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URUGUAY

Family Agriculture Development

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Sustainable Development Department
Latin America and Caribbean Region
The World Bank
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Exchange Rates

1 US$ = 19.87 UYU
100 UYU = 5.03 US$

Acronyms

ALUR S.A  Alcohols of Uruguay Shareholding Company (Alcoholes del Uruguay Sociedad Anónima)
ANEP  National Public Education Administration (Administración Nacional de la Educación Pública)
ARDP  Agricultural and Rural Development Plan
AUSID  Uruguayan Association of Minimum Tillage Asociación Uruguaya de Productores pro Siembra Directa
BCU  Central Bank of Uruguay (Banco Central de Uruguay)
BPC  Social Contributions Base (Base de Prestaciones y Contribuciones)
BPS  Social Security Fund (Banco de Previsión Social)
BROU  Bank of the Republic of Uruguay (Banco de la República Oriental del Uruguay)
BSE  State Insurance Bank (Banco de Seguros del Estado)
CAD  Departmental Agricultural Councils (Consejos Agropecuarios Departamentales)
CAN  National Agricultural Council (Consejo Nacional Agropecuario)
CAP  EU Common Agricultural Policy
CND  National Development Corporation (Corporación Nacional para el Desarrollo)
COFIS  Social Security Financing Contribution Tax (Impuesto de Contribución al Financiamiento de la Seguridad Social)
CONEAT  National Commission for Agro-economic Soil Studies (Comisión Nacional de Estudios Agro económicos de la Tierra)
DF  Forestry Division (Dirección Forestal)
DGDR  General Division for Rural Development (Dirección General de Desarrollo Rural)
DGRNR  General Division for Renewable Natural Resources (Dirección General de Recursos Naturales Renovables)
DIGEGRA  General Division for Horticulture and Fruit Development (Dirección General de la Granja)
DINAMA  General Division for the Environment (Dirección General del Medio Ambiente) of MVOTMA
EAFRD  European Agricultural Fund for Rural Development
EC  European Commission
EEB  Bovine Spongiform Encephalopathy (Encefalopatía Esporangiforme Bovina)
EU  European Union
EUR  Euro (currency)
ESU  Economic Size Unit
FAO  Food and Agriculture Organization of the United Nations
EIA  Environmental Impact Assessment
FAE  Agricultural Emergency Fund (Fondo Agropecuario de Emergencias)
FECCG  Horticulture and Fruit Production Climate Emergency Fund (Fondo de Emergencia para Catástrofes Climáticas para la Granja)
FFDP  Family Farm Development Program
FFDSAL II  Dairy Development Fund II (Fondo de Financiamiento y Desarrollo Sustentable de la Actividad Lechera)
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<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>FFRAA II</td>
<td>Rice Development Fund II (<em>Fondo de Refinanciamiento y Reconstrucción de la Actividad Arrocera</em>)</td>
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<td>FMD</td>
<td>Foot and Mouth Disease</td>
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<td>FRFG</td>
<td>Horticulture and Fruit Development and Diversification Fund (<em>Fondo de Reconversión y Fomento de la Granja</em>)</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>GEF</td>
<td>Global Environment Facility</td>
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<td>GHGs</td>
<td>Green-house Gases</td>
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<td>GNP</td>
<td>Gross National Product</td>
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<td>GOU</td>
<td>Government of Uruguay</td>
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<td>GVA</td>
<td>Gross Value Added</td>
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<td>IFAD</td>
<td>International Fund for Agricultural Development</td>
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<td>INAC</td>
<td>National Meat Institute (<em>Instituto Nacional de la Carne</em>)</td>
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<td>INAVI</td>
<td>National Wine Institute (<em>Instituto Nacional del Vino</em>)</td>
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<td>INASE</td>
<td>National Seeds Institute (<em>Instituto Nacional de Semillas</em>)</td>
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<td>INC</td>
<td>National Institute for Colonization (<em>Instituto Nacional de Colonización</em>)</td>
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<td>IMBA</td>
<td>Expropriation of Agricultural Property Tax (<em>Impuesto a la Enajenación de Bienes Agropecuarios</em>)</td>
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<td>IMESI</td>
<td>Specific Internal Tax (<em>Impuesto Específico Interno</em>)</td>
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<td>IMF</td>
<td>International Monetary Fund (<em>Fondo Monetario Internacional</em>)</td>
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<td>INE</td>
<td>National Institute of Statistics (<em>Instituto Nacional de Estadística</em>)</td>
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<td>INIA</td>
<td>National Agricultural Research Institute (<em>Instituto Nacional de Investigación Agropecuaria</em>)</td>
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<td>IPA(RD)</td>
<td>(EC) Instrument for Pre-Accession (related Rural Development funding)</td>
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<td>IPA</td>
<td>Agricultural Plan Institute (<em>Instituto Plan Agropecuario</em>)</td>
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<td>IRA</td>
<td>Agricultural Income Tax (<em>Impuesto a las Rentas Agropecuarias</em>)</td>
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<td>IRP</td>
<td>Wage Tax (<em>Impuesto a las Retribuciones Personales</em>)</td>
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<td>IRPF</td>
<td>Dual Personal Income Tax (<em>Impuesto a la Renta de la Personas Físicas</em>)</td>
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<tr>
<td>MEF</td>
<td>Ministry of Economy and Finance (<em>Ministerio de Economía y Finanzas</em>)</td>
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<td>MGAP</td>
<td>Ministry of Livestock, Agriculture and Fishery (<em>Ministerio de Ganadería, Agricultura y Pesca</em>)</td>
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<td>MIEM</td>
<td>Ministry of Industry, Energy and Mining (<em>Ministerio de Industria, Energía y Minas</em>)</td>
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<td>MVOTMA</td>
<td>Ministry of Housing, Territorial Planning, and Environment (<em>Ministerio de Vivienda, Ordenamiento Territorial y Medio Ambiente</em>)</td>
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<td>OIE</td>
<td>Office International des Epizooties</td>
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<td>OPP</td>
<td>Office of Programming and Budget (<em>Oficina de Programación y Presupuesto</em>)</td>
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<td>OPYPA</td>
<td>Office of Agricultural Programming and Policies (<em>Oficina de Programación y Políticas Agropecuarias</em>)</td>
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<tr>
<td>OSE</td>
<td>Public Water Works (<em>Obras Sanitarias del Estado</em>)</td>
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<td>PG</td>
<td>Livestock Project (<em>Proyecto Ganadero</em>)</td>
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<td>PAEFA</td>
<td>Foot and Mouth Emergency Project (<em>Proyecto de Asistencia para la Erradicación de la Fiebre Aftosa</em>)</td>
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<td>PPR</td>
<td>Natural Resources Management and Biodiversity Conservation Project (<em>Proyecto de Producción Responsable</em>)</td>
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<td>PRENADER</td>
<td>Natural Resources Management and Irrigation Development Project (<em>Proyecto de Manejo de Recursos Naturales y Desarrollo del Riego</em>)</td>
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<td>PROSA</td>
<td>Foot and Mouth Emergency Additional Financing Project (<em>Proyecto de Sanidad Animal</em>)</td>
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<tr>
<td>PUR</td>
<td>Uruguay Rural Project (<em>Proyecto Uruguay Rural</em>)</td>
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<td>SAPARD</td>
<td>(EC) Special Accession Program for Agriculture and Rural Development</td>
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<td>SGM</td>
<td>Standard Gross Margin</td>
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<td>SNIG</td>
<td>National System of Livestock Information (<em>Sistema Nacional de Información Ganadera</em>)</td>
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<td>UNDP</td>
<td>United Nations Development Program</td>
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<tr>
<td>UPCT</td>
<td>Unit of Projects and Technical Cooperation (<em>Unidad de Proyectos y Cooperación Técnica</em>)</td>
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<td>USDA</td>
<td>US Department of Agriculture</td>
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<td>USLE</td>
<td>Universal Soil Loss Equation</td>
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<td>US$</td>
<td>US Dollar (<em>currency</em>)</td>
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<td>UYU</td>
<td>Uruguayan Peso (<em>currency</em>)</td>
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<tr>
<td>VA</td>
<td>Value added (<em>Valor agregado</em>)</td>
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<tr>
<td>VAT</td>
<td>Value-Added Tax (<em>Impuesto al Valor Agregado</em>)</td>
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Executive Summary

Introduction

The Bank has a long relationship with Uruguay’s agricultural sector, expanding over a period of more than 60 years in which several projects and various analytical and advisory assistance initiatives have been implemented. Since the 1990’s, the Bank has successfully supported the GOU’s agricultural and rural agenda through (i) research and extension (Agricultural Services Project), (ii) natural resources management and irrigation development (PRENADER), (iii) animal health (FMD Emergency loan, PAEFA, and the recently closed PROSA); and (iv) natural resources and biodiversity management by means of an AAA conducted in 2002 and the ongoing PPR project.

The PPR project has become a key element of the Government's family agriculture support programs, and has also been instrumental in the recent establishment of the Rural Development Division within the Ministry of Livestock, Agriculture and Fisheries (Ministerio de Ganadería, Agricultura y Pesca, MGAP). Additionally, the Bank has been actively engaged with Uruguayan authorities on livestock development issues at the regional level through the implementation of a multi-country initiative in support of improved collaboration within MERCOSUR on trans-boundary animal diseases.

It is within this framework of long standing collaboration, that the Government of Uruguay (GOU), through its MGAP, requested the Bank’s analytical and advisory assistance (AAA) to develop a coherent strategy to address the main constraints faced by family agriculture and promote a more equitable agricultural sector development, while maintaining the country’s natural resources base. The analysis of and search for solutions for Uruguay’s agricultural and rural development challenges will benefit from the Bank’s experience in other countries and lessons learned from commercial and family farming support programs within and beyond the LAC region (notably Brazil, Colombia and Chile, and Central- and Eastern European countries, CEECs).

During the last decade, collaboration between the Bank and the Government of Uruguay has moved from mostly productive aspects of agriculture towards broader aspects of rural development, with increased emphasis on environmental issues and long-term sustainable production systems. The Bank’s response to the Government request for analytical assistance resulted in the present sector work on Family Agriculture Development.

The main purposes of the present report are: (a) to analyze the main characteristics of family agriculture as well as its development potential and constraints; (b) to examine Uruguay’s current agricultural policy and institutional framework; (c) present a set of measures aimed at reducing vulnerabilities and increasing development opportunities for family producers; and (d) contribute to MGAP’s preparation of an Agricultural and Rural Development Plan 2010-15, by presenting a set of policy recommendations and measures to support an economic and environmentally sustainable family agriculture development within the Government’s overall strategy to promote more equitable rural development.
**Structural Characteristics of the Agricultural Sector**

**Overall performance.** Uruguay’s agricultural and food sector has successfully mastered past crises and retained its role as an important sector of the national economy, which saw its contribution to GDP increased from 6.0% during the economic crisis in 2000-2001 to 9.1% of national GDP, or 13.7% including agro-food processing, in 2008. Exports of raw and manufactured agricultural products account for about 60% of Uruguay’s total export value (2008), two thirds of which are generated in highly competitive and standard-sensitive markets for animal products (meat, leather, wool). The agro-food sector remains a significant and steady source of employment, with agriculture contributing to approximately 12% of national employment. In rural areas, agriculture accounts for about 70% of employment. In a global comparison, Uruguay has one of the highest relative shares of land suitable for agricultural production (over 90% of total land area), farmed by about 52,000 holdings, with livestock and dairy as dominant production activities. The unequal distribution of land has remained basically unchanged over the last 40-50 years, with 2% of the farms controlling about one-third of the Uruguay’s productive land assets.

**Agricultural Production in Uruguay**

Livestock remains the most important sub-sector, using 90 percent of the land suitable for agriculture and livestock production (17.5 million ha), generating 50 percent of the agricultural sector’s GDP and 54 percent of the sector’s exports. But there has been also a substantial increase in some major crops, notably wheat and soybean, which would explain the decline in the relative importance of livestock production in the sector’s GDP during the last 30 years. During the last two decades, there has been a significant increase in the volume and value of meat exports. Beef production, in particular, has benefited from policy reforms and improved productivity.

The cattle population remained remarkably stable over the long term up until 1990. However, in the last 20 years it has shown an increase of about 32%, with total cattle population now close to 12.0 million, in response to improved productivity and better access to export markets. By contrast, the total number of sheep has fallen.

The area under annual crops suffered a marked reduction during the 1990s, as a result of the increased openness of the economy and the decline in international prices. However, during the present decade there has been a dramatic increase in the area under annual crops to 1.4 million ha in 2008/9, with particular emphasis in the production of soybeans and wheat, which now account for almost 75% of the total area under annual crops.

All major crops grown in Uruguay have experienced an increase in their average yields over the past decades. This is both a result of structural changes in the agricultural sector, with marginal producers having disappeared from the sector and decreased use of marginal land, and the adoption of a broad range of technology by the remaining producers to improve productivity and achieve advances in soil conservation and recovery.
Value Chain Characteristics

The main agro-industries are abattoirs and dairy plants; other important value chains are rice and wheat mills, vegetable oil industries, tanneries, and wool production. Family agriculture would benefit from improved access to these agro-industries to serve as the principal outlets for their outputs, with a positive impact on on-farm production and income.

The beef processing industry underwent a series of reforms during the 1990s, such as State-run abattoirs being handed over to the private sector and most structural barriers to entry eliminated. This led to an improvement in the overall competitiveness of abattoirs and beef processing plants in the country. Beef production increased during most of the 2000s, but the negative impact of the drought in 2007/09 resulted in a decline of beef processing between 2007 and 2009 – a trend likely to be reverted during 2010.

Traditionally, only about 30-35% of total production was exported, but over the past decade exports have grown to about 75% of total production. However, exported beef production still has little or no value added. Frozen beef represented two-thirds of total exports in 2000, and was over 70% in the period 2005-2007; total value of beef exports increased by almost 50% in 2008.

The dairy sub-sector has been one of the most dynamic within the agricultural and livestock sector. Milk production has shown a sustained increase, moving from about 1.0 million litres in 2000 to over 1.5 million in 2008. Over 86% of increased production was devoted to processing in 2008.

Family Agriculture in Uruguay

A producer would classify as “family producers” when the following characteristics are met: i) farm output is produced with the assistance of family labor and a maximum of 2 wage laborers hired on a permanent basis or 500 man-days of temporary labor per annum; ii) farm size does not exceed 500 hectares; iii) farm production is the main source of income; or the farm should be the farmer’s full time occupation; and iv) the farmer resides in the farm or in a place located 50 km. or less from the farm.

According to Government estimates, there are some 37,000 farmers, or about 63% of the total, that would classify as family producers, controlling about 15% of the area under agriculture and livestock production. The expansion of the small farmer sector reached its peak in the mid-1950s, with about 67,000 small farmers. The gradual process of trade liberalization and opening of the economy implemented during the 1970s and 1980s led to a rapid decline to about 36,000 in the mid-1980s.

One could distinguish at least three main categories of family agriculture producers, each with its particular survival strategy:

Consolidated Family Agriculture, which is characterized by a production system in which the farmer usually owns land with a relatively good agriculture and livestock production potential, makes good use of the natural resources base available to him/her, has good
access to financial, technology and produce markets, and generates sufficient income to sustain the family and capitalize the farm unit.

**Transition Family Agriculture** refers to those producers who can generate enough income from their farms to sustain the family, but would find it difficult to generate sufficient surplus for investment and overall development of the farm, which is compounded by a limited access to credit or other sources of financing. Unless there is a change in their production systems, the sustainability of this type of family producers will be largely dependent on state support, particularly in terms of access to financing, technology and export markets.

**Subsistence Family Agriculture** includes those family producers whose production is mainly oriented towards on-farm consumption. Insufficient or poor land, normally combined with a deficient production system and lack of capital, results in an on-farm generated income which is inadequate to cover family needs. Consequently, this type of family producer is forced to seek employment outside the farm to supplement his/her income.

**Main Family Production Systems**

Over 70% of family producers and 90% of their land are engaged in livestock and dairy production; 13.5% engage in horticulture. These three sectors would include about 84% of all family producers and nearly 94% of the land under family agricultural production.

**Livestock (beef and wool) production**: there were about 28,200 producers specialized in beef and wool production in 2000. The average farm size of family livestock producers is just over 100 hectares, as against an average of nearly 850 hectares of medium- and large-sized producers. The average size of the herd is 100 head of livestock equivalent for family producers and 928 for medium- and large-sized producers. The annual average income that a farmer could obtain from livestock production during the last 8 years was about US$ 33.0 per hectare, (which would represent a total annual income of about US$ 3,300 per farmer). The poor economic performance by family livestock producers is explained largely by the limited use of improved natural pastures or cultivation strategic forage in their production systems, inadequate technical assistance, and vulnerability to adverse climatic conditions. Present technical assistance is oriented mostly to natural resources management and animal health; a more integral type of government-supported technical and financial assistance would leave family producers in a better position to address the whole range of problems faced in their production systems.

**Dairy production**: In 2000, there were about 6,000 dairy producers, with a dairy herd of some 710,000 animals and an area of 1.0 million hectares devoted to milk production. By 2007/8, the number of dairy farms had decreased to 4,165, and the area devoted to dairy production had been reduced to about 798,000 hectares, and the declining trend continued in 2008/9 as a direct result of the drought and the decline in international prices of dairy products. Overall productivity of family dairy producers seems to be the same as or very close to that of medium- and large-sized dairy farmers. This is partly the result of adequate access to quality technical assistance and credit, traditionally provided by CONAPROLE, the largest dairy plant in the country.
Horticulture production: The average farm size of horticulture family producers is about 15.5 ha, (or just under one-third of the average farm size of large- and medium sized producers), and most of their production goes to the domestic market. Reportedly, horticulture family producers contribute with just over 50% of the horticultural sector’s total value of production, but technology levels among horticultural family producers present large variations. Most horticultural land cultivated by family producers, is cultivated under rainfed conditions, although there are some family producers who have areas under irrigation and even under greenhouses. An important section of these family producers faces serious constraints in terms of poor soils and land degradation, leading to the need for a specially designed program to provide technical and financial assistance with a strong emphasis on land management.

**Family Agricultural Sector Development Potentials and Constrains.**

The experience that Uruguay has had in the past with some sectors of family agriculture would indicate that there is scope for the transformation of family farms into viable and sustainable commercial enterprises. Therefore, the existence of family producers does not need to be justified only because they are important social actors, which need to be supported so that they can remain in the rural areas, but also because they can be fully integrated into an open market economy and make a specific contribution to the country’s economic development. The challenge will be to generalize past productivity gains to all producers, in particular family producers. Programs to assist family producers should be directed towards improving family production systems in terms of productivity and the sustainable use of the natural resources base. In cases where sustainable family agricultural and livestock production is not an option, support should be given to changing the family producers’ survival strategies.

There is considerable scope to improve the long-term profitability and sustainability of family agriculture by improving management of the natural resources base and incorporating technical knowledge alongside increased physical investments. In livestock production this would imply an increase in the capacity to invest in improved pasture management, expansion of the use of cultivated strategic forage, increased water supply and improved water use efficiency; for horticulture producers, improved land management techniques. The World Bank-financed Natural Resources Management Project (PPR) is already working in these fields, but demands by family producers far exceed the resources available.

A strategy to support the sustainable development of the family agricultural sector would have to include a wide menu of options to address the needs of each type of family producer. The piecemeal approach of the past should be abandoned in favor of a more comprehensive set of actions oriented towards a territorial approach to development. Moreover, assistance would have to include support not just for on-farm production, but also for the development of off-farm activities, as even an improved farm production might not be sufficient to guarantee their family subsistence.
The Policy and Institutional Framework to Agriculture

The challenge for the Government agricultural policies is to maintain the agricultural sector’s relative high growth rates of the past while promoting a series of programs and measures aimed at releasing the potential of the more low technology production systems of the family agriculture sub-sector.

The framework for government’s agricultural sector policies in the 2006-2010 included the need to establish a new institutional framework to enable the State to play a more active role in promoting high sector growth and more socially inclusive development. This included design and implementation of new sources of financing to supplement commercial credit lines, supporting the development of a competitive agro-industrial sector, providing incentives for the adoption of sustainable natural resources management systems, and measures to improve the overall standard of living of family producers.

The implementation of proposed institutional reforms could not be completed during the previous Administration and, without the necessary institutional tools and in the absence of a fully defined agricultural development strategy, the Government ended up adopting a series of ad-hoc measures. Although measures adopted went some way towards incorporating family farmers into sector development the results fell short of expectations. Nevertheless, experience gained during this administration has placed the current Government on a much more solid base on which to build a long-term development program to promote a sustainable and equitable rural development.

New Institutional Framework. The MGAP created a Decentralization Unit to strengthen the Ministry’s presence in the various geographical Departments and encourage the participation of local institutions in the design and implementation of agricultural development policies. In 2005, MGAP created the General Division for Rural Development (Dirección General de Desarrollo Rural, DGDR) to develop policies and programs targeted to family agriculture. DGDR did not start its activities until late 2008; its main task now is the design of the Rural Development Plan 2010-2015. This Plan aims to establish the framework for the future development of Uruguayan agriculture and a coherent strategy to incorporate family agriculture into the development of the sector.

Financial Resources for the Agricultural Sector. In 2005, the commercial banking system was not providing adequate financial resources to the agricultural sector, particularly to family producers, and producers were facing high levels of indebtedness. So far the Government has not defined a fully fledged strategy to ensure that farmers have adequate access to different sources of financing, nor has there been any detailed discussion on adjustments that might be required in the commercial bank credit system to facilitate the flow of financial resources to the agricultural sector.

Government efforts have concentrated instead on creating a series of Special Funds as an alternative to the banking system, to solve the problem of indebtedness and losses to emergencies such as droughts as well as provide farmers with the financial resources...
required for agricultural and livestock development. The other source of financial resources available to family producers are the three agriculture and livestock development projects that are financed by International Financing Institutions: the World Bank-financed Natural Resources Management and Biodiversity Conservation Project (Proyecto de Producción Responsable, PPR); Uruguay Rural Project (Proyecto Uruguay Rural, PUR), with IFAD funding; and the Livestock Project (Proyecto Ganadero, PG), which is financed by IADB.

Uruguay has had an agricultural insurance system in place since 1914. However, the use of insurance to cover potential agricultural production losses has been traditionally important among large commercial producers, but not among small farmers. In spite of a subsidy covering 35% of the insurance premium for fruits and vegetables production, with an upper limit of 20 hectares the use of insurance remains low among small farmers.

**Strengthening family producers’ participation in the agro-industrial value chains:** Several measures have been implemented to improve the competitiveness of the existing agro-industries and promote the increased participation of especially family agricultural and livestock producers in these production chains, among others in sugar cane, tomato processing, and dairy.

**Improved Natural Resources Management:** The government promotes sustainable natural resources management through incentives to farmers for the adoption of improved natural resources management systems and practices, through the World Bank-financed PPR Project and a special program to reduce overgrazing, financed through the Agricultural Emergency Fund.

**Land Policy:** According to Government, the small size of farms of family producers imposes a serious limitation on any attempt by these farmers to improve their production systems and, therefore, their level of income. To address this problem, the MGAP entered into an agreement with the National Institute for Colonization (Instituto Nacional de Colonización, INC) in 2008 to improve family producers’ access to land.

**Advisory Services and Agricultural Extension:** In order to optimize the use of productive resources, acquire and apply modern techniques and practices, and incorporate innovation, farmers need access to knowledge and information. Historically, Uruguay has consistently, and effectively, supported a public system for agricultural research and technology generation (INIA). Until the newly created DGDR became functional in 2008, extension services were predominantly delivered as part of the implementation of ongoing projects, with funding from international organizations (PPR, PG, and UR). However, this model has inherent deficiencies, including the lack of operational coordination and uniform methodologies among projects, the absence of an institutional framework within MGAP, and the dependency of certain public services on the lifespan of externally funded projects.

**Agricultural Sector Taxation and Social Security:** The objectives of the general tax reform in Uruguay, which came into effect in July 2007, were to create a more efficient
and equitable tax structure, and to promote productive investment. The tax reform made it mandatory for all large (agricultural) enterprises or corporations to pay tax on income from corporate activities, and introduced fiscal incentives to promote investment and innovation, including the use of inputs linked to technological innovations. The fiscal pressure on the agricultural sector after the tax reform is lower (6.5%) that in the pre-reform years (about 7.5%). The tax reform introduced a uniform rate for employers’ social security contributions at 7.5%. Social security contributions in the agricultural sector continue to be paid on basis of the number of hectares; the rate per hectare was increased by the reform to currently about US$ 1/ha/ year.

Towards a Family Agriculture Development Program

The Need for a National Rural Development Plan. A systematic approach to agricultural and rural development, in the form of the preparation of an Agricultural and Rural Development Plan (ARDP), is recommended. It would benefit Uruguay by means of i) greater effectiveness, efficiency, and consistency in rural policy formulation and implementation; ii) improved targeting and complementarities of support instruments in the presence of multi-faceted and diverse rural development challenges; iii) greater coherence in multi-annual (fiscal) resource planning; and iv) provision of information to rural stakeholders with a longer-term vision on applicable support schemes to benefit their business planning security.

Well prepared ARDPs should provide a coherent framework to identifying the areas where the use of Government support for agricultural and rural development adds the most value; ensuring consistency with other Governmental policies for economic development and the environment; and defining and assisting the implementation of Government support to agricultural and rural development

Integration of Family Farm Support Measures in an ARDP. To ensure balanced overall growth, sustainable family farm development should not be pursued as a self-standing, exclusive strategy, but become an integral element of an integrated, inclusive development strategy. This would serve to integrate the Government’s response to the agricultural and rural development challenges facing the entire rural sector with the specific constraints facing the family farm sector, such as economies of scale, lower technology adaptation rates, limited access to credit, and lack of extensive technical assistance and market facilitation services.

With a view to integrating sector-wide with the family farm-specific priorities in an ARDP it is suggested to structure Uruguay’s ARDP along the following development priorities/pillars: Pillar I: Enhancing agri-food productivity and marketability; Pillar II: Reinforcing agri-environmental adaptation; and Pillar III: Facilitating income diversification in rural areas.

A critical success factor for Government efforts towards addressing the family farming sector’s vulnerabilities is whether it will be founded on an appropriate reference framework to guide Government actions and ensure they are well-targeted, coherent, manageable, and monitorable. The present report confirms the relevance of MGAP’s
intention to elaborate an agricultural and rural development framework, in the form of an ARDP, so that MGAP can pursue a more strategic approach to agricultural development, innovation and diversification in rural areas, and improved governance in the delivery of its programs.

Three key priority groups of actions towards addressing vulnerabilities facing family farm systems have been identified. First, and addressing the priority to enhance agri-food productivity and marketability, MGAP’s rural agricultural and rural development framework should contain measures aiming at supporting family farms to cope with changes in their production and marketing and thus their competitive environment. Second, and addressing the priority of reinforcing agri-environmental adaptation, potential measures promoting sustainable use of agricultural land and water are required. And third, towards addressing the priority of facilitating income diversification in rural areas, it must include elements of enhanced coordination between sectoral and non-sectoral development activities in rural areas.

A selection of actions under each of these priority groups will have to be determined as part of MGAP’s analytical and programming exercise for the entire agricultural sector, with the present study contributing those elements pertaining to the family farm segment. Some proposed key elements of this programming process are:

- Initial (later: continuous) analysis of current situation in agricultural sector (socio-economic context; performance; external factors), as a basis for choice of intervention/support measures
- Elaboration of an integrated and inclusive agricultural development program, with support for productivity enhancement and technology adaptation;
- Fostering of sound agri-environmental and water management techniques and rural income diversification
I. Structural Characteristics of the Agricultural Sector

1.1 Agriculture in the National Economy

Uruguay’s natural resource base is suitable for livestock and crop production. During the past three decades, the total area under production has remained relatively stable at around 16.0 million hectares, 83% (or over 13.5 million hectares) of which is under pasture (mainly natural pastures).

Uruguay’s agricultural and food sector has successfully mastered past crises and retained its role as an important sector of the national economy. Despite a severe contraction during the economic crisis of 2001 and the Foot and Mouth Disease (FMD) outbreak, the sector rapidly recovered its historically driving role in the Uruguayan economy. With an average growth rate of 7.6% between 2001 and 2007, the agricultural sector has grown almost double the rate of the overall national GDP (4.1%) for the same period. In 2008, the agricultural sector contributed 9.1% to the national GDP, or 13.7% including agro-food processing.

Responsiveness to increasingly rigorous international food safety and quality standards ensured the sector’s sustained, strong, and successful links to export markets. Exports of raw and manufactured agricultural products account for about 60% of Uruguay’s total export value (2008), two thirds of which are generated in highly competitive and standard-sensitive markets for animal products (meat, leather, wool).

The agro-food sector remains a significant and steady source of employment, with agriculture contributing approximately 12% of national employment. In rural areas, agriculture accounts for about 70% of employment. The agro-food sector also provides significant employment in urban areas, both directly and indirectly through trade, industrial, and service activities. Positive employment-related spill-over effects are explained by the importance of livestock-related activities and the prominence of SMEs in the agro-food sector.

Strong political commitment to supporting agricultural development, a favorable resource base, and structural advantages provide for further productivity and market growth prospects. In a global comparison, Uruguay has one of the highest relative shares of land suitable for agricultural production (over 90% of total land area), farmed by about 52,000

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1 UNFPA, Secco, J., Errea, E., 2008. Regarding the Agricultural Gross Production Value, Da Bezies, (2008) calculated that between 2001 and 2006 the annual cumulative rate was 35-45% in constant pesos and dollars respectively (based on data of BCU).
2 DIEA (2009).
4 The latter parallels similar structures in regions such as the European Union where the food and drink industry remains one of the most important and dynamic industrial sectors (4 million), with strong SME prevalence (280,000 SMEs), and representing the number one industry in terms of turnover (around EUR 800 billion).
holdings with livestock and dairy as dominant production activities. About 63% of these holdings are classified as family farms, with average sizes well above international family farm averages. Unlike countries where family farms mostly represent small, semi-subsistence units, an important segment of Uruguay’s family farms are market oriented and managed according to entrepreneurial principles. However, like the rest of family producers, they are also vulnerable to external shocks and thus to income fluctuations.

The declining trend in the number of farmers, which characterized the last four decades of twentieth century, seems to have been reversed slightly. In 2000, the total number of farmers showed a small increase, although this is explained largely by the increase in non-commercial farms of less than 5 hectares (presumably, week-end or holiday farms of urban dwellers). The number of people living on farms, however, has continued to decline, and there are currently 40% less people living on farms than in 1970 (Table 1).


<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of farms</td>
<td>57,131</td>
<td>54,816</td>
<td>68,362</td>
<td>77,163</td>
</tr>
<tr>
<td>Area (ha)</td>
<td>16,419,683</td>
<td>15,803,763</td>
<td>16,024,656</td>
<td>16,517,730</td>
</tr>
<tr>
<td>Population living on farms</td>
<td>189,838</td>
<td>213,367</td>
<td>264,216</td>
<td>318,166</td>
</tr>
<tr>
<td>Persons working on farms</td>
<td>157,009</td>
<td>140,430</td>
<td>159,446</td>
<td>181,206</td>
</tr>
<tr>
<td>Average size per farm (ha)</td>
<td>287</td>
<td>288</td>
<td>234</td>
<td>214</td>
</tr>
</tbody>
</table>


The unequal distribution of land has remained basically unchanged over the last 40-50 years, with 2% of the farms controlling about one-third of Uruguay’s productive land assets. Large and medium-sized farmers usually have high productivity levels, strong links to export markets, and their performance has traditionally been the driving force for the country’s agricultural sector development. At the other end of the spectrum are the so-called family agriculture farms, which include about 63% of the country’s total number of farms but control just over 15% of total land suitable for agriculture and livestock production. These farms normally use low(er) technology production systems and their production is largely oriented towards the domestic market.

While conducive to international market integration, high export orientation and limited interventionist agricultural policies also imply exposure to international market developments. In the 1990s and early 2000s, Uruguay’s farmers experienced declining international product prices induced by increasing large scale production and capital intensification in competing countries (especially in the US and the EU). 2008 also brought pronounced market volatility through the food crisis. But while spiking products

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5 This refers to 1,122 farms larger than 2,500 hectares, in 2000. (DIEA, 2000)
prices at first appeared to be potentially beneficial for agricultural producers, increased input prices such as feed, fertilizer, and fuel, as well as capital market constraints, quickly absorbed most of the potential gains. Finally, the severe drought of 2008–2009 exacerbated the agricultural sector’s vulnerabilities.\(^6\)

As a consequence of liberalization and economic policy reform, self-sufficiency in sugar ceased to be an objective at the end of the 1990s. As a result, the area planted with sugar cane (in the north of the country where the conditions for its cultivation are marginal) has declined from 10,000 ha to 3,000 ha and sugar beet has ceased to be cultivated at all during the last decade. However, there are indications that the current Administration might be planning to revitalize sugar cane production again.

Given that agriculture and livestock remain the key contributors to national GDP and export earnings, successful agricultural and rural development would continue to make a notable contribution to national income and employment generation and consequently to overall economic growth. However, to maintain agricultural sector production growth, Uruguay would need to further increase agro-food productivity, market access, and income diversification, both through provision of investment support and –perhaps more importantly– services to rural areas. Unlike many countries with comparable agricultural structures (e.g., economies in Central Europe), Uruguay is uniquely positioned to make such Government support to agricultural development provide for significant economic returns – its established and pronounced comparative advantages are clearly in higher value-added production activities, most prominently livestock, in a variety of related agricultural activities for export, as well as in industrial goods closely linked to these sectors.

### 1.2 Agri-environmental Characteristics

#### 1.2.1 Topography

Uruguay is characterized by a large, gently sloping basalt watershed in the north and a sedimentary basin and some extensive fluvial plains in the north-east. The south is predominantly on pre-Cambrian crystalline rocks, with the coastal basins filled with recent sediments, grading into the extensive recent sediments of the west that run along the Uruguay River.

Uruguay’s topography is generally gentle, with a mean altitude of 140 meters above sea level (masl). Most of the country, however, is located below 200 masl, with the exception of the two hilly regions in the north and the south-east, which occupy about 10 percent of the country and have an altitude of more than 300 masl. Consequently, in most parts of the country slopes are usually slight, generally between 2 and 6 percent, while in a few relatively small areas the slopes can exceed 10 percent.

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\(^6\) As stated by INIA, the economic losses because of the last drought are estimated between US$ 400 and 600 million, i.e. between 11 and 17% of the agriculture’s GDP. INIA (2009)
1.2.2 Climate

The mean annual temperature ranges from 16°C in the south to 20°C in the north-east. Mean temperatures in January range from 22°C in the south-east to 27°C in the north-west. During the coldest month (July), temperatures range from 11°C in the south to 14°C in the north. The first frosts may be expected from early June in the center of the country to early July in the south-west. The last frosts are expected around the middle of August along the south coast and at the beginning of September in the interior.

The mean annual rainfall ranges from between 1,000 mm in the south to over 1,300mm in the north. Rainfall occurs in every month of the year, but both annual and monthly amounts are highly variable, showing 20-30% deviations around the mean values. At the eight meteorological stations\(^7\), the mean rainfall in any month is above 69 mm.

Rainfall is frequently of high intensity, with a low ratio of infiltration to run-off. The annual average run-off is estimated at 300 mm (30 percent of the total rainfall), and summer run-off is less than 0.15 liters per second per square kilometer (l/s/km\(^2\)). The country has abundant surface water resources equally distributed within the territory due to the dynamic of hydrological cycle components. A significant portion of the available water is non-regulated and, consequently, water availability decreases accordingly in the summer time.

Table 2  Mean Monthly Precipitation and Variability  

<table>
<thead>
<tr>
<th>Month</th>
<th>Rainfall (mm) *</th>
<th>Average</th>
<th>Standard Deviation</th>
<th>Maximum</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>72.1</td>
<td>38.9</td>
<td>193.4</td>
<td>8.1</td>
<td></td>
</tr>
<tr>
<td>February</td>
<td>72.9</td>
<td>54.3</td>
<td>186.7</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>March</td>
<td>80.0</td>
<td>52.0</td>
<td>244.4</td>
<td>4.8</td>
<td></td>
</tr>
<tr>
<td>April</td>
<td>105.3</td>
<td>65.5</td>
<td>280.6</td>
<td>13.5</td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>111.5</td>
<td>69.3</td>
<td>401.3</td>
<td>23.7</td>
<td></td>
</tr>
<tr>
<td>June</td>
<td>102.1</td>
<td>68.8</td>
<td>275.1</td>
<td>9.7</td>
<td></td>
</tr>
<tr>
<td>July</td>
<td>93.4</td>
<td>59.3</td>
<td>229.6</td>
<td>22.5</td>
<td></td>
</tr>
<tr>
<td>August</td>
<td>115.1</td>
<td>81.3</td>
<td>299.2</td>
<td>30.1</td>
<td></td>
</tr>
<tr>
<td>September</td>
<td>122.2</td>
<td>83.5</td>
<td>441.6</td>
<td>29.6</td>
<td></td>
</tr>
<tr>
<td>October</td>
<td>84.6</td>
<td>61.2</td>
<td>239.7</td>
<td>8.5</td>
<td></td>
</tr>
<tr>
<td>November</td>
<td>81.7</td>
<td>57.7</td>
<td>198.3</td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td>December</td>
<td>69.8</td>
<td>44.7</td>
<td>157.3</td>
<td>0.0</td>
<td></td>
</tr>
</tbody>
</table>


Annual actual evapo-transpiration ranges from around 1,000 mm in the north-west to 850 mm across the center to less than 750 mm in the extreme south-east, with maximum and

\(^7\) Melo, Treinta y Tres, Rocha, Artigas, Salto, Paysandú, Colonia and Montevideo
minimum values during summer and winter, respectively, but with low variation between years.

As in the majority of natural systems, there is an uneven balance between the distribution of rainfall and seasonal variation of potential evapo-transpiration, resulting in frequent water deficits in soils during mid-spring and summer and water excess in winter. Extreme events also occur periodically although their impacts differ widely within the country. In an attempt to assist farmers to overcome these frequent water deficits, the Government implemented during the 1990s, with Bank assistance, the PRENADER Project to provide technical and financial assistance to farmers to develop and operate small on-farm irrigation schemes.

Uruguay is also subject to periodic and catastrophic droughts. The response of the agricultural sector - and particularly of the livestock sub-sector – has always been reactive, with a stoic resignation to losses of production and animal stocks, and that of the government has been basically restricted to “crisis management”. Only recently has the influence of the El Niño Southern Oscillation (ENSO) phenomenon on periodic flooding and drought in Uruguay come to be fully understood. Recent research indicates: (a) that above-normal rainfall occurs in the critical period October-February during warm ENSO events, and below-normal rainfall accompanies La Niña; and (b) that the effect on rainfall and the impact on productivity of La Niña events are stronger and less variable than for El Niño events (logically, production responds asymmetrically to an excess cf. a deficit in precipitation during spring and summer). In the last twenty years, Uruguay has experienced three serious droughts: in 1988/89, 1999/00, and the last drought, which has affected the country between 2007 and 2009. The Bank-financed PPR Project provided technical and financial assistance to farmers during the last drought to build over 600 small dams to help them to overcome the worst effects of the drought on their agriculture and livestock production, particularly among family producers and medium-sized farmers.

Since the late 1980s, significant attempts have been made to improve information and prediction capability, and to create an institutional framework in the government and the agricultural sector itself to allow them to be more “pro-active” in the face of drought. In addition, the importance of both irrigation in crop production, particularly in the case of summer fodder crops for conservation, and the conservation of surface water flows have steadily increased.

1.2.3. Climate Change

Preliminary results of studies carried out jointly by the agricultural research institutes of Argentina (INTA), Australia (APS RU), Brazil (EMBRAPA), Uruguay (INIA) and USA (IFDC), looking at climatic conditions during the last 70-100 years, indicate that, in general terms, there has been an increase in annual average rainfall in Uruguay during the months of October and February.
On the other hand, while there are no clear indications that average temperature has varied during the year, changes have been detected in the average maximum and minimum temperatures. There seems to be a decline in the average maximum temperature, especially in January and February, and an increase in average minimum temperatures during the whole year.

Regarding frost, figures indicate that the first frosts tend to appear much later in the year and the average date of the last frost of the season has been brought forward. In other words, the period in which there is a risk of frost has been shortened. There are fewer days with frost, and frosts are less severe.

In the long-run, these climate changes will have eventually various impacts on agricultural and livestock production, but the immediate effect is less certain. One hypothesis, for example, is that higher rainfall in spring and summer would favor the development of summer crops and pastures. Another hypothesis is that the impact of higher minimum and maximum temperatures and winters with less frost, could promote the development or increase the incidence of disease, plagues and parasites in both agricultural and livestock production (INIA, 2004).

### 1.2.4. Biodiversity

Uruguay is located in the confluence of two major phyto-geographic domains: the Amazonian and the Chaco. Because of its comparatively small size, relatively smooth topography, and absence of major geographical discontinuities, Uruguay tends to be uniform from a biological perspective when compared with other countries in the Neotropical region.

<table>
<thead>
<tr>
<th>Habitat Type</th>
<th>Area (million ha)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Savanna, currently rangelands</td>
<td>14.00</td>
<td>79.4</td>
</tr>
<tr>
<td>Natural Forest</td>
<td>0.60</td>
<td>3.5</td>
</tr>
<tr>
<td>Wetlands and other Aquatic Ecosystems</td>
<td>1.14</td>
<td>6.5</td>
</tr>
<tr>
<td>Permanent Agriculture</td>
<td>0.92</td>
<td>5.2</td>
</tr>
<tr>
<td>Urban and Infrastructure</td>
<td>0.30</td>
<td>1.7</td>
</tr>
<tr>
<td>Plantation Forest</td>
<td>0.40</td>
<td>2.2</td>
</tr>
<tr>
<td>Other</td>
<td>0.26</td>
<td>1.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17.62</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>


Under natural conditions, the country’s habitats are dominated broadly by permanent, periodically-inundated grasslands, interspersed with a mosaic of other habitats, especially marshes, spiny woodland (*espina*), gallery forest, and in some cases large bodies of standing water (*esteros*).
Most of the country is included in the “Uruguayan Savanna” eco-region, which also extends to parts of Argentina and Brazil, with the rest of the country integrating the eco-regions of the Humid Chaco and the Brazilian Atlantic Coast (Restingas).

The main eco-systems present in the country are as follows:

- **Savanna**, which includes a heterogeneous herbaceous community (2000 species, of which 400 are graminidae), whose diversity is determined by the relative complexity of the soils.
- **Native Forests**. Uruguay has some 822,000 ha of highly fragmented native forest or woodland\(^8\). These ecosystems have been subject to much anthropic deterioration, which in many cases has left them as secondary (or worse) stands of woodland. There are various types of native forests in the country, such as gallery forests (along rivers and other water courses), ravine forests (which appear in patches and benefit from specific micro-climate conditions); “bosque Serrano,” palm forests (including the important and endemic “Butia” association covering 70,000 ha); “monte de parque,” “algarrobal,” and litoral spiny forests (“monte espinoso del litoral”), which form associations of species characteristic of different parts of the Uruguayan landscape and co-exist with the areas of natural pasture that predominate.
- **Wetlands**, which are primarily located in the south-east of the country, especially in the Laguna Merín watershed and the coast of Rocha.
- **Coastal Ecosystems**, which are productive and have an important associated wildlife. They can be found along the two main coasts of the country, the River Plate coast (460 km) and the Atlantic coast (220 km).

There are about 1,200 species of vertebrates in Uruguay, including 580 species of fish, 41 species of amphibians, 62 species of reptiles, 434 species of birds, and 111 species of mammals. Of the 111 mammal species historically present, four have already become extinct and five are threatened with extinction.

Uruguay contains remnants of the original “Argentine Mesopotamian Grasslands”, which includes three restricted-range plant species (the entire genus *Sporophila*), one of which is in critical condition, another endangered, and the third near-threatened. From a botanical perspective, Uruguay has over 2,500 species of which the great majority is herbaceous species or shrubs corresponding to the dominant savanna ecosystems\(^9\).

### 1.2.5. Natural Resource Base to Agriculture

The territory of Uruguay covers 17.5 million ha, of which 16.1 million ha (91.4 percent) are considered suitable for agricultural production\(^10\)\(^11\). Pastures and fodder crops make

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\(^8\) Including some 70,000 ha of dispersed Palm Forests, (DIEA, 2009)
\(^9\) A comprehensive description of the country’s biodiversity can be found in MVOTMA (1999).
\(^10\) Broadly defined, it includes crop production, pastures and forestry.
up about 90 percent of this usable area. Of this, about 91 percent is natural pasture although a proportion of it has been “improved” through investments aimed at increasing its carrying capacity over the past forty years.

According to a study carried out in the 1970s\textsuperscript{12}, there are 3.2 million ha of arable soils in Uruguay, but only about 1.6 million ha of them, as a maximum, should be cropped in any one year because of the need to include pastures in the land-use rotation: (a) to maintain an adequate level of organic matter content to preserve soil structure; and (b) to achieve a balance between permeability, moisture retention and resistance to erosion\textsuperscript{13}. Nevertheless, this maximum limit can no longer be applied as rigorously as in the past due to wide spread adoption of minimum (or zero) tillage cultivation techniques by Uruguayan farmers in the last 30 years, which has increased the potential cropping area. In 2008/9 for example, 87\% of the area under wheat and 91\% of the area under soybeans was cultivated using minimum tillage (DIEA, 2009).

Uruguay is also well-endowed with water resources in terms of both precipitation and river flows. However, as indicated above, there is significant variability in precipitation both within and between years which, given the nature of the soil resources, can have substantial impacts on production. In average rainfall years, precipitation in late spring and summer (October-February) is typically insufficient to compensate for evapotranspiration. Pasture and crop growth depend on the ability of the soils to retain moisture, and in the natural pasture areas, where soils are typically shallow, fodder production is, therefore, highly dependent on rainfall. Livestock production systems are closely adapted to the natural fodder production pattern (with peaks in spring and autumn, and troughs in summer and winter). Fodder conservation, now much more common in Uruguay in contrast to 25 years ago (when the distorted pattern of production costs and revenues effectively made its use prohibitive) is widely used to smooth out the natural annual variations in fodder production. Annual summer crops are also highly dependent on rainfall in the period October-February.

### 1.2.6. Land Use and the Impact of Production Systems

Most of the serious erosion that nowadays affects Uruguay was the result of inadequate cultural practices used in intensive agricultural production in the period before and after the Second World War. During this period, erosion in parts of the *Litoral* and in the more marginal, transitional areas between the *Litoral* and the areas of poor, thin soils was the direct result of the bringing inappropriate areas into production, spurred by artificially high prices generated by protection. Inappropriate agricultural practices (including overgrazing, over-cultivation, inappropriate cultivation and poor rotations) have contributed

\textsuperscript{11} Uruguay is exceptionally well endowed in this respect; the overall average for Latin America is around 30 percent. The amount of usable land per capita, at around 5 ha, is more than twice the average for Latin America.

\textsuperscript{12} The report was prepared by Hunting Technical Services for OPYPA in 1976, as quoted in World Bank (1988)

\textsuperscript{13} Based on rotations of 4 years crops/2 years pasture in Class I and II land, 3 years crops/2 years pasture on Class IIA land, and 2 years crops/2 years pasture on Class III land.
to degradation and erosion. According to some estimates, some 30 percent of the land is affected to some degree by erosion (See Map 1). However, the trend during the last two decades has been for the adoption of more sustainable production systems. Minimum tillage or direct planting practices has helped to overcome many of the problems of traditional cultivation practices. Information from INIA and AUSID indicates that during the 1990s some 27 percent of the area under cropping used systems of direct tilling, but recent data show that in 2008/2009 the area using direct tilling increased to 87 % for the main winter crops (DIEA, 2009). However, the above techniques should not be considered as exclusive of other good management practices. In that respect the Bank-financed PPR Project has been providing technical and financial assistance to farmers (mostly family producers) to promote improved natural resources management practices.

In extensive livestock production systems, improved grazing management coupled with the reduction in stocking rates (a result of the reduction in the national sheep flock) has reduced pressure on the natural pastures and reduced soil degradation and erosion. Dairy production systems have intensified land use, and the production of summer and winter forage and of silage crops have increased the potential for erosion and degradation in some areas; although these crops are frequently cultivated in rotation with pastures, improvement in soil structure is frequently placed second to the need to feed animals, and serious problems of soil compaction from trampling occur. Pollution from dairy farms, due to the discharge of untreated effluents, and from indiscriminate use of agrochemicals in some agricultural areas, represents a serious threat to groundwater reserves.

1.3 Agricultural Production in Uruguay

For most of its history, the economic development of Uruguay was based on the development of cattle and sheep production, harnessing an extensive use of its natural grasslands to supply export markets. The history of livestock development has been marked by a steady intensification of the use of natural pastures; its more recent progress has been associated with the transformation in the use of the relatively limited areas of arable soils.

1.3.1 Livestock Production

Livestock remains the most important sub-sector, using 90 percent of the land suitable for agriculture and livestock production, generating 50 percent of the gross agricultural sector product and 54 percent of the sector’s exports. The composition of production has changed considerably over the past 30 years, with a major rise and then fall in wool production, stagnation followed by rapid growth in meat production, and a steady growth in milk production for the export industry. But there has been a substantial increase also in some of major crops, notably wheat and soybean, during this period, which would explain the decline in the relative importance of livestock production in the sector’s GDP.
The productivity of pastures in Uruguay is a polemical subject, and important efforts have been made for more than half a century to improve pasture composition and yields. Natural pastures have limited nutritive value because of the scarce presence of legumes, and the growth of pastures is very cyclical, with peaks in production in spring and fall and troughs in summer and winter. Efforts to improve the productivity of pastures have been based on improving the natural pastures in the areas of superficial soils (mejoramiento extensivo) and planting pastures on arable land (pastura convencional). Over time, the former has become reduced in importance and the latter has increased. In addition to these methods, annual forage crops are also planted.

The livestock cycle, which has significant impacts on investment as well as on adoption of technology and productivity, has been attenuated by policy and structural reforms (especially the liberalization of the export of live animals). From 1960, a series of Bank-supported projects aimed at improving productivity and increasing production in the livestock sector, but during the period 1960-1978 this effort was, in effect, seriously undermined by the highly distorted policy environment and marketing structure which existed in Uruguay.

After 1978, the distortions in prices and marketing were steadily removed as the government’s strategy passed to one of liberalization, openness to trade and responsiveness to market signals. As a result of deregulation and trade liberalization of the livestock sector, productivity and production rose steadily throughout the 1980s and 1990s; investment in pasture improvements increased; and the age profile of the national herd was reduced.

There have been some changes in the composition of the area of pastures dedicated to livestock production. The area of pasture with improvements increased from close to 10.0 percent of the total in 1990 to 16.5 in 2000/01, but then increased only slightly during the rest of the decade, remaining fairly stable at around 17.4 percent between 2004/05 and 2006/07. One of the most significant changes introduced has been the generalized use of forage conservation to smooth out the irregular production cycle of both natural and planted pastures. Forage conservation is most frequently practiced in those areas where cropping and crop-pasture rotations predominate (particularly the Litoral), and where it is associated with dairy and beef cattle fattening. Significant technical advances in low-cost electric fencing has allowed great flexibility in rotational grazing, which allied to the strategic use of balanced feed supplements and forage reserves have combined to form a low cost/low risk technology for the extensive pasture areas.

Table 4 Evolution of Area of Natural and Improved Pastures (‘000 ha)
During the last two decades, there has been a significant increase in the volume and value of meat exports. Beef production in particular has benefited from the structural adjustments and policy reforms. Prior to the early 1990s, beef production was facing increasing competition from the rapidly expanding sheep population and the dairy sub-sector for forage resources, which helped to encourage the search for improved productivity. As the national sheep flock declined in size and the area under improved pasture and forage production increased, land productivity in the livestock areas increased too. The declining age at slaughter dictated by market requirements and health parameters has contributed also to improved productivity.

The cattle population remained remarkably stable over the long term up until 1990. However, in the last 20 years it has shown an increase of about 32%, and the total cattle population is now close to 12.0 million, in response to improved productivity and better access to export markets.

By contrast, sheep population has shown large fluctuations. As indicated in the table below, by 2000 the total number of sheep had fallen to a little more than half the peak

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Calves</th>
<th>Steers 1-3 yrs</th>
<th>Steers 3+ yrs</th>
<th>Breeding cows</th>
<th>Store cows</th>
<th>Heifers</th>
<th>Bulls</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>9,300</td>
<td>1754</td>
<td>1504</td>
<td>763</td>
<td>2934</td>
<td>667</td>
<td>1491</td>
<td>154</td>
</tr>
<tr>
<td>1991</td>
<td>9,001</td>
<td>1823</td>
<td>1353</td>
<td>983</td>
<td>2882</td>
<td>659</td>
<td>1172</td>
<td>129</td>
</tr>
<tr>
<td>1996</td>
<td>10,651</td>
<td>2139</td>
<td>1793</td>
<td>804</td>
<td>3558</td>
<td>586</td>
<td>1618</td>
<td>153</td>
</tr>
<tr>
<td>2000</td>
<td>10,343</td>
<td>2218</td>
<td>1738</td>
<td>619</td>
<td>3538</td>
<td>549</td>
<td>1534</td>
<td>147</td>
</tr>
<tr>
<td>2005</td>
<td>11,950</td>
<td>2584</td>
<td>2165</td>
<td>577</td>
<td>4143</td>
<td>432</td>
<td>1869</td>
<td>179</td>
</tr>
<tr>
<td>2008</td>
<td>11,913</td>
<td>2838</td>
<td>2041</td>
<td>478</td>
<td>4231</td>
<td>373</td>
<td>1781</td>
<td>170</td>
</tr>
</tbody>
</table>

Source: DIEA (2007) and DIEA (2008)
population reached in 1991, but this declining trend continued and, by the end of 2008, the total number of sheep was just over 9.5 million, or 36% of the 1991 peak.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Suckling Lambs</th>
<th>Hoggets (female)</th>
<th>Hoggets (male)</th>
<th>Total Ewes</th>
<th>Rams</th>
<th>Wethers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>23,336</td>
<td>511</td>
<td>4113</td>
<td>2,589</td>
<td>11,087</td>
<td>419</td>
<td>4,626</td>
</tr>
<tr>
<td>1991</td>
<td>25,611</td>
<td>595</td>
<td>4,538</td>
<td>2,752</td>
<td>12,112</td>
<td>403</td>
<td>5,210</td>
</tr>
<tr>
<td>1996</td>
<td>19,702</td>
<td>431</td>
<td>3,406</td>
<td>1,860</td>
<td>9,778</td>
<td>329</td>
<td>3,898</td>
</tr>
<tr>
<td>2000</td>
<td>13,184</td>
<td>389</td>
<td>2,209</td>
<td>1,272</td>
<td>7,393</td>
<td>255</td>
<td>1,766</td>
</tr>
<tr>
<td>2005</td>
<td>10,836</td>
<td>407</td>
<td>2014</td>
<td>1,330</td>
<td>5,652</td>
<td>232</td>
<td>1,201</td>
</tr>
<tr>
<td>2008</td>
<td>9,558</td>
<td>427</td>
<td>1,734</td>
<td>1,035</td>
<td>5,244</td>
<td>191</td>
<td>928</td>
</tr>
</tbody>
</table>

Source: DIEA (2007) and DIEA (2009)

Sheep production represented about 20 percent of gross sectoral product in the 1980s, but declined rapidly to less than 10 percent in 1998. The decline in importance was mirrored by the decline in the sheep population, and in the total production of wool. In 2001/2 total wool production was 49,000 tons, but by 2008/2009, the total volume of wool production had declined to about 39,000 tons, as a direct consequence of low international prices and the lower stocking rates.

1.3.2 Crop Production

The area under annual crops suffered a marked reduction during the 1990s, as a result of the increased openness of the economy and the decline in international prices. The area under annual crops (the eight principal grains and oilseeds) decreased from 1.08 million ha in 1976, to 0.82 million ha in 1996, and to 0.49 million in 2000. However, during the present decade there has been a dramatic increase in the area under annual crops, with particular emphasis in the production of soybeans and wheat (see table below). These crops now account for almost 75% of the total area under annual crops. The significant investments in processing facilities that accompanied the exploitation of comparative advantage in malting barley and rice resulted in some increase in the area under barley, while cultivation of rice seems to have settled at around 160,000 ha. It would seem that, given the shortage of irrigation water (caused by the drought and heavy fluctuation in rainfall) the levels of rice production of 205,000 ha reached in 1998-1999 were clearly unsustainable.

All major crops grown in Uruguay have experienced an increase in their average yields over the past decades. This is both a result of structural changes in the agricultural sector, with marginal producers having disappeared from the sector and decreased use of marginal land, and the adoption of a broad range of technology by the remaining producers. This technology includes new varieties, increased and/or more carefully calibrated application of fertilizers and agricultural chemicals, and the adoption of
improved soil management practices, including minimum tillage and direct drilling cultivation methods. The use of this new technology has helped to achieve advances in soil conservation and recovery. The reduction in costs of herbicides has been critical for the adoption of this technology.

Table 7 Area under Annual Crops (‘000 ha)

<table>
<thead>
<tr>
<th>Crop</th>
<th>1996/7</th>
<th>2000/1</th>
<th>2008/9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malting Barley</td>
<td>146.1</td>
<td>88.6</td>
<td>129.9</td>
</tr>
<tr>
<td>Maize</td>
<td>61.3</td>
<td>34.3</td>
<td>87.5</td>
</tr>
<tr>
<td>Oats (for grain)</td>
<td>67.1</td>
<td>40.0</td>
<td>15.1</td>
</tr>
<tr>
<td>Rice</td>
<td>155.5</td>
<td>153.7</td>
<td>160.7</td>
</tr>
<tr>
<td>Sorghum</td>
<td>38.8</td>
<td>22.9</td>
<td>68.1</td>
</tr>
<tr>
<td>Wheat</td>
<td>250.3</td>
<td>123.0</td>
<td>475.6</td>
</tr>
<tr>
<td>Soybeans</td>
<td>7.6</td>
<td>5.1</td>
<td>577.8</td>
</tr>
<tr>
<td>Sunflower</td>
<td>96.8</td>
<td>24.6</td>
<td>55.1</td>
</tr>
<tr>
<td>Total</td>
<td>823.5</td>
<td>492.2</td>
<td>1409.1</td>
</tr>
</tbody>
</table>

Source: DIEA (2009)

There has been an increase in livestock production in mixed cropping-pasture rotations, both in the Litoral, where planted pastures are rotated with the winter crops (principally wheat and barley), and in the rice-growing areas of the eastern part of Uruguay, where both planted pastures and over-sown pastures are used in rotation with rice (and on a smaller scale with soybeans).

1.3.3 Forestry

Stimulated by the Forestry Law of 1987, there was a very significant expansion in the area of planted forest during the 1990s. Between 1975 and 1980, only 13,883 ha were planted, while 31,074 ha were planted in the decade 1981-1990, mainly in the latter years. However, between 1991 and 2000 some 488,600 ha of forest were planted. Planting continued at the rate of about 60,000 ha per year, and by 2007 there were around 950,000 ha of planted forest, although the subsidies for forest plantation had been stopped. About 70% of this area is under eucalyptus and about 28% is under pine. The cumulative area of planted forest has already reached the critical mass of raw material supply that makes industrial processing possible at an economically-feasible scale, from pulp and cellulose to sawn-timber products, as attested by the significant investment projects from foreign and multi-national companies that have been implemented in Uruguay during the last decade. There are now two main industrial users of timber: wood processing industry and pulp industry, which have increased their timber inputs by three and four times respectively between 2000 and 2006. By 2008, production of forestry products represented almost 10% of the gross value of production of the agricultural sector.
1.4 Value Chain Characteristics

The main agro-industries, or value chains, engaged in processing of agricultural and livestock products are the abattoirs/freezing plants (known as “frigoríficos” in Uruguay), dairy plants, rice and wheat mills, vegetable oil industries, tanneries, and wool production (tops). From the viewpoint of their contribution to gross value of production, abattoirs and dairy plants are the main value added chains in the sector. From the viewpoint of family agriculture, the long-term aim is to improve their access to these agro-industries and transform them into the principal outlets for their outputs. By abandoning the local markets in favour of these agro-industries, family producers could experience a positive impact on their on-farm production and income.

The agricultural and livestock sector’s contribution to GDP increased from 6.0% during the economic crisis in 2000-2001, to an annual average of around 10.0% in the latter years of the decade. The agro-industrial sector\(^{14}\), on the other hand, contributed 4.5% of the country’s GDP in the early years of the decade, increasing its contribution to about 5.4% in 2005-2007. The growth experienced by both agricultural and agro-industrial production after the 2001 crisis, was largely the result of increased productivity both at the farm and processing industry levels and the sector’s capacity to respond to the expanding demand from export markets.

1.4.1 Beef Sector

After the livestock sector recovered from 2001 Foot & Mouth outbreak and the country regained its status of “F&M Free with vaccination”, beef production increased steadily throughout the decade. The beef processing industry underwent a process of reforms during the 1990s, which resulted in State-run abattoirs being handed over to the private sector and most structural barriers to entry were eliminated. As a consequence, at the end of the 1990s and beginning of the 2000s, new private investors joined the industry, which led to an improvement in the overall competitiveness of abattoirs and beef processing plants in the country.

The improved efficiency at the plant level was accompanied also by an increased productivity at the farm level, as can be seen, for example, from the increased beef production per hectare from 45 kg/hectare in 1975 to over 75 kg/hectare at present, which was a key factor in the sustained expansion of beef production during the 2000s.

Although there were about 23 abattoirs and beef processing plants in Uruguay, in early 2000s, there is a large concentration of capacity, with five plants processing over 40% of total beef production. One company, with three plants, reportedly controls about 16% of total production. Beef production increased during most of the 2000s, but the negative impact of the drought in 2007/09 resulted in a decline of beef processing between 2007

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\(^{14}\) The agro-industrial sector in Uruguay includes processing industries associated to agricultural production, such as food products, wool tops, forest products (except furniture), and tanneries
and 2009. However, preliminary indications are that this trend will be reverted during 2010.

Table 8  Beef processing and production
(000' tonnes of live weight)

<table>
<thead>
<tr>
<th>Year</th>
<th>Slaughtered</th>
<th>Live exports</th>
<th>Stock Inventory</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000/01</td>
<td>748</td>
<td>8</td>
<td>109</td>
<td>865</td>
</tr>
<tr>
<td>2001/02</td>
<td>785</td>
<td>0</td>
<td>153</td>
<td>938</td>
</tr>
<tr>
<td>2002/03</td>
<td>836</td>
<td>2</td>
<td>83</td>
<td>921</td>
</tr>
<tr>
<td>2003/04</td>
<td>949</td>
<td>4</td>
<td>119</td>
<td>1,072</td>
</tr>
<tr>
<td>2004/05</td>
<td>1,043</td>
<td>2</td>
<td>15</td>
<td>1,060</td>
</tr>
<tr>
<td>2005/06</td>
<td>1,191</td>
<td>15</td>
<td>-100</td>
<td>1,106</td>
</tr>
<tr>
<td>2006/07</td>
<td>1,138</td>
<td>7</td>
<td>-40</td>
<td>1,105</td>
</tr>
<tr>
<td>2007/08</td>
<td>1,029</td>
<td>33</td>
<td>19</td>
<td>1,131</td>
</tr>
<tr>
<td>2008/09 (*)</td>
<td>948</td>
<td>35</td>
<td>-20</td>
<td>962</td>
</tr>
</tbody>
</table>

Source: DIEA (2009)
Note: (*) Preliminary figures

Traditionally, only about 30-35% of total beef production was exported, but this changed during the last decade and exports represent now about 75% of total production. However, exported beef production still has little or no value added. Frozen beef represented two-thirds of total exports in 2000, and was over 70% in the period 2005-2007. The total volume of beef exports showed a similar trend over that period (see Figure 1 below). However, as a result of an increase in international prices, total value of beef exports increased by almost 50% in 2008.

Figure 1 Beef Exports by type of product

Source: DIEA (2009)
1.4.2 Dairy Plants

The dairy sub-sector has been one of the most dynamic within the agricultural and livestock sector. Milk production has shown a sustained increase during the present decade, with total production moving from about 1.0 million litres in 2000 to over 1.5 million in 2008. With fresh milk consumption remaining fairly stable during the decade, most of the increased production was devoted to processing. Processed milk absorbed over 84% of total milk production in 2005-2007, while this percentage increased to 86% in 2008.

Table 9 Milk Production
(000 litres)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh Milk</td>
<td>227</td>
<td>218</td>
<td>185</td>
<td>210</td>
<td>216</td>
<td>213</td>
<td>216</td>
<td>223</td>
<td>220</td>
</tr>
<tr>
<td>Processed Milk</td>
<td>820</td>
<td>914</td>
<td>924</td>
<td>934</td>
<td>1,061</td>
<td>1,138</td>
<td>1,204</td>
<td>1,105</td>
<td>1,310</td>
</tr>
<tr>
<td>Total</td>
<td>1,047</td>
<td>1,132</td>
<td>1,109</td>
<td>1,144</td>
<td>1,277</td>
<td>1,351</td>
<td>1,420</td>
<td>1,328</td>
<td>1,531</td>
</tr>
</tbody>
</table>

Source: DIEA (2009), Table 26

Even though there are about 20 dairy plants operating in the country, CONAPROLE, the large dairy cooperative, controls about two-thirds of total milk production and processing in Uruguay. Most of the plants are owned by local investors, as there have been few foreign investors in past, such as the failed PARMELAT. Recently, however, a group of New Zealand investors has expressed interest in investing in the dairy sector. Expectations are that New Zealand investment might bring with it improved production technologies and thus contribute to further increases in productivity in the sector.

Regarding the product mix, production of dried milk has traditionally absorbed between 35% and 43% of total milk delivered to the dairy plants. Albeit with some wider fluctuations, cheese production has absorbed a similar percentage of total milk received at the dairy plants, except during 2007, which shows a larger percentage of milk going into cheese production rather than to dry milk.

Table 10 Relative Importance of Dairy Products

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dried Milk</td>
<td>37.8</td>
<td>40.4</td>
<td>37.8</td>
<td>38.0</td>
<td>35.7</td>
<td>34.3</td>
<td>39.6</td>
<td>35.6</td>
<td>43.3</td>
</tr>
<tr>
<td>Cheese</td>
<td>39.2</td>
<td>36.7</td>
<td>32.3</td>
<td>28.4</td>
<td>32.1</td>
<td>35.7</td>
<td>33.7</td>
<td>40.9</td>
<td>38.5</td>
</tr>
<tr>
<td>Others</td>
<td>2.5</td>
<td>6.8</td>
<td>10.8</td>
<td>14.9</td>
<td>13.1</td>
<td>9.8</td>
<td>7.8</td>
<td>1.6</td>
<td>1.0</td>
</tr>
<tr>
<td>UHT Milk</td>
<td>12.9</td>
<td>7.3</td>
<td>11.3</td>
<td>11.6</td>
<td>11.7</td>
<td>12.6</td>
<td>11</td>
<td>16.1</td>
<td>7.7</td>
</tr>
<tr>
<td>Butter</td>
<td>4.0</td>
<td>4.1</td>
<td>3.6</td>
<td>4.1</td>
<td>3.4</td>
<td>3.2</td>
<td>3.7</td>
<td>3.2</td>
<td>2.9</td>
</tr>
<tr>
<td>Sour milk</td>
<td>2.8</td>
<td>2.8</td>
<td>3.1</td>
<td>2.4</td>
<td>2.3</td>
<td>2.4</td>
<td>2.4</td>
<td>2.6</td>
<td>2.3</td>
</tr>
<tr>
<td>Casein</td>
<td>0.8</td>
<td>1.9</td>
<td>1.1</td>
<td>0.6</td>
<td>1.7</td>
<td>2.0</td>
<td>1.9</td>
<td>0.1</td>
<td>1.0</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: DIEA (2009)
As with total milk production, exports of dairy products are dominated largely by dry milk and cheese, which accounted for about 74% of total exports in the 2005-2007 period.

**Figure 2  Dairy Exports by main products**

Source: DIEA (2008)
II Family Agriculture in Uruguay's Farm Sector: Characteristics & Vulnerabilities

2.1 Definition of Family Agriculture

In the past, land distribution, and farm typologies in particular, have been defined basically on the basis of farm sizes. The last Administration, however, argued that farm size alone was not sufficient to identify the group of farmers that, until now, has been largely by-passed by economic development in the rural sector. Therefore, typologies based on farm size, in their view, constituted a poor foundation on which to build sector policies aimed at attaining the objectives of social justice and increased equity, which are central the Government economic program.

As a result, the Government introduced the concept of family agricultural producers, to define the target population which is expected to benefit from future MGAP special policies and programs aimed at promoting a more inclusive economic development of the rural sector. A producer would be classified as “family producers” when the following characteristics are met:

i. Farm output is produced with the assistance of family labor and a maximum of 2 wage laborers hired on a permanent basis or 500 man/days of temporary labor per annum.

ii. Farm size does not exceed 500 hectares (CONEAT 100).

iii. Farm production is the main source of income; or the farm should be the farmer’s full time occupation.

iv. The farmer resides in the farm or in a place located 50 km., or less, from the farm.

As the 2000 Agricultural Census did not include the category of “Family Agriculture”, the total number of family producers has been estimated by MGAP/OPYPA by adjusting Census figures. Consequently, the size of the family agriculture sector, (as indicated in

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15 Resolución del MGAP, 29 July 2008
16 CONEAT is an indicator of soil quality prepared by National Commission for Agro-economic Soil Studies of Uruguay (Comisión Nacional de Estudios Agro económicos de la Tierra), with 100 denoting the national average.
17 Taking two of the main criteria of the definition of family agriculture producers, i.e. farm size and hired labor used at the farm, Census figures would indicate that there are 26,007 farms (excluding 3,667 so-called non-commercial farms) that match the family agriculture criteria and whose owners are resident on the farm. OPYPA estimated that, in addition, there are some 13,378 farms that would also meet those criteria, but whose owners do not live on the farm. It was further assumed that 50% of these “absent family landlords”, live in areas located 50 km, or less, from the farm (i.e. satisfying the fourth criteria of the definition). Consequently, according to OPYPA’s estimates, the total number of family producers living on or near the farm is 32,696 (26,007 + (13,378/2)). In the absence of better estimates, this is the figure that will be used throughout this report.
Table 11, as well as the relative importance of family agriculture in the various subsectors discussed below, are rough estimates and thus should be considered only as a working hypothesis. Notwithstanding these limitations, the figures give a rough idea of the relative importance of family producers within the farming community. Some 37,000 farmers, or about 63% of the total, are classified as family producers who control only about 15% of the area under agriculture and livestock production. The rest are medium- and large-sized commercial farmers controlling nearly 85% of the total land available for crop and livestock production. This unequal distribution of land explains also the large differences in farm size between the two groups, with the size of family farms being almost one-tenth of size of farms owned by commercial producers.

Table 11  Distribution of number of farms and area under cultivation, by main farm type. 2000

<table>
<thead>
<tr>
<th></th>
<th>Family</th>
<th>Medium and large</th>
<th>Subtotal</th>
<th>Non-commercial</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Farms</td>
<td>32,696</td>
<td>19,415</td>
<td>52,111</td>
<td>5,020</td>
<td>57,131</td>
</tr>
<tr>
<td>Percentage</td>
<td>62.74</td>
<td>37.26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area (Ha)</td>
<td>2,522,850</td>
<td>13,875,896</td>
<td>16,398,746</td>
<td>20,937</td>
<td>16,419,683</td>
</tr>
<tr>
<td>Percentage</td>
<td>15.38</td>
<td>84.62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Farm Size (Ha)</td>
<td>77.16</td>
<td>714.70</td>
<td>314.69</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The origin of family agriculture in Uruguay can be traced back to the early years of the twentieth century. With the end of the civil wars, Government began to turn their attention towards development issues and the country witnessed the first attempts to promote industrialization and urbanization. Early industrialization and urban development, and later the import substitution industrialization process with its protectionist policies and subsidized agricultural inputs and credit, created a sheltered environment, which had the right conditions for the development of family agriculture, whose main objective was the production of cheap food for the urban centers and the new industrial workforce.

Family agriculture development did not require any fundamental changes in the land tenure pattern and did not create any conflict with large landowners at the time, as family producers settled on the poorest land located outside the geographical boundaries that had been defined to consolidate the land of the livestock “estancias” at the end of the nineteenth century. Land settled by family producers represented less than 10% of total land, and was located mainly in the areas around Montevideo (the principal demand center for food products) and near small towns and cities in the rural areas.\(^{18}\) The core of

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\(^{18}\) Piñeiro (1991b), p. 149
this newly created family agriculture sector included traditional small farmers, rural workers that had been dismissed from “estancias” after their consolidation, plus European settlers and religious communities who arrived in Uruguay in the late nineteenth century and early twentieth century.

**Figure 3 Evolution of the number of farms, by farm size**

![Graph showing the evolution of the number of farms, by farm size](image)

Source: Piñeiro et al. (1991)

By 1908, there were already over 24,000 small farmers. The expansion of the small farmer sector reached its peak in the mid-1950s, with about 67,000 small farmers. The decline of import substituting industrialization and the end of the inward orientation of economic development policies brought about a new environment in which increased productivity and efficiency at the farm level became an essential element for the survival of domestic agriculture in the face of increasing competition from imports.

The subsequent gradual process of trade liberalization and opening of the economy that was implemented in Uruguay during the 1970s and 1980s forced agricultural producers in general, and family producers in particular, to compete with imported agricultural products. Years of protectionism, subsidies and support prices, however, left the family agriculture sector ill-equipped to compete with (usually cheaper) imported food and, as a result, the number of family producers began to decline rapidly.

By the mid-1980s, the number of small farmers had declined to about 36,000, or almost 50% of the level they had in the mid-1950s. In the process, some small farmers were forced to sell their farms and join the rural or urban labor force. But, the vast majority of those small farmers who remained in the agriculture sector saw their income levels

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19 In the absence of better statistical data, in this section, the definition of small farmers (i.e. ≤100 ha) used by Piñeira (1991b), will be considered as a good proxy to analyze the evolution of family agriculture producers during last century.
deteriorate, and were forced to change their production strategies, giving higher priority to on-farm consumption, and include off-farm work as part of their income generating strategies. There is a third group of family producers, however, which succeeded in improving their production systems by incorporating new production technologies, generating sufficient surplus financial resources to finance investment and hiring wage labor, thus expanding their operations and, eventually, becoming fully fledged commercial farmers.

The experience of the latter group would indicate that, contrary to the doubts expressed by some, there is scope to transform family farms into viable and sustainable commercial enterprises, without necessarily improving family farmers’ access to additional land. Therefore, the existence of family producers does not need to be justified only because they are important social actors, which need to be supported so that they can remain in the rural areas, but also because they can be fully integrated into an open market economy and make a specific contribution to the country’s economic development.

The underlying assumption of the Government definition of family agriculture is that family producers differentiate themselves from medium- and large-sized commercial farmers in that they have a distinctive rationale behind their production decisions, which gives priority to the subsistence of their family and the retention of ownership of production units over profits. The conclusions of the recent survey of family livestock producers carried out as part of the preparation of the present report support the Government assumption regarding the rationale behind the production decisions of family producers.

The decision making process of family producers is supposed to be not only different from that of medium- and large-sized agricultural producers, but also largely determined by the availability of natural and financial resources at any given time. In other words, the Government assumption is that family producers have a survival strategy, which is different from the essentially profit maximization approach of medium- and large-sized agricultural commercial producers, and that Government targeted interventions in favor of family agriculture have to take this into account.

In general terms, one could argue that family producers will define their best livelihood strategy based on the environment in which they develop their activities, understood as the natural resources base available to them and their ability to access to public goods and services. Depending on these conditions, family producers will devote their family assets (basically labor) either to agricultural production on their own farm, or will earn their living as wage laborers in agricultural or non agricultural activities outside their farms, or a combination of the two. Consequently, it seems that, to be successful, targeted sector

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20 Astori et al. (1982), pp. 116-7
22 See for example the discussion in Astori et al. (1982), pp. 117; and Fossatti (2005), p. 45
23 Bruno et al. (2005), p. 3
24 See Lapetina and Berhau (2010)
25 MGAP (2005)
26 Echenique (2006)
policies and programs will have to be defined in terms of the family producers’ survival strategies.

The family agricultural sector, however, is not homogenous and a wide range of producers, production systems and survival strategies could be included under this umbrella definition. Therefore, a much more detailed characterization of this type of producer would be required for the definition of the target interventions which the Government considers essential to promote the development of family agriculture, ensure the long-term sustainability of their production systems, secure their full incorporation into the export market, and, in the end, stop the exodus of rural families to the urban centers.

As the experience of other Latin American countries has shown and the conclusions of our case studies would indicate, one could distinguish at least three main categories of family agriculture producers:

**Consolidated Family Agriculture**, which is characterized by a production system in which the farmer usually owns land with a relatively good agriculture and livestock production potential, makes good use of the natural resources base available to him/her, has good access to financial, technology and produce markets, and generates sufficient income to sustain the family and capitalize the farm unit.

**Transition Family Agriculture** refers to those producers who can generate enough income from their farms to sustain the family, but would find it difficult to generate sufficient surplus for investment and overall development of the farm, which is compounded by a limited access to credit or other sources of financing. Although this type of farmer could eventually progress to a consolidated type of family agriculture, his/her condition is vulnerable to changes in climatic or economic conditions and, therefore, could easily fall into the category of subsistence farmers in the event of any of these changes. Consequently, unless there is a change in their production systems, the sustainability of this type of family producers will be largely dependent on state support, particularly in terms of access to financing, technology and export markets.

**Subsistence Family Agriculture** includes those family producers whose production is mainly oriented towards on-farm consumption. Insufficient or poor land, normally combined with a deficient production system and lack of capital, results in an on-farm generated income that is inadequate to cover family needs. Consequently, this type of family producer is forced to seek employment outside the farm to supplement his/her income.

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28 Lapetina and Berhau (2010)
29 Although, in contrast to the experience of other Latin American countries, family agriculture in Uruguay have a larger natural resources base, more capital, wider access to markets, and higher levels of income than their counterparts in other parts of the region. In that respect, the Uruguayan family producer, on the whole, would seem to be closer to commercial agriculture than to subsistence farming. (Astori at al. (1982), pp. 114-5
30 In other Latin American countries, this type of family producer is classified as peasants or “campesinos” (Piñeiro, 1991).
Each of the three main types of family agricultural producers would have a different survival strategy, which will be determined not only by their respective accessibility to land and capital\textsuperscript{31}, but also by the way in which they utilize their natural resources base, in other words, by their production systems. Lack of detailed information on the main characteristics of the different production systems currently being used in the family agricultural sector, however, makes it difficult to have a detailed and clear assessment of the main development potential and constraints of family producers, and their actual and potential contribution to economic development. Although the recent survey of family livestock producers prepared with Bank assistance has contributed to filling some of the information gaps, at least for family livestock producers as discussed in the sections below, the Government would have to undertake a detailed analysis of the main constraints and development potential of family agriculture prior to the preparation of a targeted program to promote the sustainable development of the family agricultural sector.

2.3 Regional Distribution of Family Agriculture

The regional distribution of family farmers follows, in general terms, a similar pattern to that of medium- and large-sized producers, although, there are some areas in which the concentration of family farmers is considerably higher than that of medium- and large-sized producers. This is the case, in particular, in the Department of Canelones, which includes 23.2\% of total family producers. The other area of concentration of family producers is the region covered by the Departments by Colonia, San Jose and Lavalleja (21\%)\textsuperscript{32}.

The Department of Canelones is also one of the main horticulture production areas in the country and one with the lowest average size of farm (68\% of the farms have less than 20 hectares)\textsuperscript{33}. Some 70\% of the farms in this area belong to family producers and, given the severe land degradation that affects this area, a substantial proportion of these family producers is likely to fall within the category of subsistence family agriculture. The traditional livestock production areas (See Map 3), such as for example, Tacuarembó, Cerro Largo, Rivera, are also the areas with the poorest soils. Hence the larger size of farms of family producers in these parts of the country.

\textsuperscript{31} Soto Baquero et al, (2007)
\textsuperscript{32} For location of Departments, see Map 2
\textsuperscript{33} The exception would be the Department of Montevideo, which includes the capital and, therefore, the size of the so-called farms in this area is affected by urban development pressures.
Table 12  Distribution of family farms by Departments in Uruguay. 2000

<table>
<thead>
<tr>
<th>Department</th>
<th>Number of farms</th>
<th>Percentage</th>
<th>Area (ha)</th>
<th>Percentage</th>
<th>Average Size of Farms (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canelones</td>
<td>7,578</td>
<td>23.2</td>
<td>174,004</td>
<td>6.9</td>
<td>23.0</td>
</tr>
<tr>
<td>Colonia</td>
<td>2,400</td>
<td>7.3</td>
<td>200,769</td>
<td>8.0</td>
<td>83.7</td>
</tr>
<tr>
<td>San Jose</td>
<td>2,323</td>
<td>7.1</td>
<td>125,235</td>
<td>5.0</td>
<td>53.9</td>
</tr>
<tr>
<td>Lavalleja</td>
<td>2,174</td>
<td>6.6</td>
<td>216,396</td>
<td>8.6</td>
<td>99.5</td>
</tr>
<tr>
<td>Cerro Largo</td>
<td>1,923</td>
<td>5.9</td>
<td>203,137</td>
<td>8.1</td>
<td>105.6</td>
</tr>
<tr>
<td>Rivera</td>
<td>1,726</td>
<td>5.3</td>
<td>174,435</td>
<td>6.9</td>
<td>101.1</td>
</tr>
<tr>
<td>Tacuarembó</td>
<td>1,667</td>
<td>5.1</td>
<td>157,005</td>
<td>6.2</td>
<td>94.2</td>
</tr>
<tr>
<td>Rocha</td>
<td>1,527</td>
<td>4.7</td>
<td>172,894</td>
<td>6.9</td>
<td>113.2</td>
</tr>
<tr>
<td>Florida</td>
<td>1,500</td>
<td>4.6</td>
<td>149,832</td>
<td>5.9</td>
<td>99.9</td>
</tr>
<tr>
<td>Salto</td>
<td>1,256</td>
<td>3.8</td>
<td>102,077</td>
<td>4.0</td>
<td>81.3</td>
</tr>
<tr>
<td>Soriano</td>
<td>1,238</td>
<td>3.8</td>
<td>109,461</td>
<td>4.3</td>
<td>88.4</td>
</tr>
<tr>
<td>Maldonado</td>
<td>1,233</td>
<td>3.8</td>
<td>142,871</td>
<td>5.7</td>
<td>115.9</td>
</tr>
<tr>
<td>Durazno</td>
<td>1,127</td>
<td>3.4</td>
<td>124,871</td>
<td>4.9</td>
<td>110.8</td>
</tr>
<tr>
<td>Paysandú</td>
<td>1,116</td>
<td>3.4</td>
<td>117,923</td>
<td>4.7</td>
<td>105.7</td>
</tr>
<tr>
<td>Treinta y Tres</td>
<td>1,078</td>
<td>3.3</td>
<td>146,582</td>
<td>5.8</td>
<td>136.0</td>
</tr>
<tr>
<td>Artigas</td>
<td>954</td>
<td>2.9</td>
<td>87,758</td>
<td>3.5</td>
<td>92.0</td>
</tr>
<tr>
<td>Montevideo</td>
<td>842</td>
<td>2.6</td>
<td>6,697</td>
<td>0.3</td>
<td>8.0</td>
</tr>
<tr>
<td>Rio Negro</td>
<td>633</td>
<td>1.9</td>
<td>65,242</td>
<td>2.6</td>
<td>103.1</td>
</tr>
<tr>
<td>Flores</td>
<td>404</td>
<td>1.2</td>
<td>45,667</td>
<td>1.8</td>
<td>113.0</td>
</tr>
<tr>
<td>Total</td>
<td>32,699</td>
<td>100.0</td>
<td>2,522,856</td>
<td>100.0</td>
<td>77.2</td>
</tr>
</tbody>
</table>

Source: Frugoni (2008)

2.4 Main Family Production Systems

As is to be expected, given the country’s natural resource base, over 70% of family agriculture producers and 90% of their land are engaged in livestock and dairy production. According to the figures shown in the table below, horticulture is the other sector in which one finds an important proportion of family producers (13.5%). Consequently, the analysis of these three sectors would cover the situation of about 84% of all family producers, and nearly 94% of the land under family agricultural production.
Table 13  Distribution of family farms and area under production by main production systems. 2000.

<table>
<thead>
<tr>
<th>Main Production System</th>
<th>Number of Farms</th>
<th>(%)</th>
<th>Area (ha)</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Livestock (beef and wool)</td>
<td>18,538</td>
<td>56.7</td>
<td>1,960,004</td>
<td>77.7</td>
</tr>
<tr>
<td>Horticulture</td>
<td>4,414</td>
<td>13.5</td>
<td>68,401</td>
<td>2.7</td>
</tr>
<tr>
<td>Dairy</td>
<td>4,400</td>
<td>13.5</td>
<td>330,425</td>
<td>13.1</td>
</tr>
<tr>
<td>Pigs</td>
<td>1,123</td>
<td>3.4</td>
<td>17,468</td>
<td>0.7</td>
</tr>
<tr>
<td>Poultry</td>
<td>890</td>
<td>2.7</td>
<td>10,623</td>
<td>0.4</td>
</tr>
<tr>
<td>Fruits</td>
<td>778</td>
<td>2.4</td>
<td>11,957</td>
<td>0.5</td>
</tr>
<tr>
<td>Vineyards</td>
<td>733</td>
<td>2.2</td>
<td>9,584</td>
<td>0.4</td>
</tr>
<tr>
<td>Cereals and oil seeds</td>
<td>661</td>
<td>2.0</td>
<td>51,392</td>
<td>2.0</td>
</tr>
<tr>
<td>Forestation</td>
<td>388</td>
<td>1.2</td>
<td>22,975</td>
<td>0.9</td>
</tr>
<tr>
<td>Rice</td>
<td>87</td>
<td>0.3</td>
<td>15,070</td>
<td>0.6</td>
</tr>
<tr>
<td>Plant nurseries</td>
<td>41</td>
<td>0.1</td>
<td>376</td>
<td>-</td>
</tr>
<tr>
<td>Others (**)</td>
<td>647</td>
<td>2.0</td>
<td>24588</td>
<td>1.0</td>
</tr>
<tr>
<td>Total</td>
<td>32,700</td>
<td>100.0</td>
<td>2,522,863</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Frugoni (2008), using Agricultural Census 2000 data
Note: (*) The main source of income was used to define the farmer's specialization by production system
(**) Includes agricultural machinery services and non-classified production

2.4.1 Livestock (beef and wool) production

The size of the livestock sector that produces beef and wool remained fairly stable up until 1990. During the last decade, however, there was an increase in the size of the herd, and by 2008 it was close to 12.0 million. In 2000, there were some 48,000 producers involved to some degree in livestock production, with a herd of 10.1 million head of beef cattle and 13.2 million sheep, and some 15.8 million hectares of land (DIEA, 2000). Average contribution of beef and wool to the agricultural sector’s total Gross Value of Production was over 50% during 2005-2008 (DIEA, 2009), but there is a declining trend of this contribution in the latter years of the decade, which worsened with the drought that has affected Uruguay during 2007-2009.

In Uruguay, cattle and sheep are raised almost entirely in association, their complementary forms of grazing maximizes the use of natural and improved pastures. However, poor pasture management can lead to over-grazing, particularly in the extensive areas of superficial soils. If stocking rates are high, farmers have no room for maneuver when climatic conditions reduce the available food supply, especially during the periods of extreme drought such as the one the country experienced recently. Under those conditions, farmers are faced with the stark choice between the survival of stock
and the well-being of pastures, and usually it is the latter that is sacrificed\textsuperscript{34}. In the presence of adverse climatic conditions, family livestock producers usually have little capacity to adjust their production system, and are likely to be driven out of business unless special government programs to encourage pasture conservation come to their assistance.

**Figure 4 Family Livestock Farm Distribution by Main Soil Quality Categories**

According to the Agricultural Census 2000 data, out of the 48,000 livestock producers existing at the time, about 28,200 producers had beef and wool as their main source of income and, therefore, were classified as “specialized livestock producers”. Estimates by MGAP\textsuperscript{35}, would indicate that there are currently about 32,000 farmers specialized in livestock production, and close to two-thirds of them are family producers, which control 20% of the total herd of livestock equivalent\textsuperscript{36} and about 15% of the total land that is under this production system. But, soil quality in about 70% of family farms is below the national average (i.e. a CONEAT Index of less than 100) and nearly 40% of farms have soils with a CONEAT Index of less than 70 (Figure 4), which can represent a serious constraint to increased production in the family sector.

\textsuperscript{34} There is considerable evidence that the pressure placed on pastures by the exceptionally high sheep population in the late 1980s and early 1990s caused long-term damage and provoked erosion in some areas. Sheep population reached 25.6 million in 1991 (World Bank, 2002). Subsequently, sheep population has declined to 13.2 million in 2000 and to 9.5 million in 2008 (DIEA, 2009).

\textsuperscript{35} See Frugoni (2008) and Perez Arrarte (2006)

\textsuperscript{36} Livestock equivalent refers to the number of head of cattle plus the number of sheep divided by 5
Table 14 Family Livestock Producers 2000

<table>
<thead>
<tr>
<th>Livestock Sector</th>
<th>Farms (Nr.)</th>
<th>Area (ha)</th>
<th>Average Farm Size (ha)</th>
<th>Herd Size (*)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(%)</td>
<td>(%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium &amp; Large Farmers</td>
<td>13,804</td>
<td>11,676,925</td>
<td>85.6</td>
<td>846</td>
</tr>
<tr>
<td></td>
<td>42.7</td>
<td>846</td>
<td>8,903,398</td>
<td></td>
</tr>
<tr>
<td>Family Livestock Producers (1)</td>
<td>18,538</td>
<td>1,960,004</td>
<td>14.4</td>
<td>106</td>
</tr>
<tr>
<td></td>
<td>57.3</td>
<td>106</td>
<td>2,270,974</td>
<td></td>
</tr>
<tr>
<td>Total Livestock Producers (2)</td>
<td>32,342</td>
<td>13,636,929</td>
<td>100.0</td>
<td>422</td>
</tr>
<tr>
<td></td>
<td>100.0</td>
<td>422</td>
<td>11,174,372</td>
<td></td>
</tr>
</tbody>
</table>

Source: (1) Frugoni (2008) and (2) Perez Arrarte (2006)
Note: (*) Expressed in terms of cattle equivalent

The average farm size of family livestock producers is just over 100 hectares, as against an average of nearly 850 hectares of medium- and large-sized producers. According to the Survey of Family Livestock Producers, over 56% of livestock family producers in the sample studied had less than 200 hectares (See Figure 5). The average size of the herd ranges between 100 and 120 head of livestock equivalent for family producers and between 645 and 928 head of livestock equivalent for medium- and large-sized producers, depending on the source of information.\(^{37}\)

Figure 5 Family Livestock Farm Distribution by Size

Although, at first sight, the Perez Arrarte (2006) figures would suggest that family livestock production systems are more intensive, (1.00 head of cattle equivalent per hectare) than those of medium- and large-sized producers (0.78 animals per hectare), the economic outcome of family livestock production systems has been less than satisfactory, as economic returns will depend not just on the number of animals per hectare, but also

on the quality of pastures available, the type of pasture management used, and the level of
drop of sustainable production technologies. According to some estimates, during the
last 8 years, the annual average income that a farmer could obtain from livestock
production was only about US$ 33.0 per hectare\textsuperscript{38}, (or a total annual income of about
US$ 3,300 per farmer), which would indicate that current production systems used by
family livestock producers is unlikely to be sustainable in the long-run. Furthermore,
preliminary figures would indicate that last year’s economic results (2009) were far
worse due to the negative impact that the 2008-09 drought had on livestock production.

The low levels of income of family producers were confirmed by the findings of the
Survey of Family Producers (Lapetina and Berhau, 2010), which show that 52% of
family livestock producers have an income of less than US$ 30 per hectare. The Survey
further analyzed income levels according to the farm size, but no definitive conclusion
could be drawn as producers with farms of less than 100 hectares presented an average
net income of US$ 30 per hectare, those with farms of 100 to 300 hectares had a net
income of just over US$ 41 per hectare, while those with farms of more than 300 hectares
obtained an average income of about US$ 37 per hectare. Therefore, it would seem that
the quality of soil and the absence of production system packages suited to those soil
conditions, rather than the size of the farm are the main factors explaining the poor
economic performance of family livestock producers. As indicated in Figure 6, the largest
percentage of family producers earning less than US$ 20/ha is among those whose farms
have soils with a CONEAT Index well below the national average. As indicated in Figure
6, the lower the CONEAT Index of farm soils in relation to the national average, the
higher the percentage of family producers earning less than US$ 20/ha.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure6.png}
\caption{Family Livestock Producers Income by Category of Soil Quality}
\end{figure}

Source: Lapetina and Berhau (2010)

\textsuperscript{38} Muñoz (2008), p. 98
On the other hand, the lack of appropriate production systems, which is reflected, for example, in the limited use of improved pastures by family producers, is also contributing to the poor economic performance of family livestock producers. Only about 15% of the area used by small livestock producers (i.e. farms with less than 100 hectares), is under improved pastures39 (DIEA, 2009). According to the results of the Survey of Family Livestock Producers, over 30% of family producers do not use any type of improved pastures at all; and in the case of those who have either some pastures or some areas with improved natural pastures, the total area with these improvements represents less than 10% of the total size of the farm (LaPetina and Berhau, 2010). The poor performance of family producers’ production systems is compounded by deficiencies in the current system technical assistance to family livestock producers and their relatively poor animal health standards (see LaPetina and Berhau, 2010).

In general terms, it would seem that the inability of family producers to adopt sustainable production systems is the result of an absence of adequate technical assistance and lack of sufficient financial resources, either in the form of on-farm generated income or credit, to sustain the required on-farm investments. Although, most family livestock producers are reportedly receiving some technical assistance, mainly from internationally-financed development projects (LaPetina and Berhau, 2010), the type of assistance received is oriented largely to very specific aspect of production (e.g. natural resources management, animal health), as against a more integral type of technical assistance that would cover the whole range of problems faced by family producers and their production systems. Under those circumstances, it is difficult to foresee any improvement in the long-term sustainability of their production systems without any substantial efforts on the part of Government to provide family producers with the required technical and financial assistance to overcome their main production constraints.

Furthermore, given that over 40% of the rural population located in extensive livestock production areas is living below the poverty line (Fossati, 2005) and that most family livestock producers are located in these areas, an important segment of family livestock producers is likely to be living under or close to the poverty line. It is likely that some of these poor family livestock producers might never be able to develop an economic and environmentally sustainable production system and, therefore, would probably have to find an alternative livelihood in the non-agriculture rural sector. Consequently, there would be a need for Government support programs specially tailored to the special economic conditions and requirements of this particular segment of family producers to pull them out of poverty.

2.4.1 Dairy production

In 2000, there were about 6,000 dairy producers, with a dairy herd of some 710,000 animals and an area of 1.0 million hectares devoted to milk production (Perez Arrarte, 2009).  

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39 Includes planted pastures, seeded and fertilized natural pastures, and annual forage crops.
By 2006/7, the number of dairy farms had decreased to 4,600, and the area devoted to dairy production had been reduced to about 918,000 hectares, while there was an increase in the size of the dairy herd to 984,000 animals (DIEA, 2008). Consequently, there was an increase in the average size of dairy producers from 167 hectares to about 200 hectares, as well as a 22% increase in total dairy production, between 2000 and 2006/7 (Secco and Errea, 2008). However, in 2007/8, there was a further decrease in the number of dairy farms and the area devoted to dairy production to 4,165 and 798,000 hectares respectively (DIEA, 2009), and the declining trend continued in 2008/9 as a direct result of the drought and the decline in international prices of dairy products (Vidal, 2008, p. 64).

About two-thirds of total dairy producers and over 70% of the dairy herd are located in the Departments of San Jose, Colonia, Florida and Canelones. During 2000-2006, the dairy sub-sector’s contribution to the agricultural sector’s total Gross Value of Production remained basically unchanged, at an annual average of about 11.5%. However, the drought that affected the country during 2007/2009 is likely to depress the dairy sector’s contribution to Gross Value of Production during that period.

Family dairy producers represent 73% of total dairy producers in the country, control about one-third of the total area devoted to dairy production and own about 34% of the country’s dairy herd. Milk production from family producers represents about one-third of Uruguay’s total milk production.

<table>
<thead>
<tr>
<th>Dairy Sector</th>
<th>Number of Farms</th>
<th>Area (ha)</th>
<th>Average Farm Size (ha)</th>
<th>Dairy Herd (Nr.)</th>
<th>Annual Milk Production (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium &amp; Large Farmers (2)</td>
<td>1,637</td>
<td>679,391</td>
<td>415</td>
<td>465,810</td>
<td>852,002</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,254</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,829</td>
</tr>
<tr>
<td>Family Dairy Producers (1)</td>
<td>4,400</td>
<td>330,425</td>
<td>75</td>
<td>244,363</td>
<td>406,579</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,230</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,664</td>
</tr>
<tr>
<td>Total Dairy Producers (2)</td>
<td>6,037</td>
<td>1,009,816</td>
<td>167</td>
<td>710,173</td>
<td>1,258,581</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,246</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,772</td>
</tr>
</tbody>
</table>


On a per hectare basis, productivity of family dairy producers is the same as the productivity of medium- and large-sized dairy farmers. Whereas, milk yields (on a cow/mass basis) obtained by medium- and large-sized dairy farmers are about 10% higher than those of family producers. But, overall productivity of family dairy producers

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40 The General Agricultural Census 2000 data indicate that there were about 6,500 dairy producers and 1.2 million hectares. But for the purpose of this section of the report, we have taken figures provided by Bruno et al. (2005) and Perez Arrarte (2006).
seems to be the same as or very close to that of medium- and large-sized dairy famers. This is partly the result of adequate access to quality technical assistance traditionally been provided by CONAPROLE, the largest dairy plant in the country. But family producers seem to have also adequate access to financial resources for investment, which would be another key element contributing to high productivity of family dairy agriculture. The reason for this apparent better access to credit by dairy farmers, in contrast to the problems faced by the rest of family producers, is that CONAPROLE, on the one hand, provides credit directly to its clients for investment in dairy farm development and, on the other, offers guarantees to commercial banks willing to lend to dairy producers who deliver their milk to CONAPROLE.

2.4.3 Horticulture production

In relative terms, horticulture is the production sector with the largest participation of family agriculture, in terms of both percentage of farmers and area under horticultural cultivation. About 84% of total farms devoted to horticulture production are in the hands of family producers, and these cultivate about 60% of the total area under these crops. The average farm size of horticulture family producers is about 15.5 ha, (or just under one-third of the average farm size of large- and medium sized producers), and most of their production goes to the domestic market. Reportedly, horticulture family producers contribute just over 50% of the horticultural sector’s total value of production, but technology levels among horticultural family produces present large variations. It is estimated that most of horticultural land cultivated by family producers, is cultivated under rainfed conditions, although there are some family producers who have areas under irrigation and even under greenhouses. But, no detailed figures are available for the purposes of this study.

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41 There are large discrepancies in the total area devoted to horticulture between the various sources. The Agricultural Census 2000 indicates that the total area under horticulture in 2000 was 113,159 ha, while Bruno et al. (2005) and Perez Arrarte put the figure at only 27,524 ha. In this section, we have used Census data, unless otherwise indicated.

42 Figures correspond to year 2000, as quoted in Perez Arrarte (2006), p.11. However, it is not clear how these figures were estimated.
Table 16 Horticultural sector: number of farmers and area under cultivation

<table>
<thead>
<tr>
<th></th>
<th>Producers (Nr.)</th>
<th>Total Area (ha)</th>
<th>Average Farm Size (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Horticultural Producers(1)</td>
<td>5,263</td>
<td>113,159</td>
<td>22.0</td>
</tr>
<tr>
<td>Medium &amp; Large Producers (% of total)</td>
<td>849 (16.1)</td>
<td>44,758 (39.6)</td>
<td>52.7</td>
</tr>
<tr>
<td>Family Producers (2) (% of total)</td>
<td>4,414 (83.9)</td>
<td>68,401 (60.4)</td>
<td>15.5</td>
</tr>
</tbody>
</table>

Source: (1) Agricultural Census 2000; (2) Frugoni (2008)

From a geographical viewpoint, close to 60% of horticultural family producers are located in the Department of Canelones, an area with poor soils, which are affected by severe or very severe land degradation. Consequently, an important section of family producers engaged in horticulture are likely to face serious constraints to obtain high yields and adequate overall productivity in the absence of a specially designed program to provide technical and financial assistance to these producers, with a strong emphasis on land management. The exception would be the small number of family horticulture producers who have some areas under greenhouses. According to different sources, Canelones is also a geographical area that includes a large number of subsistence farmers, and around 20% of the rural population in this area is living below the poverty line (see also Map 4), which raises the question of the long-term sustainability of some of these family producers under the current production systems. The large variations in the characteristics of family horticulture producers reinforce the need for differentiated strategies for the various segments within the family agricultural sector.

2.5 Family Agricultural Sector Development Potentials and Constrains

In general terms, Uruguay’s comparative advantages are clearly in livestock production and in a variety of agricultural activities for export, as well as in industrial goods closely linked to these sectors. Despite the overall gains in productivity that these sectors have attained in the past and their successful in-roads into export markets, the livestock and agricultural sectors remain vulnerable both to external shocks, such as fluctuations of foreign markets, and domestic shocks, such as weather-related events (e.g. the current drought) or the past outbreaks of foot and mouth disease.

This vulnerability seems to be particularly damaging in the case of family producers, which represent 63% of the country’s total number of farmers and just over 15% of total

43 See, inter alia, (Piñeiro, 1985) and Fossatti (2005)
land suitable for agriculture and livestock production. Moreover, their current poor performance and lack of sustainability represents an underutilization of Uruguay’s human and physical resources. Consequently, an improvement in their competitiveness and overall economic situation would make sense not only from a social viewpoint, as some sectors would be lifted out of poverty, but also from an economic perspective, as the family agriculture sector would be able to contribute to the country’s economic development according to their full potential. Moreover, such a scenario would, contribute also to the final objective of achieving a more equitable development of the country.

Some of the experiences that Uruguay has had in the past with some sectors of family agriculture would indicate that there is scope for the transformation of family farms into viable and sustainable commercial enterprises. Therefore, the existence of family producers does not need to be justified only because they are important social actors, which need to be supported so that they can remain in the rural areas, but also because they can be fully integrated into an open market economy and make a specific contribution to the country’s economic development.

Lack of profitability of family farming has resulted in low levels of investment which, combined with inappropriate land and water use, has not only made this sector highly vulnerable to changes in climatic conditions and price fluctuations, but has also undermined the long-term sustainability of their production systems. Competition for agricultural land for the production of extensive crops, such as soy beans, and eucalyptus plantations for paper production, in which family agriculture does not play any significant role, combined with increased input costs, have also contributed to the poor profitability of traditional family agriculture production systems.

The overall performance of agricultural and livestock export activities indicates that productivity in these sectors has been increasing sufficiently to maintain their competitiveness in the world market. The challenge will be to generalize these productivity gains to all producers, in particular family producers, in order to maintain the country’s comparative advantages in these sectors in a sustainable manner and achieve a more equitable development. Having reached the limits of the agricultural frontier long ago in Uruguay, provision of additional land to family producers to enable them to expand production and improve income does not seem to be a viable strategy, except on a very limited scale. Therefore, programs to assist family producers should be directed towards improving family production systems, making them compatible with the sustainable uses of the natural resources base of family producers, or changing family producers’ survival strategy, if sustainable family agricultural and livestock production is not an option.

There is considerable scope to improve the long-term profitability and sustainability of family agriculture by improving management of their natural resources base and incorporating technical knowledge alongside increased physical investments. In the specific case of livestock production, for example, there has been a decline in grazing pressure on pastures since 1980, which has resulted in improved natural regeneration of
the grass base of pastures, and also an expansion of areas under planted or improved pastures, but this has not been the experience of most family livestock producers, raising the questions of their long-term sustainability as small-scale producers. Therefore, it seems that one of the elements that could lead to an improvement in the profitability of the family livestock sector is the increase in family livestock producers’ capacity to invest in improved pasture management. On the other hand, production conditions of family horticulture producers, which in some areas are faced with serious land deterioration problems, would indicate that improved land management techniques would be also essential for the long-term sustainability of their production systems. The World Bank-financed Natural Resources Management Project (PPR) is already contributing towards this objective, but demands by family producers far exceed the resources available under this project.

The frequent occurrence of long-lasting droughts that have been witnessed in Uruguay over the last decades, calls for an increase in water resources availability and an improvement in the management of these resources, not just to expand irrigation in agricultural areas, but also to satisfy the increasing demand for water from beef and dairy producers for livestock consumption as well as pasture and forage production. Increased water supply and improved water use efficiency would be key elements in any strategy to improve pasture management and to increased profitability of family livestock and agricultural producers. The World Bank-financed Natural Resources Management and Irrigation Development Project (PRENADER), which was implemented in the 1990s, went some way towards attaining this objective, but fell short of meeting the small farmers’ large demand for financial support to expand water resources availability. In recent years the PPR Project offered technical and financial support to farmers (mostly family livestock producers) for the construction of more than 600 small dams.

Given the heterogeneity of family agricultural producers, constraints and development potential of this farming community will vary significantly, depending on their particular natural resources base and production systems. As indicated before, family agricultural producers have different survival strategies, which will be determined by both their access to land and capital and the way in which they utilize their natural resources base. Consequently, a strategy to support the sustainable development of the family agricultural sector would have to include a wide menu of options to address the needs of each type of family producer. The piecemeal approach of the past should be abandoned in favor of a more comprehensive set of actions oriented towards a territorial approach to development, which could provide technical and financial assistance to address the various constraints faced by the production systems and survival strategies of family producers in the main regions of the country. Moreover, assistance to the so-called subsistence family producers, would have to include support not just for on-farm production, but also for the development of off-farm activities, as even an improved farm production might not be sufficient to guarantee their family subsistence.
III. The Policy and Institutional Framework to Agriculture

Over the last decade, successive governments in Uruguay have adopted agricultural development strategies that have been compatible with the sector’s comparative advantages and available natural resource. However, agricultural sector development has been historically explained largely by the performance of just under 20,000 large and medium-sized farmers (~715 ha in size) which farm about 85% of the country’s agricultural land, operate high-productivity production systems and have strong links to export markets. The large majority of the 32,700 small farmers, particularly the so-called family producers, with an average farm size of less than 80 hectares, have remained so far at the margin of this development process, despite their significant development potential.

These farming structures have resulted in large income disparities in rural areas, which are seen by the present Government not only as a constraint to its objective of promoting a more equitable economic and spatial development, but also as a source of social and political tensions. The poor performance of the family agriculture segment and its failure to realize its development potential also restrict the agricultural sector’s overall growth possibilities and contribution to economic development.

Therefore, the challenge for the past Administration, which took office in 2005, was to maintain the agricultural sector’s relative high growth rates of the past (average around 7.6% per annum in 2001-2007), while at the same time promote a more inclusive agricultural development process through a series of programs and measures aimed at releasing the so-far untapped productivity potentials of the more low technology production systems of the family agriculture sub-sector. Moreover, recent fluctuations in international markets for inputs, capital, and outputs, and domestic shocks, such as weather-related events (e.g., the 2007-09 drought) or the past Foot and Mouth Disease outbreaks, have highlighted also the agricultural sector’s vulnerability to global economic fluctuations, climate change, and trans-boundary diseases but, in particular, the weak position of family agriculture under those circumstances.

The framework for government’s agricultural sector policies was spelled out in the 2006-2010 budget approved at the beginning of the past Administration\textsuperscript{44}. The core elements of this policy framework included the need to:

i. Establish a new institutional framework that would enable the State, in general, and the Ministry of Livestock, Agriculture and Fishery, (\textit{Ministerio de Ganadería, Agricultura y Pesca, MGAP}) in particular, to play a more active role in promoting both a high sector growth and a more socially inclusive development.

ii. Design and implement new sources of financing for agricultural producers, which would supplement the existing credit lines supplied by the commercial banking system.

\textsuperscript{44} See MGAP (2005).
iii. Support the development of a competitive agro-industrial sector, with a strong participation of family producers.

iv. Provide incentives to farmers, but with special emphasis on incentives for family producers, to encourage the adoption of sustainable natural resources management systems.

v. Promote measures and programs to improve the overall standard of living of family producers.

The Government, however, faced several constraints for the full implementation of these policies. First, the incoming political coalition lacked Government experience and, therefore, required a learning period, which necessarily delayed the implementation of any new policies. Secondly, most of the large agricultural development programs and projects that were implemented during the 2006-2010 period were inherited from the previous Administration and, although they contributed to the overall sector development, they were not necessarily all in line with the new Government policies of promoting a more equitable development. Finally, the implementation of the proposed institutional reforms could not be completed during the last Administration.

The lack of an appropriate institutional framework to implement these policies resulted in the Government having to work with existing institutions, with all their constraints and limitations. Moreover, without the necessary institutional tools and in the absence of a fully defined agricultural development strategy, the Government ended up adopting a series of ad-hoc measures, which were influenced more by contingency factors than by the guiding principles of a structured program to promote a more inclusive agricultural sector development. Under these circumstances, although measures adopted went some way towards incorporating family farmers into the sector’s development stream, the results fell short of expectations.

Nevertheless, experience gained during the last administration and their improved knowledge of the main constraints and limitations faced by agricultural and livestock producers, particularly family producers, has placed the current Government on a much more solid base on which to build a long-term development program to promote a sustainable and equitable rural development.

The next sections will analyze the different measures adopted and programs implemented by the MGAP during the last five years and draw conclusions relevant to the preparation of the next Five Year Rural Development Plan.
3.1 Main Agricultural Sector Policies

3.1.1 New Institutional Framework

One of the first tasks of the last Government was to define an institutional framework within MGAP that would be more conducive to the implementation of the different policies and programs that the Government was planning to implement in support of family agriculture and agricultural growth, in general. However, it took several years for these institutional reforms to be implemented. Nevertheless, within this context, the MGAP created a **Decentralization Unit** to strengthen the Ministry’s presence in the various geographical Departments and encourage the participation of local institutions in the design and implementation of agricultural development policies. Moreover, this Decentralization Unit established the so-called **Rural Development Tables (Mesas de Desarrollo Rural)** to promote the participation of producers’ organization, but particularly family producers’ organization, in the design of policies and programs targeted to the family agriculture sector. Furthermore, the **National Agricultural Council** and the **Departmental Agricultural Councils** were created to facilitate the coordination of activities of the various institutions operating in the rural areas.

Members of the **National Agricultural Council (Consejo Nacional Agropecuario, CAN)** includes the Minister, Under Secretary, and the Director General of MGAP, the Director of the Office of Programming and Budget (Oficina de Programación y Presupuesto, OPP), three representatives of the Municipal Council (Consejo de Intendentes), the Presidents of Agricultural Plan Institute (Instituto Plan Agropecuario, IPA), National Agricultural Research Institute (Instituto Nacional de Investigación Agropecuaria, INIA), National Wine Institute (Instituto Nacional del Vino, INAVI), National Seeds Institute (Instituto Nacional de Semillas, INASE), National Colonization Institute (Instituto Nacional de Colonización, INC) and National Meat Institute (Instituto Nacional de la Carne, INAC), a representative of the National Public Education Administration (Administración Nacional de la Educación Pública, ANEP), plus a representative of the University of the Republic linked to the agricultural sector. Its main functions are, on the one hand, to advice the MGAP on rural development and territorial development policies, with special reference to most vulnerable sectors of the rural population, and on the other, to monitor and evaluate, through the Departmental Agricultural Councils, the impact of these policies. The first meeting of the CAN took place only in August 2007, and one of its first tasks was to define the procedures for the creation of the Departmental Agricultural Councils.\(^{45}\)

The **Departmental Agricultural Councils (Consejos Agropecuarios Departamentales, CAD)** include a representative of MGAP, who chairs the Council; a representative of the NGOs most active in the Department, which is designated by the National Agricultural Council; an INC representative; and two representatives of the respective Municipality. The main objectives of the Departmental Agricultural Councils are to disseminate in their respective geographical areas the MGAP policies, monitor and evaluate their

\(^{45}\) Martínez (2007)
implementation, and coordinate the execution of any project that is being implemented in
the area by MGAP or NGOs involved in the agricultural sector.

The **Rural Development Tables** operate at the level of the respective Department and
include a representative of each of the local agricultural cooperatives, a representative of
each of the agricultural guild organizations of the Department, and a representative of the
respective Departmental Agricultural Council. Its main functions are to facilitate the
participation of the rural civil society in the design and implementation of agricultural
policies, identify demands of local agricultural and livestock producers, and channel them
to the relevant authorities. Furthermore, **producers’ organizations** were the target of the
Government-sponsored institutional strengthening programs, as a means to ensure a
larger participation of family farmers in these Rural Development Tables.

In 2005, MGAP created the **General Division for Rural Development** (*Dirección
General de Desarrollo Rural, DGDR*) to develop policies and programs targeted to
family agriculture. But, although it was created in 2005, DGDR did not start its activities
until late 2008. Nevertheless, despite the absence of one of its main institutional arms to
promote the development of the family agriculture sector, MGAP managed to implement
a series of ad-hoc measures to support family producers’ development during the period
2005-2009. In particular, MGAP created financing mechanisms for producers,
strengthened the participation of family producers in agro-industries, and promoted
improved natural resources management, as discussed below. To enhance the
effectiveness of its special programs and policies aimed at improving the standard of
living of the family producers, the DGDR issued an official **definition of “family
producer”**. Moreover, DGDR initiated a voluntary **national register of family
producers**, as a means of identifying the potential target population of those programs.

The main task of DGDR now is the design of the Rural Development Plan 2010-2015.
The new Rural Development Plan is expected to establish the framework for the future
development of Uruguayan agriculture and a coherent strategy to incorporate family
agriculture into the main production stream, and thus promote a more equitable
development. The creation of the DGDR, as the unit within MGAP with the
responsibility for the design of sector policies of family agriculture and the preparation of
the next sector development plan, has the seeds for a potential institutional conflict,
which will have to be addressed. Traditionally, agricultural sector policy formulation in
Uruguay was the responsibility of the Office of Agricultural Programming and Policies
(*Oficina de Programación y Políticas Agropecuarias, OPYPA*)
Similarly, the
coordination of internationally-financed development projects was normally in the hands
of the Unit of Projects and Technical Cooperation (*Unidad de Proyectos y Cooperación
Técnica, UPCT*). But, with DGDR assuming a leading role in these matters, there will
have to be a new division of labor between the various divisions of MGAP, if potential
conflicts are to be avoided.

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46 See MGAP Resolution dated 29 July 2008. The main elements of this definition are discussed in Section
2.1 of this Sector Review
47 For a discussion of the institutional structure of MGAP and the responsibilities and roles of the different
divisions within the Ministry, see Appendix 1 to this chapter.
Leader is a European Community initiative for assisting rural communities in improving the quality of life and economic prosperity of their local area. The aim of Leader+ is thus to encourage rural actors to think about the longer-term potential of their area. The local actors implement the original strategy that they themselves have designed, experimenting with new ways of (i) enhancing natural and cultural heritage, (ii) reinforcing the economic environment in order to create jobs, (iii) improving the organizational capabilities of their community.

Leader+ was designed around four predominant themes: (i) making the best use of natural and cultural resources, including enhancing the value of sites; (ii) improving the quality of life in rural areas; (iii) adding value to local products, in particular by facilitating access to markets for small production units via collective actions; (iv) the use of new know-how and new technologies to make products and services in rural areas more competitive.

The final beneficiaries of assistance under Leader+ are the local action groups (LAGs), which draw up the development strategy for their territory and are responsible for implementing it on the basis of a specific development plan. The LAGs create an open local partnership which clearly allocates the powers and responsibilities to the different partners. The economic and social partners and non-profit (voluntary) associations must make up at least 50% of the local partnership.

All expenditure related to participating in the networks and running them, providing information, and managing, monitoring and evaluating the program is eligible for part-financing.

**Seven criteria make up the Leader approach**

1. *Area-based approach*: Leader approach necessitates defining a development policy on the basis of an area’s – a fairly homogenous local rural unit – own particular situation and characteristics.
2. *Bottom-up approach*: The objective of this approach is to encourage participatory decision making at the local level for all development policy aspects, relying on facilitation of projects and training of local communities.
3. *Partnership approach and the LAG*: LAG is comprised by private and public actors to identify a joint strategy and a local action plan for developing the Leader+ area. The LAGs provide an appropriate mechanism for participation and organization of local actors in favor of rural development.
4. *Innovation*: The projects should include actions (i) to promote local resources in new ways or (ii) to provide new solutions to the areas weaknesses or (iii) to create a new product, new process, new forms or organization or a new market.
5. *Integrated approach*: The actions and projects contained in the local action plan are linked and coordinated as a coherent whole.
6. *Networking and cooperation between areas*: Leader network aims to limit the isolation of LAGs and create a source of information regarding the actions, through exchanging and circulating the information on rural development policies. Another core part of Leader is the cooperation between rural areas, which is assigned a specific budget for cooperation projects.
7. *Local financing and management*: Delegating a large proportion of decision making to the LAG is another key element, where the degree of autonomy of LAG depends on the Member State’s specific mode of organization.

Best practice examples from various countries can be found at [http://ec.europa.eu/agriculture/rur/leaderplus/publications/bp_es.htm](http://ec.europa.eu/agriculture/rur/leaderplus/publications/bp_es.htm) (in Spanish)
3.1.2 Financial Resources for the Agricultural Sector

According to Government sources\(^{48}\), from a financial viewpoint, agricultural and livestock producers were facing two types of problems at the beginning of the last Administration, which were constraining their development possibilities. On the one hand, there was an allegedly severe lack of credit in the agricultural sector, because the commercial banking system was not providing adequate financial resources in the terms and conditions required by producers, particularly family producers. On the other hand, producers were facing high levels of indebtedness in 2005, which were limiting their capacity to generate any surplus for investment.

So far, however, the Government has not defined a fully fledged strategy to ensure that farmers have adequate access to different sources of financing. Moreover, there seems to have been no detailed discussion on any adjustments that might be required in the commercial bank credit system to facilitate the flow of financial resources to the agricultural sector. Government efforts have concentrated instead in solving the problem of indebtedness and creating an alternative to the banking system to provide farmers with the required financial resources to promote the sector’s development\(^{49}\).

**Commercial Bank Lending**

Credit Supply to Agriculture

Since the early 1990s, there have been three key developments in the commercial banking system. First, the State Bank (*Banco de la República Oriental del Uruguay, BROU*) remains the largest lender to agricultural producers. Despite a slight increase in private banks’ lending to agriculture, BROU is still responsible for 70% to 75% of the total credit to the agricultural and livestock sector. Secondly, there has been a gradual “dollarization” of the loans, and virtually 100% of the loans by BROU and private commercial banks are now issued in US dollars. Finally, there has been an increase in the relative importance of agro-industries and input suppliers as a source of financing for agricultural and livestock producers.

According to the 2000 Census figures, BROU’s clients in the agricultural sector were just over 18,000 producers, or about 35% of the total number of producers in the country, which would give some idea of the level of concentration of both bank lending and indebtedness among producers. Although one could argue that these are all medium- to large-sized producers, and present this as evidence of the absence of commercial bank lending to family agriculture, the problems of high debt among some sections of family agriculture would point towards a different and more complex picture.

\(^{48}\) MGAP (2009)  
\(^{49}\) Picerno and Souto (2005)
Given the alleged restrictions imposed by commercial banks on the supply of credit to farmers, agricultural and livestock producers are apparently moving away from the banking system towards alternative sources of financing to finance their operating and investment cost. In particular, the main alternative sources of financing seem to be: Special Funds created by Government, internationally-financed agricultural development projects that are currently under implementation, and suppliers’ credit (see discussion below).

Debt Relief Program for the Farming Sector

The relatively high level of indebtedness faced by agricultural and livestock producers at the beginning of the last Administration, led MGAP to negotiate with BROU, in 2007, a debt rescheduling program, which included special measures for family producers.

At the time, BROU had 8,177 clients/producers, with a total debt of US$ 642.0 million, who needed some kind of debt rescheduling. The largest producers, which represented only 6% of the total number of clients, accounted for nearly 50% of the total debt, with an average debt of about US$ 645,000 per producer. At the bottom of the scale, small- and medium-sized producers (69% of the total) were responsible for only 16% of the total debt, or US$ 107.0 million, as indicated in the table below.

Table 17  Agricultural Sector Debt with BROU, by Size of Producer  
(2004)

<table>
<thead>
<tr>
<th>Type of Producer</th>
<th>Debt Range</th>
<th>Producers</th>
<th>Total Debt</th>
<th>Average Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(US$)</td>
<td>(Nr.)</td>
<td>(%)</td>
<td>(US$ mill)</td>
</tr>
<tr>
<td>Small</td>
<td>Up to 15,000</td>
<td>3,036</td>
<td>37.0</td>
<td>28.0</td>
</tr>
<tr>
<td>Medium</td>
<td>15,000-50,000</td>
<td>2,617</td>
<td>32.0</td>
<td>79.0</td>
</tr>
<tr>
<td>Large</td>
<td>50,000-250,000</td>
<td>2,048</td>
<td>25.0</td>
<td>229.0</td>
</tr>
<tr>
<td></td>
<td>More than 250,000</td>
<td>476</td>
<td>6.0</td>
<td>307.0</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>8,177</td>
<td>100.0</td>
<td>642.0</td>
</tr>
</tbody>
</table>

Source: BROU (2007)

BROU offered these agricultural and livestock producers a series of incentives to regularize their debt with the bank:

i. **Small-sized producers, with debts of US$ 15,000 or less.** For those who opted to pay their debt in one installment, the bank offered to pardon unpaid interest since 1999 and reduce the capital by 50%. For those who decided to reschedule their debt, the bank offered to pardon interest payment until the end of 2004, apply a rate of interest of 6.5% in dollars thereafter and a 12 year repayment period. An additional bonus of 20% was offered to those who paid on time.
ii. **Medium-sized producers, with debts of US$ 50,000 or less.** For those who opted to pay their debt in one installment, the bank offered to apply the same conditions offered to small-sized producers for the first US$ 15,000 of debt. Thereafter, the debt was adjusted at an annual rate of 6.5% in dollars, without penalties for unpaid interest, and the capital was reduced by 10% to 20%, depending on the client’s financial situation. For those who decided to reschedule their debt, the bank offered a 12 year repayment period, and an additional bonus of 10% was offered to those who paid on time.

iii. **Large-sized producers, with debts of more than US$ 50,000.** For those who opted to pay their debt in one installment, the bank offered to adjust the debt at an annual rate of 6.5% in dollars, without penalties for unpaid interest, and the capital was reduced by 10% to 20%. For those who decided to reschedule their debt, the bank offered a 12 year repayment period, and an additional bonus of 5% was offered to those who paid on time.

iv. **Family Producers under “social exclusion risk”.** At the beginning of 2007, about 57% of all producers with debt problems had regularized their situation with BROU; an additional 810 producers have since cancelled their debts; and some 1,400 rescheduled their debts and remained as BROU clients. There was, however, a core group of family producers who could not solve the debt problem under the conditions offered by BROU. Following a survey carried out by MGAP among family producers with an individual debt of less than US$ 25,000, it was determined that there was a group of 994 producers who were defined as “family producers under the risk of social exclusion”. In other words, this group of family producers would become totally insolvent and would not be able to remain as producers due to their debt situation. The total debt of this group was US$ 9.3 million dollars. Under a special agreement signed between MGAP and BROU, the latter sold the total portfolio of these family producers under “social exclusion risk” for the nominal price of US$ 1.0. The losses of this operation were absorbed by BROU. MGAP is now administering that portfolio, and is negotiating with each family producer much softer terms than those offered by BROU to repay their debt. Repayments that will eventually be received by MGAP under this scheme will go to the yet to be created Rural Development Fund.

Debt reductions for **horticulture and fruit family producers** were financed through the Horticulture and Fruit Development and Diversification Fund. By 2007, nearly 1,400 producers had benefitted from this scheme, with a total cost to the Fund of about US$ 9.0 million. These benefits were subsequently expanded by MGAP to benefit 409 additional horticultural producers, with a total cost of US$ 4.2 million. It has been estimated that after these two operations, only about 20% of horticultural producers remained with bank debt problems in 2007\(^{50}\). Debt reductions of **rice and dairy producers** were financed by the Rice Development Fund II FFRAA and the Dairy Development Fund II (FFDSAL) respectively. The specific characteristics of these funds are discussed in the next section.

\(^{50}\) Tambler and Quintans (2007), p. 247
Special Funds

As a means of compensating for the reportedly low supply of commercial bank credit, MGAP has promoted the implementation and operation of a series of Special Funds. The objective of these Special Funds is to finance not only agricultural and livestock development initiatives in various sub-sectors, but also address the financial needs created by emergency situations that have resulted from severe climatic conditions (such as droughts and hailstones).

a) Horticulture and Fruit Development and Diversification Fund (Fondo de Reconversión y Fomento de la Granja, FRFG), which operates the financial resources obtained from VAT charged to imports of fruits and horticultural products and to the sale of domestic production of these produce by large enterprises. This Fund, which is operated by the General Division for Horticulture and Fruit Development (Dirección General de la Granja, DIGEGRA), was initially created to provide financial assistance to horticultural and fruit producers who saw their on-farm infrastructure damaged by severe weather conditions in 2002; subsidize insurance premium, as a means of promoting the adoption of an agricultural insurance scheme among horticultural and fruit producers; and support the integration of horticultural and fruit producers into agro-industries. Subsequently, in 2004, it was used also to finance the reduction and rescheduling of the debt that these farmers had with BROU and commercial banks.

b) Dairy Development Fund II (Fondo de Financiamiento y Desarrollo Sustentable de la Actividad Lechera, FFDSAL II). This Fund, which is the follow-up of the former Dairy Fund (FFDSAL I), was created in February 2007 to provide financial assistance for the development of dairy activities. The main purposes of the fund are to finance the expansion and diversification of dairy production, and to promote on-farm investment to improve pollution control in dairy farms of small-sized producers. There are US$ 1.0 million earmarked for the latter activity. The Fund, which is a Trust Fund (Fideicomiso), was created with the sale of US$ 45.0 million in private bonds operated by Credit Uruguay Bank. The repayments of the bonds is financed through a levy (currently UYU 0.11 per liter or dairy product equivalent) charged to dairy producers or importers of dairy products. The Trust Fund is administered by an Honorary Commission integrated by a representative of MGAP, who acts as its Chairman, a representative of the Ministry of Industry, Mining and Energy, a representative of the Ministry of Economics and Finance, a representative of the dairy industry and two representatives of producers’ organizations.

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51 Large domestic enterprises, in this case, are defined as those paying corporate income tax (IRAE).
52 Tambler and Aldabe (2005)
53 Changes to the Fund’s objectives were introduced by Law 17844, dated 21 October 2004. See Tambler and Quintans (2007).
54 Small farmers have access also to financial assistance through the PPR Project for investments to control water pollution on their farms. The limit for this financial assistance is US$ 1,500 per farmer.
c) **Rice Development Fund II** (*Fondo de Refinanciamiento y Reconstrucción de la Actividad Arrocera, FFRAA II*). The Fund, which is also a Trust Fund (*Fideicomiso*), was created with the sale of US$ 12.0 million in private bonds, operated by EF Asset Management. The BROU purchased the total amount of bonds. Repayment of the bonds will be financed through a levy equivalent to 5% of the FOB price of exported rice. The Fund has been used to cancel outstanding debts of the previous Rice Fund (FFRAA I)\(^{55}\) and to improve rice production of the Fund beneficiaries.

d) **Agricultural Emergency Fund** (*Fondo Agropecuario de Emergencias, FAE*). This fund was created in 2008\(^{56}\) to provide financial compensation to farmers who suffered losses as a result of extreme weather conditions such as drought, hailstones, or flooding, and is administered by DGDR. During the 2009 drought, for example, the Fund distributed about 33,800 tons of animal feed to some 4,500 family livestock and dairy producers. Similarly, about 1,780 tons of seeds were distributed among family horticulture producers. Both operations represented a disbursement of US$ 5.8 million. In addition, horticulture and fruit producers received about US$ 1.6 million in subsidies, while dairy producers benefit from US$ 2.4 million in direct subsidies to compensate for their losses during this period\(^{57}\). However, the Fund seems to provide not only financial assistance during emergencies, but also production oriented subsidies to promote improved production practices, as is the case, for example, of the subsidy to reduce overgrazing or the subsidized credit to dairy farmers to rehabilitate their production capacity. It is not clear how the financial resources are allocated to one or the other objective.

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\(^{55}\) The Rice Fund I (*Fondo de Financiamiento y Recomposisción de la Actividad Arrocera, FFRAA I*) was created in 2003 to address the debt problems that rice producers had with BROU.

\(^{56}\) The FAE was created in October 2008 by Law 18.362.

\(^{57}\) The beneficiaries of this subsidy were producers with a level of production equal to or less than 1,500 liters per day. Those farmers with a daily production of less than 500 liters received a subsidy of UYU 1.08; those with a production between 500 liters and less that 1000 liters received a subsidy of UYU 0.8, and those with a production of more than 1000 liters, but less then 1,500 liters, received a subsidy of UYU 0.42. The subsidy was paid over a period of 135 days.
e) Horticulture and Fruit Production Climate Emergency Fund (Fondo de Emergencia para Catástrofes Climáticas para la Granja, FECCG), created within the Horticulture and Fruit Development and Diversification Fund (Fondo de Reconversión y Fomento de la Granja, FRFG), is aimed at compensating horticulture and fruit farmers for losses incurred as a result of severe weather conditions. Consequently, there is an overlapping between the objectives and the type of support provided by this emergency fund and the FAE described above.

Box 3: Capital investment support in EU accession countries – the case of SAPARD/IPARD
The Special Accession Program for Agriculture and Rural Development (SAPARD) is a framework for supporting sustainable agricultural and rural development in the central and eastern European applicant countries (CEECs). It is designed to solve problems affecting the long-term adjustment of the agricultural sector and rural areas and to help implementing the Community measures in matters of the common agricultural policy and related policies. Later all grant programs of EU have been combined under Instrument for Pre-accession Assistance (IPA) and the SAPARD component has been replaced by IPARD (IPA for Rural Development).
IPARD is being implemented through multi-annual programs by a candidate country in a fully decentralized manner. However, the commission is applying a wide range of ex-post controls. The program is to be prepared by the competent authorities of the applicant country, cover a period up to seven years. IPARD program should include a thorough analysis of agriculture and rural areas of the candidate country, a definite objective to be met, a description of proposed strategy to reach objectives, a prior appraisal of expected economic, environmental and social impacts and indicative overall financial table summarizing financial resources for each chosen priority.
IPARD programs provide a set out of 9 available measures under three priority axes for the implementation of the defined strategy. These axes are (i) improving market efficiency and implementation of community standards, through assisting farms to restructure and upgrade, setting-up producer groups and supporting food industry to upgrade; (ii) preparatory actions for implementation of the agri-environmental measures and Leader+ (see Box 2) through supporting local development strategies and actions to improve the environment and (iii) development of rural economy through improvement of training, diversification and development of rural economic activities and improving rural infrastructure.
The legal commitment of the commission to spend EU-budget fund for the implementation of an IPARD program is done through the Multi-annual Financing Agreement (MFA) containing the amount of EU money provided for the program. The contributions of the Community will not normally more than 75% of the total public expenditure and all activities under IPARD require co-financing. Expenditures are only eligible for reimbursement by the Commission after management is conferred by the Commission.
IPARD is a tailored program for successful implementation of rural development projects thanks to its decentralized management. In addition, it funds local solutions supported by international expertise. It brings the newest auditing and accounting standards and control mechanisms to effectively and correctly implement the projects. But one lesson has been that rural areas and agriculture need the commitment of the general public, especially the politicians and responsible authorities. This commitment should be to reach a national rural development policy that is part of the overall development policy of a government. Only in this case can IPARD programs be successfully implemented.

Further information is available at:
Agricultural and Livestock Development Projects

The General Division for Rural Development currently has the responsibility for the overall coordination of the three agriculture and livestock development projects that are financed by International Financing Institutions, namely the World Bank-financed Natural Resources Management and Biodiversity Conservation Project (Proyecto de Producción Responsable, PPR); Uruguay Rural Project (Proyecto Uruguay Rural, PUR), with IFAD funding; and the Livestock Project (Proyecto Ganadero, PG), which is financed by IADB. Each of these internationally-financed projects, however, has retained its own original operating rules and procedures.

In addition to these projects, DGDR is expected to operate also the Horticulture and Fruit Development and Diversification Fund, when the existing General Division for Horticulture and Fruit Production (DIGEGRA) becomes part of DGRD at the end of 2010.

a) World Bank-financed Natural Resources Management Project (PPR). The main objective of the PPR project is to improve natural resource management and biodiversity protection, focusing mainly on family producers and medium sized farmers. The project provides technical and financial assistance to demand-driven proposals aimed at promoting the adoption of improved management of natural pastures and sustainable agricultural production systems, and biodiversity conservation.

b) The Uruguay Rural Project’s beneficiaries are marginal family producers, landless rural families as well as family producers with commercial potential. The project provides funds for technical assistance, training, micro-credit, and strengthening of producers’ organizations. The Project operates a Credit Fund of about US$ 8.5 million and a Guarantee Fund of US$ 650,000. One of their main areas of activities is to promote the integration of family producers into agro-industries as suppliers of raw material, and thus improve the economic viability of their production systems.

c) The Livestock Project is oriented mainly to organized farmers with a maximum of 1,250 ha (CONEAT 100), although up to 10% of farmers participating in the group can be over that limit. The Project finances up to US $ 4,000 per farmer of investment proposals to improve livestock production systems on individual farms. However, the total project support that a group of organized family farmers can receive cannot exceed US $ 500,000, provided this represents less than 50% of total cost of the proposal.

d) The Horticulture and Fruit Development and Diversification Fund finances technical assistance and training (but not investment costs) of business plans presented by family producers. The Fund has also been used to finance debt
reduction and rescheduling of family horticulture producers, as indicated in the previous section.

According to Government sources (MGAP, 2009), some 30,000 farmers, mostly family producers, have received over US$ 62.0 million in technical and financial assistance during 2005-2007 (Table below). At first glance it would appear that almost all family producers are already being catered for, but detailed breakdown of these figures would be required to clarify several issues in order to obtain the real picture. For example, there is no indication of the number of farmers who have benefitted from more than one program; FRFG does not finance investment costs, therefore financial support to horticultural family producers to promote investment is not available; the number of beneficiaries of PPR is over estimated as it refers to the total number of proposed beneficiaries during the life of the project, but not to the actual number of family farmers who have benefitted from this project’s support to date.

Table 18  Transfer of Financial Resources through the Special Funds, 2005-2009

<table>
<thead>
<tr>
<th>Project/Program</th>
<th>Beneficiaries</th>
<th>Volume of Subsidy/Financing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Nr.)</td>
<td>(US$ 000)</td>
</tr>
<tr>
<td>PPR</td>
<td>3,481</td>
<td>24,659</td>
</tr>
<tr>
<td>Livestock Project (PG)</td>
<td>3,783</td>
<td>8,309</td>
</tr>
<tr>
<td>Uruguay Rural (PUR)</td>
<td>16,501</td>
<td>8,343</td>
</tr>
<tr>
<td>Horticulture Fund (FRFG)</td>
<td>6,602</td>
<td>21,372</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30,367</strong></td>
<td><strong>62,683</strong></td>
</tr>
</tbody>
</table>

Source: MGAP (2009)

**Suppliers’ credit**

Although no figures are available, anecdotal evidence would suggest that agricultural input suppliers as well as agro-industries and marketing enterprises of agricultural products, have become an important source of short-term credit for producers.

**Agricultural Insurance**

Uruguay has had an agricultural insurance system in place since 1914. However, the use of insurance to cover potential agricultural production losses has been traditionally important among large commercial producers, but reportedly not very common among small farmers.
As indicated in Table 19, production of annual crops, such as wheat, soybean, rice, corn, and sunflower, have a large part of their planted area covered by insurance. These annual crops are normally produced by large commercial farmers, and there seems to be a strong presence of the private insurance firms which cater for this type of clients. The risk sharing agreements shown in the table are in effect another type of insurance. These agreements operate in vertically integrated industries, such as rice and barley, whereby contracts between farmers and the mills already include an agreement to share the losses in case of hail, thus making the need for an additional insurance less obvious.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Area Insured (ha)</th>
<th>Total area planted (ha)</th>
<th>Area Insured/Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soya</td>
<td>415,047</td>
<td>447,500</td>
<td>93</td>
</tr>
<tr>
<td>Sunflower</td>
<td>28,591</td>
<td>37,500</td>
<td>76</td>
</tr>
<tr>
<td>Maize</td>
<td>35,063</td>
<td>85,000</td>
<td>51</td>
</tr>
<tr>
<td>Sorghum</td>
<td>19,116</td>
<td>58,500</td>
<td>33</td>
</tr>
<tr>
<td>Rice Insured</td>
<td>29,881</td>
<td>168,500</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total Summer Crops</strong></td>
<td><strong>527,698</strong></td>
<td><strong>797,000</strong></td>
<td><strong>66</strong></td>
</tr>
<tr>
<td>Rice under risk sharing agreement</td>
<td>146,507</td>
<td>168,500</td>
<td>85</td>
</tr>
<tr>
<td>Wheat</td>
<td>207,806</td>
<td>245,300</td>
<td>85</td>
</tr>
<tr>
<td>Barley Insured</td>
<td>63,497</td>
<td>138,200</td>
<td>46</td>
</tr>
<tr>
<td><strong>Total Winter Crops</strong></td>
<td><strong>271,303</strong></td>
<td><strong>383,500</strong></td>
<td><strong>71</strong></td>
</tr>
<tr>
<td>Barley under risk sharing agreement</td>
<td>106,689</td>
<td>138,200</td>
<td>77</td>
</tr>
</tbody>
</table>

Source: Methol (2008), p. 433

In order to encourage a wider use of agricultural insurance among agricultural and livestock producers, MGAP and the Insurance Bank (BSE) signed an agreement in 2003 to operate a scheme to subsidize insurance premiums, which was financed by the FRFG.

Box 4: Agricultural Insurances in the European Union

There are a number of different types of insurance schemes in place in the European Union (EU). Different countries have different arrangements and in general, there are several parallel systems in place in each country. Certain schemes are government subsidized, and other arrangements are fully private. Some countries only have very limited state supported schemes, though most have some type of arrangement. Common for all is however that they adhere to WTO regulations on allowed public support (according to the Green, Blue, and Amber boxes). There is currently no EU wide insurance, though there are thoughts of developing one.

There are different insurance arrangements for livestock and crop insurances. For livestock, there are different arrangements, depending on the type of emergency/losses that the insurance is intended for. In terms of epidemic diseases, the member states have an obligation to deal in specific ways with outbreaks of a number of diseases. This does not only concern the responsibility for controlling the spread and eradicating the diseases, but also for financial coverage for direct losses (i.e. to compensate for the loss of animals due to forced slaughter, etc). Indirect losses, such as for production stops, unused facilities, etc, are covered under different types of arrangements depending on the country and often through public-private arrangements.

For crops, there are mainly two types of insurances: single risk and combined risk insurances. In Europe, single risk insurances mainly covers losses due to hail and in some cases also fire. The combined risk insurances normally also cover frost and/or a few other meteorological events. In many countries in Europe, the only available crop insurance is the single risk insurance. A third type of crop insurance is the yield insurance (similar to what in the U.S. is referred to as multi-peril crop insurance), which compensates for crop yield shortfall (as opposed to a percentage damaged) due to certain weather impacts.

Index-based insurances are still rare and under development. (Only three countries apply these in Europe, of which one commenced in 2007.) Instead, traditional crop insurances and calamities funds are more commonly used to cover for weather related losses.

Finally, aquaculture insurances are available in a few countries.

Table 20 gives an overview over the coverage and subvention of crop insurance among the EU member states. It can be noted that in general, the level of public support has a direct impact on the development of agricultural insurances in the different countries. Examples are Belgium, Germany, the Netherlands and the UK where the level of public support is low and the insurances available are limited (mainly hail and single risks insurances).

<table>
<thead>
<tr>
<th>Country</th>
<th>Single Risk Insurance</th>
<th>Combined insurance</th>
<th>Yield Insurance</th>
<th>Penetration Level</th>
<th>Premium / insured value %</th>
<th>Insurance subsidies in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>PS</td>
<td>PS</td>
<td>PS</td>
<td>78%</td>
<td>2.6%</td>
<td>46%</td>
</tr>
<tr>
<td>Belgium</td>
<td>P</td>
<td>-</td>
<td>-</td>
<td>n.d.</td>
<td>n.d.</td>
<td>0</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>P</td>
<td>P</td>
<td>-</td>
<td>52%</td>
<td>4.8%</td>
<td>0</td>
</tr>
<tr>
<td>Cyprus</td>
<td>GC</td>
<td>GC</td>
<td>(100%)</td>
<td>7.2^</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>Czech Rep.</td>
<td>PS</td>
<td>PS</td>
<td>-</td>
<td>35%</td>
<td>1.8%</td>
<td>30%</td>
</tr>
<tr>
<td>Denmark</td>
<td>P</td>
<td>-</td>
<td>n.d.</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estonia</td>
<td>P</td>
<td>-</td>
<td>&lt;1%</td>
<td>n.d.</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td>P</td>
<td>P</td>
<td>&lt;1%</td>
<td>n.d.</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>P</td>
<td>P</td>
<td>PS</td>
<td>n.d.</td>
<td>1.7%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Germany</td>
<td>P</td>
<td>-</td>
<td>43%</td>
<td>1.2%</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Greece</td>
<td>P</td>
<td>GC+GS+G</td>
<td>(100%)</td>
<td>2.5-3%</td>
<td>n.d.</td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
<td>P</td>
<td>P</td>
<td>-</td>
<td>52%</td>
<td>n.d.</td>
<td>0</td>
</tr>
<tr>
<td>Ireland</td>
<td>P</td>
<td>-</td>
<td>n.d.</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>PS</td>
<td>PS</td>
<td>PS</td>
<td>8%</td>
<td>7.4%</td>
<td>67%</td>
</tr>
<tr>
<td>Latvia</td>
<td>PS</td>
<td>-</td>
<td>&lt;1%</td>
<td>n.d.</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>Lithuania</td>
<td>PS</td>
<td>-</td>
<td>-</td>
<td>1%</td>
<td>4.3%</td>
<td>50%</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>PS</td>
<td>PS</td>
<td>PS</td>
<td>45%</td>
<td>2.3%</td>
<td>50%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>P</td>
<td>-</td>
<td>n.d.</td>
<td>n.d.</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>P(#)</td>
<td>-</td>
<td>-</td>
<td>7%</td>
<td>n.d.</td>
<td>0</td>
</tr>
<tr>
<td>Portugal</td>
<td>PS</td>
<td>PS</td>
<td>-</td>
<td>22%</td>
<td>8.4%</td>
<td>68%</td>
</tr>
<tr>
<td>Romania</td>
<td>PS</td>
<td>PS</td>
<td>-</td>
<td>12%</td>
<td>n.d.</td>
<td>50%</td>
</tr>
<tr>
<td>Slovakia</td>
<td>PS</td>
<td>PS</td>
<td>-</td>
<td>n.d.</td>
<td>n.d.</td>
<td>50%</td>
</tr>
<tr>
<td>Slovenia</td>
<td>PS</td>
<td>P</td>
<td>-</td>
<td>17%</td>
<td>7.6%</td>
<td>45%</td>
</tr>
<tr>
<td>Spain</td>
<td>PS</td>
<td>PS</td>
<td>PS</td>
<td>26%</td>
<td>6.3%</td>
<td>41%</td>
</tr>
<tr>
<td>Sweden</td>
<td>P</td>
<td>P</td>
<td>-</td>
<td>60%</td>
<td>n.d.</td>
<td>0</td>
</tr>
<tr>
<td>UK</td>
<td>P</td>
<td>-</td>
<td>7%</td>
<td>0.8%</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Bielza, Maria, et. al, 2007

Abbreviations:
- n.d. = no data
- #: pilot experience
- S = subsidized
- P = private, non-subsidized
- PS = private, partially subsidized
The subsidy is aimed at small producers of fruits, vegetables, flowers, citric products, vineyards, blueberries, olives, poultry, pigs and honey. The subsidy covers 35% of the cost of the insurance premium for fruits and vegetables production, with an upper limit of 20 hectares. Over this area limit there is no subsidy. The insurance premium subsidies for greenhouses and poultry operations are detailed in the table below.

Table 21 Insurance Premium Subsidies for Greenhouses and Poultry Houses

<table>
<thead>
<tr>
<th></th>
<th>Greenhouses only</th>
<th>Greenhouses and their content</th>
<th>Poultry houses</th>
</tr>
</thead>
<tbody>
<tr>
<td>35% up to 30.000m2</td>
<td>50% up to 3.000 m2</td>
<td>45% equal or less than 3.000 m2</td>
<td></td>
</tr>
<tr>
<td>35% up to 30.000 m2</td>
<td>45% 3.001-7.000 m2</td>
<td>35% 3.001-9.000 m2</td>
<td></td>
</tr>
<tr>
<td>35% up to 30.000 m2</td>
<td>40% 7.001-30.000</td>
<td>0 over 9.000 m2</td>
<td></td>
</tr>
<tr>
<td>0 over 30.000m2</td>
<td>0 over 30.000m2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Methol and Quintans (2006)

Despite these incentives, however, the use of insurance remains low among small farmers. Vegetable production, for example, insured only 6.7% of the total area planted in 2005/2006, while fruit production showed a slight increase in the area insured from 12.2% to 15% between 2005/2006 and 2006/2007. In the case of tomatoes, about 25% of the area was insured, but largely because farmers participating in MGAP’s Tomato Industry Plan (see discussion below) were required to take out an insurance policy to benefit from the Plan’s incentives.

3.1.3 Strengthening family producers’ participation in the agro-industrial production systems (or value chains).

Several measures have been implemented to improve the competitiveness of the existing agro-industries and promote the participation of agricultural and livestock producers in these production chains. A central aim of this policy is to promote an increased participation of family producers as active actors in these chains of production.

Sugar cane production. In close coordination with BROU, Ministry of Industry, Energy and Mining (Ministerio de Industria, Energía y Minas, MIEM), National Development Corporation (Corporación Nacional para el Desarrollo, CND) and ANCAP (the State-owned Oil and Alcohol Company), MGAP implemented a program to reactivate sugar cane production in Bella Union and transfer the sugar mill to ALUR. The company, Alcoholes del Uruguay Sociedad Anónima (ALUR S.A.), is 90% owned by the state company ANCAP and the remaining 10% is in the hands of CND.

59 Methol and Quintans (2006).
60 The company, Alcoholes del Uruguay Sociedad Anónima (ALUR S.A.), is 90% owned by the state company ANCAP and the remaining 10% is in the hands of CND.
sugar mill from CALNU to ALUR included the transfer of the debts that the cooperatives and the associated producers had with BROU. Given the financial situation of both the cooperative and the producers, it was impossible at the time for them to have access to any commercial bank credit. Under these circumstances, MGAP channeled, through BROU, part of the funds of FRFG to producers as credit for the expansion and consolidation of existing area under cane. About US$ 2.1 million credit were channeled through this mechanism to some 286 producers. Sugar produced in this area, which would be sold in the domestic market, would benefit from a tariff protection of 35% charged on imported sugar. The target was to increase the area planted under cane to 6,000 hectares in 2006 (an increase of nearly 50% from the 2005 area). With the expected increase in the number of sugar cane producers to 450 sugar cane producers, the project is expected to reach a maximum of 10,000 hectares under cane in the next few years. Additionally, ANCAP, through ALUR, would study the viability of using sugar cane for ethanol production. However, given the absence of any significant comparative advantage of Uruguay in cane sugar production, the rationale and long-term sustainability of this program is not clear.

**Tomato Processing.** MGAP provided technical and financial assistance to promote import substitution and expand the participation of family producers in this agro-industry. The tomato processing project, which started in 2002, has benefited so far 260 farmers who are cultivating some 229 hectares. Producer price subsidies were used to encourage family producers to participate in this activity. There is no information on the financial viability of this operation, nor any indication of the time framework for the subsidy mechanism.

**Dairy Sector.** Within this sector, MGAP implemented a program specially targeted to dairy family producer to improve their dairy production, in general, and promote the expansion of cheese production among these farmers. There was also a national program to compensate dairy farmers for the losses incurred as a result of the drought that affected the country in 2008. As indicated above, this program was financed through the FFDSAL. Although the program was design to benefit the dairy sector in general, it benefited mainly family producers. This program included:

- direct subsidies for dairy producers delivering less than 1,500 liters of milk daily to dairy plants; these subsidies were reportedly to compensate for the financial losses incurred by family producers as a result of their production costs being higher than the producer prices paid by dairy plants;
- credit for those producers who were already clients of commercial banks;
- special loans, with subsidized interest rates, issued through the National Development Corporation, for family producers with no creditworthiness;
- temporary suspension of national insurance contributions; and
- a subsidy for the first 500 KW of energy consumption of any dairy producer, not just family producers.

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61 Errea and Sáder (2006)
62 Tambler and Quintans (2007), p. 246
As shown above, some of these initiatives to strengthen the participation of family producers in various agro-industries are a consolidation of on-going projects, such as tomato processing, which started in 2002; other initiatives are a combination of development proposals and measures to compensate for losses that resulted from severe climatic conditions, as is the case of the dairy proposals. In general, however, there seems to be little discussion on the financial viability of the investment proposal that were being supported, thus questioning the long-term sustainability of these schemes.

Apart from the financial support distributed to family producers to strengthen their participation in various agro-industries, MGAP implemented also some general policies to improve the competitiveness of agro-industrial products in the world market. In particular, the Government agreed with the European Union that, by March 2010, it will have implemented a national mandatory system of livestock registration. Consequently, under this registration system, it will be feasible to trace Uruguayan exports of animal products from the farm to the consumer, thus addressing food safety concerns of European consumers. Central to his effort was the National System of Livestock Information (Sistema Nacional de Información Ganadera, SNIG), which was developed by the World Bank-financed Foot and Mouth Emergency Project (Proyecto de Asistencia para la Erradicación de la Fiebre Aftosa, PAEFA) and the Additional Financing Project (Proyecto de Sanidad Animal, PROSA)\(^63\).

The two World Bank-financed animal health projects, PAEFA and PROSA, were central to the Government strategy not only for overcoming the crisis created by the Food and Mouth Disease (FMD) outbreak in 2001, but also for the subsequent consolidation of a sound animal health environment in the country. As a result of these actions, Uruguay regained the status of country “free of Foot and Mouth, with vaccination” in 2006. The combination of an adequate animal health status and an effective livestock registration and product traceability system have resulted also in the EU certification approval January 2009, with the consequent positive effects on market access for Uruguayan exports.

### 3.1.4 Improved Natural Resources Management

The fourth pillar of the government agricultural sector policies is the promotion of the use of sustainable natural resources management systems. The main mechanisms the Government is using to provide incentives to farmers for the adoption of improved natural resources management systems are the World Bank-financed PPR Project and a special program to reduce overgrazing, financed through AEF.

\(^63\) The animal identification and registration system started, in 2002, as a Pilot Project under the World Bank-financed Uruguay Foot and Mouth Emergency Project, (Proyecto de Asistencia a la Emergencia de la Fiebre Aftosa, PAEFA). It was subsequently expanded to the total national cattle herd under the Uruguay Foot and Mouth Emergency Project Additional Financing (PROSA), which started in 2006.
World Bank-financed Natural Resources Management Project (PPR). The main objective of the PPR project is to improve natural resource management and biodiversity protection, with special focus on family producers and medium sized farmers. The project provides technical and financial assistance to demand-driven proposals aimed at promoting the adoption of improved management of natural pastures, sustainable agricultural production systems, and biodiversity conservation. Subsidies received by farmers to implement the approved natural resources management proposals vary according to size, with a maximum amount per of US$ 10,000. The level of subsidy is 80% for family producers, 60% for medium-sized farmers and between 20% and 40% for large farmers.

Pasture management. A training program for family producers was implemented and direct subsidies were paid to encourage the adoption of improved pasture management systems and reduce overgrazing. The program was financed through the Agricultural Emergency Fund. There is a potential overlapping between the activities of this pasture program and the PPR promoted actions, and it is not clear how this is being addressed.

Territorial Management. In 2008, the Government approved a new framework for territorial management in Uruguay, which defines land categories use that will ensure sustainable development both in urban and rural areas.

3.1.5 Land Policy

According to Government, the small size of farms of family producers, imposes a serious limitation on any attempt by these farmers to improve their production systems and, therefore, their level of income. To address this problem, the MGAP entered into an agreement with the National Institute for Colonization (Instituo Nacional de Colonización, INC) in 2008 to improve family producers’ access to land.

Within the framework of this agreement, INC received two agricultural properties\(^{64}\), with a total area of about 4,450 hectares. The Government plan is to make this land available to family farmers and rural workers in the so-called “Cuchilla de Haedo” area\(^{65}\). The Government proposal is to promote a communal or collective use of the land by both farmers and laborers in that area\(^{66}\). To access this benefit, farmers and rural workers will have to organize themselves in some kind of producers and laborers’ organizations. The rules and regulations for the use of the land are still under discussion within MGAP. Nevertheless, it would seem that the Government intends to address the problem of limited access to land faced by family producers and landless farmers through the organization of some kind collective farms. Even the few elements at our disposable

\(^{64}\) One property was donated by a private livestock producers and the other was expropriated to a confessed and processed drug dealer

\(^{65}\) This is an area with high concentration of poor farmers located in the northern part of the country, west of the departments of Salto and Artigas.

\(^{66}\) MGAP (2009), p. 38
would point towards a doubtful long-term sustainability of this land policy, a subject that would merit a further analysis on the part of the Government in terms of both the magnitude of the problem and its eventual solutions.

3.2 Advisory Services and Agricultural Extension

One of the main pillars of successful and viable agriculture is knowledge. In order to optimize the use of productive resources, acquire and apply modern techniques and practices, and incorporate innovation, farmers need access to knowledge and information. This can be obtained through a vast number of instruments, that include extension, technical assistance, advisory services, training and communication, all of which can be accessed (demanded) and/or delivered (supplied) through diverse mechanisms.

The Technology Process:

Research --→ Generation --→ Validation --→ Transfer--→ Dissemination--→ Adoption

Worldwide, many different policies and systems exist regarding the role and participation of Governments in each step of this process, ranging from highly interventionist to fully delegated to the private sector. The level of involvement of the public sector is based on a combination of factors, including ideological, political, social, financial, institutional and technical, and the evidence suggests that there is no “ideal” formula that ensures optimum support to agricultural producers.

Historically, Uruguay’s policies have consistently, and effectively, supported a public system for agricultural research and technology generation (INIA). On the other hand, the different stages of the technology transfer process have been subject to varying levels of public support. Until 1973, several attempts were made to establish extension services linked to research stations of INIA (mainly Estanzuela) and of the Agricultural University. During the military regime, these services were dismantled, and replaced with a variety of public and private initiatives generally based on a supply-driven approach. In the ‘90s, a modality of technical assistance working with groups of farmers was promoted by several public and private initiatives, some of which generated successful results, including the private CREA groups and the GTZ-financed PRONADEGA.

According to the latest Census data (2000), a total of 16,105 farms (28% of total) were receiving some sort of technical assistance. Although representing 28% of the total number of farms in the country, these farms accounted for over 60% of the country’s area, suggesting that access to sources of technology was mainly limited to larger, commercial farmers. Consistent with this, public services reportedly only covered less than 20% of the total area, and the productive activities receiving the bulk of technical assistance were rice, dairy, and fruit production.
During the period 2005-2010, the last administration made efforts to improve access of family producers to advisory services. Until the newly created DGDR became functional in 2008, these efforts were made within the existing institutional framework, and extension services were predominantly delivered as part of the implementation of ongoing projects with funding from international organizations (PPR, PG, and UR). Despite this, the stronger focus imposed by MGAP authorities on supporting family farmers, and the importance given to the provision of support services by the original design of these projects, allowed not only to improve the coverage and quality of these services, but also to increase institutional awareness of the need to better define the role and instruments of the public sector regarding extension and technology transfer to smaller farmers. This perception was further enhanced when DGDR was structured and became the coordinating agency for all three projects, together with the Ministry’s program in support to horticultural producers (DIGEGRA). This important decision resulted in improved coordination among projects and the implementation of pilot experiences. At the same time, it exposed the inherent deficiencies of the existing situation, including the lack of operational coordination and uniform methodologies among projects, the absence of an institutional framework within MGAP, and the dependency of public services to the lifespan of externally funded projects.

3.3 Agricultural Sector Taxation and Social Security Contributions

3.3.1 The Tax Reform

The objectives of the general tax reform in Uruguay, which came into effect in July 2007, were to create a more efficient and equitable tax structure, and to promote productive investment. The reform introduced a dual personal income tax, which taxes labor income at progressive rates and capital income at lower, proportional rates, and was designed to be broadly revenue neutral. The aim was is to create a more efficient tax structure, while promoting greater horizontal and vertical equity, and stimulating productive investment and employment.

Further modifications were a reduction of VAT and corporate tax rates, streamlining or elimination of minor taxes, and broadening of the VAT base, which resulted in a decline in the revenue share of indirect taxes. In addition, the government made substantial efforts to strengthen tax administration. A summary of the main components of the tax reform are presented in Box 5.

The pre-reform tax system was considered to be inequitable due to the importance of consumption taxes and the partial taxation of income. The pre-reform tax system did not meet the basic criteria for horizontal equity. Direct taxes on individual income were

67 World Bank (2008), p. 2
derived almost exclusively from labor income from employees and pensions, while personal income from capital sources, such as financial assets and property, was tax exempt, irrespective of whether it was generated domestically or abroad.

Box 5. Uruguay: Main Components of the Tax Reform

The main components of the tax reform are as follows:

**Introduction of a personal income tax.** (Impuesto a las Rentas de Personas Físicas, IRPF), on all domestic sources of income. This tax replaced the personal receipts tax or the wage tax (Impuesto a las Retribuciones Personales, IRP). The tax has a progressive tax schedule with six income tax brackets and rates ranging from 0 to 25%. Deductions are permitted for social security contributions, fixed health allowances for pensioners and fixed deductions for children. Capital income is taxed at 12%, a lower rate than for labor income. Nonresidents' income generated in Uruguay is taxed at 12%. Interest income from public debt is to remain tax exempt.

**Rationalization of the corporate income tax** with the introduction of a tax on income from corporate activities (Impuesto a las Rentas Empresariales, IRAE), replacing four business taxes (Impuesto a las Rentas de Industria y Comercio, IRIC; Impuesto a las Rentas Agropecuarias, IRA; Impuesto a las Comisiones, ICOM; and Impuesto a las Pequeñas Empresas, IMPEQUE). These were consolidated into a single 25% corporate income tax, a reduction from the former rate of 30%. There is a surtax of 7% on dividend income.

**Reduction of the rate of the value-added tax (VAT).** The basic VAT rate was reduced from 23% to 22% and the reduced rate falls from 14% to 10%. The VAT base is broadened and various exemptions eliminated. The base expands by incorporating the formerly exempt tobacco products, and financial services at the 22% rate, and fruits and vegetables, health services, public transportation, and the first sale of real estate properties at the 10% rate. VAT tax exemptions remain in place for certain agricultural products such as milk.

**Unification of the employer’s social security contribution rate and elimination of sectoral exemptions.** The contribution rates paid are unified into a single 7.5% general rate. The exemptions for employers’ contributions in the rural, industrial, and transportation sectors are eliminated; in the case of the rural sector through the adoption of a special regime.

**Elimination of several taxes** (equal to an estimated revenue reduction of about 5% of GDP), including the taxes on corporate income and wages; the consumption tax on industrial goods used to finance social security contributions (Impuesto de Contribución al Financiamiento de la Seguridad Social, COFIS), and the taxes on banking assets, health services.


The pre-reform system was neutral from the point of view of inequality. This neutrality arose from the combination of regressive consumption taxes and progressive personal income taxes. With the elimination of the personal receipts tax or wage tax (Impuesto a las Retribuciones Personales, IRP) and the implementation of the dual personal income tax (Impuesto a la Renta de la Personas Físicas, IRPF), as well as the reduction of the VAT rate and the elimination of the social security financing contribution tax (Contribución al Financiamiento de la Seguridad Social, COFIS), the reform alters the relative neutrality of the pre-reform tax system. The global tax burden of the households below the 16th percentile falls, while it becomes markedly higher in the last three five-percent bands of the distribution. Moreover, an analysis of the total impact of the reform shows it to be progressive. Taking into account changes to VAT, COFIS and the
introduction of the IRPF, along every measure considered the tax reform has a small, but positive impact on equality. The Gini coefficient of after tax income is estimated to fall due to the reform: The Gini coefficient of before tax income is calculated as 0.454 and the Gini coefficient of after tax income following the reform is calculated as 0.442.\(^{68}\)

### 3.3.2 The Tax Reform’s Impact on the Agricultural Sector

From the agricultural sector viewpoint, the tax reform had several key impacts. First, it became mandatory for all large enterprises or corporations operating in the sector to pay tax on income from corporate activities (Impuesto a las Rentas Empresariales, IRAE), for which they now have to keep proper accounting procedures on their commercial operations. Secondly, it introduced fiscal incentives to promote investment and innovation, including the use of inputs linked to technological innovations in the sector. Thirdly, it retained the possibility for small enterprises and producers to continue paying income tax using the simplified system of IMEBA, which basically uses gross sales as a base to estimate income; thus, it applies a tax on the first transfer of agricultural products (Impuesto a la Enajenación de Bienes Agropecuarios, IMEBA). Finally, there was a reduction on the fiscal pressure of the agricultural sector thanks largely to the reduction in taxation rates of IMEBA.

Subsequent adjustments to the tax reform resulted in: (i) measures to compensate producers for the introduction of VAT on diesel (gas oil); (ii) expansion of the incentives to encourage the use of agricultural inputs linked to technological improvements; (iii) reduction of the contributions of family producers; and (iv) the elimination of the exemption on capital tax that benefited some corporations.

There was a gradual introduction of the new income tax system in the agricultural sector. During the first year, it was mandatory to pay the new IRAE only for shareholding companies operating in the agricultural sector as well as enterprises or producers with more than 1,500 hectares under agricultural and livestock production, or a turnover of US$ 136,000 in 2007/2008. The rest of the enterprises and producers could use IMEBA to pay their income tax. From the second year (2009/2010) onwards, all shareholding companies and any enterprise with more than 1,250 hectares, or a turnover of more that 2.0 million Indexed Units (equivalent to US$ 136,000) \(^{69}\) has to pay the IRAE at a 25% tax rate on their net income. However, if the enterprise distributes any profits, these are subject to a further 7% IRPF tax\(^{70}\). Enterprises and producers below these limits can pay their income tax through the simplified system of IMEBA.

Preliminary estimates by OPYPA would indicate that during 2007/2008, about 2,300 enterprises and producers paid IRAE and just over 17,000 opted for the simplified IMEBA income tax. Consequently, given that there are roughly some 52,000 producers in

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\(^{68}\) World Bank (2008), p. x

\(^{69}\) At the time, this was the level of gross income expected from a livestock farm of about 1,500 hectares; a dairy farm of about 450 hectares; a farm of 340 hectares under annual crops; a rice farm of 125 hectares; or a fruit farm of 27 hectares.

\(^{70}\) Tambler (2007), p. 2
the country, the above figures would suggest that some 33,000 producers did not pay any income tax. Most of these producers are likely to have been family producers who operate largely in the informal market. The fiscal pressure on the agricultural sector after the tax reform is lower (6.5%) that in the pre-reform years (about 7.5%)\(^\text{71}\)

VAT is paid only in formal markets, therefore, food fairs and street markets, do not have to pay VAT. Sales to intermediaries and imports of fruits and vegetables pay 22% VAT; this tax is reduced to 10% when the sale is to final consumers. Sales of cattle, sheep, poultry and pigs pay 10% VAT. Input sales are subject to VAT, but tax payers who opt for the IRAE income tax can deduct VAT payments from their income. The agricultural sector has been exempted also from paying the Specific Internal Tax (Impuesto Específico Interno, IMESI) on gasoil\(^\text{72}\).

Given the progressive character of the tax reform that was implemented in 2008, and the positive impact it has had on agricultural and livestock producers in general, and on family producers in particular, it would seem that there are no compelling reasons to promote yet another tax reform aimed specifically at family producers, as some sectors within MGAP seem to be proposing.

### 3.3.3 Social Security Contributions in the Agricultural Sector

The tax reform introduced a uniform rate for employers’ social security contributions at 7.5%\(^\text{73}\). However, for the agricultural sector, employers’ contribution to social security continues to be paid on basis of the number of hectares CONEAT 100 that they manage, as has been the case since 1986. The rate per hectare was increased by the reform. To determine the social security contribution, the number of CONEAT 100 hectares owned by the farmer or employer is multiplied by a factor calculated each year, which currently is about US$ 1/ha/ year.

There is, however, a minimum contribution to be paid. This would be the contribution paid by a farm of 356 ha CONEAT or less, which is estimated at US$ 356. Family producers pay only 50% of this minimum, which represented a subsidy of about US$ 1.8 million in 2009\(^\text{74}\). Workers, on their part, must contribute 15% of their salary to their pension fund, between 4.5% and 6% for their health insurance (6% if their sons are under 18 years) and 0.125 % for the Labor Reconversion Fund. With the exception of the latter, all payments go to the Social Security Bank (BPS).

\(^{71}\) Tambler (2009)
\(^{72}\) The IMESI is an excise tax levied on the first sale of goods including alcoholic beverages, soft drinks, cosmetics, tobacco products, and motor vehicles and fuels
\(^{73}\) Before the reform, the agricultural and industrial sectors were exempted, and the rest of the sectors paid 12.5%.
\(^{74}\) MGAP/DGDR (2009), p.5
Just like with insurances, there is not an EU wide approach to taxes across Europe. With the exception of applying Value Added Tax (VAT), each country has its own tax system. The most commonly used taxes applied on the European agricultural sector are:

- Income tax
- Input taxes
- Property tax
- Inheritance/gift tax
- Stamp taxes on transaction documents

In most countries, income taxes are based on accounting, though there might be different requirements for accounting depending on the turnover/size of the farm. In many EU countries income taxes are based on standards or on average incomes over a fixed number of years, rather than normal income assessments. This is to facilitate tax estimates and reporting for the farmer, as well as to even out the tax burden despite income volatilities between years. Often, income assessments of farmers are also facilitated.

Whereas most countries give some relief to farmers, some align the taxation of farmers with general taxation of the business while others have specific taxation for the agricultural sector. VAT is the only tax that is regulated by the European Commission and cannot be used as a mean to favor competition. In many countries, like Czech Republic, Hungary, and others, concessions are given for fuel for agricultural machineries (normally for on-farm tractor use). Income taxes/taxes on profits often are collected at a national level, property while land taxes are often set local level. Only in a few cases (Switzerland in particular) are taxes differentiated according to size/turnover of farm, though the amount of tax paid by a farmer obviously depends on the income/turnover of the farm.

An overview made by the OECD concludes that tax concessions are quite widespread among OECD countries, but that governments have done a poor job in evaluating their impacts (OECD, 2006). It can also be noted that concession are not necessarily in line with sound environmental policies but are at times encouraging unsustainable use of natural resources.

The following table gives an overview of preferential treatments in the agricultural sector in different countries:

### Table 22: Preferential Treatment for European Farmers

<table>
<thead>
<tr>
<th></th>
<th>Income (personal)</th>
<th>Profits (comp.)</th>
<th>Social security contributions</th>
<th>Property</th>
<th>Goods and Services</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Syst, Rates, etc, other</td>
<td>Capital gains</td>
<td>Inheritance</td>
<td>Annual taxes on assets</td>
<td>Inputs, VAT, etc</td>
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<td>Austria</td>
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<td>x</td>
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<td>Belgium</td>
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<td>Czech Rep.</td>
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<td>Denmark</td>
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<td>Finland</td>
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<td>France</td>
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<td>Ireland</td>
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<td>Netherlands</td>
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<td>Poland</td>
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<td>Slovakia</td>
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<td>Spain</td>
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<td>Switzerland</td>
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<td>UK</td>
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Source: OECD, 2006
IV. Towards a Family Agriculture Development Program

Given the country’s natural resources base, the sustainable development of the entire agricultural and rural sector is a key component of Uruguay’s overall economic growth. A successful agricultural development process is essential from both an economic development viewpoint and income distribution perspective and it must address particularly those segments of the sector that pose more pronounced (socio-)economic and/or environmental challenges to overall sector development. To that end, the Government aims to unleash the so far untapped development potentials of family farm production systems, thus fostering the sector’s overall growth possibilities and contributing to a more inclusive economic development. The Government, however, does not intend to do this by favoring family production over commercial production systems, but by establishing a balanced support approach addressing the particular vulnerabilities of all critical elements of the agricultural sector. Support to family farm development would thus not constitute a self-standing, exclusive strategy, but become an integral element of an integrated, inclusive agricultural or even rural development strategy.

With regard to Uruguay’s family farming sector, the characteristics discussed in the sections above suggest that economic size constraints, lower technology adaptation rates, limited access to credit as well as lack of extensive technical assistance and market facilitation services, keep the livestock and agricultural family farming sub-sector vulnerable to both external and domestic shocks. Consequently, programs to increase productivity, promote production diversification with a sustainable use of natural resources, and facilitate market access are crucial to strengthen sector growth and reduce income disparities within the rural sector.

Well-targeted Government transfers and services to address specific vulnerabilities of family producers, whose production systems rationale is not necessarily dominated by profit maximization, but includes also providing livelihood, employment and residence to their families (commonly referred to as household-enterprise complex), can have significant economic returns if they are well targeted and efficiently implemented.

Under these circumstances, in general terms, the Government’s approach of supporting family farmers through a combination of financial transfers for investment purposes, short-term mitigation of potential income losses resulting from both domestic and external shocks, and service provision, would be considered a modern and low-distortion sector support approach by international standards. Nevertheless, with a view to its future improvement, such strategy, and its operational aspects, faces several challenges, which the Administration will have to address, if market distortions are to be avoided and the support programs are to ensure the sustainability of future family agriculture development.
As will be discussed below, these challenges relate particularly to the pronounced need for a coherent National Rural Development Plan providing for

- an analytically well-founded definition of rural development priorities and subsequent selection of support measures;
- a results-oriented definition of targeting mechanisms and eligibility criteria in combination with improved monitoring and evaluation systems; and
- the setting-up of an effective and efficient framework and financing mechanism for the implementation of the Rural Development Plan.

4.1 The Need for a National Rural Development Plan

Despite its past development of a relatively coherent set of policy objectives, Uruguay has not yet established a guiding reference framework for the programming and implementation of interventions in the agricultural and rural development domain. The absence of such reference framework—which ideally would integrate a situational analysis of the rural sector, the responding Government’s main rural policy priorities, and the sets of applicable support instruments—would not only serve to provide a framework for the management of rural interventions by MGAP and its subordinated agencies, but also serve as platform to guide and coordinate Government-wide interventions with regard to the rural domain (to include infrastructural, social, environmental, and other policy domains).

If the current practice of implementing agricultural family programs and measures without a coherent rural development plan or framework in Uruguay were to persist, the possibility to enhance effectiveness and efficiency in the provision of public goods and services to rural areas and the agricultural sector would be remote. It would result in an inefficient use of scarce financial resources by Government, as the possibility of complementing sector support actions as well as ensuring their coherence with the objective of balanced overall agricultural and rural development would be lost.

Additionally, without an appropriate Rural Development Plan, family agriculture sector support activities would continue to be financed largely through independent internationally financed projects, each with its own strategy and target population and overlapping objectives, which would not only prevent Government from implementing an integrated approach towards family agriculture development, but would result also in a inefficient and ineffective use of international financial resources. Furthermore Government budgetary resources earmarked to support family agriculture would continue to be allocated more on an ad-hoc basis rather than within a structured program to promote a more inclusive agricultural sector development, leading to a less than optimum impact on the family sector.

In the absence of an Integrated Rural Development Plan and the implementation of a more strategic approach towards family agriculture development, Government would not
implement the support actions proposed in this report to strengthen the provision of technical assistance and financial transfers for investment to modernize family agriculture production and implement an intergenerational asset transfer. Consequently, family producers would not be able to develop and adopt economically viable production systems, which would result in transitional family producers becoming either subsistence producers or abandoning the agricultural sector altogether. This would reinforce the declining trend in the number of family producers that the country has witnessed in the past and increase rural poverty, with all its social and political consequences. Under those circumstances, family producers would be also in a much weaker position to face climatic challenges and adopt measures to protect the rural environment and biodiversity.

Furthermore, the inability of these family producers to transform their family farms into economically and environmentally viable and sustainable commercial enterprises would prevent them from achieving a full integration into an open market economy and making a positive contribution to the country’s economic growth according to their full potential. The latter scenario would be a constraint to the Government objective of promoting a more equitable economic and spatial development in Uruguay.

Summing up, in the absence of a fully defined rural development plan, there is a significant risk that the Government will adopt a series of ad-hoc measures, influenced more by contingency factors than by the guiding principles of a structured program to promote a more inclusive agricultural sector development. A systematic approach to the preparation of an ARDP would most likely result in agricultural policies, programs, and projects with enhanced design, execution and evaluation, and in the end, a more efficient use of resources.

The preparation of such framework, commonly referred to as Agricultural (and/or) Rural Development Plans (ARDP), is recommended to MGAP. It would allow MGAP, actually the Government, to pursue a more strategic approach to agricultural development, innovation and diversification in rural areas, and improved governance in the delivery of its programs. Like other countries in which such ARDPs have meanwhile become a central element of the agricultural and rural development policy implementation efforts, it

75 For MGAP, as the oversight authority for agricultural and rural development in Uruguay, a ARDP would be expected to provide a systematic and coherent framework to responding to the key question of sustainable agricultural/rural development: How can sustainable development of rural areas / the agricultural sector be achieved, what are the main factors stimulating and sustaining it, and what is the appropriate role for policy, in seeking to promote and enhance these processes? It is understood that, in approaching responses to this central question, MGAP’s current approach is to promote five main determinants for sustainable agricultural/rural development that, together, are considered to provide the building blocks for a living countryside in which natural, socio-cultural and economic activities operate in a balanced and sustainable way: the i) physical (manufactured), ii) financial, iii) human, iv) social, as well as v) natural and cultural capital of Uruguay’s agricultural/rural sector.

76 In most European economies, such plans have become effective standard elements of policy formulation and implementation. They guide rural interventions in most OECD countries and in the 27 Member States of the European Union they constitute the mandatory programming document for Governments’ access to funding by the European Agricultural Fund for Rural Development (EAFRD). Preparation of National Rural Development Plans is further a prerequisite for access to the rural development funds under the EU Instrument for Pre-Accession (IPARD).
is more than likely that such reference framework would benefit Uruguay by means of i) greater effectiveness, efficiency, and consistency in rural policy formulation and implementation; ii) improved targeting and complementarities of support instruments in the presence of multi-faceted and diverse rural development challenges; iii) greater coherence in multi-annual (fiscal) resource planning; and iv) provision of information to rural stakeholders with a longer-term vision on applicable support schemes to benefit their business planning security.

It has emerged as a guiding principle that well prepared ARDPs should provide a coherent framework to:

- identifying the areas where the use of Government support for agricultural and rural development adds the most value;
- ensuring consistency with other Governmental policies, in particular those for economic development and the environment;
- defining and assisting the implementation of Government support to agricultural and rural development.

Based on the above principles, Annex 2 to the present report provides illustrative guidelines to the preparation of an ARDP as recommended to MGAP. Based on the programming experiences, particularly of European economies, these guidelines propose the following four elements for inclusion into Uruguay’s ARDP:

I. Analysis of the Current Situation: This element would provide the analytical basis underlying the later definition of agricultural and rural development support instruments. It would serve to define the main characteristics of the rural sector and present a detailed analytical assessment of the current situation in the sector, highlighting its strengths and weaknesses, disparities, needs and gaps, and potential(s) for rural development. Main topics to be analyzed under this section comprise:

   i. The general socio-economic context of the rural sector: Overview and analysis of rural areas, the rural population, as well as basic infrastructure and services.

   ii. Performance of the agricultural, livestock and forestry sectors: Overview and analysis of the structure and production in the rural sector, the competitiveness and profitability of the main production systems and agro-food industries, natural resource management and environmental issues, as well as the non-agricultural rural economy, ongoing income diversification and rural service provision.

   iii. The strategy chosen meets strengths and weaknesses: Description of the choice of strategy and the relative importance of rural development measures selected to address the situation in the rural sector, and the financial weight to be given to the different development priorities and measures justified by the analysis of strengths and weaknesses. The analysis in this section would ideally cover a) challenges and needs, b) overall strategy, and c) sector development priorities.
iv. The ex-ante evaluation: Analysis aimed at optimizing the allocation of budgetary resources and enhancing programming quality. It shall identify and appraise medium- and long-term needs; the goals to be achieved; the results expected; the quantified targets, particularly in terms of impact in relation to the baseline situation; the lessons drawn from previous programming; and the quality of proposed procedures for implementation, monitoring, evaluation and financial management. It should include also the environmental assessment of the proposed actions and programs.

v. Impact of previous programs and other information: Description of the impact of programs and projects aimed at promoting rural development that were implemented during the previous programming period, indicating the financial resources allocated to each of them. In the case of Uruguay, these programs would include also the Natural Resources Management and Biodiversity Conservation Project (Proyecto de Producción Responsable, PPR); the Uruguay Rural Project (Proyecto Uruguay Rural, PUR); and the Livestock Project (Proyecto Ganadero, PG).

II. Rural Development Priorities and Expected Impact: This element would contain the following elements:

i. Justification of Rural Development Priorities: Description of how the above development priorities and their corresponding measures included in the ARDP reflect the sector and national development strategies and how the choice of priorities and financial weight given to them respond to the specific rural sector issues.

ii. Expected Impacts with regard to the priorities chosen: Summary of the ex-ante evaluation and discussion of how MGAP took into account the results of this evaluation. Ideally, this section would also comment on the expected impacts of synergies between development priorities and measures, and how integrated actions across them can contribute to positive externalities and win-win situations.

III. Support Measures Proposed under each Development Priority: This element would contain a description of the support measures under each development priority, as well as the definition of specific verifiable objectives and indicators for each of them to allow the implementation progress, efficiency and effectiveness to be measured. In general terms, for each of the Development Pillars and measures discussed, the text should clearly identify the rationale for the intervention, the objectives, the scope and actions, indicators, quantified targets and, where appropriate, beneficiaries. Additionally, evidence should be provided to indicate clearly that investment support measures are targeted to well defined objectives and beneficiaries, reflecting identified rural sector needs and structural disadvantages.

IV. Financing Plan: This section would provide a detailed breakdown of the financial resources that will be allocated to the different Development Pillars and their
respective measures, as well as the beneficiaries contributions were applicable. The likelihood of actually financing all the proposed measures will depend on the sources of financing available to Government at the time of implementation of the Rural Development Plan. However, in principle, the sources of these financial resources can be expected to be the annual budget of MGAP; internationally financed development projects; a specially created Rural Development Fund, like the one MGAP is proposing; and beneficiaries’ contribution.
Box 7: ARDP Example – Romania

General Objective: The implementation of the Acquis communitaire concerning the common agricultural policy and related policies.

NPARD

Priority 1:
- Improving market access competitiveness of agricultural processed products.
  - Operational objectives:
    - Support for investments improving the processing and marketing of agricultural products, by sectors and by specific objectives;
    - Stimulating investments aiming at the protection and enhancement of the environment as well as livestock hygiene and animal welfare.

Priority 2:
- Improving infrastructures for rural development and agriculture.
  - Operational objectives:
    - Development and improvement of rural infrastructure;
    - Building and modernization of local "comuna" roads and bridges;
    - Building and modernization of the drinking water supply systems;
    - Better management of the sewage water systems through investments related to water treatment stations.

Priority 3:
- Development of rural economy.
  - Operational objectives:
    - Investments in agro-holdings;
      - Operational objectives:
        - Promotion of investments in animal and plant sectors at farm level, in order to improve the farms' facilities and to enable them to better compete with new technology and machinery;
        - Better management of the sewage water systems through investments related to water treatment stations.

Priority axe 4:
- Development of human resources.
  - Operational objectives:
    - Improving the vocational training;
      - Operational objectives:
        - Support for the training for:
          - Rehabilitation and modernization of existing irrigation systems;
      - Operational objectives:
        - To support the investments in forest holdings owned by private and public forest owners;
        - To improve the processing and marketing of forest products;
        - To support the costs of planting and maintenance of agricultural areas.

Measure 2.1: Development and improvement of rural infrastructure
- Operational objectives:
  - Rehabilitation and modernization of existing irrigation systems;
  - Rehabilitation and modernization of existing drainage systems.

Measure 3.1: Investments in agro-holdings
- Operational objectives:
  - Promotion of investments in animal and plant sectors at farm level, in order to improve the farms' facilities and to enable them to better compete with new technology and machinery.

Measure 3.2: Setting-up producer groups
- Operational objectives:
  - Support to encourage the setting-up and to facilitate the administrative operations of producer groups;
  - To stimulate especially the young farmers (under 40 years old) to be involved in setting-up producer groups.

Measure 3.3: Agro-environmental measures
- Operational objective:
  - To put into practice pilot projects aiming at conversion to organic agriculture, the protection of areas with special bio-diversity, natural interest and maintain/improve the rural landscape and natural environment.

Measure 3.4: Development and diversification of economic activities, multiple activities, added value, income
- Operational objectives:
  - To sustain the agricultural activities in the rural area through the accomplishment of specific services;
  - To sustain the activities which are specific to the rural tourism;
  - To preserve and develop traditional handicraft activities;
  - To develop agro-culture, bee-keeping, horticulture and mushroom cultivation.

Measure 3.5: Forestry
- Operational objectives:
  - Financial support to owners of forests and degraded lands from public sector, for private companies dealing with harvesting, transport and primary processing of wood, harvesting and processing of non-wood products of forests from non-forest areas;
  - To support the investments in forest holdings owned by private and public forest owners;
  - To improve the processing and marketing of forestry products;
  - To support the costs of planting and maintenance of agricultural areas.
4.2 Integration of Family Farm Support Measures in an ARDP

Sustainable family farm development is a declared rural policy priority for Uruguay. But in light of the broader agricultural and rural development challenges facing the country, it is appropriate that it is not pursued as a self-standing, exclusive strategy, but become an integral element of an integrated, inclusive agricultural or even rural development strategy. This would serve to integrate the Government’s response to

- the agricultural and rural development challenges facing the entire rural sector, as well as
- the specific economic size constraints, lower technology adaptation rates, limited access to credit as well as lack of extensive technical assistance and market facilitation services challenging the livestock and agricultural family farming sub-sector

under a single ARDP thereby addressing, in an integrated manner, both, purely sectoral and territorial development challenges.

With a view to integrating sector-wide with the family farm-specific priorities in an ARDP it is suggested\(^{77}\) to structure Uruguay’s ARDP along the following development priorities/pillars:

- **Pillar I:** Enhancing agri-food productivity and marketability;
- **Pillar II:** Reinforcing agri-environmental adaptation;
- **Pillar III:** Facilitating income diversification in rural areas;

The present study represents an integral contribution to MGAP’s efforts to translate its short- and medium-term strategic priority of integrated and inclusive agricultural development into a ‘program’. The mandate of the present study, however, is limited to the assessment of vulnerabilities and policy responses in the *family farm* sub-sector. While inseparable from the broader rural development context for reasons outlined above, the following description of potential ARDP pillars will therefore remain limited to discussing aspects specific to family development and therefore only contain illustrative key actions pertaining to addressing the above vulnerabilities of the family farm sub-sector.

\(^{77}\) In approaching a potential recommendation for an applicable definition of potential development priorities (‘pillars’) and applicable support measures for Uruguay’s future ARDP, the study team conducted (i) consultations with MGAP and other government agencies as well as a broad set of rural stakeholders (including professional associations, interest representations, regional representatives, and project beneficiaries), and (ii) initial analyses (see previous sections) and a survey among 85 family farms in Uruguay (see Lapetina and Berhau, 2010).
4.2.1 ARDP Pillar I: Enhancing Agri-Food Productivity and Marketability

Possible actions and measures under this category aim at supporting agricultural producers and processors to cope with and adjust to changes in their production and marketing and thus in their competitive environment. These changes create both obstacles and opportunities for family farmers, processors and marketing agents. In order to access increasingly advanced markets, it is also vital for family farmers and processors of their outputs to keep themselves up to date with technological advances and to adapt to new consumer demands. If not, they are likely to lose shares in (or even be excluded from) domestic and export markets and thus suffer a considerable reduction in their income generation capacity. Though these new technologies have led to unprecedented productivity increases and thus created new opportunities for farmers, their adoption and adaptation can be difficult, especially for smaller-scale farmers. The Government should play an important role in facilitating this.

4.2.1.1 Measures Supporting Upgrades of Veterinary and Food Safety Standards

Recent successful upgrades in veterinary and food safety systems have, among others, led to the full control of the initially targeted FMD and earned Uruguay the import certification for the voluminous European food market in 2009. The assessments conducted for the present study suggest, however, that further upgrades would constitute a critical element of an ARDP. This is particularly relevant in light of the pronounced livestock (and export) focus and dependency of Uruguay’s family agriculture sub-sector. These would serve to ensure both, domestic agri-food sector from economic losses due to infectious animal diseases and/or expiry of import certifications in key export markets, and the protection of the domestic population from public health threats stemming from zoonotic diseases (such as e.g., brucellosis) and food safety risks. With a view to ensuring upgrades in veterinary and food safety standards, the measures to be included under Pillar I of Uruguay’s ARDP should thus ensure support to:

- Expanding the coverage of current food safety support and enforcement systems to downstream stages of the agri-food value chain (from a currently more farm-based focus);
- Broadening the disease focus beyond FMD to also address risks posed by other zoonoses (most prominently brucellosis);
- Strengthening the regional (i.e. MERCOSUR) coordination on issues related to food safety and trans-boundary zoonoses.
Box 8: The EU “FARM TO FORK” Approach to Food Safety Standards

The concern of the European Union (EU) is to make sure that the food consumed has the same high standards for all citizens; whether the food is home-grown or comes from another country inside or outside the EU. In order to guarantee the safety of food, `the Farm to Fork` approach has been developed for applying regulations at every point in the food chain.

Work to improve food safety will be done all the time, for not only making sure that EU food safety laws are up-to-date but also informing consumers about the possible risks and the efforts to minimise them. This approach does not mean zero risks at all, but the EU does its utmost, through a comprehensive food strategy, to keep risks at minimum levels.

If food is to be safe, the animals it comes from must be healthy; therefore food safety starts on the farm. In order to ensure the food safety from livestock, in 2002, the European Agency for Reconstruction launched a national animal identification program, which is funded at 3.5 million Euros, consisting of three phases. The aim is to establish a bovine database in line with EC regulation – to improve animal health surveillance, and support disease, drug and residue-monitoring programs.

In the first phase, necessary equipment was provided for the central database for identification of cattle in the field. In the second phase, the identification and registration system for cattle was consolidated and an I&R system for small ruminants (sheep and goats) was established. The third phase assisted the Veterinary Directorates in completing the establishment of an integrated animal identification and registration of small ruminants.

The animal identification and registration system has sound benefits in terms of food safety. Animal identification leads to traceability of livestock, which makes it possible for animal products to be traced all the way back to the place of production. This not only improves disease prevention, but also protects consumers.

On the other hand, animal identification and registration serves as a central database to provide information about animal breeding, vaccination, epidemiology and veterinary procedures about dealing with a treatment. In addition the system is crucial for subsidy payments, which guarantees all livestock to be identified in the farm by the farmer, to receive subsidy payments from the EU funds. Therefore, the system serves as a crucial database and management information system for the paying agency to pay the farmers.

For more information:
http://www.delmkd.ec.europa.eu/en/bilateral-relations/eu-assistance/stories%20from%20the%20field/09%20story%20Animal%20Registration.htm
A critical determinant of further productivity enhancement and product standards compliance, and thus of the reduction of income disparities in the agricultural sector, is the provision of information and knowledge about, and incentives for the adaptation and application of modern production and processing technologies. MGAP is currently analyzing underlying sector development needs and vulnerabilities, and assessing adequate response strategies, the translation of which into a policy program for effective and efficient sector support constitutes a key short- to medium term action. Though analysis and assessment are ongoing, it is recommended that key elements of such support schemes aim at:

**Investments into the Modernization of On-Farm Production** which would increase productivity and market access for the family farm sector in Uruguay by enhancing a more efficient use of production factors (most prominently land and capital). The above analysis suggests that such measure would most importantly support the introduction of new technologies and innovation targeting production techniques and product quality, on/off-farm diversification, as well as improving environmental, hygiene, and animal welfare status of family farms.

Experiences collected with MGAP’s PPR, but also with the implementation of comparable support measures in Central European economies, suggest that investment support (taking the form of partial investment grants) are most effective if targeted to (a) the construction, acquisition, or improvement of immovable property, and to (b) the purchase or lease-purchase of new machinery and equipment, including computer software. To promote the access of potential family farm beneficiaries to such support measures via adequately prepared support applications, it is advisable that the (c) general costs linked to expenditure referred to in points (a) and (b), such as architects, engineers and consultation fees, feasibility studies, the acquisition of patent rights and licenses, be declared expenditure eligible for reimbursement under the support measure.

Supported investments should evidently comprise technology adaptation and/or standards implementation elements. Simple replacement investments are recommended to be non-eligible as they do not substantially contribute to family farm modernization.

Investments related to the purchase of animals, annual plants and their planting, as well as purchase of agricultural production rights, however, should preferably not be declared eligible expenditure for investment grants. Should MGAP, based on its analyses, wish to provide support for these purchases (for instance, for reasons such as general pedigree standard upgrades in livestock production), these are more effectively facilitated through the implementation of market standards (see above) and incentives for the participation of producers in food quality schemes. Though clearly a function of the available fiscal space, these incentives are strengthened through the implementation of flat-rate, temporary and digressive aid on an annual basis. Since premia bear the risk of irreversibility and stimulation of an entitlement mentality among producers, it would be recommended to only provide them for a well defined and clearly communicated maximum duration (e.g. five years) from the date of standard implementation.
With a view to providing stronger incentives for other priority measures contained in the ARDP, funding parameters under this measure would ideally also reflect beneficiary participation in other strategic support schemes. Eligibility criteria such as grant funding share and application scores could, for instance, be preferential for younger farmers (see proposed measure on intergenerational asset transfer below).

**Investments into processing adding value to primary agricultural and forestry products**, both by producer groups and individual investors, which would increase access to higher value markets. Targeting of such support measure would not necessarily be limited to family farms, but if so, the commodity chain specifics suggest that such support be preferably granted to horticultural and forestry producers. Against MGAP’s strategic vision of retaining value added in rural areas and further activation of rural non-farm economic activities, such potential measure could target micro, small and medium-sized enterprises and other enterprises under a certain size, which are better placed to add value to *local* products. For these enterprises, MGAP could support improvements in the processing and marketing of primary agricultural and forestry products by means of support for investments aimed at improving efficiency in the processing and marketing sector, promoting the processing of agricultural and forestry production for renewable energy, introducing new technologies and innovation, opening new market opportunities for agricultural and forestry products, putting emphasis on quality, improving environmental protection, occupational safety, and/or hygiene and animal welfare.

The investment principles outlined under investments targeting modernization of on-farm production (esp. focus on modernization of immovable assets and eligibility of costs linked to the preparation of application) would apply also to this measure.

**Facilitation of Producer Cooperation for Innovation (development of new products, procurement/marketing processes, and technologies in the agriculture, food and the forestry sector).** Whereas the above support to the modernization of on-farm production mainly targets individual beneficiaries, MGAP might consider including into its ARDP support elements targeting the cooperation among producers. This would serve to ensure that Uruguay’s family agriculture sector can take advantage of market opportunities through innovative approaches in developing new products, processes and technologies, particularly in activities such as the processing and marketing of horticultural products in which clear economies of scale prevail. For this purpose, cooperation between farmers, the food and the raw materials processing industry and other parties should be encouraged.

Support to this type of producer cooperation would not necessarily require the establishment of a formal, legally registered producer group, but would support cooperation among otherwise unassociated individual entities.

Support would ideally be limited to covering the cost of preparatory operations for producer cooperation such as design, product, processor technology development and tests and other tangible and/or intangible investments related to the cooperation, before
the use of the newly developed products, processes and technologies for commercial purposes.

Support to the Establishment of Producer Groups could be provided to facilitate further development of formal cooperation among family farms for purposes of adapting the production and output to market requirements, to support the jointly placing of goods on the market, including preparation for sale, the centralization of sales and supply to bulk buyers and to establish common rules on production information, with particular regard to harvesting and availability.

Support would be provided towards the cost of establishing such cooperation, but not necessarily for specific investments. To reduce administrative intensity and to provide newly emerging producer groups with sufficient flexibility, it could be granted as a flat-rate aid in annual installments for a clearly limited and communicated period (e.g. five years) following the date on which the producer group was recognized. Support levels could be calculated on the basis of the group’s annual marketed production, up to the ceilings to be set forth in the ARDP.

4.2.1.3 Measures Promoting Knowledge and Improving Human Potential

Support to the Establishment of Extension and Advisory Services has proven an efficient tool in increasing productivity and farm incomes in rural areas, and are therefore considered a key element of the proposed ARDP. Targeted and effective agricultural advisory services for family farms are currently mainly provided in the context of MGAP’s externally financed projects and through producer groups/associations. But the sustainability of service provision beyond these project contexts and expansion of its geographical coverage beyond project areas will be a key challenge. It will thus be a core mandate for the preparation of Uruguay’s ARDP to define both a strategic approach to and a roadmap for ensuring the promotion of knowledge about production practices and sustainable land use, as well as farm management and administration, marketing, product development, advice on national food safety regulation, and guidance in the adoption of private standards. The focus on knowledge also concerns the use of information and communication technology for animal registration and animal health purposes. It also can give farmers better access to price and weather information, as well as enhance the access to markets by linking farmers with potential wholesalers and retailers.

On a strategic level, and for this to be institutionally, financially and technically sustainable as well as in order to provide consistent levels of coverage, a specific strategy on the role of the public sector in the provision of extension and technical assistance to producers should be developed and adopted by MGAP.

MGAP should continue supporting initiatives that promote improved production and facilitate the adoption of technologies by all segments of the Uruguayan farming community. However, public funding should be limited to family producers, through the financing of private providers of direct extension services. At the same time, there is a
need to harmonize methodologies currently utilized and to develop differentiated strategies and instruments for the different segments of family farmers (as confirmed by the recently conducted survey that identified three categories of family producers according to their net income, which was interpreted as a proxy of their capacity to respond to innovations in their production systems). Given its current mandate and structure, such effort within MGAP should be led by DGDR.

The overall operational framework for the establishment of the proposed extension services will, to a large extent, depend on the strategic policies and decisions defined by the current authorities regarding the entire public administration. However, experience worldwide and in Uruguay, combined with the financial and policy limitations that MGAP will likely face to obtain significant incremental budget and staff, would strongly suggest that MGAP’s role regarding extension should be restricted to normative, organizational, and supervisory functions, thus avoiding the establishment of a relatively costly and inefficient public structure of public extensionists.

On an operational/programming level, MGAP’s ARDP would ideally integrate approaches to addressing both the prevailing supply and demand side constraints, namely (a) the upgrade of existing and/or establishment of advisory services, and (b) support to the use of advisory services.

Regarding the support to the upgrade/establishment of advisory services, a series of important elements should be taken into consideration. These elements combine the characteristics of Uruguay’s agricultural sector, the institutional framework, and the needs of the family producer. In addition, the decisions made regarding extension and technical assistance should be closely linked to the overall policy framework that will derive from the formalization of the ARDP. The most important elements are:

Operationally, public extension services to family farmers should be predominantly demand-driven, preferably provided to groups of farmers, and linked to financial support schemes. Should further targeting be required (or desired), extension services should be concentrated in those territories defined by DGDR as priorities in terms of rural development.

To effectively perform the proposed normative and oversight functions, the role and capacity of DGDR regarding extension and technology transfer should be strengthened, with the establishment of a small dedicated team of specialists in charge of implementing the extension and advisory services program of MGAP. This team should initially focus on harmonizing the currently different mechanisms utilized by the ongoing projects and programs that provide extension services, and subsequently integrating the new uniform priorities, methodologies and procedures to the framework of the Agricultural Development Plan. Once developed, DGDR should promote a gradual approach to implementation, utilizing the funding and instruments of current and/or future externally-financed projects to operationalize and consolidate the new common extension strategy.
Consistent with the guiding principles of the ARDP, the proposed extension unit within DGDR should not only address the extension requirements of family farmers, but also define the role of the public sector in supporting access to technology by commercial farmers. In order to maintain this “universal” approach, the generation and validation of technologies, as well as the training of providers, should continue to be oriented to the needs of the entire farming community. In this respect, the promotion of modern indirect instruments (mass media, internet-based services, etc.) and improved complementarities between public actions and institutions providing private advisory services (ACA, FUCREA, CONAPROLE, etc.) should be encouraged.

In terms of actual delivery of extension services to family farmers, the proposed strategy relies heavily on the participation of the private sector, mainly farmer organizations, both in the development of the strategy and most importantly as intermediaries in the provision of extension and advisory services. This represents a key element for the effective and sustainable delivery of extension services, and will require considerable efforts by DGDR to strengthen these organizations.

As well, it would be advisable to develop instruments to better integrate the activities of INIA and IPA into the new strategy, taking into consideration the need to consolidate the role of INIA in the generation and transfer of technology to commercial farmers, as well as the possibility of expanding INIA’s participation in the direct delivery (and financing) of extension services to family producers and/or the training of extension providers.

Several experiences of delivery of public extension services through private providers in Latin America could provide valuable insights to the establishment of the proposed mechanism. These include, (i) the Chilean model of INDAP, in which the Government provides funds to farmers who in turn hire TA from private firms/consultants that are registered and certified by INDAP, (ii) the Mexican Alianza program, which complements direct financial support to farmers with the provision of advisory services through two distinct mechanisms, depending on the size, income levels and market orientation of the farmers, and (iii) the Alianzas Productivas program in Colombia, which delivers support services linked to the value chain, mainly through agro-processors.

Direct financial support for on-farm investments (in the form of subprojects) has proven to be an effective instrument to support the adoption of improved production and management practices among family producers, and should continue to be the central element of MGAP’s strategy. However, in order to maximize the impact of investments, future financing of subprojects by the ARDP should be consistently blended with extension services. Currently, this approach is successfully applied by specific projects implemented by MGAP with external financing (and highly valued by beneficiaries, as highlighted by the recently completed Mid Term Review of the NRM project), but would be more effective and sustainable if extension services were “standardized”, i.e., delivered using common principles, such as the extension methods, the qualifications and selection of providers, and the monitoring and evaluation of the services provided.
In addition, the new strategy should ensure that the technical assistance provided to family farmers is expanded, both in terms of time and area coverage, beyond the design and early implementation of the subproject. This support beyond the current coverage would allow not only for the sustainable utilization of the investments financed, but also for the adoption of additional practices on the farm, and the development of a longer term relationship between farmers and extensionists.

As a basis for the development of the proposed uniform approach to the provision of extension and advisory services, DGDR should consider undertaking an assessment of the results and effectiveness of the different extension methodologies implemented in the last five years by the four programs currently providing support services to farmers (PPR, PPG, PUR, and DIGEGRA). As an example of the “lessons” that could be derived from the proposed assessment, the results of the survey conducted with livestock farmers assisted by PPR, suggests that the TA provided by PPR was seen by beneficiaries as effective with regards to the management of natural resources, but insufficient regarding advice on the improvement of technical aspects of the livestock production systems.

With respect to financing, the provision of advisory services to family farmers can be considered to include a public good element, mainly due to family farmers’ limited ability to pay for such services. Consequently, a base level of core funding from public sources may be well justified to finance extension services delivered by either individual or institutional providers.

**Promotion of Intergenerational Asset Transfer.** Uruguay’s rural population is aging and young people consider taking on or starting up agricultural operations. This phenomenon occurs due to moderate profitability prospects and is, among others, a reflection of (financial) barriers to entry. Many countries, like for instance Central European economies with a family agriculture share similar to Uruguay, have successfully implemented support schemes for the setting up young farmers by providing free or preferentially priced legal, socio-economic, and agronomic advisory services, and preferential eligibility for investment support programs (e.g., higher public co-financing rates in PPR-type projects). The latter, once an ARDP is adopted, could be translated into higher support rates under schemes supporting farm modernization or use of advisory services. Similar initiatives are currently being piloted in Mexico with World Bank support.

Depending on the outcomes of MGAP’s sector analyses and as a function of the available fiscal space, Uruguay’s ARDP could thus provide for a support scheme facilitating both the initial establishment of the young farmers and the structural adjustment of their holding after their initial setting up.
Access to ARDP services or funding\textsuperscript{78} could be granted, for instance, on the basis of criteria related to age (e.g., to farmers under 35 years of age and setting up for the first time on a family farm as head of the holding\textsuperscript{79}), adequacy of occupational skills and competence, and/or submission of a business plan for the development of envisaged farming activities\textsuperscript{80}.

In order to keep barriers to sector entry at the lowest level possible, potential requirements for the contents of business plans should be kept reasonably simple, but contain, at least: (a) an overview of the initial situation of the family farm and specific milestones and targets for the development of the activities of the new holding; and (b) details of investments, training, advice or any other action required for the development of the activities of the agricultural holding. Compliance with the business plan should be monitored through on-site controls within an appropriate time frame (e.g. not later than five years after the support decision has been taken).

\textsuperscript{78} Support may be given in the form of (a) services, such as preferentially priced legal or technical advisory services; or (b) financial support, such as a single premium in one or two installments up to a certain maximum funding level, or in the form of a subsidy, the capitalized value of which should not exceed a certain maximum funding level.

\textsuperscript{79} Specific conditions may be applied in a situation where the young farmer is not established as sole head of the agricultural holding.

\textsuperscript{80} It is recommended to allow for a maximum period between application approval and actual use of support (e.g. 36 months) if the young farmer needs a period of adaptation in which to set up, to restructure the holding, or increase occupational skills, provided that the business plan provides for such a need.
4.2.2 ARDP Pillar II: Reinforcing Agri-Environmental Adaptation

Expanding the Promotion of Sustainable Use of Agricultural Land and Water Resources: Uruguay’s agriculture is well-known for its environmentally friendly production systems. Stemming mainly from the traditional cattle systems based exclusively on low-intensity grazing of natural pastures, these features have been used to successfully promote Uruguay’s products in international markets (Uruguay Natural). With the support of the Bank-financed Natural Resources Management and Biodiversity Conservation Project (PPR), agri-environment measures have become a central element of MGAP’s sector support strategy. As a result of the implementation of a broad range of instruments (direct support to farmers, technical assistance, training, collaborative arrangements with farmer organizations, and institutional strengthening of key areas within MGAP), beneficiaries report significantly reduced vulnerabilities to agro-climatic extremes, water shortages -mainly as a consequence of the support to the construction of small on-farm reservoirs or Tajamares- as well as to water, soil and rangeland (i.e., biodiversity) degradation.

The experience of PPR demonstrates that the adoption of agro-environmental practices at the farm level, generally results in multiple benefits, to both society and the farmer. While the population in general benefits from the overall improvements in food quality, reduced soil and water pollution, and the preservation of the natural landscape, farmers benefit not only from the improved living and production conditions on their farms, but also from the incremental financial returns that originate from the adoption of these practices.

Based on these considerations, it is evident that MGAP has a key role to play in the identification, promotion, and adoption of agro-environmental practices by farmers. As in the case of extension services, these activities should be an integral part of the ARDP, and MGAP’s role should require the implementation of measures that reach the entire farming community, and therefore all areas under agricultural production, regardless of farm size. However, the actions of MGAP should include specific measures targeted to family farmers, in consideration to the structural limitations of this segment of the farming community.

Also, with a view to the full WTO compliance of these measures (agri-environmental measures fall under the Green Box category), it is recommend to explore further expansion/application potentials for MGAP’s policy encouraging farmers and forest holders to employ methods of land and water use compatible with the needs to preserve the natural environment and landscape and improve natural resources.

*Key issues* to be addressed would include adaptation to droughts, the protection of water and soil, climate change mitigation, including the reduction of greenhouse gas emissions, the reduction of ammonia emissions and the sustainable use of pesticides, and conservation of biodiversity.
a) Measures targeting the sustainable use of agricultural land, which could include:

b) Measures targeting the sustainable use of water in agricultural production, which could include:

c) Measures to promote the conservation of biodiversity, which could include:

d) Measures to address climate change issues, which could include:
The agri-environmental measures in the European Union have developed over the past 30 years and are rooted in a strong focus on protecting domestic farmers. Experience with the Common Agricultural Policy (CAP) showed that production-based payments had negative impacts on the environment. Instead, an alternative support system was to be shaped without compromising the position of the farmers. Thus, only farmers are eligible to receive funds under these support programs, which came out of the 1992 CAP reform.

Today, the EU has three main systems linked to agri-environmental payments; two mandatory and one voluntary.

1. Statutory Management Requirements (SMR)
2. Good Agricultural and Environmental Conditions (GAEC)
3. Voluntary agri-environmental measures

In order for farmers to receive agricultural support, both SMR and GAEC must be complied with. This is often referred to as cross-compliance. The SMR focus on good farming practices in general, though a number of these requirements do have positive impacts on the environment. GAEC are instead a stricter set of requirements for agricultural production.

The detailed requirements and the implementation of SMR and GAEC are highly decentralized to national levels (and not from Brussels), mainly because of the different agri-environmental conditions which vary widely across Europe. Hence, the requirements that farmers are obliged to comply with also differ between countries.

Though these decoupled payments are fairly new, some experience can already be seen. One is that the cost of compliance for farmers is quite high. Another is that the level of detail in the requirements is costly and complicated to implement as is the follow-up for the individual countries.

The voluntary environmental measures were also introduced in 1992 and fall under EU’s rural development programs. The purpose of these measures is to support rural areas, both in terms of competitiveness and in terms of environmental protection. The agri-environmental measures make up about 45% of total rural development spending. Farmers who want to access this support have to sign a contractual agreement over a number of years, depending on the measure that is to be implemented. Whereas all countries are required to offer these measures, the number offered as well as the demand for them vary depending on the country. OECD classifies them as follows:

1. Environmentally beneficial productive farming:
   - Input reduction
   - Organic farming
   - Intensification of livestock
   - Conversion of arable land to grassland and rotation measures
   - Under-sowing and cover crops, strips, preventing erosion and fire in areas of special biodiversity/nature interest
   - Maintenance of existing sustainable and extensive systems
2. Non-productive land management
   - Set-aside
   - Upkeep of abandoned land and woodland
   - Maintenance of countryside and landscape features
   - Public access
3. Socio-economic measures and impacts

The amount available to farmers also depends on the region, where poorer regions are prioritized.
4.2.3 ARDP Pillar III: Facilitating Income Diversification in Rural Areas

Ensuring the Coordination of Non-Sectoral Development Activities in Rural Areas with Sectoral Rural Development Activities: By definition, rural areas are impacted also by development activities outside the agricultural domain. Road construction, rural housing, provision of utility coverage, social and health services are examples of such responsibilities outside of MGAP’s regulatory domain. Though it is unquestionable that the financing and implementation of such activities must be overseen and conducted by specialized line ministries/agencies, it has, however, evolved as a proven model in many developed economies that appointing and empowering an interagency coordination body (“monitoring committee”, “rural development board”) for rural development activities/policies increases the synchronization, effectiveness, and efficiency of national rural development efforts. The establishment of such body would be recommended to coordinate future development activities in the rural space. Examples of key activity areas requiring inter-institutional coordination are for instance:

- **Improving the quality of life in rural areas** through provision of basic services (and the conservation and upgrading of the rural heritage) is important not only from a social perspective but also to avoid rapid demographic changes with rural-urban migration, and to keep productive and entrepreneurial segments of the population in the rural areas. Without basic services, younger generations are likely to move to urban areas in search of jobs.

- **Promotion of Off-Farm Income Opportunities**: Not only the agricultural sector is of importance to increase incomes in rural areas, but other economic activities are becoming increasingly important. These can both serve the agri-food sector (such as input markets and agri-food processors) and develop within other sectors, such as tourism. It is hence important to create and coordinate an environment in rural areas that fosters all kinds of businesses and entrepreneurial activities. Diversifying the economy away from solely agricultural activities also spreads (income) risks to other sectors. This requires not only a good investment climate and access to finance, but also support to information and training targeting off-farm activities/entrepreneurs and labor.

4.2.4 Targeting Mechanisms and Eligibility Criteria

Targeting is an important tool that allows channeling public intervention/funds to only a fraction of a wider pool of potential recipients. It applies to policy support measures and defines the scope of each measure through a set of carefully chosen targeting criteria. In contrast, the eligibility criteria apply to individuals seeking support under any given measure as well as to their applications, and define the profile of the beneficiaries and their projects.
However, policy targeting and setting eligibility criteria for beneficiaries must be closely related together. In order to ensure coherence and ultimately effectiveness in policy programming and implementation, both must be subordinated to the strategic objectives and to the policy priorities defined for the sector. Furthermore, the targeting criteria for the measures should be used as a key reference for shaping the eligibility criteria, whereas the latter should complement and detail the former.

**Targeting mechanisms:** There are many principles that can be used for narrowing down the scope of a specific support scheme, and they can be employed either in isolation or in combination. These may be:

*Characteristics of the beneficiaries:* Support measures may be targeted by the size (either economic or physical) of the agricultural holdings or of the rural businesses. The current definition of family farms used by Government could be complemented by economic size elements using, for example, the farm classification criteria applied by the European Union. Moreover, the program may provide, for example, investment support to family farms and exclude large, commercial farms, because the latter already have the capacity to generate income and attract the capital necessary for their modernization.

*Production activities or practices:* Policy makers may choose to channel support only to a limited number of sectors or activity types (e.g. fruit and vegetables production and processing), or to reward specific types of practices undertaken by farmers (e.g. organic or other kinds of environmentally sustainable farming).

*Territorial features or dimensions:* Support may be differentiated by region (e.g. areas of economic underperformance), by village size, by natural or agro-climatic conditions etc.

**Targeting can be enforced with various degrees of intensity.** At the far end of the spectrum, it involves the exclusion from support of a range of potential recipients. Alternatively and in a milder version, targeting can be used to provide more favorable terms of support to the envisaged groups (e.g. higher amount of money per application, or smaller share of beneficiary contribution).

As it inherently involves selectivity and discrimination, targeting carries both benefits and risks. On the positive side, it may increase the effectiveness with which public resources are used, by excluding groups for which public support is not justified, by correcting market failures or by encouraging activities and practices that yield public good benefits. On the flip side, targeting can easily misfire or cause unintended and unexpected consequences. One example of the latter case is the indirect targeting of public support to producers in the mountainous regions of Slovakia through suckler cow premia, based on the assumption that cattle breeding is concentrated in the highlands. However, this incentive made farmers in the lowlands significantly increase their
livestock production. Consequently, the territorial distribution of public support became biased to the disadvantage of mountainous regions, and the original objective was missed.

**To be effective, targeting needs to:**

- be well articulated with the policy objectives and priorities in the sector and across sectors; depending on the amount of public resources available and on the intent of policy makers, adequate targeting may even allow various public policies to either complement or reinforce each other, thus maximizing the effectiveness of overall public intervention.
- be founded on a thorough analysis and diagnosis of the needs of the sector;
- be transparent; and
- be complemented by adequate monitoring of policy implementation, to correct deviations from policy objectives if they occur.

In Uruguay, the current targeting mechanism needs to be improved to enhance the effectiveness of support programs and ensure that benefits go to the intended target population. The present voluntary national register of family producers should be expanded to a mandatory system that ensures that all family producers are registered. The 2010 Agricultural Census would provide an excellent opportunity to achieve a 100% registration of family producers. Furthermore, once the universe is known, steps should be taken to identify the main typologies within this universe to tailor support programs to the real needs of the different groups that can be identified among family producers.

Moreover, there is a need to rationalize criteria used to allocate resources to beneficiaries, giving a clear priority to the long-term economic and environmental sustainability of the investment proposals to be supported, ensuring that they are compatible with the country’s comparative advantages, and that they enhance the competitiveness of the family farming sector. The experience of some of the on-going programs (e.g. tomato processing, sugar cane production) would indicate that not much attention seems to have been paid to these criteria so far.

**Eligibility Criteria:** Once they define and target the support programs, policy makers need to set eligibility criteria for the potential beneficiaries of public support. These criteria cover in detail various types of conditions that applicants and their application must meet to qualify for public support. They are also an important tool to be used in the operation of the support programs, serving as a “checklist” to the program implementation bodies before they proceed with the further assessment and scoring of the application for support or with the payment.

**Eligibility criteria may check characteristics of both applicants and their applications.** They can cover a very wide range of issues, from application content (e.g. the type of activity for which the support is requested, types of expenditures that may be covered from the program) and form through conditions for applicants (e.g. farmers’
associations with legal personality or micro-enterprises from economically disadvantaged rural areas). Depending on financial arrangements for delivering the support scheme, the eligibility criteria might also include conditions regarding the financial reliability of the applicant.

**Applicants must provide evidence that they are meeting the eligibility criteria.** The program implementing bodies require that applicants present a set of supporting documents together with their application forms. These may be various certificates, financial statements, declarations etc.

**To be effective, the eligibility criteria must be simple, transparent and easy to certify.** A risk often encountered is that qualifying for support – and proving it – is burdensome for the applicants. The challenges they may need to overcome differ in nature. Too many eligibility criteria, poorly formulated, are one such obstacle. Another is access to information regarding the conditions applicants must meet to receive support. Having to secure documents that are difficult to obtain (e.g. must be released by public authorities and the process is cumbersome and long), or expensive, may be yet another hurdle. Considering these, program implementation bodies must be well aware of the practicalities that the targeted program beneficiaries have to deal with when applying. Equally important, they must ensure that the prerequisites in use do not restrict access to the program or create inequity amongst applicants.

4.3 Institutional Framework for ARDP Preparation and Implementation

4.3.1 Definition and Devolution of Institutional Responsibilities

**Overall responsibility for rural development planning.** In the case of Uruguay, the overall responsibility for planning rural development will be with the Ministry of Livestock, Agriculture and Fishery, (MGAP). Therefore, this section should briefly described MGAP’s role and the distinction between rural sector planning responsibilities of MGAP and the planning and programming responsibilities of the Government Office of Programming and Budget (Oficina de Programación y Presupuesto, OPP) at the national level.

**Management and Implementation of the Rural Development Plan.** Within MGAP, the actual preparation and subsequent implementation of the Plan, reportedly, will be the responsibility of the General Division for Rural Development (DGDR). Details of the different responsibilities assign to the various units within DGDR, including administrative and operational aspects, and monitoring and evaluation, as well as the eventual participation of other units within MGAP in this process, will be given in this section.
Participation at the regional and local levels. Given the decentralization process that is being implemented by Government, there is a need to ensure greater regional and local participation throughout the planning, decision-making, implementation and follow-up stages of the Rural Development Plan. Moreover, a strong local participation is likely to result in a stronger regional and local support for rural development measures. This section should describe the role that both the local authorities, particularly the Departmental Agricultural Councils and the Rural Development Tables, will play in the preparation and implementation of the Rural Development Plan.

Procedures for the selection and financing of eligible proposals. This section should spell out the operational aspects of the implementation of the measures included in the Rural Development Plan. In particular, this section should indicate not only the eligibility criteria that will be applied throughout the Plan but also the application process itself and the evaluation mechanisms to be used to approve proposals that will benefit from the financial and technical support suggested in the Plan.

Monitoring and evaluation (M&E) activities are an essential component of the policy programming and implementation process. Their functions are manifold, as they:

- **Measure the success and impact of a program:** M&E activities can determine to what extent the objectives and targets set by a program have been met. More broadly, they look into the multiple impacts that program activities produce on program beneficiaries and beyond, throughout the entire program area. M&E should identify both positive and negative effects of policy intervention.

- **Support accountability:** by providing critical assessments that demonstrate whether or not programs satisfy target group needs and priorities, M&E increases the accountability of policy-makers and budget authorities towards taxpayers and the general public.

- **Inform decision-making and steer program implementation:** The learning derived from M&E can improve the overall quality of the ongoing and future programs and projects. This refers to the planning and decisions concerning sectoral needs, as well as to policy delivery mechanisms and resource allocations. To this end, M&E should provide inputs to policy authorities throughout the entire cycle of program implementation.

Effective monitoring and evaluation rests on strong methodological and institutional capacities and capabilities.

*Firstly,* an adequate institutional system for these purposes needs to be set up, with a clear division of responsibilities between all actors involved. Many designs are possible, with varying degrees of complexity and sophistication. In any case, it is important to have a monitoring and evaluation unit set up within the authority responsible for the management of the program. Depending on the resources available, there are advantages in contracting an independent evaluator for the assessment of the program, while the monitoring functions may remain internalized. The benefits include bringing in highly
specialized skills and knowledge, not commonly available within the program authority, as well as having an unbiased analysis of the policy impacts.

Secondly, a set of indicators and tools – including baselines, target levels, indicator definitions, evaluation questions and data collection methodologies – should be put in place as early as during program planning and preparation.

Thirdly, data needs to be collected and processed throughout the entire program implementation, to meet the monitoring and evaluation needs. While the data collection activities may spread across various agencies (including paying bodies, program management authorities, statistical institutes etc.), it is critical to clarify the responsible body/unit for centralizing all information. If available, various agricultural information systems can be a very useful source of information. In case of outsourcing, independent evaluators may also carry out surveys and complement the existing information datasets.

Lastly, the monitoring and evaluation system needs to be adequately resourced and properly connected into the implementation and steering activities, throughout the entire lifetime of the program.

| Box 10 The Monitoring Committees for the implementation of the rural development programs in the European Union: |
| Monitoring Committees play an essential role in the steering and implementation of the rural development programs in the EU. Mandatory for each of the RDPs in the EU, they consist of representatives of competent public authorities, as well as social and economic stakeholders and are chaired by a representative of the program implementation authority. |
| The Monitoring Committees perform various functions, among which: |
| - review progress made towards achieving the specific targets of the program; |
| - propose reviews and adjustments to the programs towards achieving the stated objectives or improving program management (including financial management). |

4.3.2 Financing Mechanisms

The programs and measures included in the Rural Development Plan are aimed, as indicated above, at promoting the development of existing and new rural enterprises, through an efficient use of available natural and human resources within an economically, ecologically and socially sustainable development framework. The likelihood of actually financing all the proposed measures will depend on the sources of financing available to Government at the time of implementation of the Rural Development Plan. However, in principle, the sources of these financial resources can be expected to be the annual budget of MGAP; internationally financed development projects; a specially created Rural Development Fund, like the one MGAP is proposing; and beneficiaries’ contribution.
There is a need to streamline programs in support of family producers to avoid the present proliferation of mechanisms of financial transfers, which have overlapping objectives and dissimilar levels of benefits. Ideally, one should have one Family Producers Support Fund or Rural Development Fund, with a menu of a limited, but well targeted set of monetary transfers in the form of investment support that would cater for the needs of the different types of family producers, with a single set of eligibility criteria. The Fund would be managed by MGAP, using BROU acting as the “financial window” through which funds would actually be made available to eligible beneficiaries.

From an operational viewpoint, the definition of the volume and sources of the financial resources that would be transferred to this Rural Development Fund would be the result of the thorough financial planning by MGAP. This planning exercise would require a detailed breakdown of the financial resources available to MGAP, from both local and international sources, and a clear definition of the level of resources that would be allocated to the different Development Pillars and their respective measures, as well as the beneficiaries contributions were applicable. Consequently, the financial plan would include, among others:

- summarized version of annual expenditure over the life of the Rural Development Plan.
- total (public and private) resources that will be allocated to the different Development Pillars,
- indicative breakdown of total expenditure by measure under each of the selected Development Pillars.

Moreover, within this financial planning exercise, MGAP should consider also measures to enhance the role of the commercial banking system. Government resources, by definition, are limited and, therefore, transfers for investment should not only be aimed at very specific target groups with special needs, but should also be implemented within a well defined time framework. After that, if the programs are successful, family producers should be able to implement sustainable production systems and thus be in a position to access commercial banking credit to finance the operation or even the expansion of their production systems. Consequently, Government programs to transfer financial resources to family producers to encourage investment, would have to be combined with specific measures to address the constraints that are currently limiting family producers’ access to commercial credit.
V. Conclusions

Agricultural and rural development is central to Uruguay’s economic development and social cohesion objectives both from a national growth perspective and from an income distribution perspective.

And Uruguay’s agricultural sector has further productivity and market growth potential, fueled by a favorable natural and human resource basis, factors which, in synch with strong political commitment to supporting agricultural development, have helped the sector to successfully master past crises.

But further strategic Government action will be needed to help this growth potential to be unlocked and to ensure that the sector’s structural advantages overcompensate for its structural challenges.

A key challenge for this growth potential to be unleashed presents itself in the economic vulnerability of Uruguay’s family farm sub-sector, which accounts for two-thirds of the country’s farm holdings. Despite relatively favorable land endowment and market-orientation of its owners, the relative performance of family farms vis-à-vis corporate farms is limited and significantly more volatile. Three main factors—size constraints, lower technology adaptation, and limited access to technical and financial assistance and market facilitation services—make family farms vulnerable both to external shocks, such as the recent fluctuations in international markets for inputs, capital, and outputs, and to domestic shocks, such as weather-related events or past zoonotic incidents.

The conditions for tackling these vulnerabilities are right. First, international markets have increasing demand for both, staple and higher-quality food products, both among the main outputs of Uruguay’s agriculture. Second, Government attention and commitment are notable and well-targeted initiatives have been launched, among which the establishment of a qualified designated rural development unit in MGAP, the definition of criteria providing an objective definition of family farms, and the initiation of an agricultural and rural development planning process. Third, critical analytical activities are being undertaken to inform the policy planning process; with the present reports constituting an input into this process.

A critical success factor for Government efforts towards addressing these vulnerabilities is whether it will be founded on an appropriate reference framework to guide Government actions and ensure they are well-targeted, coherent, manageable, and monitorable. International experience suggests that the absence of such framework poses risks of Governments adopting a higher number of ad-hoc measures, influenced more by contingency factors than by the guiding principles of a strategic approach to promoting an inclusive development of the agricultural and rural sector. Against this background, the present report confirms the relevance of MGAP’s intention to elaborate an agricultural and rural development framework (referred to for purposes of this study as
Agricultural and Rural Development Plan, ARDP) so that MGAP can pursue a more strategic approach to agricultural development, innovation and diversification in rural areas, and improved governance in the delivery of its programs.

However, to ensure balanced overall growth, such framework must integrate all key determinants of rural sector growth. In light of the interdependence of (family farm and corporate) farming systems and of the broader agricultural and rural development challenges facing Uruguay, a plan to reduce the vulnerabilities of family farming systems should not be pursued as a self-standing, exclusive strategy, but become an element of an integrated, inclusive agricultural or even rural development strategy plan. This integration will foster rather than limit MGAP’s effectiveness in addressing family farm development constraints, and it will not prevent MGAP from including elements specifically targeting family farms as required. The present study represents a contribution to MGAP’s efforts to identify such key elements.

Based on an analysis of key structural characteristic of Uruguay’s family farming sector, three key priority groups of actions towards addressing vulnerabilities facing family farm systems have been identified. First, and addressing the priority to enhance agri-food productivity and marketability, MGAP’s rural agricultural and rural development framework should contain measures aiming at supporting family farms to cope with adjustments to changes in their production and marketing and thus their competitive environment. Second, and addressing the priority of reinforcing agri-environmental adaptation, potential measures expanding the promotion of sustainable use of agricultural land and water are required. And third, towards addressing the priority of facilitating income diversification in rural areas, it must include elements of enhanced coordination between sectoral and non-sectoral development activities in rural areas.

A final selection of actions under each of these priority groups will have to be determined as part of MGAP’s (analytical and) programming exercise for the entire agricultural sector, with the present study contributing those elements pertaining to the family farm segment. Proposed key elements of this programming process are outlined in the table below:

Table 23 Key Elements for MGAP Programming Process

<table>
<thead>
<tr>
<th>Activity</th>
<th>Short term objective</th>
<th>Medium-term objective</th>
<th>Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial (later: continuous) analysis of current situation in agricultural sector (socio-economic context; performance; external factors)</td>
<td>Provide decision variables for definition of strategy, priorities, and selection of support actions</td>
<td>Establish baseline for ex-ante and continuous monitoring and evaluation; lay basis for evidence-based policy/program adjustments</td>
<td>- data from available sources consolidated (Census, statistics, family farm survey) and integrated into common structure - evidence-based analysis of constraints to disparity reduction and growth completed</td>
</tr>
<tr>
<td>Development of agricultural/rural</td>
<td>Provision of basis for choice of</td>
<td>Establish a multi-annual and integrated</td>
<td>- sectoral and intergovernmental</td>
</tr>
<tr>
<td>Activity</td>
<td>Short term objective</td>
<td>Medium-term objective</td>
<td>Milestones</td>
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</tr>
<tr>
<td>Development strategy, incl. articulation of specific priority pillars</td>
<td>intervention/support measures</td>
<td>development approach.</td>
<td>consultations conducted - Strengths, weaknesses, and development needs of rural areas articulated - sector development priorities agreed</td>
</tr>
<tr>
<td>Identify/select and define specific measures within development pillars</td>
<td>Definition of concrete intervention programs (investment and/services) incl. eligibility, selection and award criteria and financial provisions</td>
<td>Allow for targeted, transparent and predictable provision of support towards sustainable, balanced sector development</td>
<td>- Support measures selected for each priority pillar - Eligible investment/services defined under each measures - Application, selection and award criteria defined under each measure - financial provisions established across priority pillars and within measures</td>
</tr>
<tr>
<td>Conduct ex-ante evaluation of the program</td>
<td>Appraise proposed goals and priorities, expected results and quantified targets, and quality of proposed procedures for implementation, monitoring, evaluation and financial management</td>
<td>Contribute to optimization of allocation of resources and program quality. Establish benchmark/comparators for mid-term evaluations towards program performance enhancement</td>
<td>- appraisal of dimensions (see short-term objectives column) completed</td>
</tr>
<tr>
<td>Set-up (ensure existence of) institutional framework</td>
<td>Ensure effective program launch and implementation</td>
<td>Ensure effective program implementation, efficiency of program management, and continuous program quality enhancement</td>
<td>- Monitoring committee established with representation of main institutional and sector stakeholders - Monitoring arrangements in place and baseline established - Funding secured and financial management infrastructure (e.g., “Fund”) created</td>
</tr>
<tr>
<td>In parallel: Launch</td>
<td>Further upgrade and</td>
<td>Integrate existing</td>
<td>- All cattle herds registered</td>
</tr>
<tr>
<td>Activity</td>
<td>Short term objective</td>
<td>Medium-term objective</td>
<td>Milestones</td>
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<tr>
<td>complementary activities towards regulatory/institutional framework to livestock production</td>
<td>expand veterinary and animal tracking systems</td>
<td>tracking systems into internationally accepted food safety certification system</td>
<td>- MGAP’s veterinary systems restructured</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>- Integrated food safety certification system established</td>
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Annex 1: Public Institutions in the Agricultural Sector

The GOU has a large and diverse institutional structure dealing with various aspects of agricultural development. (See Figure 1 at the end of this Appendix)

Organizations of direct assistance to the Minister and Under-Secretary are the following:

a) **Office of Agricultural Programming and Policy (OPYPA)**. OPYPA is in charge of providing direct and specialized assistance in agricultural policies to the Minister and Under-Secretary; collaborate in the elaboration, evaluation and reformulation of the sector and economic policies affecting the sector; provide technical support for commercial negotiations; provide information and analysis on sector’s production and agro-industrial chains (together with the Division of Agricultural Statistics, DIEA); and inform on the evolution of the agricultural sector and policies implemented.

b) **Division of Agricultural Statistics (DIEA)**. In charge of analyzing and distributing information on the agricultural sector and related activities; continuing and periodic surveys of agricultural products; publication and dissemination of information produced by different ministries institutions to integrate it to the information system of the ministry. It is also in charge of preparing the implementation of the 2010 agricultural census and maintaining the information generated by the census.

c) **Unit of Projects and Technical Cooperation (UPCT)**, deals with national and international cooperation programs and projects, and is responsible for the follow-up of these projects.

d) **Unit of International Affairs (UAI)**, deals with all the matters concerned with international commercial negotiations as well as with the elaboration and follow-up of a national strategy of insertion in international markets.

The Ministry has also several General Divisions, which are specialized in different technical subjects related to agriculture and livestock production:

**Director General** is mainly in charge of the major administrative matters of the ministry, salaries of the ministry, buildings, vehicles, etc. It was in charge of the whole process of decentralization, for which a decentralization unit was formed and was under its command, but now this unit is being moved to the General Division for Rural Development.

**Division of Aquatic Resources (DINARA)**, in charge of the matters dealing with fisheries and aquatic resources of the country.
Division of Renewable Natural Resources (RENARE), updates the rules and regulations on the use and management of natural resources, monitors their application and supports the adoption of productive systems that are compatible with a sustainable use of natural resources in Uruguay. These are: soils & water for agricultural use, as well as biodiversity.

Division of Agricultural Services, is deals with plant health issues, quality of vegetable products, and agrochemical policy, regulations and control.

Division of Livestock Services, is in charge of animal health policies, regulations and control, pest eradication, food safety in animal products, epidemic vigilance, development of information systems, and strengthen frontier control systems.

Division of Horticultural and Small Livestock (horticulture, poultry, pigs, apiculture) (Dirección General de la Granja, DIGEGRA): This unit replaced the old JUNAGRA. It contributes to the development of horticulture, fruit production and small livestock, promotes food sovereignty, providing information, technical assistance and promoting organizations of producers. It is also in charge of contributing to the formulation of differentiated policies for small and medium horticulture and small livestock producers; establish and sustain links with other institutions of the agricultural public sector, municipalities, education, housing and roads. It administers the FRFG.

Division of Forestry. Is in charge of promoting the forest industrial development, formulating and executing the land policy related to the industrial forestry sector; defend the rational use of natural resources and support the implementation of measures to improve the life and working conditions of forest laborers. It is also given the responsibility of redefining soils of forest potential; coordinate with INIA, the Faculty of Agronomy & private sector to evaluate agro forest systems, trying to introduce high value species; develop systems of natural forest management; promote self managed enterprises controlled by their workers to provide forest services; promote the implementation of projects of forest production in areas of state property conducted by local inhabitants; formulate programs of promotion of wood processing industries and elaborate, in conjunction with the Ministry of Foreign Affairs, an export policy of wood and non-wood forest products, and promotes of forest development in Uruguay.

General Division of Rural Development (DGDR). This Division has been given the mandate to design rural development policies and. Since this objective goes beyond agriculture, it is in charge of coordinating with other areas of national and municipal government, giving special preference to FA, farm laborers and rural inhabitants, needing differentiated policies. Thus DGDR, in coordination with other units in MGAP, has the responsibility of elaborating the Agricultural Development Plan 2010-2015. To achieve this coordination, a Directive Council was created, which includes the Directors of DGDR, DIGEGRA, RENARE, OPYPA, of the Dairy Coordination Office, the Decentralization Unit, and the directors of the three projects: PG, PUR & PPR. The first outcome of this Council has been the definition of family agriculture, which came out in the Ministerial Resolution of the 29/7/ 2008. Another activity undertaken by DGDR,
RENARE and the Decentralization Unit involved the elaboration of measures, directives and orientations to produce a responsible and sustainable use of agricultural soil. This involved PPR technicians, also of the Faculty of Agronomy and INIA, as well as participation of producers’ organizations.

In addition to these public institutions, Uruguay has a wide variety of public institutes which operate within the legal framework of private institutions, as follows:

**The National Research Institute (INIA)** is in charge of research and development in agricultural and agro-industrial areas. It has 5 research stations throughout the country and is involved in a wide variety of research projects and has established a program to provide special assistance to the FA. This program has established agreements to undertake specific research programs geared to solving FA problems, with several institutions such as the National Commission of Rural Development (CNFR), which is a national organization of FA, the Faculty of Agronomy of the University of the Republic, the Technological Laboratory of Uruguay (LATU), an innovation institution linked to the Ministry of Industry and Energy, and the PUR among other institutions.

The projects are oriented to producing technological innovations that can be adopted by FA, such as value added to meat products from FA through improved production and processing methods, technologies to produce cheeses, development of organic agriculture for FA, development of intensive production systems for FA, improved organizational processes among FA and farm laborers below the poverty line and identifying the main restrictions for FA development in Tacuarembó.

**Seed Institute (INSE).** This institute has been formed to improve the legal and economic conditions governing the seed market in Uruguay. It is also geared towards promoting the introduction of the country into the international seed market.

**Wine Institute (INAVI).** This institute is in charge of promoting wine production in Uruguay to expand their presence in international markets, promote other products from processing of grapes, help especially small family producers of these products. It is also given the responsibility to conduct courses and provide training on matters linked to improving the development of this sub-sector.

**Meat Institute (INAC).** This institute is given full responsibility for the significant meat sub-sector. It must promote the meat chain to achieve products of high quality, promote its development both to the international markets as well as the internal one. It must also control the quality of the products, the certification systems and support the integration of small producers to these systems. It is also in charge of identifying research needs and promoting their solution with the members of the research institutions.

**Colonization Institute (INC):** While this institute is not part of MGAP, its actions are closely related to the sector. This institute is in charge of managing and helping beneficiaries of public owned lands which have been passed on to previously landless farmers. It can also expropriate private lands as long as they may be needed to
complement the public lands being colonized. Today the state has no more land for colonization, so the institute’s main function is now to support farmers producing in the lands colonized.

**Agricultural Plan Institute (IPA).** This institute, created in 1996, is the successor of the Honorary Commission of the Agricultural Plan, which existed since 1957. Its Board of Directors has one representative of MGAP, one of the CNFR, one of the Rural Association of Uruguay (ARU) and one of the Rural Federation of Uruguay (FRU). It deals mostly with training and technological transfer. Currently it has 22 technicians in all the country, 16 of which are located at the departmental level (one in each department). They are mostly strong on livestock production and geared towards assisting small and medium sized producers. It has had continuing relations with PPR, PUR and the Livestock Project. Their way of transmitting technical assistance is mainly through internet, training courses and written materials. IPA prints a journal which has strong presence in the market. They do not have a strong relationship with INIA, but are closely linked to members of the farmers associations which are part of the governing body members. Financial resources come 90% from the government and 10% from their own resources, since they charge for the courses given.

**National Milk Institute (INALE)** was created in December 2007. The members of the Directive Council are representatives of the private sector and state in equal numbers. Its main function is to assist the Executive to elaborate a dairy policy, establish positive relationships between the agents of the productive chain and study, plan and promote the development of dairy production through the various institutions with special reference to family production. Also of interest is the fact that artisanal producers are present in the Executive Council.
Annex 2: GUIDELINES FOR THE PREPARATION OF A RURAL DEVELOPMENT PLAN

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   3. The strategy chosen to meet strengths and weaknesses
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III.- INSTITUTIONAL FRAMEWORK FOR THE PREPARATION AND IMPLEMENTATION OF A RURAL DEVELOPMENT PLAN

IV.- THE MONITORING AND EVALUATION SYSTEM
I. INTRODUCTION

Traditionally, rural development planning is seen as a useful tool not only to define Government investment priorities in the rural sector and to identify key programs and projects that will be supported by public funds, but also to have maximum effect of public funds and eventual international loans on agricultural development. The main purpose of this annex is to provide some guidelines for the preparation of a sound analytical foundation on which MGAP, and in particular its Rural Development Division, could base their next Rural Development Plan 1010-1015.

Drawing from the experience of other countries, but particularly EU countries, these guidelines propose a practical approach to collect and arrange the key inputs required for the formulation of an effective and rational Rural Development Plan aimed at promoting sustainable agricultural sector development in Uruguay. The lack of a systematic approach to the preparation of background information and data that can validate the proposed development policies, will most likely result in agricultural policies, programs, and projects suffering from poor design, execution and evaluation.

Consequently, the starting point of the preparation of a Rural Development Plan should be an analysis of the present situation in the rural sector, including its main constraints and potential and its strengths and weaknesses. Unless there is a solid scrutiny of the present state of affairs in the rural sector, backed by a quantitative analysis, it will be difficult for decision makers to draw conclusions about the sector’s constraints and potential and to project the consequences of alternative courses of action into the future. The more the planners and policy decision makers know about the rural sector and the way the various production systems will respond to both external and internal stimuli, the higher the likelihood that actions, programs and projects proposed in the Rural Development Plan will have a positive impact on the sector’s development. In the absence of such a perspective, planning, programming, and policy decisions will be taken on an ad hoc basis rather than supported by conclusions and recommendations drawn from a rigorous analytical framework. A substantial part of this analysis of the present situation is already covered by the discussions of the various sector issues presented in the previous sections of this report. However, this report is focused mostly on family agriculture and has used secondary information available at the time of preparation of the report. Consequently, the discussions and recommendations included in this report will have to be ratified by the information to be obtained from the Agricultural Census 2010 and expanded to include the conclusions of other Government agricultural sector reports, which cover areas and subject matters not included in the present report.

Once these analytical foundations are in place, one can proceed to define the strategy and rural development measures that could be adopted by Government to address the sector’s strengths and weaknesses and realize the economic, social and political goals that have been defined for the rural sector.
The next step would be an ex ante evaluation of this strategy, which will enable the MGAP to assess medium- and long-term needs, and define and quantify the targets to be achieved, particularly in terms of impact in relation to the baseline situation. Moreover, the ex ante assessment of the consequences of alternative planning strategies, policies and programs of action is particularly important in a mixed economy, where public decision makers must pay attention to the effects of public decisions on the actions of private decision makers.

Subsequently, specific programs would have to be defined and individual support measures would have to identified and implemented to attain the rural development targets. The programming and implementation of these measures would require an institutional framework and a clear definition of institutional responsibilities throughout both the planning process and the execution of the Rural Development Plan.

Finally, an appropriate monitoring and evaluation system would have to be designed and put into operation to supervise the execution of the different measures and assess their impact, with the view of implementing corrective measures if the achievements are not in line with the original plans.

As a by-product, this annex is expected to contribute also towards an improved capability of the Rural Development Division of MGAP for sound planning, agricultural policy formulation, program development, and project design and execution, which should result in more rapid and effective Government measures to promote a sustainable agricultural sector development.

In the following sections some guiding principles are presented and each of the main building blocks of the analytical foundations required for the preparation of a Rural Development Plan is discussed in detail.
II.- TOWARDS THE FORMULATION OF A RURAL DEVELOPMENT PLAN

A.- Analysis of the Current Situation

This section will define the main characteristics of the rural sector and present a detailed description of the current situation in the sector, highlighting its strengths and weaknesses, disparities, needs and gaps, and potential for rural development. The main topics to be analyzed under this section are described below.

1.- The general socio-economic context of the rural sector

The rural areas

This section would provide a broad definition of the rural areas, including features such as:

- Extension of rural areas, population density, type of small urban centers that would be included as part of the rural area
- Agro-ecological zones.
- Land use

The rural population

The main characteristics of the rural population would be described in this section, including:

- Number of people living in the rural areas
- The demographic situation, including analysis of the age and gender population structure, in- and out-migration, and problems arising from remoteness.
- Economic drivers, productivity and growth.
- Labor market, including the structure of employment, unemployment and skills levels.
- Level of income: average income of main categories of farmers; average wage of rural workers; contrast with minimum wage and national average income
- Level of education and human capital; and
- Analysis of the age and gender employment situation.
**Basic infrastructure and services**

This section is intended to provide an idea of the conditions of essential infrastructure and services in the rural areas and the extent to which they can constitute a rural development constraint:

- Communications
- Roads
- Basic services (electricity, water, telephone, Internet)

**2.- Performance of the agricultural, livestock and forestry sectors**

**The structure of production in the rural sector**

This section would explain the evolution during the last ten years of:

- Ownership structure and average size of holdings
- Commercial farms: number of farmers, main products, production systems and volume of production, relative importance within the agricultural sector (e.g. contribution to sector GDP and gross value of production), main strengths and weaknesses.
- Family Agriculture: number of farmers, main products, production systems and volume of production, relative importance within the agricultural sector (e.g. contribution to sector GDP and gross value of production), main strengths and weaknesses
- Forestry Production: main types of forestry enterprises, size, main products, relative importance within the agricultural sector, main strengths and weaknesses.
- Regional distribution of the main production systems.

**The competitiveness and profitability of the main production systems**

The main purpose of this section would be to analyze, with the help of farm models, the competitiveness and the economic and financial viability of each of the main production systems which are commonly found in the agricultural sector in Uruguay (e.g. livestock, dairy, horticulture and fruit production, forestry) as well as their constraints and potential. However, given Uruguay’s unequal land distribution and the wide range of technical packages used and in order to have a better understanding of the competitiveness and profitability of the various production systems, there should be two distinct discussions on the viability, constraints and potential of the production systems: one for large- and medium-sized commercial farms and another for family producers.
The analysis should be expanded further to include the structural advantages and disadvantages of these production systems and their respective restructuring and modernization needs. Central to this discussion would be the potential for innovation and knowledge transfer.

Production of forest products should be analyzed separately from agriculture and livestock production, but touching upon the same issues of competitiveness and profitability.

**Land-based food industries**

Following a similar line of analysis to the one followed in the previous section, this section will discuss the profitability and competitiveness of the main agro-industries:

- Abattoirs, meat and leather processing industries
- Dairy plants
- Wool industry
- Horticulture and fruit processing
- Wine industry
- Forest industry

The analysis would include also a discussion on their man constraints and development potential, including diversification potential, and the characteristics of human capital and entrepreneurship in the sector.

**Natural resources management and environmental issues**

This section will discuss the current situation regarding natural resources in the rural areas. In particular, this section will discuss:

- The impact of agricultural and livestock activities on land degradation and natural pastures; soil quality descriptions (water and wind erosion, organic matter, contamination) and protection.
- Overall description of biodiversity, with special reference to the effect of farming and forestry systems over biodiversity sustainability.
- Water quality and availability, the role of agriculture in water use/pollution;
- Air pollution and climate change and their links to agriculture; Greenhouse Gas (GHG) and ammonia emissions and links to different action plans/initiatives taken by Government to reduce negative effects.
- Pesticide use, organic farming and animal welfare;
- Extent of protective and protected forest areas, annual average change in forest coverage.
• Regions with natural handicaps and, thus, in need of special support measures.
• Measures adopted to address these environmental and natural resources management issues.

**Rural economy and quality of life**

The analysis of this section would cover:

• The structure of the rural economy, barriers to creation of alternative employment opportunities, micro-business formation and tourism;
• Diversification into non-agricultural activities; the multi-activities of family producers’ livelihood;
• Description and gap analysis of the provision of services in rural area, including access to online services and broadband infrastructure;
• Infrastructural needs;
• Human potential and local capacity for development, including governance.

**3.- The strategy chosen to meet strengths and weaknesses**

This section should describe the choice of strategy and the relative importance of rural development measures selected to address the situation in the rural sector, and the financial weight given to the different development priorities and measures justified by the analysis of the strengths and weaknesses.

In principle, the analysis should be divided into the following sections:

i. **Challenges and needs.** It should start with a summary of strengths, weaknesses and development needs of rural areas:
   • Strengths and opportunities
   • Weaknesses and threats
   • Needs and challenges

ii. **Overall strategy.** This section would provide a definition of the overall rural development strategy that would be adopted to promote a sustainable rural development in the Uruguay and its link to the national development strategy.

iii. **Sector Development Priorities.** This section would identify the priority areas (or development pillars) where most of the government efforts and resources would be concentrated to address the main rural development issues identified during the assessment of the current situation. Specific measures would then be identified within each of these development pillars to address the weaknesses and threats.
faced by the rural sector. Furthermore, the target population which would benefit from these measures would also be indentified at this stage.

4.- The ex ante evaluation

The ex ante evaluation shall be an integral part of a Rural Development Plan and is aimed at optimizing the allocation of budgetary resources and enhancing programming quality. It shall identify and appraise medium- and long-term needs; the goals to be achieved; the results expected; the quantified targets, particularly in terms of impact in relation to the baseline situation; the lessons drawn from previous programming; and the quality of proposed procedures for implementation, monitoring, evaluation and financial management. The ex ante evaluation will include also the environmental assessment of the proposed actions and programs.

The complete ex ante evaluation will be presented as an annex to the Rural Development Plan.

5.- Impact of previous programs and other information

This section will describe the impact of programs and projects aimed at promoting rural development that were implemented during the previous programming period, indicating the financial resources allocated to each of them. In the case of Uruguay, these programs would include the Natural Resources Management and Biodiversity Conservation Project (Proyecto de Producción Responsable, PPR); Uruguay Rural Project (Proyecto Uruguay Rural, PUR); and the Livestock Project (Proyecto Ganadero, PG). A summary of the results of evaluations should be presented at the end of this section.
B.- Rural Development Priorities and Expected Impact

1.- Justification of the Rural Development Priorities

This section should describe how the Development Priorities or Development Pillars and their corresponding measures included in the Rural Development Plan, reflect the sector and national strategies development strategies and respond to the specific rural sector issues. Additionally, the analysis should include a discussion on the financial weight given to each Development Pillar. The discussion would focus on the selected Development Pillars, which for the purpose of these guidelines and following the main conclusions of the present World Bank Family Agriculture Report have been assumed to be as follows three:

- ARDP Pillar I: Enhancing Agri-Food Productivity and Marketability
- ARDP Pillar II: Reinforcing Agri-Environmental Adaptation
- ARDP Pillar III: Facilitating Income Diversification in Rural Areas

2.- Expected impacts with regard to the priorities chosen

The Rural Development Plan will include a summary of the ex ante evaluation (derived from the full ex ante evaluation annexed to the Plan) and a discussion on how the managing authorities took into account the results of this evaluation. This part shall also comment on the expected impacts of synergies between development priorities and measures, and how integrated actions across them can contribute to positive externalities and win-win situations.
C.- Measures Proposed under each Development Pillar

This section will include the description of the Development Priority Areas or Development Pillars and measures proposed, as well as the definition of specific verifiable objectives and indicators for each of them to allow the implementation progress, efficiency and effectiveness to be measured. As mere working hypotheses for the purpose of these guidelines, tentative measures to be adopted under each of these three Development Pillars have been identified.

Specific information requirements for each of these tentative measures are explained in the next sections, as a way of facilitating the understanding of how these guidelines should be applied. During the actual preparation of the Rural Development Plan, however, these Development Pillars, and their respective measures, would have to be modified according to the outcome of the expanded analytical framework prepared following the procedures suggested in these guidelines and using the present World Bank Family Agriculture Report as a starting point.

In general terms, for each of the Development Pillars and measures discussed below, the text should clearly identify the rationale for the intervention, the objectives, the scope and actions, indicators, quantified targets and where appropriate beneficiaries. Additionally, evidence should be provided to indicate clearly that investment support measures are targeted to well defined objectives and beneficiaries, reflecting identified rural sector needs and structural disadvantages.

1.- ARDP Pillar I: Enhancing Agri-Food Productivity and Marketability

a) Measures Supporting Upgrades of Veterinary and Food Safety Standards

With a view to ensuring upgrades in veterinary and food safety standards, the measures to be included under Pillar I of Uruguay’s ARDP should thus ensure support to:

- Expanding the coverage of current food safety support and enforcement systems to downstream stages of the agri-food value chain (from currently a more farm-based focus);
- Broadening the disease focus beyond FMD to also address risks posed by other zoonoses (most prominently brucellosis);
- Strengthening the regional (i.e. MERCOSUR) coordination on issues related to food safety and transboundary zoonoses

b) Measures Incentivizing Technology Modernization and Adaptation

Key elements of these measures would be aimed at:

- Investments into the Modernization of On-Farm Production
• Investments into processing adding value to primary agricultural and forestry products
• Facilitation of Producer Cooperation for Innovation (development of new products, procurement/marketing processes, and technologies in the agriculture, food and the forestry sector
• Support to the Establishment of Producer Groups

c) **Measures Promoting Knowledge and Improving Human Potential**, which would include:

• Support to the Upgrade and Use of Advisory Services
• Promotion of Intergenerational Asset Transfer

d) **Measures aimed at improving the quality of agricultural production and products**, which could include:

• Meeting standards demanded by the main export markets: list of standards demanded by the EU and USA; description of the impact on farm operating costs stemming from the obligations or restrictions imposed by these standards; amount of support per eligible standard and methodology used to determine this amount.
• Participation of farmers in food quality schemes: list of products qualifying for support under the quality schemes chosen; indication of the official authority or authorities responsible for the supervision of the functioning of the quality scheme and description of the organizational arrangements for the supervision; amount of support per type of eligible scheme and justification of fixed costs.
• Information and promotion activities: list of products qualifying for support under the quality scheme chosen; summary description of the type of eligible costs and rates of support.

2. **ARDP Pillar II: Reinforcing Agri-Environmental Adaptation**

a) **Measures targeting the sustainable use of agricultural land**, which could include:

• Relevant mandatory requirements established by national legislation
• Financial support to promote the sustainable use of land: areas eligible for financial support; description of the methodology and the agronomic assumptions used as reference point for the calculations of financial support to which eligible farmers would be entitled; eligible costs; eligibility criteria for the selection of beneficiaries; amounts of support.
• Technical assistance and technology transfer for improved land management: eligibility criteria; type of assistance offered, operational arrangements.
b) **Measures targeting the sustainable use of water in agricultural production**, which could include:

- Relevant mandatory requirements established by national legislation.
- Financial support to promote the sustainable use of water in agricultural land: areas eligible for financial support; description of the methodology used for the calculations of financial support to which eligible farmers would be entitled; eligible costs; eligibility criteria for the selection of beneficiaries; amounts of support.
- Technical assistance and technology transfer for improved use and conservation of water resources: eligibility criteria; type of assistance offered, operational arrangements.

c) **Measures to promote the conservation of biodiversity**, which could include:

- Relevant mandatory requirements established by national legislation.
- Financial support to promote the sustainable use of biodiversity in the rural areas: areas eligible for financial support; type of biodiversity eligible for financial support; description of the methodology used for the calculations of financial support to which eligible farmers would be entitled; eligible costs; eligibility criteria for the selection of beneficiaries; amounts of support.
- Technical assistance and technology transfer for biodiversity conservation: eligibility criteria; type of assistance offered, operational arrangements.

d) **Measures to address climate change issues**, which could include:

- Mitigation measures: indicate the type of measures, eligibility criteria, target population, type of support offered, operational arrangements.
- Adaptation measures: indicate the type of measures, eligibility criteria, target population, type of support offered, operational arrangements.
- Technical assistance to enable farmers to tap into the carbon finance markets.

3.- **Third Development Pillar: ARDP Pillar III: Facilitating Income Diversification in Rural Areas**

Under this Pillar measures would ensure coordination of non-sectoral development activities in rural areas with sectoral rural development activities, including:

a) **Measures to improve the quality of life in rural areas**, such as: provision of basic services for the rural economy and rural population: types of services supported; types of cost covered.
b) Measures to diversify the rural economy, which could include:

- Diversification into non-agricultural activities: domains of diversification covered, types of beneficiary, and level of support.
- Support for the creation and development of micro-enterprises: types of enterprises eligible for support, description of the type of operations, level of support.
D. A Financing Plan

The programs and measures included in the Rural Development Plan are aimed, as indicated above, at promoting the development of existing and new rural enterprises, through an efficient use of available natural and human resources within an economically, ecologically and socially sustainable development framework. The likelihood of actually financing all the proposed measures will depend on the sources of financing available to Government at the time of implementation of the Rural Development Plan. However, in principle, the sources of these financial resources can be expected to be the annual budget of MGAP; internationally financed development projects; a specially created Rural Development Fund, like the one MGAP is proposing; and beneficiaries’ contribution.

This section would provide a detailed breakdown of the financial resources that will be allocated to the different Development Pillars and their respective measures, as well as the beneficiaries contributions were applicable. Table 1 will present a summarized version of annual expenditure over the life of the Rural Development Plan. Table 2 will present the total (public and private) resources that will be allocated to the different Development Pillars, whereas Table 3 will present an indicative breakdown of total expenditure by measure under each of the selected Development Pillars.

Table 1 Rural Development Plan: Annual Expenditure, 2010-2015

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Table 2 Total expenditure by Development Pillar (US$)

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<th>Development Pillars</th>
<th>MGAP Budgetary Resources</th>
<th>Rural Development Fund</th>
<th>Internationally-Financed Projects</th>
<th>Beneficiaries’ Contribution</th>
<th>Total Cost</th>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
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</table>

Table 3 Indicative breakdown by Rural Development Measure (US$)

<table>
<thead>
<tr>
<th>Measure/ Development Pillar</th>
<th>MGAP Budgetary Resources</th>
<th>Rural Development Fund</th>
<th>Internationally-Financed Projects</th>
<th>Beneficiaries’ Contribution</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Measure …</td>
<td></td>
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<tr>
<td>b) Measure …</td>
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<tr>
<td>c) Measure …</td>
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<tr>
<td>d) Measure …</td>
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<tr>
<td>e) Measure …</td>
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<tr>
<td><strong>Total First Development Pillar</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>a) Measure …</td>
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</tr>
<tr>
<td>b) Measure …</td>
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<td></td>
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<tr>
<td>c) Measure …</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Second Development Pillar</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Measure …</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>b) Measure …</td>
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<td>c) Measure …</td>
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<td></td>
</tr>
<tr>
<td>d) Measure …</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Third Development Pillar</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GRAND TOTAL</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

As the above tables represent only a summarized version of the financial plan, detailed information about cost, expenditure and sources of financing by Development Pillar and measure will be presented as an annex to the Rural Development Plan.
III.- INSTITUTIONAL FRAMEWORK FOR THE PREPARATION AND IMPLEMENTATION OF A RURAL DEVELOPMENT PLAN

This section will provide an overview of the relevant authorities and institutions that will be responsible for the preparation and implementation of the Rural Development Plan. The content of this section will depend necessarily on the institutional framework that the Government of Uruguay will adopt for this purpose. But, in principle, this section should cover the following areas:

**Overall responsibility for rural development planning.** In the case of Uruguay, the overall responsibility for planning rural development will be with the Ministry of Livestock, Agriculture and Fishery, (MGAP). Therefore, this section should briefly described MGAP’s role and the distinction between rural sector planning responsibilities of MGAP and the planning and programming responsibilities of the Government Office of Programming and Budget (*Oficina de Programación y Presupuesto, OPP*) at the national level.

**Management and Implementation of the Rural Development Plan.** Within MGAP, the actual preparation and subsequent implementation of the Plan, reportedly, will be the responsibility of the General Division for Rural Development (DGDR). Details of the different responsibilities assign to the various units within DGDR, including administrative and operational aspects, and monitoring and evaluation, as well as the eventual participation of other units within MGAP in this process, will be given in this section.

**Participation at the regional and local levels.** Given the decentralization process that is being implemented by Government, there is a need to ensure greater regional and local participation throughout the planning, decision-making, implementation and follow-up stages of the Rural Development Plan. Moreover, a strong local participation is likely to result in a stronger regional and local support for rural development measures. This section should describe the role that both the local authorities, particularly the Departmental Agricultural Councils and the Rural Development Tables, will play in the preparation and implementation of the Rural Development Plan.

**Procedures for the selection and financing of eligible proposals.** This section should spell out the operational aspects of the implementation of the measures included in the Rural Development Plan. In particular, this section should indicate not only the eligibility criteria that will be applied throughout the Plan but also the application process itself and the evaluation mechanisms to be used to approve proposals that will benefit from the financial and technical support suggested in the Plan.
IV.- THE MONITORING AND EVALUATION SYSTEM

This section should contain a description of the monitoring and evaluation system to be used by MGAP. The system would be constructed on the basis of a list of output, result, baseline and impact indicators of the Rural Development Plan, that would have to be prepared by the DGDR, or whatever unit is given the responsibility for monitoring the Rural Development Plan and assessing its performance.

The design of the M&E System should include also the list of the competent institutions and organizations that will be consulted during the monitoring and evaluation process, such as regional and local authorities, the economic and social partners and any other appropriate body representing civil society, and non-governmental organizations, including environmental organizations.
ANNEX 3: SELECTED STATISTICS

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007(*)</th>
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<tbody>
<tr>
<td><strong>Total GDP</strong></td>
<td>243,027</td>
<td>247,211</td>
<td>260,967</td>
<td>315,678</td>
<td>379,353</td>
<td>406,705</td>
<td>464,802</td>
<td>541,869</td>
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<tr>
<td><strong>GDP Agro-industry</strong></td>
<td>25,432</td>
<td>25,989</td>
<td>36,461</td>
<td>58,998</td>
<td>65,730</td>
<td>57,990</td>
<td>66,012</td>
<td>82,231</td>
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<tr>
<td><strong>GDP agriculture</strong></td>
<td>14,650</td>
<td>14,710</td>
<td>23,518</td>
<td>39,681</td>
<td>43,920</td>
<td>36,023</td>
<td>40,879</td>
<td>53,459</td>
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<tr>
<td><strong>GDP Associated industries to Agric.</strong></td>
<td>10,782</td>
<td>11,279</td>
<td>12,943</td>
<td>19,317</td>
<td>21,810</td>
<td>21,967</td>
<td>25,133</td>
<td>28,772</td>
</tr>
</tbody>
</table>

1. In current value - Millions of Uruguayan Pesos

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007(*)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total GDP</strong></td>
<td>20,075</td>
<td>18,559</td>
<td>12,329</td>
<td>11,190</td>
<td>13,218</td>
<td>16,621</td>
<td>19,317</td>
<td>23,087</td>
</tr>
<tr>
<td><strong>GDP Agro-industry</strong></td>
<td>2,101</td>
<td>1,951</td>
<td>1,734</td>
<td>2,079</td>
<td>2,290</td>
<td>2,370</td>
<td>2,743</td>
<td>3,504</td>
</tr>
<tr>
<td><strong>GDP agriculture</strong></td>
<td>1,210</td>
<td>1,104</td>
<td>1,125</td>
<td>1,407</td>
<td>1,530</td>
<td>1,472</td>
<td>1,699</td>
<td>2,278</td>
</tr>
<tr>
<td><strong>GDP Associated industries to Agric.</strong></td>
<td>891</td>
<td>847</td>
<td>609</td>
<td>685</td>
<td>760</td>
<td>898</td>
<td>1,045</td>
<td>1,226</td>
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</table>

1.2 GDP composition in Percentage

<table>
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<tr>
<th></th>
<th>100.0</th>
<th>100.0</th>
<th>100.0</th>
<th>100.0</th>
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<th>100.0</th>
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</thead>
<tbody>
<tr>
<td><strong>Total GDP</strong></td>
<td>10.5</td>
<td>10.5</td>
<td>14.1</td>
<td>18.6</td>
<td>17.3</td>
<td>14.3</td>
<td>14.2</td>
<td>15.2</td>
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<tr>
<td><strong>GDP agriculture</strong></td>
<td>6.0</td>
<td>6.0</td>
<td>9.0</td>
<td>12.6</td>
<td>11.6</td>
<td>8.9</td>
<td>8.8</td>
<td>9.9</td>
</tr>
<tr>
<td><strong>GDP Associated industries to Agric.</strong></td>
<td>4.4</td>
<td>4.6</td>
<td>4.9</td>
<td>6.1</td>
<td>5.7</td>
<td>5.4</td>
<td>5.4</td>
<td>5.3</td>
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</tbody>
</table>

2. In current Millions U$S dollars

<table>
<thead>
<tr>
<th></th>
<th>20,075</th>
<th>18,559</th>
<th>12,329</th>
<th>11,190</th>
<th>13,218</th>
<th>16,621</th>
<th>19,317</th>
<th>23,087</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total GDP</strong></td>
<td>2,101</td>
<td>1,951</td>
<td>1,734</td>
<td>2,079</td>
<td>2,290</td>
<td>2,370</td>
<td>2,743</td>
<td>3,504</td>
</tr>
<tr>
<td><strong>GDP agriculture</strong></td>
<td>1,210</td>
<td>1,104</td>
<td>1,125</td>
<td>1,407</td>
<td>1,530</td>
<td>1,472</td>
<td>1,699</td>
<td>2,278</td>
</tr>
<tr>
<td><strong>GDP Associated industries to Agric.</strong></td>
<td>891</td>
<td>847</td>
<td>609</td>
<td>685</td>
<td>760</td>
<td>898</td>
<td>1,045</td>
<td>1,226</td>
</tr>
</tbody>
</table>

3. In constant Millions (to 2007) of Uruguayan Pesos

<table>
<thead>
<tr>
<th></th>
<th>627,010</th>
<th>600,723</th>
<th>480,179</th>
<th>416,695</th>
<th>436,256</th>
<th>479,912</th>
<th>520,578</th>
<th>541,869</th>
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</thead>
<tbody>
<tr>
<td><strong>Total GDP</strong></td>
<td>65,615</td>
<td>63,153</td>
<td>67,088</td>
<td>77,877</td>
<td>75,590</td>
<td>68,428</td>
<td>73,933</td>
<td>82,231</td>
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<tr>
<td><strong>GDP agriculture</strong></td>
<td>37,797</td>
<td>35,745</td>
<td>43,273</td>
<td>52,379</td>
<td>50,508</td>
<td>42,507</td>
<td>45,784</td>
<td>53,459</td>
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<tr>
<td><strong>GDP Associated industries to Agric.</strong></td>
<td>27,818</td>
<td>27,408</td>
<td>23,815</td>
<td>25,498</td>
<td>25,082</td>
<td>25,921</td>
<td>28,149</td>
<td>28,772</td>
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</table>

Source: MGAP-DIEA (2008)

(1) Estimated value; (1) Sum of GDP Agriculture and selected industries; (2) Includes food and wood (except furniture) and leather industry.; (3) Deflated by Wholesale Price Index (until August 2001) and the National Price Index (from September 2001 onwards)
Table 2     Evolution of Number of Farms by Size 1908-1986

<table>
<thead>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Farms (&gt; 1000 ha)</td>
<td>3781</td>
<td>3551</td>
<td>3485</td>
<td>3602</td>
<td>3605</td>
<td>3809</td>
<td>3866</td>
<td>3961</td>
<td>3895</td>
<td>4108</td>
</tr>
<tr>
<td>Medium Farms (&gt;100 &lt;999 ha)</td>
<td>15375</td>
<td>18955</td>
<td>17467</td>
<td>18530</td>
<td>18549</td>
<td>18085</td>
<td>17174</td>
<td>16963</td>
<td>17532</td>
<td>17353</td>
</tr>
<tr>
<td>Small Farms (&lt; 99 ha)</td>
<td>24433</td>
<td>35984</td>
<td>52462</td>
<td>63126</td>
<td>66976</td>
<td>65034</td>
<td>58153</td>
<td>56239</td>
<td>46935</td>
<td>35893</td>
</tr>
<tr>
<td>Total</td>
<td>43589</td>
<td>58490</td>
<td>73414</td>
<td>85258</td>
<td>89130</td>
<td>86928</td>
<td>79193</td>
<td>77163</td>
<td>68362</td>
<td>57354</td>
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</table>

Source: Piñeiro et al. (1991)
MAPS
MAP 1 ENVIRONMENTAL CONSTRAINTS

Source: FAO. For more maps on Uruguay and agricultural resources, go to:
MAP 4  GEOGRAPHICAL DISTRIBUTION OF RURAL POVERTY

Source: Fossatti (2005)