Agribusiness model approach to territorial food development

Modelo agroempresarial con enfoque territorial para el desarrollo alimentario

Héctor Horacio Murcia[1]

ABSTRACT

Several research efforts have coordinated the academic program of Agricultural Business Management from the University De La Salle (Bogota D.C.), to the design and implementation of a sustainable agribusiness model applied to food development, with territorial projection. Rural development is considered as a process that aims to improve the current capacity and potential of the inhabitant of the sector, which refers not only to production levels and productivity of agricultural items. It takes into account the guidelines of the Organization of the United Nations "Millennium Development Goals" and considered the concept of sustainable food and agriculture development, including food security and nutrition in an integrated interdisciplinary context, with holistic and systemic dimension. Analysis is specified by a model with an emphasis on sustainable agribusiness production chains related to agricultural food items in a specific region. This model was correlated with farm (technical objectives), family (social purposes) and community (collective orientations) projects. Within this dimension are considered food development concepts and methodologies of Participatory Action Research (PAR). Finally, it addresses the need to link the results to low-income communities, within the concepts of the "new rurality".

Key words: rural and food development, sustainable agribusiness model, participatory action research, territorial approach.

RESUMEN

El programa de Administración de Empresas Agropecuarias de la Universidad de la Salle (Bogotá D.C.) ha coordinado diversos esfuerzos investigativos orientados al diseño y ejecución de un modelo agroempresarial sostenible aplicado al desarrollo alimentario, con proyección territorial. Se asume el desarrollo rural como el proceso que pretende mejorar la capacidad actual y potencial de los habitantes del campo, el cual no se refiere únicamente a los niveles de producción y productividad de los renglones agropecuarios. Se tienen en cuenta los "Objetivos de Desarrollo del Milenio" de la Organización de las Naciones Unidas y se considera el concepto de desarrollo agroalimentario, que comprende la seguridad alimentaria y nutricional en un contexto integrado e interdisciplinario, con dimensiones holística y sistémica. Se concreta el análisis por medio de un modelo agroempresarial sostenible con énfasis en las cadenas productivas agropecuarias relacionadas con el tema alimentario en una región específica. Se correlaciona este modelo con proyectos de finca (objetivos técnicos), familia (propósitos sociales) y comunidad (orientaciones colectivas). Este enfoque del desarrollo agroalimentario adopta los conceptos y metodologías de investigación-acción participativa (IAP). Finalmente, se contempla la necesidad de vincular los resultados a comunidades de escasos recursos, dentro de los conceptos de "nueva ruralidad".

Palabras clave: Desarrollo rural y agroalimentario, modelo agroempresarial sostenible, investigación acción participativa, enfoque territorial.

Introduction

To promote integrated development in rural communities in Colombia and other Latin American countries have proposed different working models that emphasize specific aspects of the so-called "agricultural production systems". In some cases special attention is paid to the generation of new technologies to increase production and productivity of crops and livestock, others try to improve marketing processes of the products obtained, there are also efforts to carry out processes transformation of primary products and programs that seek to achieve improvements in social aspects of agricultural production chains or value chains. Arise in this scenario agribusiness models also have different modes of action. In Colombia, known, for example, works that attempt to link these models with regional developments and some processes that link them primarily economic sustainability and trade.

With this backdrop, La Salle University, through its Research and Development in Agri-Food Innovation (CIINDA) that meets the intellectual contributions of eight academic programs (Agricultural Business Management, Agronomy, Animal Science, Food Engineering, Administration Business, Accounting, Engineering Automation and MBA online through its Solidarity Economy) and their

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[1] Director, Business Administration Agriculture Program, Universidad de La Salle. Bogotá (Colombia). e-mail: hmurcia@lasalle.edu.co

respective research groups, aims to provide a sustainable agribusiness model based primarily on agriculture development (involving the fields of food security and nutrition).

In this way it seeks to consider and study the activity of the national camp as a joint body in which to work from the basic scope of the macro level, which looks at the products and the farms or production units as vital body cells agricultural to the macro boundaries every day become more important when planning the production activity to the territory, region and national and international trade.

Within this guidance is transcendence approaches that emphasize the generation of projects at the farm level (technical criteria), families (social contexts) and communities (collective level), always seeking to improve the quality of life of producers and their families.

That's why, once posed a clear organization CIINDA was possible to meet various institutional applications among which one of the Mayor of Bogota in 2008 and 2009, through its District Department of Economic Development (SDDE) to treat to provide business insight to producers and marketers of raw milk in a rural part of the Capital District, presented at the end of this article.

Various concepts of rural development

In a presentation on the approach to rural development, A. Barrel (2008) did a review of the evolution of thought on the subject between 1950 and the current decade. It is evident that went through several different approaches, from the model of the dual economy and agriculture as lagging (including community development considerations and the role of the estates), to the point of view concerning livelihoods sustainable rural orientation / non-farm, good governance, decentralization critique of participation, sector wide approaches, social protection and poverty eradication.

In this comprehensive review of the concept of agricultural enterprises and rural, Murcia (1988) noted that "rural development aims to improve the current capacity and potential of rural dweller, an action that can not refer only to increase production levels and agricultural productivity of the lines it operates, but also act on all elements that affect their well being and full satisfaction". This is why the same technician synthesizing the overall rural development is part of a national and international level (Fig. 1) and there are various elements that comprise it (Fig. 2).

For the rural development project within a holistic approach, the result of the aggregation of exogenous and endogenous subsystems that relate to obtaining optimal physical fields such as biological, economic, social, environmental, accompanied by the elements of an administrative subsystem within a context, can lead to appropriate decision-making processes (Figs. 2 and 3).

It is also important to see the human being as subject and object of development, and consider the concept of agricultural enterprises in Latin America as the sum of a set of units or minimum characteristics (physical, economic, social, administrative, legal, information, environment) within a context where the social component plays a major role (Murcia and Araujo, 1975).

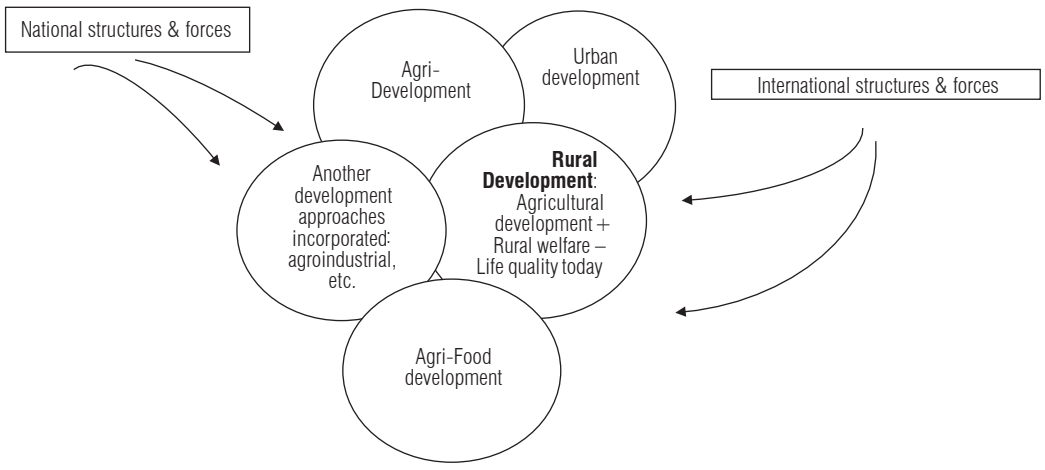

FIGURE 1. The rural development as part of international and national systems.

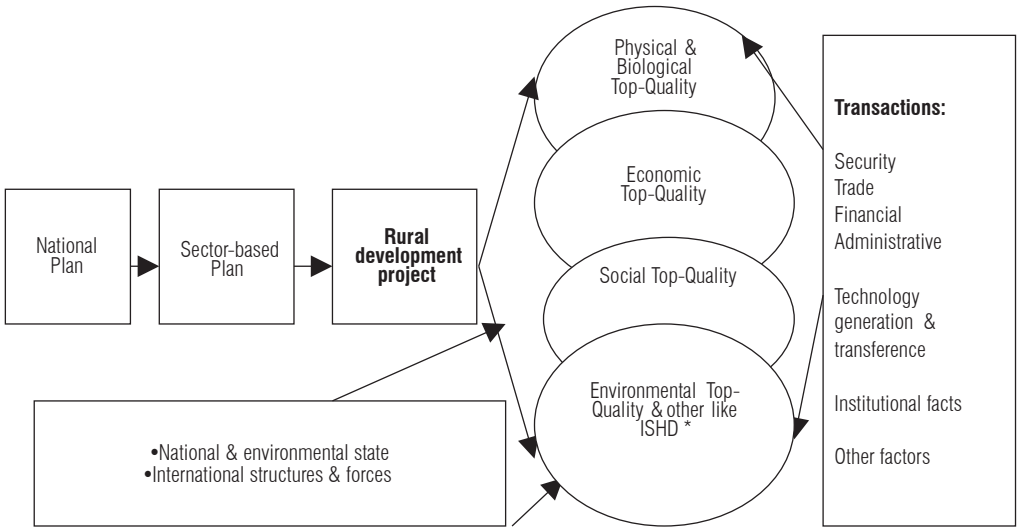

FIGURE 2. Elements of a rural development project.

Alvarez (2004) has reflected on the need to rethink the development paradigm model, with reference to the Development Program (UNDP), seeking the articulation of sustainable human development approach to education for the agricultural sector.

These approaches are related to the "Barefoot Economics" and the "Human Scale Development" expressed by Neef (1986) and Neef *et al.* (1987) and displayed as the development referred to the people and not objects.

Within the current concepts of Integral and Sustainable Human Development (ISHD), the research group "Creativity and Innovation Agriculture for Sustainable Rural Development", recognized by Colciencias (which are located in developments presented in this paper), participates in guidelines expressed by Lopez *et al.* (2006) indicating that the DHIS should be socially participatory, technically clean, environmentally compatible, economically viable and sustainable, politically powerful, ethically relevant.

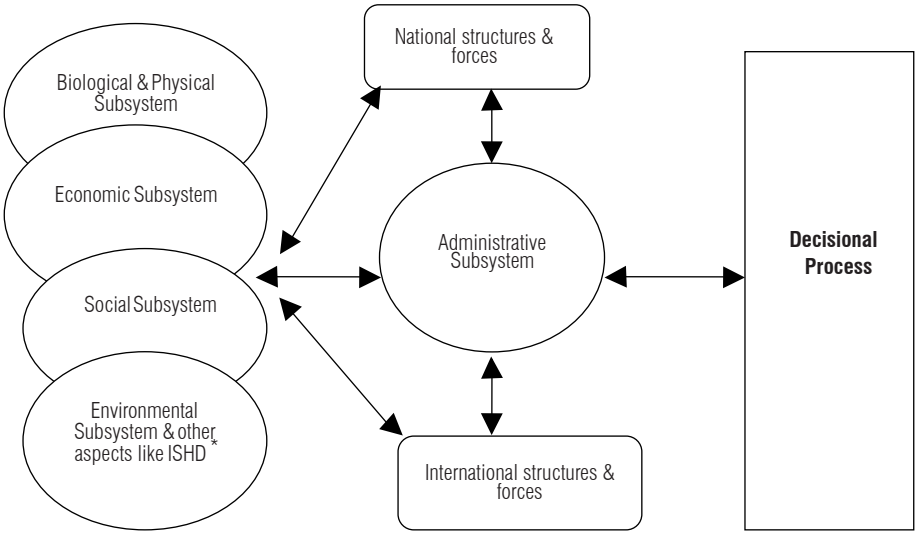

FIGURE 3. Decisional process in agricultural enterprises as part of endogenous and exogenous subsystems.

On the prospects of this model is making efforts to improve the potential of each of the constituent parts of an integrated system of development through the integration of creativity and innovation techniques. In this there is consistency with the views of Drucker (1998) who claimed that innovation is the specific role of entrepreneurship in existing businesses and any business. Reiterates that the venture does not always require a profit motive, which has served as a reference for the social enterprise associated with the work of service organizations and communities.

Agriculture development processes

One of the development criteria is related to the food and nutritional context. In this sense we consider the guidance of international organizations like the United Nations Organization, through the UNDP in the so-called "Millennium Development Goals (MDGs)." It highlights the importance of them contribute to the eradication of extreme poverty and hunger, to develop strategies to promote private sector income generation for the poor and ensure environmental sustainability. Consistent with these approaches for the Colombian case, there are goals and strategies for achieving the Millennium Development Goals defined in the Social Conpes 91 (2005).

Also linked agri-food development approaches that comprise the context of food security and nutrition. According to the Social Conpes 113 (2008) of the National Economic and Social Policy of the Republic of Colombia, that security is "sufficient and stable availability of food, access and timely and uninterrupted use of the same quantity, quality and safety by all people, under proper conditions for its biological use to lead a healthy and active life".

The same text states that food and nutrition security revolves around the following themes: a) Availability of food, b) physical and economic access to food, c) food consumption, d) use or biological use, e) quality and safety. These axes imply the need to overcome new challenges to integrate proposals covering all aspects of development, ie. economic, social, and ethical policies (Garcia, 2003).

We conclude that this is a complex process that requires the participation of many stakeholders. One of the most important has been assigned to the University, which institution has the responsibility of leading change processes to improve the living conditions of populations, especially the most vulnerable.

Within this context are identified food and nutrition characteristics of geographical areas that are treated in favor, considering that malnutrition is considered a disease, resulting from inadequate food intake both in quality and quantity, causing problems physical and mental health. If you look at strategies implemented nationally[2] recognizes that there are multiple causes of malnutrition and associated factors such as:

- Socioeconomic: limited food consumption by low income levels, restrictions on food availability, poor schooling parents, limited or no business vision of agricultural producers, difficulties in the development of partnership activities and the benefits of solidarity economy.
- Environmental: deficiencies in drinking water, inadequate sanitation, inadequate sewerage, waste disposal failures in solids and liquids.
- Biological: genetic birth defects, chronic diseases, infections, other health issues.
- Psychosocial and behavioral, emotional disturbances, alcoholism, smoking, consumption of psychoactive substances.

For the rural agricultural sector these documents should also be considered: Conpes 3375 (food safety), Conpes 3376 (chains of meat and milk), Conpes 3458 (health in the pork chain) and Conpes 3468 (health of the poultry chain). Also must align with the policy criteria of sanitary and phytosanitary in Colombia. It is important to include strategies for social risk management that include promotion and prevention, mitigation and overcoming climate change and promoting healthy lifestyles.

Systems research extension to agricultural business development, rural and agri-food

All geographic regions in Colombia require extensive support in the current circumstances to address the difficulties being experienced. One activity that has been considered to contribute importantly to the formation and consolidation of companies in the primary, secondary and tertiary updated by applying concepts of "Management and Management".

[2] Observations from research projects and extension of the academic programs of Business Administration Agriculture and Animal Husbandry of the University of La Salle (2004 to 2008). Progress of the so-called "Nutritional Recovery Centers" in development at various places in Colombia.

This conceptualization refers to the modern dimension of "enterprise": in the case of agriculture, is related to the different objectives of the producers in the management of their productive units. Within the business perspective each person sees the farm or production unit with several approaches, depending on their interests. By restricting these approaches to what is meant by "agricultural trade or business" and "peasant economy" has been discussed on the criteria of rationality of the producer in each case.

For the subsector "business" the objective is to maximize net profit and quantify the costs and revenues. The decision unit is the company and planning decisions are made in material benefits. In the rural subsector is based on the family action, not the company and its orientation is focused on improving the quality of life of human beings that make up the production unit.

On the other hand, recognizes the need to adapt approaches "Extension, technology transfer and technical assistance" aimed in one way or another benefit to agricultural producers and end users with technologies generated in research centers. Without compromising the importance of developing support efforts for specific technology or productive sector, it is believed to strengthen these procedures relevant to the understanding that their actions in one way or another are framed within a global context and business work will vary as the commercial dimension or of the peasant economy. This involves conducting applied research that will enable design and operating models of extension to the agricultural and rural business development. This may be a feasible alternative to carry out in Colombia.

Reference to a sustainable agribusiness model with emphasis on agricultural production chains

These criteria are specified by means of a sustainable agribusiness model with emphasis on agricultural production chains linked to the food issue. These concepts have been linked to a new orientation of agricultural and rural business management that has to do with "[…] all variables (internal, external to the firm, manageable or unmanageable by the employer) that characterize the production units, industrial or services present in the agricultural sectors and rural areas" (Murcia, 2007). It is essential, therefore, to undertake these tasks with attention to several areas of action.

It is understood that the agribusiness model has relationships within the context of holistic *production lines* (optimal physical and biological related to obtaining adequate levels of production and productivity cases in the areas of processing and agro-processing, livestock, technological innovation), *economic* (economic optimum merge with the concepts of profit-business area basis), *social* (welfare conditions and quality of life - as about family businesses and improving living conditions), *management* (decision-making processes), *environmental* (eg. environmental audit), framed within a surrounding context.

Participatory action research

Within this dimension of agriculture development considers the concepts and methodologies of Participatory Action Research (PAR), which differs from traditional research in the sense of ensuring that the communities in which they do research, have interference in their processes, results and determination of its findings. Recalling the origins of the PAR remembers Lewin (1988) who presented as an alternative to traditional research, in which the separation between science and practice was radical.

According to De Miguel (1993, 97-101) PAR identifies as "[…] a collective pursuit of knowledge for the use and provide results rests with the government involved, which must have given the process of knowledge while experienced collective maturation process". Referring to the general characteristics of this methodological approach, Ramirez (2006) notes the following aspects:

- It is research. Study guides a process of reality or of selected aspects of it, with scientific rigor.
- It is the action (solidarity or processing). There is action that leads to social change or transformation.
- It is participatory. Action research is not only done by experts, but with the participation of the community involved in it.

It is mentioned that the IAP does not end in the production of knowledge, but is intended to act against social realities, asserting that "there is a major concern obtaining data or finding of facts in a unique and exclusive ... The priority is the dialectic that is set to the social partners, ie. the continuous interaction between reflection and action" (Guerra, 1995).

From this perspective it is inconvenient to create a closed methodological framework, as a cookbook, which will set the pace of what should be done at any time. Rather, it is important to establish criteria that will advance the creation of "a more open research context, so that their

own research results are returned in the same process to deepen it" (Villasante, 1994). As a valuable reference examples are considered the work of Orlando Fals Borda and Manfred Max Neef.

Methodological processes are applied as indicating Marti (2009), which include a step of obtaining secondary information on communities and regions in which to work, a phase groupings of PAR and primary data collection, another analysis All the data obtained and the final schedule of actions to be undertaken to establish improvement plans to run.

Territorial integration

As part of the framework envisages the need for research and link the results to low-income communities within the modern concepts of "new rurality" as the focus of the territory in which to achieve substantial improvements accompanied by the principles of the solidarity economy, family businesses and other strategies for social, economic and political.

As stated by Echeverri and Ribero (2002) "the new rurality part of a review of the rural, in defining this area as the area built from the use and appropriation of natural resources, where production processes are generated, cultural, social and political". This concept calls, according to the same specialists, "[…] a new approach to the economy of the territory in which up to now exclude include aspects such as environmental and ecological economics, environmental services markets, sustainability of production systems".

Barrel (2008) indicates that the territorial approach can be considered "as an emerging paradigm of rural development while addressing the concerns about the sustainability of livelihoods, local governance and cooperation, overcoming the agricultural economy by a larger territorial economy".

Given these considerations, it has posed a basic question is to help solve research processes in Agri-Food Innovation and Development: ¿*How is it possible to deal with situations affecting the agri-food and nutritional security in every region, conducting research that show new ways of action within the value chain of agricultural products, farmers and families who obtain the developing national structure of political, economic, social and environmental development and its relationship to urban enterprises as customers, retailers or consumers*?

An interdisciplinary research project

By agreement of the Mayor of Bogota (District Department of Economic Development SDDE) and the Universidad de la Salle was held in 2009, "Project on entrepreneurship, innovation and agriculture development in rural areas of the Capital District," which was developed as a research project of the college. This project is linked in the "master plan food supply and food security in Bogota" formulated by the Capital District of Bogota[3].

Alternative was to offer production-processing and conversion of business marketers of raw milk ("*cruderos*"). The methodology that was developed in accordance with the stages of participatory action research (Marti, 2009), yielded these results:

1. Preliminary phase. The technical team was selected in a process of characterizing the basic business needs of the project. The staff was chosen early induction.
2. Organizational stage. The continued development of the project coordination with the District Department of Economic Development (spanish acronym, SDDE) to integrate efforts in the organizational structure.
3. Methodological design. In the formulation of the problem, confirmation of objectives, methods and procedures corroboration reaffirmed the original approach of the project.
4. Data collection and analysis of information through training to communities. Workshops were conducted based on the methodology caribbean (Total Quality Management, Reengineering and Strategic Bases for Strengthening Business) designed and directed by this article author. Thus, producers identified areas of collaboration participatory project, which, in order of priority, were:
    - Improvement of the farms.
    - Improvement of equipment and facilities of the association.
    - Training of farmers and family business.

[3] Project developed by Hector Horacio Murcia Cabra (Director of Business Administration curriculum Agricultural Salle U.), Pedro Suárez Sánchez (Project Director, Professor of Agricultural Business Administration, La Salle University), Alba Milena Hernandez (Animal Science, La Salle University), Gonzalo Ernesto Castillo (Agronomist, Universidad Nacional de Colombia), Sandra Preciado Carolina Jaramillo (Food Engineering, La Salle University), Ivan Mauricio Corredor Avellaneda (agricultural management), Angelica Maria Charry (Agricultural Engineering) and teachers at La Salle University participants in each project area: Drs. Ana del Carmen Quintana, Luis Eduardo Diaz Gama, Alicia Aldana Pastrana, Fabio Guarnizo Cuellar, Leonardo Granados Vergara, Gerardo Pita Mogollon, William Delgado Munevar, Mercy Jimenez and Ishmael Poveda.

- Strengthening the administrative and organizational association.
- Ongoing technical support.
- Obtaining financial resources.
- Development and management of projects and business plans.
- Marketing of milk and other agricultural products.
- Processing of milk.

It defines the preliminary conclusions of the PAR process. To address the first priority indicated, detailed surveys were conducted. In accordance with the results of these surveys were identified proposals that the communities wanted to work at their farms. The results were confirmed in the training process was subsequently developed.

Then it was created the IAP Group (GIAP) in order that the community was the self-advocates of the process and take ownership of it. As a result of the first exploratory activities and participatory assessments, there were the following assumptions or perceptions on the various project areas:

- In the region there are unmet needs and gaps in food safety in production and marketing of raw milk.
- The solution to a specific problem of the production system (the case of a cooling of milk) does not solve the basic problems handling the product or model can generate a sustainable agribusiness.
- The farmers face food security problems not solved by the production of their farms.
- No proper use of agricultural farms.
- No training or practical application of the elements of a sustainable agribusiness model, since they know the basic principles of management and operation of a farm as a system and as a company.
- No projection is observed towards sustainable human development and community families.
- There are many social aspects to improve in the community.
- Need to improve the operation as associations of producers.
- No application of a concept of management and environmental auditing.
- There is no awareness of the concept of family businesses in the agricultural sector.

5. Organization of exploratory research results. Joint planning of possible actions to be developed

This process came to PAR approach to developing plans. The main points made in each area of work were the following:

5.1 Plan for strengthening the system of processing and selling milk. The main actions considered in this area were: Training and preparation of booklets on dairy and milk processing; tours to successful businesses; participation in the development of business plans for creative ideas identified; plan for agri-food producers and their families. Also developed the diagnostic process through surveys of farmers and their families to know the diet consumed daily. The results of the surveys, analyzed by indicators of feeding behavior could be seen excesses and nutritional deficiencies.

5.2 Plan and crop farming. The main actions considered in this area were: Approach to alternatives related to crops; technical and economic analysis; design essentials for training and development of appropriate primers to these agricultural alternatives.

5.3 Plans for farm livestock and region. The main actions considered in this area were: Approach to alternatives for animal production; technical and economic analysis; design essentials for training and development of appropriate primers to these agricultural alternatives.

5.4 Business plans for farms. The main actions considered in this area were: Estate projects, family and community; basic accounting analysis of farms surveyed; posing as systems and farms and businesses. Development of primers for entrepreneurship. Definition producers farm project ideas, family and community.

5.5 Business Plans. The main actions considered in this area were: Confirmation of topics to develop business plans; institutional coordination in preparing business plans; preparation of business plans with the community and technical staff; presentation of business plans to partner institutions.

5.6 Plan for strengthening and improving the way associative. Training and preparation of booklets on solidarity economy.

5.7 Environmental Audit Plan. Preparation of environmental audit model; plan training and development of primers.

5.8 Plan of family businesses. Plan training and booklets on family businesses; parallel to these efforts and as part of the chain, incorporation of technological innovations in the search for improved food security and nutrition.

6. Program development and community action projects. Subsequently identified and developed programs and projects implemented in 2009.
7. Implementation of programs and community action projects. Given the favorable receptivity of the community programs and projects continue in 2010, considering a new proposal that will allow concrete initiatives of interest to the community and seek institutional coordination within the territorial orientation is to intensify.

Final considerations

After each stage of the research project gave rise to various considerations to achieve full implementation of a sustainable agribusiness model, with emphasis on dairy production chain, and oriented agri-food development and territorial integration in the Capital rural district.

This project confirmed the need to carry out the processes of entrepreneurship, innovation and agriculture development in a holistic and systemic orientation that involves the consideration of the agricultural and rural situation "as a whole", not only focused on partial aspects.

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