

9. **Bindu Samuel Ronald ("n.d")**

The aim of this paper Market Access for Agricultural Products” is to analyze the implications of signing the WTO agreement on market access for agricultural products. An attempt will be made to assess whether exports of Indian agricultural produce have increased post WTO period, as contemplated, or whether the signing of the WTO has opened the Indian markets to cheaper agricultural products from other countries, thereby creating a surge in agricultural imports and in the process harming the domestic farmers. During the Uruguay Round, it was expected that following the AoA, distortions in agricultural trade would be reduced. It was also expected that the contemplated fair trading regime would help the efficient producers in realizing higher prices for their products. On the contrary, prices of most agricultural commodities are declining in the world markets.

2.3. **Implication of TRIPS, SPS,TBT on Indian farmers**

1. **Bhasin (1998)** identified the Trade Related Intellectual Property Rights (TRIPs) Agreement, set out in the text of the Uruguay Round of GATT and
the policies adopted by the World Trade Organization. The study covered patents, copyrights, trademarks, industrial designs, layout designs of integrated circuits, undisclosed information and geographical indications. These aspects of the Agreement were discussed in relation to existing Indian legislation, and their implications for the Indian dairy industry.

2. Satish Y. Deodhar (2001), conducted study on quality matters of Agri-food through his paper on “In a Freer WTO Trade Regime, Food Industry Must Focus on Quality management”. In the new WTO led freer trade environment, Indian food industry can compete globally only if it is price and quality competitive. While many have addressed price competitiveness, sensitizing food industry on the importance of quality competitiveness has become essential. Mainstream management research has studied quality management in manufacturing sector extensively. However, there is scant attention paid to quality management in food sector. He also attempts to relate various dimensions of quality and quality management systems in the context of food industry. In a liberalized world, it is the price and quality competitiveness that is going to generate more jobs and income domestically, earn or save precious foreign exchange and ensure food security to the nation. In fact, Indian food industry is faced with asymmetric trade opportunities. In this context, a tangible system an agribusiness could employ in a reasonably well-planned manner is the HACCP system. HACCP is a Quality Assurance system, and, although ‘safety’ of food products is the overriding quality dimension considered in this system, it provides a systemic approach to address other dimensions of quality as well. At this time there are a number of foreign consultants and a few Indian consultants who specialize in development of HACCP system for individual
firms. These consultants could be an expensive proposition for small entrepreneurs. However, some training programmes on HACCP may be initiated by central or state governments that impart HACCP training to employees and entrepreneurs of food companies. In fact, with the long-run perspective in mind, there is a need to conduct management development programmes on food quality issues. Such programmes will not only sensitize the entrepreneurs to quality as a competitive weapon, but prepare them to develop their own strategic quality management practices. In a freer WTO trade regime, food industry must focus on these issues in right earnest.

3. **Satish Y. Deodhar (2002)**

Satish Y. Deodhar examines the implications of the Agreement on Sanitary and Phytosanitary Measures (SPS) and the Agreement on Technical Barriers to Trade (TBT) for India. Food safety and quality norms in importing countries affect trade in agricultural products. In order to minimize the adverse effects for India’s exports of these norms he suggests steps for encouraging the adoption of the food quality management system called Hazard Analysis and Critical Control Points (HACCP) and for training manpower to handle post-harvest quality management practices and food processing activities. He emphasizes the need for India to participate actively in the development of standard undertaken by international standardizing bodies and for certain amendments in the SPS agreement.


Anil K. Gupta elaborates on the role that on that intellectual Property Rights (IPRs) can play in creating global presence for the farm sector in Gujarat. He argues that a stronger IPR regime could provide impetus to the
creative and innovative elements of our society to assume leadership for future growth. The potential of grassroots innovation is important according to him for generating green technologies and the need for developing a low cost system for protection of IPRs to encourage such innovation. Anil K. Gupta also takes up some specific issues that have been raised on the legislation and legislative proposals in India on patents, biodiversity and plant variety protection.

5. **Elisabeth Barham** (2004) (Assistant professor at the University of Missouri, USA) presented her research on the specificity of geographical indications as an intellectual property right and the interest of GI in a development perspective. Following the completion of case studies in countries like France, Portugal and Canada that showed that geographical indications (GIs) can support local development and sustainable development, Dr. Barham started preparatory works to establish a *sui generis* protection of GIs for agricultural products in the State of Missouri in the USA. Dr. Barham considers that “GIs have an important role to play if we are building a system of trade where local can be part of global”, especially because GI is the only intellectual property right that relates to a specific place. GIs belong to a region and it is not possible to move them from their territory. Moreover GIs make it possible to maintain the local characteristics of the product they identify and therefore their intrinsic qualities. In her research, Dr. Barham found that GIs can also contribute to developing employment in decentralised regions and other economic activities like tourism. Dr. Bahram concluded by hoping that producers will be able to benefit from a system of GIs that will ensure fair trade in the global trade for small producers located in decentralised regions.
6. **Mrs Zoubida Charrouf (2004)** (Representative of the Argan Oil producers, Morocco) studied the potential of GI for developing countries through the example of the Argan Oil. The project of the Argan Oil is the perfect illustration of the numerous and positive impacts that a well organised and developed GI can have on the local, economic and social development of a region: **Thousands of people live on the production of the Argan Oil in a very poor region of Morocco and most of them are women.** The valorisation of the product is accompanied by development of new economic activities in the region, like tourism or little shops close to the cooperative – Alphabetisation campaign has been launched in order to enable the continuity of the project among the women – Trees are planted regularly to enable a production on the long run, to help the fight against the progression of the desert and the erosion of the land, to prevent rural exodus and to ensure a preservation of the biodiversity. But Mrs Charrouf clearly pointed out that to enjoy all these benefits, it is essential to valorise the product and to make the local producers aware of its great value.

Scientific researches were therefore launched confirming the medical, cosmetic and nutritive qualities of the Argan Oil, all qualities that were part of the traditional knowledge of the local population. In addition, a process aimed to get together all the actors of the Argan Oil was launched in order to get a protection through GI. Mrs Charrouf is convinced that a protection through GI is the best solution to allow this project to continue to have its positive impacts. The development of GI on a typical product such as the Argan Oil will provide increasing income for the local producers and will enable them to keep the economic benefits in the region by controlling all the fabrication steps of the production.
7. Mrs. Agnes Nyaga (2004) (Vice President of ORIGIN for Africa and representative of the Kenyan Tea Board, Kenya) presented an African perspective of the fight against costly abuses and freeriders and the importance of extension for developing countries producers. Explaining that GIs are a new concept for African countries, Mrs Nyaga indicated the necessity to continue to better develop the awareness of the African producers on the potential of this intellectual property right. For her, GIs can help producers to better market their unique and differentiated products and ensure better market access. Taking the example of the Kenyan tea, she explained how GIs can allow producers to benefit from the added value brought to the products along the supply chain. For Mrs Nyaga, “GIs can play an important role for African countries which have an economy based on agriculture. They can contribute to the realisation of government policies on poverty eradication and sustainable development”.

8. Brigadier Anil Adlakha (2004) (Executive Director All Indian Rice exporters Association, India Vice- President of ORIGIN for Asia) recalled that the producers’ of the GI’s objectives with regard to the enhancement of the protection of GIs in the DDA cover both the extension of the protection under Article 23 of TRIPS Agreement to all GI products and the establishment of a legally binding multilateral register. He also pointed out the advantages for the protection of GI’s and the costs and their importance for consumers. He concluded by saying: “the WTO must respond positively to our request as better GI protection would benefit millions of people who are depending on traditional and local GI products. This could become a key success factor for the Doha Development Agenda (DDA)”.

9. **Mrs. Dawnine Dyer (2004)** (representative of the Napa Valley Vintners Association, USA) gave an American perspective on the ongoing negotiations on GIs in the DDA, explaining the importance of a better GI protection for Napa Valley wine producers. Explaining the system of protection that exists in the United States and in the State of California for the protection of GIs for wines, Mrs Dyer recognised the economic value of place and place names for the commercialisation of typical products such as wines. Such products take all their characteristics, qualities and reputation from the place where they are produced. She also pointed out the huge costs that Napa Valley wine producers have to defend their trademark “Nappa”. Outlining some deficiencies of the current protection existing for GIs for wine in the US, she stated the strong interest and support of her association to enhance the protection of GIs for wines by the US government, in order, for instance, to better prevent the abusive use of GIs in advertising or trademarks that mislead the public.

10. **Mr Feng Li Ming (2004)** (Director, Camus Cognac, China) gave a Chinese perspective on the ongoing negotiations on GIs in the DDA, explaining the interest of GIs for Chinese producers and the importance of a better protection of GI at the international level. The legal work on the establishment of a protection for GIs in China started in 1994 with the question of the protection of the French GI “Cognac”. In 2000, a Ministerial decree was adopted ensuring the protection of GIs in China. More interesting was the fact that even without any legal protection the notion of GIs has been very present in the Chinese mentality for century: the example of the Long Jing tea trees selected by the imperator of China is the clear illustration of the understanding of the GI concept. China is a country with a
very long agricultural tradition and very traditional and typical products. Several products already deserve a protection as GI in China, such as “Long Jing Tea, Shao Xing Yellow Wine, Moutai Alcohol”. Chinese producers have already seen the positive effects of GIs protection recuperating in particular the markets for yellow wine in third countries.

11. **Mr Stefano Fanti (2004)** (Managing Director, Parma Ham Consortium, Italy) presented a European perspective on the ongoing negotiations on GIs in the DDA. He explained the importance – for producers and consumers - of the extension of the protection of Article 23 TRIPS Agreement to all products and the establishment of a multilateral register. Mr Fanti pointed out some of the problems that Parma Ham producers face when trying to get a GI protection for their product in many countries. He underlined why the protection of GIs through trademarks is not always adapted: refusal of the registration of the trademark “Parma” as being descriptive, prior trademarks, etc. He also outlined the disadvantages of Article 22 TRIPS Agreement protection and the fact that the protection of Article 23 TRIPS Agreement would be more effective to prevent the abusive uses of the Parma Ham GI. For Mr Fanti: “the extension of the protection of Article 23 TRIPS Agreement to all products and the establishment of a legally binding register for GIs for all products are essential tools to ensure in the future a more effective protection of GIs at the international level”.

12. **Jessica Long (2007)** discussed about various reasons of suicide by Indian farmers due to WTO agreement through "WTO Kills Farmers: India Free Market Reforms Trigger Farmers' Suicides”.

   In 2003, 17,107 farmers committed suicide. These suicides have become so common place that they are mystifying a nation and polarizing the
debate over biotechnology. The Republic of India is one of the top twelve nations in the world in terms of biodiversity. Featuring nearly 8% of all recorded species on Earth, this subcontinent is home to 47,000 plant species and 81,000 animal species. Simultaneously, India is home to the largest network of indigenous farmers in the world. Yet biotechnology has led to extreme environmental degradation in the region, threatening to replace its diverse ecology with corporate hybrid monoculture. The original Green Revolution was supposed to save 58 million Indian hectares. Today, 120 million of the 142 million cultivable hectares is degraded—over twice the magnitude that the Green Revolution attempted to save. In the Indian state of Punjab, 84 of the 138 developmental blocks are recorded as having 98% ground water exploitation. The critical limit is 80%. The result has had devastating impacts on the agricultural community, leaving exploited farmers with little choice of action. In the past six years, more than three thousand farmers have committed suicide in Andhra Pradesh, that is six to ten farmers everyday.

Another problem is lack of loan facilities to get Indian farmers. In fact, non Indian farmers receive six times the amount of GDP that Indian farmers get, requiring an exorbitant amount of loans to be taken out. While 90% of farm loans come from money lenders, they are charged anywhere from 36-50% interest, placing them in a cyclical mode of poverty. The fact is that mass suicides have transformed these farmers into agrarian martyrs for peasants everywhere. Their deaths are inspiring significant social forces both by the government and among its citizens. In response to the crisis, the government has implemented compensation laws in which the victim’s family receives free electricity and $3,500. In response to economic disparity,
the Indian government imposed a one year suspension for all agriculture loans while waiving interest.


They argue that agriculture is both way of life and the principle means of livelihood to 65% of Indian population. Today, the best farming technology in the world is available at an affordable price to Indian farmers. Even then, our yields are abysmal and our production is low. It is seen that there has been a country wide debate involving policy makers, scientists, NGOs and other stakeholders on the issue of IPR. They found that the intellectual property regime under the TRIPS agreements is more stringent than the existing one in India. This gives the innovators more incentives and protection and calls for more investment in R & D. Lastly, it may be appreciated that WTO offers considerable promise for Indian agriculture. It also envisages protection on various types of intellectual properties. Countries that fulfill the obligation of TRIPs will stand to gain many ways. So India should accept the challenge and seize this opportunity to make its agriculture globally competitive.

2.4. Impact of WTO on foreign trade on agricultural product


The study in his book “Agricultural Exports of India - Lessons from East Asia” discuss about comparative advantage in agricultural exports has received scant attention. The study is based on the fundamental premise that India being a low income agricultural economy enjoys comparative
advantage in agricultural products and labour-intensive manufactures. An increase in the share of agricultural exports in total exports would lead to better performance of her external sector.


Gopal Naik and Tamanna Chaturvedi analyse India’s export and import competitiveness in farm product in order to come to a conclusion on the opportunities provided and challenges thrown up by the WTO Agreement on Agriculture. They have factored into the analysis the impact of the implementation of the Agreement, changes in policies in major developed countries that export agricultural products as well as projections of the domestic and international supply and demand of these products. In conclusion they offer suggestions on the level of tariff protection needed in India and the position that India should take in the current negotiations.


This book, *India: Foreign Trade Policy and WTO — 1991-2003*, cover the past, the present and the future of India’s foreign trade, with focus on developments since 1991. More importantly, it discusses the interface between India’s foreign trade policy and rules and regulations of WTO. It also looks to the future of India’s foreign trade in the context of WTO-related current issues.

Prior to mid-1991, foreign trade of India suffered from strict bureaucratic and discretionary controls. To reduce controls, simplify procedures and to create a congenial environment for trade, the Government made a Statement on Trade Policy in Parliament on August 13, 1991, ushering a new era in the foreign trade policy of India. In early 2002,
the Government announced a Medium-Term Export Strategy (MTES) for 2002-07, providing a vision for creating a stable policy environment with indicative sector-wise targets for achieving 1 per cent share for India in world trade by 2007. The new EXIM policy 2002-07 also seeks to usher in an environment free of restrictions and controls.

4. **Ramesh Chand (2005).** Wrote a paper on “Post WTO Agriculture Trade and Agenda for Negotiations on Agriculture” This paper analyses the performance of India’s agricultural exports and imports during post WTO period and identifies the products based on favorable/adverse and no effect on their trade as implementation of WTO agreement progressed. The paper then identifies the main reasons for favourable/adverse effect on agricultural trade and draws lessons for future negotiations on AOA. He suggests that India needs to pay equal attention to what it agrees to do in its own market and economy and what other countries commit to do in their markets. And India need not be extremely defensive and inward looking. Indian agriculture has some strength which needs to be appropriately used to compete in the global trade. Major threats are from import and adverse impact on export result from low level of international prices. As a net exporting country India stands to gain from increase in international prices.

Therefore, India should follow an agenda which leads to reduction in domestic subsidies, other kinds of support and export subsidies, particularly in developed countries, as those subsidies are the major factor for distortions and low level of international prices.

5. **Anil Bhuimali and Satrajit Dutta (2006)**

Globalisation has changed the trade pattern globally. More globalised nations have benefited from trade liberalisation reducing inequality,
unemployment and poverty but less globalised players have become marginalised in the world economy. This, in fact, has reduced incomes and enhanced poverty. This book makes a humble effort in analyzing India's pattern of foreign trade in the World Trade Organisation regime. There is an exposition of India's trade during last fifteen years and side by side there has been a presentation of the functioning of the WTO in the developing nation’s context.

6. Dr Syed Noman Ahmad and Dastgir Alam (2009) are examining the problems and prospects of India’s agricultural exports since the establishment of WTO through their paper “Impact of WTO on India’s Agricultural Exports.”. The establishment of WTO was expected to improve the economic condition of the farmers through increased agricultural exports all over the world, including India. The Indian farmers were expected to receive two important benefits namely, greater market accessibility and improved prices for their products. Developing countries always fear that due to free working of market forces the prices paid to their produce will decline and the quantity of exports will also fall because of unfair play of some developed nations under WTO regime. Being a developing country India also had its own apprehensions about these two basic questions of greater market access and price improvement for the exporters. However, the study has shown positive results towards these basic issues. As a member of World Trade Organisation the accessibility of Indian agricultural commodities has increased in the World market.

The pricing situation is also better for Indian agricultural commodities under WTO regime. All the three groups of commodities have got higher prices. In the case of price improvement too, non-traditional items have
maintained their position. These items have got highest price rise in comparison to other groups. The average price index value of non-traditional items is 195.73 followed by 147.37 and 120.93 for traditional items and the items of future potential respectively.

Statistics reveal that the performance of non-traditional items is better than others. But it may be risky to rely on these items for boosting exports due to their uncertain behaviour. In this situation it is better to concentrate on exporting the traditional items in coming years since their behaviour is comparatively stable. Moreover there may be a great export potential in the items of future potential because these items have shown an improving pattern in case of export quantity. This group may be full of opportunities in future but in absence of lack of infrastructure more importantly rural infrastructure and technological know how it is difficult to have an edge over other countries. Therefore, India needs to improve its infrastructure especially in the rural areas and upgrade its technical knowledge to convert the challenges into opportunities.

7. Maniklal Adhikary and Shrabanti Maity

According to them, there are various reasons for the decrease in the export of tea from India. In the light of this development, this paper makes an attempt to provide a detailed analysis of the trends in India's external trade in tea. Once tea was the major source of export earnings. But now global tea production and exports are trailing behind. According to the information from various producing countries and also the Tea Board, the global production so far in 2006 has been nearly 53 million kg lower than the corresponding period of 2005. The biggest reduction occurred in Kenya and next highest loss has occurred in India. We divide our entire period of study
(1987-1988 to 2005-2006) into two regimes. Regime-1 and Regime-2 capture the effect of export of tea from India pre- (1987-1988 to 1994-1995) and post- (1995-1996 to 2005-2006) WTO phase. The highest rate of growth of export of tea from India was recorded for USA (10.45%) in the pre-WTO phase and for Poland (12.34%) in the post-WTO phase. Instability indices for export of tea from India are highest for Iran (82.37%) and lowest for USA (13.45%).

2.5. Food security and WTO

1. Devinder Sharma. (2001) conducted study on impact of WTO on Indian agriculture through his article “WTO and Indian agriculture: Trading in food insecurity”. His opinions those six years after the WTO came into existence, on January 1, 1995; the anticipated gains for India from the trade liberalisation process in agriculture are practically zero. He argues that six years later of WTO establishment, the measures of Agreement on Agriculture to liberalize agricultural trade have only protected the farmers and the farming systems of the developed countries.

   According to Agreement on Agriculture rule India should open its economy at 4% for imports. So India was forced to either phase out or eliminate the quantitative restrictions (QRs) on agricultural commodities and products latest by April 1, 2001. India has, therefore, opened its market and, in turn, made the farming community vulnerable to the imports of highly subsidized products. Already, cheaper imports of skimmed milk powder, edible oils, sugar, tea, arecanut, apples, coconut, etc, have flooded the market.
He also points out our attention on creating another box on WTO, food security, as a mechanism for safeguarding developing country’s vulnerability to cheaper imports. What is being forgotten is that a developing economy, such as India's needs a food security system that looks much beyond management of scarce supplies and critical situations.

2. **Anwarul Hoda and Ashok Gulati (2002)** discussed through their paper entitled “Indian Agriculture, Food Security and the WTO-AOA” about the matters of food security in light of WTO Agreement on Agriculture. According to them trade liberalization leads to greater integration of Indian agriculture into world markets through removal of restrictions on exports and imports and this is threatening India’s food security. This would wipe out the production base, creating unemployment and deepening poverty. Similarly, exports of agricultural produce would reduce domestic availability of cheap food. Also, the price volatility accompanying liberalization would push the poor to the very brink of destitution given their limited capacity to bear risks. This is articulated in statements such as this: “importing agricultural commodities into India means importing unemployment into the country”. India has no reduction commitments, either with respect to domestic support or export competition. As a developing country, India also benefited from additional exemptions on investment subsidies, input subsidies to resource poor farmers, etc, under the Special and Differential Treatment. Against this background of implementation experience, it is now time to ask if the AOA has threatened India’s food security.

Ashok Gulati undertakes an examination of the implication of the implications of the Uruguay Round commitments made by India on agriculture from the perspective of food security. The starting point for him is the definition of food security adopted at the World Food Summit in 1996 as “when all people, at the times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life”. In his analysis, economic access to food occupies central places for assuring food security to the people in a low income country like India. He also makes a number of recommendations for the improvement of India’s food and agricultural policies and in respect of India’s stand in the new agricultural negotiations.

4. **M G Basavaraja (2003)**

This book is the outcome of a seminar on the theme “World Trade Organisation Regional Trading Arrangements and India”, organized by the Division of Economics, Mysore University, Sir, M. Visvesvaraya P.G. Centre, Mandya during 17th and 18th of April 2002. This book consists of 31 papers contributed by scholars from different Universities/ Institutions. This book is divided into five parts. (i) WTO and its Trade Policy (ii) WTO and Indian Agriculture (iii) WTO and its Environmental Policy (iv) Regional Trading Arrangements and India World Trade Organisation: WTO is the only international organization dealing with the international rules of trade between member countries. The main function of WTO is to ensure that trade flows as smoothly, predictably and freely as possible. The WTO is as much about law as it is about trade. The total number of membership of WTO is 144 (2002). Mr. Supachai Panitch Pakdi is the Director-General of WTO. Regional Trading Arrangements RTAs are a part and parcel of the
present international economic order. RTAs, called a “spaghetti Bowl” due to their overlapping nature, are accepted as the “Second Best” of multilateralism. The EU, the NAFTA, the ASEAN, the SAARC, the MERCOSUR, the Australia-New Zealand Closer Economic Relationship Agreement etc. are some of the examples of RTAs. From 1947 to early 2002, GATT/WTO had been informed of the creation of more than 198 RTAs, although some no longer exist or they remain insubstantial. India is one of the founding members of WTO and SAARC. In the last seven years, India has won disputes against US relating to import restrictions on woven wool shirts/blouses, shrimps/shrimps S. products; against the EU concerning anti-dumping duties on cotton type bed linen; and against Turkey in the matter of imports restrictions on textiles/clothing. India has also lodged complaints against the imposition of anti-dumping duties by South Africa on pharmaceuticals, by Brazil on jute bags and by the EU on cotton fabrics. The US and the EU have won the cases against India on patents in pharmaceuticals, and import restrictions on agriculture/consumer goods/automobiles. In the next few years, the WTO’s DSM might well be inundated with disputes relating to new member of WTO—China.


Current Issues in Indian Agriculture is an edited volume based on papers presented in the 44th Annual Conference of the Indian Econometric Society organized by the central University, Hyderabad and invited papers from the distinguished scholars. These papers highlight current agricultural issues relating to farmers' suicide, employment, growth, productivity, technology, diversification, finance and market. It is expected that the book will be

The paper (Achieving food security in China: past three decades and beyond) aims to review and assess China's food security practice over the past three decades with a view of drawing implications for further improving its food security in the future. A normative food security framework is used to assess China's food security achievements and examine any remaining and emerging issues in its pursuit for food security.

He found China has done well in achieving grain security in the past three decades. However, it cannot be concluded that China has achieved its food security according to the normative food security framework. This is because there are serious problems in the aspects of food safety and quality, environmental sustainability, and social stability. To achieve long-term food security, China has to tackle the wide spread issues of unsafe foods and foods of dubious quality, environmental pollution and degradation, and the establishment of a social security system.

2.6. Other reviews

A.R.Padoshi apprehends that WTO is unlikely to benefit India’s small farmers while Suchitra Krishna Kumar is of the opinion that India will not be affected by WTO agreement on agriculture in the short run, as India has been maintaining quantitative restrictions on import of agricultural commodities. In the long run, she rules out large scale import of agricultural commodities as a result of trade liberalization. K. Nageswara Rao in his study mentions about the
agenda for reforms in agricultural sector which includes a review of India’s policies on agriculture and the efforts to carve out a development strategy for the sector by examining the various facets of Indian agricultural exports.

T.S. Ragavendra indicates that primary purpose of Agreement on Agriculture (AOA) is to promote global trade by removing various trade distortions at the international level and that gross distortion either in positive or negative terms do not appear to be existed. He cautions that it is very essential to restructure the subsidy regime entirely and carefully. He also makes certain suggestions to reap the benefits of globalization in agriculture sector. K.P.Sripathi indicates that WTO dictated globalization is a challenge to policy makers as it involves both state directed policy regime and a market driven policy regime. He is optimistic that global section of Indian agriculture would provide an opportunity to India to increase her share in world exports. A.R.Viswanath in his study tries to highlight some of the far reaching implications of AOA under WTO to India. Several suggestions have been made by K.M.Veeraiah to protect the Indian agriculture sector from the threats of WTO. N.P.Suryanarayanan examines technological implications of globalization and WTO to sunrise area like Polymer Science and Technology.

There have been studies that try to measure the impact of import liberalisation in general, and there are others that measure the impact specifically in regard to the recent WTO agreements. Studies by Anderson and Tyres (1993), Subramanian (1993) and Parikh et al. (1995) use macro techniques like computable general equilibrium models to study the effects of policy liberalisation. Anderson and Tyres predict that Indian farmers, including landless rural labourers, will benefit to the tune of 1.6 billion and the net increase in the economic welfare would be 1.1 billion in 1985 US dollars. They expect a net
change in foreign exchange earnings to the tune of 3.3 billion dollars from food trade alone. According to Subramanian’s study, India stands to gain from higher world prices in the long-run as India also liberalises agricultural trade, however, the increase in the domestic food prices skews the distribution of gains only in favour of large farmers. Real incomes of landless labourers and small farmers fall. This is contrary to what Anderson and Tyres have predicted. If true, this is an important result as proportion of small farmers and landless labourers is quite large in India. Further, Parikh et al. have reached a still different conclusion. Their study shows that if agriculture alone is liberalised, then terms-of-trade will improve for Indian agriculture by about two percent, and, if both the agriculture and non-agricultural sectors are liberalised, then the terms-of-trade will improve for agriculture by twenty-seven percent. Nevertheless, they predict that only the rural poor (farmers) will gain from liberalisation and the rich and large farmers will lose. Clearly, the results of these studies are contradictory to each other.

Scope of the above studies is limited and it has not touched the problems and benefits of AoA at the farmer’s level. In view of this research gaps, present study, “Implication of WTO on India Agriculture- Issues and Challenges”, is a serious endeavor in this regard.