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# PROCEEDINGS BOOK



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## AGRICULTURAL POLICIES IN RURAL DEVELOPMENT TWO RISING POWER - AGRICULTURAL POLICIES IN BRAZIL AND INDIA

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### Abstract

Rural development is the process of improving economic recovery in rural areas. The process usually includes problem analysis, determining appropriate resources, and providing sustainable solutions to these problems by evaluating resources efficiently. The goal of rural development initiatives is to reshape the rural sector and provide a better, safer and more sustainable way of life to rural communities. Families who live in rural areas face many problems such as inadequate health care, education and food. These problems are the main areas of struggle for coping with rural development. Although rural development in developed countries can be used in different meanings, the background is always seen to include improving economic conditions of people. Rural development strategies aim to improve the social and economic situation of people in rural areas and intend to create a more developed community with the help of high level methods of production and socio-economic justice. The evaluation of agricultural policies for this rural development planning is also a priority element in the development of the mentioned rural area because agriculture is the main means of livelihood for the rural people to lead their lives. Accurate investments in agriculture can increase productivity of agricultural laborers and soil, and thereby income of farmers that improve the life standards of rural poor communities can increase. This research has focused on the importance of right agricultural policies in rural development, accordingly. In this sense, agricultural policies of some developing countries such as Brazil and India, will be examined from and the effects of different strategies applied will be tried to be revealed.

**Keywords:** Agricultural policy, rural development, developing country.

### 1. Introduction

In this research, agriculture policies that are important elements in rural development, are planned to be examined on two developing countries. The improvements and developments that Brazil and India chosen, have made in the field of agriculture can be an example to other countries. Rural development is intertwined with agricultural policies and the countries that implement the right agricultural practices ensure the balance more quickly and accurately between rural and urban life.

The concept of development can be defined as the increase in the level of social welfare as a result of the improvement of the life of the people in the material and spiritual context with the social, political and economic structure of the changingsociety. The concept of development does not only refer to an economic development or an activity, it is a dynamic concept that suggests to a change from the present or the previous situation (Oakley and Garforth, 1985: 450).

The concept of rural development is a concept identified as the development of the underdeveloped segment of generally rural society by the United Nations (McCalla and Ayres, 1997: 1). If the definition of rural development is made from a broader perspective, individuals and societies living in the rural area who provide their livelihoods from the agricultural sector or similar rural professions, are required first to create a sense of need for them in order to increase their living conditions to decent level and then to develop them democratically by making all their financial and moral aids

(Shehrin, 2005: 19). However, it is necessary to distinguish between agricultural development and rural development. In this context, in addition to raising the life standards and level of welfare of the people living in rural areas without deteriorating the natural structure within the scope of the definition of rural development, agricultural development such as elimination of local and regional developmental differences, improvement of agricultural structure constituting primary economic activities, development of agriculture-based industry, increase in employment, rural infrastructure, agricultural infrastructure, education, health, social security, organization and elimination of many other social, cultural and economic deficiencies and improvement of conditions are also included (Social Progress Through Community Development, 1955).

The starting point in terms of economic and social role and development potential of rural development must be agriculture. Secondary targets for development should be the agricultural-based industry in rural areas and the agricultural resource producing industry. The development process should predict income growth and welfare. All processes should be executed by the democratic participation and coexistence of the rural community. Since development is a political process for economic, social and cultural reasons, the importance of political preferences should be taken into account in the selection of policies and instruments for the design and implementation of such a process (Gulcubuk, 2001: 4).

First, geographical planning should be done for achievement of rural development. In this manner, it can be ensured to protect the land in the countryside, to regulate income distribution, to use natural resources and to sustain social life in a certain order. On account of these plans, agriculture, tourism, lodgement, industrialization places of the country can be determined in advance and national and rural development can be realized within the framework of these plans (<http://www.dap.gov.tr>).

Countries utilize various of means to ensure that these plans are implemented correctly. These means consist of activities that are carried out directly by the states within the frame of their own projects and plans, and that are indirectly carried out various backstoppings, subsidies and similar actions for the implementation of the plans (<http://www.dap.gov.tr>).

All of the countries in the world support the agricultural sector and indirectly the countryside in various forms. Although the forms and methods of these subsidies vary from country to country, it is aimed essentially to ensure the continuity of agricultural production that is the main economic activity of rural areas, to ensure food safety, to raise the living standards of agricultural producers and consumers, to ensure the contribution of agricultural production to national economy and to acquire competitive advantage in foreign trade.

Each state forms support policies by setting new objectives in accordance with their social economic situation in the direction of these main goals and carrying out these policies by developing various implements. These implemented supportive policies are influential on capital (public) budget, producer and consumer welfare and the use of resources (<http://www.dap.gov.tr>).

## **2. Data and Methods**

In this research, agricultural applications are analyzed through two selected countries. These countries are India and Brazil. It is anticipated that economies of these countries will become important world powers in the scope of next 50 years, and even India will be the third largest economy in the world (Goldman Sachs, [http://avikdgreat.tripod.com/InterestingReads/BRIC\\_GoldmanSachs.pdf](http://avikdgreat.tripod.com/InterestingReads/BRIC_GoldmanSachs.pdf)). The selection of these countries is due to the significant similarities of the two countries in the agricultural sector. The data about the two countries were accessed through their own reports and World Bank data.

### **2.1 Agriculture Sector and Politics of India**

The agricultural sector carries an important role in the Indian economy. India has a population of 1.3 billion, approximately (World Bank Report, 2015: 29). Nearly quarters of this population live at hunger limit and 60 percent live in rural areas.

70% of the families in rural areas are dependent on agriculture, either directly or indirectly. The sector provides 17% of the total GDP and it is 52% of the employment opportunities of India (Kekane, 2013: 23). The fact that 60% of Indian people work in the agriculture sector also makes this sector important in the Indian economy.

The Department of Agriculture and Cooperative under the Ministry of Agriculture is responsible for the agricultural sector in India. The Ministry is also responsible for observing the National Dairy Development Board (NDDB) and take care of other agricultural sub-sectors.

According to the KPMG report published in 2017, the most important products of agricultural exports of India are cotton, meat, oil, rice, pepper and sugar (KPMG, 2014: 30). The report also concludes that exports, which were 9.1% of GDP in 2008-2009, increased to 14.1% in 2016-2017.

India is the largest producer with an annual production of 130 metric tons of milk and 14% of total sugar production of the world. India is the 6th largest exporter of sugar with 2.76% of world total exports (IBEF, 2015: 46).

Moreover, the Government of India has supported agriculture with budgets of 2015-2016 by making certain laws in the name of sustainable agriculture. These laws, namely "Pradhanmantri Gram SinchaiYojana" contain an incitement to increase irrigation access. The law called "Per Drop More Crop" is one that uses water efficiently. Another law is the "Mahatma Gandhi Rural Job Guarantee Movement", which is a step for farmers to increase their combined national agriculture and farmer incomes (IBEF, <http://www.ibef.org/industry/agriculture-india.aspx#sthash.8sGC80dQ.dpuf>).

In 2007, the Indian government issued a national policy for farmers (India National Policy for Farmers, 2007). The reason for that is the substantial contribution of the agricultural sector to the Indian economy. The agricultural sector includes 60 per cent of employees. Policy aims to ensure that farmers are strengthened in matters such as agricultural researches, publishing services and education. Furthermore, it provides seeds and fertilizers on time and in sufficient quantities and it specifies the conditions in some topics such as the supply of electricity for the farmer.

The important goals of this policy are given in the table below.

**Table 1. Agricultural Policy in India**

<b>Purpose of Politics</b>	<b>Technological Opportunities</b>	<b>Environmental Conditions</b>
- Increasing income of farmers by making agriculture a high and strong commercial power	-Comprehension Abilities -Innovative Competencies	-Financial -Support
- To develop farmer support services, including the opportunities such as provision of seeds, irrigation, energy, fertilizer, machinery and bank loans	-Innovative Opportunities -Access to Complementary Instruments	-Legal -Education -Financial
- To introduce and develop social security system for farmers	-Comprehension Abilities	-Education -Finance
- To transform India an internationally exogenous center that provides the necessary resources for sustainable agriculture, to develop products and processes with biotechnology and to improve Information and Communication Technologies (ICT)	-Accession to Complementary Instruments -Innovative Competencies	-Legal -Financial
- To ensure gender equality in all agricultural policies and programs	-Comprehension Abilities	-Legal -Education

**Source:** India's Agricultural Policy, 2007.

Policy documents also attach importance to asset reforms that will provide access to sources such as land and livestock that will increase the income of families. Hindu success law was held in 2005 and gave women the right to own land.

This law underlines the importance of science and technology in agricultural systems. The National Agricultural Research System (NARS) is working under the Indian Agricultural Research Council (ICAR). These institutions are responsible for agricultural researches, improved seeds and agricultural technologies and for supporting farmers. The policy also protects copyrights by licensing research done by farmers and farmers, with proper regulation. Agricultural enlargement, education and information transfer services are also provided at a sufficient level in the policy framework.

One of the goals of development programs is to clarify "how to know" and "how to do". Krishi Vigyan Kendras (KVKs) are obligated to provide training, to make presentations in the region about post-harvest technology, to provide agricultural operations and to provide competitive advantage to the farmers in rural areas. By the virtue of this policy, small farmers can take steps in the topics of promoting the use of common resources such as irrigation and ventilation services and cooperation in order to increase their efficiency and they recognize the processes in this regard. This policy also provided opportunities such as providing technical assistance to the farmer with agriculture clinics and agriculture-business centers.

Within this policy program, agricultural prices and fair trade policies have also been emphasized. Farmer organizations are supported during the trade periods in product export. This includes a variety of support mechanisms such as a minimum support price program, market intervention schemes and a single national market.

Some initiatives by the Indian government and actors have begun to work to improve the technological possibilities of small farmers and the high level of competition in the agricultural value chain by improving their information transfer systems. The Department of Agriculture under the Ministry of Agriculture and the Cooperation have signed an agreement that produces capacity for farmers by the cooperation of 63 countries that conducted research. According to the statistics of the Department of Industrial Policy and Promotion (DIPP), the value of FDI is announced as 2.18 billion dollars in 2017 (IBEF, 2017: 31). These investments have provided Indian farmers with the feedback of huge information transfer.

The government also allowed the projects on February 2015 to support the national agricultural market by means of the Alternative Investment Funds (AIF). The main goal of these projects is to have the right to comment on technology purchase and sale, to increase transparency, to increase market access and to increase the participation of both purchasers and sellers. This structure looks for solutions oriented to provide market integration with technology (The Government of India, 2015a).

The Ministry of Agriculture develops information and skills of farmers by giving organic farming training with the organic farming department. This division has created a low cost certification system ("Participation Guaranteed System") to promote organic agriculture. This system makes it possible for the products of farmers to reach the markets easily (The Government of India, 2015b: 57).

## **2.2 Agricultural Policies in Brazil**

The Brazilian agricultural sector is under two ministries. The Ministry of Agriculture, Livestock and Supply (MAPA) is involved in the operation of agriculture. The ministry is responsible for agricultural research activities and coffee funding with a "guaranteed minimum price" (The Ministry of Agriculture, <http://www.agricultura.gov.br>). The other ministry, called the Ministry of Agricultural Development, is responsible for supporting agricultural reforms and family farming. Family farming is 38% of total production in Brazil. The target of family agriculture programs is small farmers. It is aimed to provide credit facilities for them and to promote agricultural products by creating market opportunities (European Parliament, 2016, <http://www.europarl.europa.eu/committees/en/supporting-analyses-search.html>). Table 2 indicates a broad overview of agricultural policies, product and environmental conditions of technological opportunities.

Over the past few decades, Brazil has shown itself as an agricultural power of the world. In Brazil, a considerable number of support programs have revolutionized agriculture, making it more competitive on a global scale. Some programs have focused on the topics of creation of technological capabilities, quick access to markets and easy financial support.

Researches conducted by the Brazilian Agricultural Research Institute (EMBRAPA) have been a pioneer in Brazilian agriculture. EMBRAPA is an institution under the Ministry of Agriculture and Food. This institution also includes researches on selective breeding in biotechnology as compared to others (Matthey, 1994: 67). In the researches conducted with central system, EMBRAPA aims to make hybrid seeds resistant to drought with biotechnology, thus avoiding diseases and insects.

**Table 2. A Brief Summary of Agricultural Policies, Product and Environmental Conditions of Technological Opportunities**

	<b>Agricultural Policy</b>	<b>Technological Opportunities</b>	<b>Environmental Conditions</b>
The National Rural Credit System (SNCR)	-It was published in 1965 to support marketing of agricultural products and increased production costs. The system also aims to improve the economic situation of small farmers and capital formation. By 1965 the law of 4829 have come into force.	-Comprehension Abilities	-Financial
-Agricultural publication and technical support	-The program worked from 1960 to 1980. It aimed to capacity increase of small farmer. It aims to keep farmers pace with the technology in agricultural practices. In addition, the program aims to create the best agricultural practice with technical support and recommendations. Throughout this process, the number of support offices increased from 35 in 1954 to 2371 in 1981. The number of employees of these offices increased from 127 to 526 in the same years.	-Comprehension Abilities -Innovative Opportunities	- Financial - Education
-Multi-year plan from 2008 to 2011 of MAPA	-This plan was initiated by the Ministry of Agriculture to increase competition in the agricultural sector. This plan is integrated with the goal of developing agricultural-business potentials of small farmers.	-Innovative Opportunities -Comprehension Abilities	- Education - Financial
-Guaranteed Minimum Price Policy (PGPM)	-This policy is to protect farmers from sudden price changes in agricultural products. The state is the price determiner. During these periods prices appear at the lowest and they aim to buy sector investments and offer better prices to farmers.	-Comprehension Abilities	-Support - Financial
-Harvest Plan in Family Farming 2002/2003	-The Rural Development Ministry supports the use of innovation and technology by small farmers in farming practices.	-Accession to Complementary Instruments -Innovative Opportunities -Comprehension Abilities	-Education - Financial -Legal

**Source:** Brazilian Association of Credit and Rural Assistance; Brazilian Enterprise of Technical Assistance and Rural Extension, 2016, pp. 56-90.

Brazil has also implemented agricultural risk management programs targeting small farmers. The Agricultural Implementation Assurance Program (PROAGRO) protects farmers who suffer from loss of their crops or animals by natural disasters such as pest (FAO, 2014, 68). According to this program,



farmers can overcome financial obligations under the rural lending program. In 2005, the product(crop) insurance support program was constituted to support the rural insurance process. Soybeans, corn, cotton are protected by government in the assurance of this program (ICTSD, 2013, <https://www.ictsd.org/downloads/2013/09/session-ii-izaias.pdf>). This program encourages the use of modern technology in agriculture and ensures equal distribution agricultural incomes.

In 2010, the Rural Demolition Fund aimed to protect farmers who suffered from extreme climatic conditions with advanced insurance and reinsurance companies (FAO, 2014: 43). Risks arising from uncertain weather are often frightened to small entrepreneurs investing in agriculture, since the agricultural sector is affected very quickly by the climatic conditions. In 2016, the number of letter of exchange of rural agricultural insurance has increased from 63.328 that was in the previous years to 101.850. In the same year, MAPA increased its share of insurance premiums for corn and other products by 60 percent. Similarly, Brazil has become as a net exporter of agricultural products thanks to the export-supporting policies. These policies enabled the country to take part in the global marketplace. MERCOSUR is an agreement providing free trade between Brazil, Argentina, Uruguay, Paraguay and similar contracting partners (FAO, 2014: 102). Small firms had an access to major markets and this was supported by PROEX (Export Financing Program) established in 2009 to support exporting entrepreneurs. Other agreements have also been signed with countries such as India (2009), Israel (2011), South Africa Joint Association (2008), Egypt (2010) and Palestine (2011) in order to increase the agricultural product market (WTO, 2013).

### **3. Results and Discussion**

The agricultural sector and policies are a very effective subject in rural development. The agricultural sectors in India and Brazil, which are examined at this point, are at an important point both as a business opportunity and as a director of the economy. In addition, the vast majority of people in rural areas carry interest (drive a profit) directly or indirectly from agriculture. Both countries are leading exporters of agricultural products; India is the leader country in exports of milk, whereas Brazil is the leader country in exports of soybeans and coffee. In both countries, agriculture is managed by the Ministry of Agriculture and the ministry carries an important role in monitoring agricultural practices and in decision making process. Agriculture in India and Brazil has improved due to productivity growth as a result of farmers using technological opportunities and their agricultural resources effectively. By the virtue of Indian agricultural policy, small farmers have improved their ability to comprehend as a result of increased training and transfer of information in the field of agriculture. Agricultural clinics and centers are defined as technology and information distribution centers, and they tested the innovations and transferred to farmers. Harvesting technologies and information programs and land management informations were also presented from these centers in order to strengthen the innovation capabilities of the farmers through KVKs.

To reduce the gap between men and women in rural areas, India's agricultural policy have taken huge steps in complementary land-access issues such as land and capital in order for women to take more role in agriculture. Adequate environmental conditions such as protection of intellectual property rights for women, legal regulations and good research initiatives have guided the rapid development and expansion of the agricultural sector in India.

Brazil, on the other hand, is increasing its technological capabilities constantly through the support of family farming. Technical support and trainings given to farmers by EMBRAPA have led them to increase their comprehension abilities. Additionally, farmers are provided with 30 days of training per year. During this period, farmers were ensured that they apply what they learned about technology on their own lands. Brazilian state with the various resource support has helped farmers to increase agricultural productivity by accessing complementary equipments such as land, capital, technical information and publishing services. Huge investments in R&D projects in Brazil, protection of copyrights of small farmers, and risk management programs like PROAGRO have been provided supportive conditions for agricultural success.

In India, where approximately 60% of the population lives in rural areas, the transformation of agriculture policies has strengthened the agricultural livelihoods of rural families and almost 70% of the families living in rural areas have started to earn their living with agriculture. In the current situation, the agricultural sector is able to provide about 20% of its domestic revenue in India and

nearly half of all job opportunities in the country are in the agricultural sector. As a result of agricultural policies in India, more than half of the population is in the situation of being employed in the agricultural sector. Based upon the year 2017, it can be found that the exports of agricultural products since 2007 increased from 9% to 15% within 10 years. With the usage of agricultural policies, small farmers have been able to take steps on the use of common resources such as irrigation and ventilation services and the promotion of cooperations in order to increase their productivity. The support of the usage of technological infrastructures particularly in agriculture has become the most important supporter of the mentioned agricultural product exports and agriculture based employment.

When Brazil is examined, it is clearly seen that as a result of agricultural policies, the country has become an important exporter of agricultural products. In the agricultural sector that about 24% of the population is employed in Brazil, around 40% of the population living in the rural areas seems to be able to earn their keep in the agricultural sector according to data of 2017. Especially in the last decade Brazil has emerged as the agricultural power of the world. In Brazil, a considerable number of support policies have revolutionized agriculture and making it more competitive on a global scale. Some policies have focused on the creation of technological capabilities, the topics of quick access to markets and easy financial support.

This research has once again indicated that, rural development and agriculture policies which are intertwined with one another are very important in terms of ensuring the earning keep of the rural sector, increasing social prosperity, regulating the gross domestic product of the countries and income justice. The countries that execute the right agricultural practices find the balance between rural and urban life more quickly and accurately.

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