

## ECONOMY

**POSSIBILITIES OF DEVELOPING A SINGLE FOOD MARKET IN THE COUNTRIES OF CENTRAL ASIA**

**G. Sultanova**, PhD Candidate of Economics,

Senior Teacher of the Department of International Economics of University of World Economy and Diplomacy

**Kh. Karimova**, PhD student of the Department of International Economics of University of World Economy and Diplomacy

DOI: [https://doi.org/10.31435/rsglobal\\_ijite/30092019/6663](https://doi.org/10.31435/rsglobal_ijite/30092019/6663)

**ARTICLE INFO**

**Received** 15 July 2019

**Accepted** 10 September 2019

**Published** 30 September 2019

**KEYWORDS**

Central Asia, Uzbekistan, Kyrgyzstan, Tajikistan, food security, food safety, trade, a single food market, green corridors, economic corridors.

**ABSTRACT**

Central Asia experienced major socio-economic shocks during the 1990s, which has increased food insecurity, malnutrition, and poverty. In response, Central Asia has adopted food self-sufficiency policies. This paper argues that regional and international trade can improve food security if implemented properly. However, a new constraint on food trade has arisen — food safety. Using food commodity data and analysis from Trade Map, this paper analyzes Central Asia's intra-region food security policies. Evidence shows that food safety practices will affect internal food trade in Central Asia. Finally, a framework for creating a single food market is proposed.

**Citation:** G. Sultanova, Kh. Karimova. (2019) Possibilities of Developing a Single Food Market in the Countries of Central Asia. *International Journal of Innovative Technologies in Economy*. 5(25). doi: 10.31435/rsglobal\_ijite/30092019/6663

**Copyright:** © 2019 G. Sultanova, Kh. Karimova. This is an open-access article distributed under the terms of the **Creative Commons Attribution License (CC BY)**. The use, distribution or reproduction in other forums is permitted, provided the original author(s) or licensor are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.

**Introduction.** Historically, trade in agrarian products was concentrated on comparative advantage and factor endowment models that hinged on constant returns to scale and perfect competition. The application of modern theories to agriculture has been increasing in recent years. The theories maintain that imperfect competition, product differentiation and economies of scale determine trade patterns. In this study, it could be concluded that both traditional and modern trade models help in explaining the current patterns of trade (Nahanga Verter, 2015)<sup>1</sup>.

For many years' agricultural trade analyses were largely based on traditional perceptions of comparative advantage following neoclassical theory. Observations of agricultural trade suggest, however, that concepts from modern trade and growth theories are increasingly relevant<sup>2</sup>.

The scope of agricultural research on trade and growth issues have been enlarged by recent developments in trade and growth theory, significantly increasing opportunities to link empirical agricultural trade observations with explanatory theoretical concepts. There is no a general theory of international trade. Instead, a wide-ranging approach matching most important characteristics of agricultural and food products with various trade theories looks more appropriate.

To explain to what extent these theories are applicable in explaining trade patterns in the agri-food sector, it is important to examine the major characteristics of agri-food products, market

<sup>1</sup> Nahanga Verter, The Application of International Trade Theories to Agriculture, 2015, Vol 6 No 6 S4, p-213

<sup>2</sup> Ibid.

structures and trade. Then, matching these characteristics to trade theory features facilitates to determine the best theoretical approach to explaining trade patterns.

The empirical studies show that agricultural trade is focused primarily on countries with more or less similar factor endowments and more of processed (highly distinguished) products are progressively exported, demonstrating intra-industry nature. The studies propose that the standard Heckscher-Ohlin-Samuelson model is not always suitable to explain agro-cultural trade, and the relevance of modern trade and growth theories<sup>1</sup>.

The first theoretical explanation of the effect agricultural exports on national development was introduced by Krugman (1984). Krugman claims that the increase in farm exports could bring a significant increase in the demand for the countries' productions, which results in a growth in real output. "Early studies initiated that agriculture was largely an inter-industry nature, even though they are mainly raw products. However, McCorriston and Sheldon (1991) find that trade in processed food and agricultural products between the USA and the EU was largely an IIT nature" (Nahanga Verter, 2015, p.215).

According to the modern trade theories, imperfect competition, economies of scale and technological advancement are determinants of trade, low productivity, insufficient technologies, and market distortions have been blocked especially Central Asian farmers from benefiting from a comparative advantage in agricultural products. As a result, they might not afford to produce in large amounts and benefit from an average cost of production. The nature of agricultural trade is now characterized by processed products from the West, at the expense of raw, bulk agricultural commodities substantially from Central Asia (Nahanga Verter, 2015).

Examination of traditional theories does not mean that they are not relevant to explain agriculture trade and gain. These theories are useful to explain trade of homogeneous goods. Moreover, if the issues like the influence of technological advancements and gain distributions of trade are considered, The Ricardian model is still relevant. Taking into account income distribution effect, the factor endowments in the H-O-S model remains relevant (Siemen van Berkum and Hans van Meijl, 2000).

However, relying on recent empirical study, the hybrid trade models combining the applications of Ricardian and Heckscher-Ohlin models explains more broadly gains from trade, for example, the factor content theory of trade becomes relevant when technologies are allowed to differ among countries. One drawback of this theory is that it is not able to explain why technology levels vary across states. In this case, the essence for new trade and growth theories focusing on the generation of technology differences across states becomes significant.

This paper analyses the role of international trade in the provision of a single-food market in Central Asia. Agricultural production and food industry have always been key economic sectors in Central Asia and major sources of exports for the region. At the same time, Central Asian countries traditionally depend on food imports, so the relationship between domestic production, exports and imports is important and dynamic for these countries.

Adequate, equivalent, and scientifically based (Lichtenber) food safety regulations will allow Central Asian countries to trade food products easily with other developing and developed countries as well as intra region. With the opening of markets, through the lowering of tariffs and removal of quotas, world food trade is \$400 to \$500 billion dollars a year (Prasidh, 1999). If Central Asia does not implement food safety regulations that meet the needs of importing countries, then the producers, processors, and exporters of these goods could face product and financial loss due to detention, rejection, or destruction of the imported food goods (Hammer, 1999).

Even though food safety regulations are essential, they are not satisfactory. Capacity support at all levels of the development is necessary. The governments in Central Asia set a priority to train policymakers, analysts, scientist, inspectors, processors, and producers. Policymakers need to have adequate training to be capable of designing policies that meet the food safety needs of their own country. Also, in order for trade to occur, food safety regulations need to be harmonized with the international standards. Even if the food safety regulations within each Central Asian country is equivalent to importing countries, the food export industries may not have the necessary training to handle, process, package, and transport the food to meet the requirements of the importing country. Furthermore, capacity within export control programs (inspection and laboratory services) may need to be strengthened (Hammer, 1999).

---

<sup>1</sup> Ibid.

**Research results.** An important direction in ensuring the food security of the countries of Central Asia and the development of regional trade and economic cooperation is the implementation of a coherent agro-industrial policy and the formation of a single food market. The development of agreed approaches to the development of agriculture in countries and the facilitation of cross-border food trade, the deepening of specialization and expansion of cooperation, the formation of regional value chains in the agro-industrial sector will significantly reduce the cost of production, transportation, storage and sale of food products, and increase their industrial processing. The implementation of measures in these areas contributes to improving the competitiveness of the agricultural sector of Central Asian countries, saturating their domestic market with food products and developing exports of high-quality food products.

The idea of combining the efforts of the countries of Central Asia in the field of food production has been repeatedly discussed within the framework of multilateral cooperation platforms. In particular, at a meeting of the heads of state of the Organization of Central Asian Cooperation (OCAC), an initiative was launched to create an International Food Consortium in Central Asia. Following the meeting held on July 5-6, 2003 in Astana, the heads of state of the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan and the Republic of Uzbekistan adopted a joint statement, according to which they instructed their governments to speed up the elaboration of draft agreements on the creation of international water and energy, transport and food consortia, as well as decided to apply for international financial institutions, including the IBRD, ADB, EBRD, IDB, with a request to assist in the development of activities on water and energy, transport and food consortiums. However, the project to create the International Food Consortium was not implemented in practice.

In modern conditions of strengthening the atmosphere of friendship and good neighborhood of Uzbekistan with Kazakhstan, Kyrgyzstan and Tajikistan, the intensification of bilateral and multilateral trade and economic cooperation, it became possible to resume the process of forming a single regional food market.

Table 1. Exports of food products from Uzbekistan to Kyrgyzstan in 2018<sup>1</sup>

Product Code	Product Label	Value in 2018, USD thousand	Annual growth in value between 2014-2018, %, p.a.	Share in food products' exports, %
0702	Tomatoes, fresh or chilled	2196	165	4
0706	Carrots, turnips, salad beetroot, salsify, celeriac, radishes and similar edible roots	2791	448	5
0806	Grapes, fresh or dried	8630	145	16
0809	Apricots, cherries, peaches incl. nectarines, plums and sloes, fresh	22697	131	43
0810	Fresh strawberries, raspberries, blackberries, black, white or red currants, gooseberries	2142	150	4

The analysis of statistical data showed that trade in agricultural goods and food products constitutes a significant share in the mutual trade between Uzbekistan and Kyrgyzstan. In 2018, according to our estimates, the share of this group of goods in the total volume of Uzbekistan's exports to Kyrgyzstan was more than 30%, and in the total volume of Kyrgyzstan's exports to Uzbekistan - about 5%. In the structure of exports of food products of Uzbekistan to Kyrgyzstan, a significant proportion was occupied by fruit and vegetables, in particular, commodity items such as apricots, cherries, peaches, plums (43% of total exports); grapes are fresh or dried (16% of total exports); carrots, turnips, beets, celery, radishes and similar edible roots (5% of total exports); tomatoes, fresh or chilled (4% of total exports); fresh strawberries, raspberries, blackberries, white or red currants,

<sup>1</sup> Trade Map, Trade statistics for international business development

<https://www.trademap.org/Bilateral.aspx?nvpm=1%7c860%7c%7c417%7c%7cTOTAL%7c%7c%7c4%7c1%7c2%7c2%7c1%7c1%7c1%7c1%7c1>

gooseberries (4% of total exports) (table 1). Despite the fact that the value of exports of some commodity items in the group of food products was low in 2018, a significant proportion of their exports went from Uzbekistan to Kyrgyzstan, which indicates a high interdependence between neighboring countries in the trade in these goods.

An analysis of statistical data also showed that in 2018 food products such as malt extract, ready-made food products from flour, cereals, starch or malt extract (17% of total exports) were mainly imported from Kyrgyzstan in 2018; apples, pears and quince, fresh (17% of total exports); milk and cream, condensed or containing sugar or other sweeteners (15% of total exports); cane or beet sugar and chemically pure sucrose in solid form (8% of total exports); tea, flavored or not (6% of total exports); molasses resulting from the extraction or refining of sugar (5% of total exports); butter, incl. dehydrated butter and ghee, as well as other fats and oils obtained from milk (4% of total exports); sunflower, safflower or cottonseed oil and their fractions, unrefined or refined (4% of total exports) (table 2). In 2018, a significant share of exports of selected commodity items in the group of food products exported from Kyrgyzstan went to Uzbekistan.

Table 2. Exports of food products from Kyrgyzstan to Uzbekistan in 2018<sup>1</sup>

Product Code	Product Label	Value in 2018, USD thousand	Annual growth in value between 2014-2018, %, p.a.	Share in food products' exports, %
0402	Milk and cream, concentrated or containing added sugar or other sweetening matter	438		15
0405	Butter, incl. dehydrated butter and ghee, and other fats and oils derived from milk; ...	119		4
0808	Apples, pears and quinces, fresh	491	211	17
0902	Tea, whether or not flavoured	188	13	6
1512	Sunflower-seed, safflower or cotton-seed oil and fractions thereof, whether or not refined, ...	106		4
1701	Cane or beet sugar and chemically pure sucrose, in solid form	224	289	8
1703	Molasses resulting from the extraction or refining of sugar	150	9	5
1901	Malt extract; food preparations of flour, groats, meal, starch or malt extract, not containing ...	505	-16	17

In 2018, the group of food and agricultural products occupied an insignificant share in the mutual trade between Uzbekistan and Tajikistan (according to our calculations, this product group occupied 5% of total exports from Uzbekistan to Tajikistan and 0.3% of total exports from Tajikistan to Uzbekistan). The main food products that were exported from Uzbekistan to Tajikistan in 2018 include drugs used in animal feed (30% of total exports); inshell, fresh, canned or boiled eggs (12% of total exports); bread, pastry, cakes, cookies and other bakery products, with or without cocoa (12% of total exports); sugar confectionery that does not contain cocoa, incl. white chocolate (8% of total exports); wheat and meslin (5% of total exports); water, incl. mineral and carbonated waters containing sugar or other sweeteners (5% of total exports); chocolate and other cocoa foods (3% of total exports) (table 3). Despite the small amount of value, a significant share of exports of selected foodstuffs went from Uzbekistan to Tajikistan.

<sup>1</sup> Trade Map, Trade statistics for international business development

<https://www.trademap.org/Bilateral.aspx?nvpm=1%7c417%7c%7c860%7c%7cTOTAL%7c%7c%7c4%7c1%7c1%7c2%7c1%7c1%7c1%7c1%7c1>

Table 3. Exports of food products from Uzbekistan to Tajikistan in 2018<sup>1</sup>

Product Code	Product Label	Value in 2018, USD thousand	Annual growth in value between 2014-2018, %, p.a.	Share in food products' exports, %
0407	Birds' eggs, in shell, fresh, preserved or cooked	675		12
1001	Wheat and meslin	262		5
1704	Sugar confectionery not containing cocoa, incl. white chocolate	482		8
1806	Chocolate and other food preparations containing cocoa	186		3
1905	Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion	686		12
2202	Waters, incl. mineral waters and aerated waters, containing added sugar or other sweetening	299	97	5
2309	Preparations of a kind used in animal feeding	1701		30

An analysis of the structure of exports of food products from Tajikistan to Uzbekistan for 2018 showed that a significant proportion was accounted for such goods as other nuts, fresh or dried, peeled or peeled (59% of the total exports); chocolate and other cocoa foods (20% of total exports); bran (6% of total exports); dried apricots, prunes, apples, peaches, pears, papayas, tamarinds (4% of total exports); wheat or meslin flour (4% of total exports); sugar confectionery that does not contain cocoa, incl. white chocolate (4% of total exports) (table 4). Some items of foodstuffs were exported by Tajikistan mainly to Uzbekistan.

Table 4. Exports of food products from Tajikistan to Uzbekistan in 2018<sup>2</sup>

Product Code	Product Label	Value in 2018, USD thousand	Annual growth in value between 2014-2018, %, p.a.	Share in food products' exports, %
0802	Other nuts, fresh or dried, whether or not shelled or peeled (excluding coconuts, Brazil nuts)	239		59
0813	Dried apricots, prunes, apples, peaches, pears, papaws "papayas", tamarinds and other edible	17		4
1101	Wheat or meslin flour	16		4
1704	Sugar confectionery not containing cocoa, incl. white chocolate	18		4
1806	Chocolate and other food preparations containing cocoa	79		20
2302	Bran, sharps and other residues, whether or not in the form of pellets, derived from the sifting	23		6

<sup>1</sup> Trade Map, Trade statistics for international business development

<https://www.trademap.org/Bilateral.aspx?nvpm=1%7c860%7c%7c762%7c%7cTOTAL%7c%7c%7c4%7c1%7c2%7c2%7c1%7c1%7c1%7c1%7c1>

<sup>2</sup> Trade Map, Trade statistics for international business development

<https://www.trademap.org/Bilateral.aspx?nvpm=1%7c762%7c%7c860%7c%7cTOTAL%7c%7c%7c4%7c1%7c1%7c2%7c1%7c1%7c1%7c1%7c1>

In the structure of exports of food products from Kyrgyzstan to Tajikistan in 2018, products such as pasta prevailed (46% of total exports); water, incl. mineral and carbonated waters containing sugar or other sweeteners (19% of total exports); tea, flavored or not (7% of total exports) (table 5). Food exports from Tajikistan to Kyrgyzstan in 2018 consisted mainly of fruits and vegetables: apricots, cherries, peaches, plums (46% of total exports); fresh or dried grapes (34% of total exports); onions, shallots, garlic, leeks and other fragrant vegetables, fresh or chilled (5% of total exports) (table 6).

Table 5. Exports of food products from Kyrgyzstan to Tajikistan in 2018<sup>1</sup>

Product Code	Product Label	Value in 2018, USD thousand	Annual growth in value between 2014-2018, %, p.a.	Share in food products' exports, %
0902	Tea, whether or not flavoured	230	-7	7
1902	Pasta, whether or not cooked or stuffed with meat or other substances or otherwise prepared	1420	11	46
2202	Waters, incl. mineral waters and aerated waters, containing added sugar or other sweetening	588	74	19

Table 6. Exports of food products from Tajikistan to Kyrgyzstan in 2018<sup>2</sup>

Product Code	Product Label	Value in 2018, USD thousand	Annual growth in value between 2014-2018, %, p.a.	Share in food products' exports, %
0703	Onions, shallots, garlic, leeks and other alliacious vegetables, fresh or chilled	141		5
0806	Grapes, fresh or dried	877	87	34
0809	Apricots, cherries, peaches incl. nectarines, plums and sloes, fresh	1193	133	46

### Recommendations and conclusions.

Thus, the analysis of indicators of bilateral trade in food products between Uzbekistan, Kyrgyzstan and Tajikistan indicates the presence of a high degree of interdependence of neighboring countries in the trade in certain positions of food products. On this basis, the formation of a single food market in the region will create significant advantages for neighboring countries in the area of meeting the needs for food products, agricultural development and agro-industry.

The formation of a single food market in the countries of Central Asia (Uzbekistan, Kyrgyzstan, Tajikistan) involves the phased implementation of such activities as facilitating cross-border trade in food products through simplifying the system of customs clearance of goods; joint development of the agro-industrial sector of the border areas and an increase in the level of processing of agricultural products through the construction of vertically integrated structures in the adjacent territories, uniting farmers, processing enterprises and trade and distribution companies; formation of a regional food production network that meets the needs of not only the domestic market of Central Asian countries, but also foreign markets.

Facilitation of cross-border food trade

<sup>1</sup> Trade Map, Trade statistics for international business development

<https://www.trademap.org/Bilateral.aspx?nvpm=1%7c417%7c%7c762%7c%7cTOTAL%7c%7c%7c4%7c1%7c1%7c2%7c1%7c%7c1%7c1%7c1%7c1>

<sup>2</sup> Trade Map, Trade statistics for international business development

<https://www.trademap.org/Bilateral.aspx?nvpm=1%7c762%7c%7c417%7c%7cTOTAL%7c%7c%7c4%7c1%7c1%7c2%7c1%7c1%7c1%7c1%7c1>

An important direction to simplify the mutual trade in agricultural and food products is the use of the “green corridors” mechanism to speed up the process of customs clearance of goods, which includes special channels for the import and export of agricultural products from the country's customs territory and a single window for quick customs clearance and inspection of goods.

At present, a gradual introduction of the system of color corridors and the “single window” mechanism is taking place at the customs points of Uzbekistan. In particular, according to the Decree of the President of the Republic of Uzbekistan “On additional measures to improve customs administration and increase the efficiency of the State Customs Service of the Republic of Uzbekistan” dated November 24, 2018, from December 1, 2018, “yellow” and “red” were introduced at the customs terminals corridors, and from March 1, 2019 - “green” and “blue” corridors. The introduction of an automated risk management system using four color corridors will undoubtedly have a positive impact on the performance of the customs authorities of Uzbekistan.

Harmonization of rules in the field of food safety and quality with generally accepted international laws and principles is possible through the opening in Central Asia of representative offices of internationally recognized certification organizations that will facilitate the implementation of HACCP food safety management systems at enterprises of the agro-industrial sector, as well as international standards ISO Harmonization of laws and regulations of Central Asian countries regulating food safety will significantly reduce the transaction costs of measuring the quality of goods at border crossings.

#### Creating economic corridors between Central Asian countries

The formation of economic corridors between major cities of neighboring countries can be an important direction for the development of economic cooperation in Central Asia, including in the sphere of the agro-industrial complex. In economic corridors, the use of connectivity between centers of economic activity in cities and rural areas developed within transport and transit corridors is used to form spatial agglomerations, clusters in various industries, cross-border value chains. Thus, the economic corridor is determined by the geographical space in which the flow of target areas of economic activity prevails. Economic corridors cover a whole range of interconnected markets, each of which, in turn, may be associated with other markets outside the region. Since the cities and regions around them represent a hierarchy of markets, economic corridors are networks of communication between different markets, i.e. larger markets associated with smaller markets, markets in the resource trade sector for final products, and services markets.

The economic corridor contributes to the development of specialization, based on the comparative advantages of cities and the surrounding regions, integrating them into a single economic space, which allows you to fully take advantage of the increasing returns to growth in production. As a result of the removal of barriers to trade, reduction of costs for cargo delivery, product aggregation in large wholesale markets and the development of cooperative ties between enterprises in border regions, the economy is diversified, employment is increasing, and economic growth in cities and rural areas is increasing.

Within the framework of economic corridors, the development of various industries, including agriculture, takes place. There are two main directions for the development of the agrarian sector of neighboring countries through an economic corridor: facilitating mutual trade in agricultural products, increasing the export potential of countries through the formation of large wholesale markets for agricultural goods and the creation of cross-border value chains in the food industry.

Aggregation of agricultural products in wholesale markets allows for the expense of scale to reduce transportation costs and significantly reduce transaction costs for the export of food products. In addition, the sufficient scale of agricultural products on wholesale markets allows producers to supplement the lack of their own agricultural products with similar products from neighboring countries when exporting large quantities of goods. Of great importance is the harmonization of standards for agricultural products between countries.

Thus, such wholesale markets are a kind of trade hubs for agricultural products, whose infrastructure is created and maintained on the basis of the PPP mechanism and includes: collection and trading points equipped with sorting, processing and packaging machines, energy-efficient freezing equipment or cold warehouses, transporting appliances. It is expedient to create such trade hubs in the border areas, while in addition to organizing international wholesale distribution centers for food products, the development of logistics infrastructure, such as dry port terminals serving as a transit point, a customs terminal and a temporary warehouse, is of great importance.

The formation of economic corridors also makes it possible to significantly increase the mutual trade in agricultural goods of the Central Asian republics through the development of transport infrastructure and optimization of logistics routes. In addition, the reduction of trade barriers within the economic corridors makes it more profitable to supply agricultural goods to major cities from the border areas of neighboring countries (for example, supplying fruits and vegetables to Tashkent from the Sughd region of Tajikistan instead of the Surkhandarya region of Uzbekistan, or supplying agricultural goods to Dushanbe from the Surkhandarya region of Uzbekistan instead of Sogd oblast of Tajikistan).

An important direction in the development of the agro-industrial complex of the countries of Central Asia is the creation of cross-border value chains by combining existing supply chains in the field of fruit and vegetable processing and meat and dairy products within the economic corridor. Effective interaction of farmers, processing enterprises, trade and marketing companies is possible through the creation of agri-food clusters in the territory of cross-border free economic zones, in which the full cycle of production of finished food products with high added value is established. To increase the competitiveness of food products produced on the territory of cross-border clusters, the introduction of international quality and food safety standards at enterprises is of great importance, and their promotion on foreign markets will require the development of a regional brand and a recognizable brand. All these measures help to reduce costs and improve the efficiency of the production of the food industry and the sale of high value-added goods produced according to international standards.

The formation of economic corridors between Uzbekistan, Kyrgyzstan and Tajikistan is possible between major cities (for example, Tashkent-Osh, Tashkent-Dushanbe), or at the intersection of the territory of all three countries in the Fergana Valley. The initiative to create economic corridors in the Fergana Valley between the regions of Kyrgyzstan, Uzbekistan and Tajikistan was already proposed by Kyrgyzstan at the first Central Asian Economic Forum (March 15, 2019, Tashkent). The implementation of this project in practice contributes to a significant increase in intra-regional trade, an increase in cooperative ties between enterprises of countries and an increase in the investment attractiveness of their regions.

## REFERENCES

1. Bergstrand, J. H. (1990). The Heckscher-Ohlin-Samuelson model, the Linder hypothesis and the determinants of bilateral intra-industry trade. *The Economic Journal*, 100 (403), 1216-1229.
2. Berkum, S.V., & Meij, H.V. (2000). The application of trade and growth theories to agriculture: A survey. *The Australian Journal of Agricultural and Resource Economics*, 44 (4), 505-542.
3. Heckscher, E. (1919). The effect of foreign trade on the distribution of income. *Ekonomisk Tidskrift*, 21, 497– 512.
4. Helpman, E., & Krugman, P. R. (1986). Market structure and foreign trade: increasing returns, imperfect competition, and the international economy. *Journal of Economic Literature*, 24 (2), 713-715.
5. Huffman, W.E. and Evenson, R.E. 1994, *Science for Agriculture: A Long Term Perspective*, Iowa State University Press, Ames, Iowa
6. Krugman, P. R., Obstfeld, M., & Melitz, M. J. (2010). *International economics: Theory and policy*. (9th Ed.) Pearson Addison-Wesley.
7. McCorrison, S. and Sheldon, I.M. 1991, 'Intra-industry trade and specialization in processed agricultural products: the case of the US and the EC', *Review of Agricultural Economics*, vol. 13, January, pp. 173-84.
8. McCorrison, S. and Sheldon, I.M. 1992, 'Is strategic trade policy relevant to agricultural trade policy research?', paper presented at the 31st EAAE seminar 'Agricultural trade economic integration in Europe and North America', Frankfurt, Germany, 7-9 December.
9. McCorrison, S., & Sheldon, I. M. (1991). Intra-industry trade and specialization in processed agricultural products: The case of the US and the EC. *Review of Agricultural Economics*, 13 (2), 173-184.
10. Nahanga Verter, *The Application of International Trade Theories to Agriculture*, 2015, Vol 6 No 6 S4
11. Ricardo, D. (1817). *On the principles of political economy and taxation*. Variorum Edition, in P. Sraffa (Ed.), *Works & Correspondence of David Ricardo*, Vol. I. Cambridge: Cambridge University Press. Retrieved from <http://bit.ly/19sFj7G> (April 22, 2014)