Tobacco Growing, Family Farmers and Diversification Strategies in Brazil:

Current Prospects and Future Potential for Alternative Crops
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Acronyms and Abbreviations

ABIFUMO - Brazilian Tobacco Manufacturers Association
ABS - Banana Producers Association
AFUBRA - Brazilian Tobacco Growers’ Association
AGRECO - Association of Ecological Farmers of Serra Geral Slopes
ATER - Technical Assistance and Rural Extension
BNDES - National Bank for Economic and Social Development
CAPA - Center of Assistance for Small Farmers
CEPAGRO - Center of Studies for the Promotion of Group Agriculture
CONICQ – National Commission for Implementing the FCTC in Brazil
DESENVOLVER - State Program for Family Farming Development through Vertical Production
DESER - Department of Rural and Social Economic Studies
DRETA - Department of Rural Extension and Technical Assistance
ECOVALE - Regional Cooperative of Ecologists Family Farmers
EPAGRI - Santa Catarina State’s Government Agency for Agricultural Research and Rural Extension Services
FAO – Food and Agricultural Organization
FAT - Worker’s Supporting Fund
FCTC - Framework Convention on Tobacco Control
IBGE – Brazilian Institute for Geography and Statistics
MDA - Ministry of Agrarian Development
MALS - Ministry of Agriculture, Livestock and Supplying
MSD - Ministry of Social Development
NGO – Non-Governmental Organization
PFA - Program of Food Acquisition
PRONAF - National Program of Family Farming Strengthening
R&D – Research and Development
SAF – Secretariat of Family Farming of the Brazilian Ministry of Agrarian Development
SEBRAE - Brazilian National Agency for Small Business
SINDIFUMO - Brazilian Tobacco Manufacturers Union
UFSC – Federal University of Santa Catarina
WHO – World Health Organization
Note

This report draws together two existing studies that examine the social and economic context of Brazilian tobacco farming, one (Bonato, 2006) focused on the different aspects involving the tobacco production chain and the FCTC in Brazil whilst the other (Vargas and Campos, 2005) is a study commissioned by WHO that analyzes successful experiences of diversification from tobacco crops in Brazil.

The observations and conclusions presented in this report are entirely those of the authors and may not necessarily reflect the views/policies of the Government of Brazil.
Foreword

The Framework Convention on Tobacco Control (FCTC) is the first international treaty on public health agreed under the auspices of World Health Organization (WHO). This treaty articulates a set of intersectorial initiatives which main purpose is to protect health and to promote quality of life:

[P]rotect present and future generations from the devastating health, social, environmental and economic consequences of tobacco consumption and exposure to tobacco smoke (Framework Convention on Tobacco Control – article 3)\(^1\) \(^2\).

The treaty was unanimously adopted by the World Health Assembly on May, of 2003, after nearly four years of intensive negotiations, involving 192 countries, which Brazil was honored to chair.

The Framework Convention represents a world response to the alarming scenario of 5 million deaths each year for tobacco-caused diseases, 200 thousand out of them occurring in Brazil. The agreement was an outcome of the conclusion that the knowledge accumulated about the grave risks of tobacco use apparently did not suffice to reduce global consumption of tobacco products, once what is at stake is an epidemic induced by dynamics of tobacco transnational market.

Favored by both globalization of the economy and trade liberalization, transnational tobacco companies have been promoting a fast shifting in consumption of tobacco products towards developing countries, insofar as developed countries adopt increasingly stiff measures for reducing smoking impacts on their health systems.

Furthermore, in order to expand and improve production, these same transnational tobacco companies have been encouraging farmers in developing countries to grow tobacco inasmuch as such activity is becoming less attractive in developed countries.\(^3\)

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\(^3\) Presidential Commission Calls for Compensating Tobacco Quota Owners and Growers, Other Economic Aid to Address Crisis in Tobacco-Growing Communities May 14, 2001 [http://tobaccofreekids.org/Script/DisplayPressRelease.php3?ID=361](http://tobaccofreekids.org/Script/DisplayPressRelease.php3?ID=361) The report finds that “tobacco farmers and their communities confront a bleak future” because of declines in demand for U.S.-grown tobacco both domestically and abroad, aggressive competition from cheaper foreign-grown tobacco, high costs to modernize their facilities and price increases for their crops that are significantly outpaced by inflation. The report also finds that the federal government has an obligation to address this crisis because current federal tobacco policy, through price supports and a marketing quota system, has produced a situation in which more people are involved in tobacco production than the system can support.
The low labor costs prevalent in less developed countries creates opportunities for reducing production costs and favors the continuance of low prices for tobacco products, what constitutes a chief strategy for expanding consumption especially among youth and low income populations.

As a consequence, 80% of current global consumption of tobacco and 70% of its production are concentrated in developing countries. Before such a context, WHO estimated that, in case of enduring current trends, in 2020 the number of deaths attributed to tobacco will double and seven out of ten of such deaths will occur in developing countries.

Such scenario poses huge challenges for State Parties to the Convention to confront a globalized and complex dynamics by which transnational tobacco companies take advantage of social and economic vulnerabilities in order to interconnect and fuel two dependence producer cycles: those of consumption expansion and of production expansion.

Since 1991, the World Bank, for understanding that such a dynamics represents a hindrance to sustainable development, changed its policy and started to both inhibit the use of its resources for financing tobacco production and encourage countries to undertake efforts towards the control of tobacco consumption, as part of its strategies for development and poverty fighting.

In this direction, the United Nations Economic and Social Council (ECOSOC) adopted, in 2004, a Resolution recognizing the harmful impacts of tobacco on health and on the economy, environment and development, as well. In this Resolution ECOSOC also emphasizes that initiatives for tobacco control shall be integrated into national programs on poverty reduction. In 2006, ECOSOC prepared a detailed report on the subject, calling both State Parties and UN bodies on collaborating in the implementation of the Framework Convention. A significant part of the report is focused on calling attention to the relation between both consumption and production of tobacco and poverty and development issues:

Tobacco use also raises concerns as a development issue. (…)

Tobacco also contributes to the poverty of individuals and their families because tobacco users are more likely to suffer from disease and loss of both productivity and income (…). Furthermore, tobacco farming and manufacturing can contribute in some cases to the illness and poverty of the families involved in those activities.

Tobacco and poverty form a vicious circle from which it is difficult to escape, unless tobacco users are encouraged and given the support necessary to quit. (Ad Hoc Inter-Agency Task Force on Tobacco Control – Report of the Secretary-General, July 2006 – p. 3-4).

4 http://www1.worldbank.org/tobacco/aboutreport.asp
http://extsearch.worldbank.org/servlet/SiteSearchServlet?submit.y=7&submit.x=18&q=Tobacco+and+poverty&pSt=10
5 Secretary General’s Report to ECOSOC on the activities of the UN Ad Hoc Inter-Agency Task Force on Tobacco Control http://www.who.int/tobacco/communications/events/2006/ecosoc_resolution/en/index.html
6 Secretary General’s Report to ECOSOC on the activities of the UN Ad Hoc Inter-Agency Task Force on Tobacco Control http://www.who.int/tobacco/communications/events/2006/ecosoc_resolution/en/index.html
In Brazil, the major part of the obligations set out by the treaty is already fulfilled, once comprehensive national actions on tobacco control are carried out by the government since 1987. These are actions focused on health services, education and legislation aimed at preventing smoking initiation among youth, promoting smoking cessation and protecting people from the risks of environmental tobacco smoke exposure. As an outcome of these actions, between 1989 and 2005, the per capita cigarettes consumption fell about 32%. Furthermore, smokers prevalence within population aged above 18 decreased from 34% in 1989\(^7\), to 22%\(^8\) in 2003 and to 16% in 2006\(^9\).

Another evidence of Brazilian government’s compliance with the Framework Convention has been the creation, by means of a presidential decree on August of 2003 of a National Committee for the Implementation of Framework Convention on Tobacco Control and its Protocols (CONICQ)\(^{10}\). CONICQ is an inter-ministerial committee comprised of representatives from Ministries of Health; Foreign Affairs; Agriculture, Livestock and Supply; Agrarian Development; Finance; Justice; Labor and Employment; Education; Environment; Communications; Science and Technology; Development, Industry and Foreign Commerce; and Planning, besides the Civil House, the National Secretariat for Drugs Eradication, and the Secretariat of Special Policies for Women. The committee is chaired by the Minister of Health and its Executive Secretariat is assigned to the National Institute of Cancer, a department of the Ministry of Health. Among the CONICQ assignments, are: advisory to Brazilian government regarding decisions on negotiations involving the Convention and its protocols, and the organization of an inter-sectorial governmental plan for fulfilling commitments related to that treaty.

It was with this understanding that, in 2006, CONICQ started to prepare a proposal for a State Agenda towards compliance with the Framework Convention on Tobacco Control, in Brazil. By means of this initiative, all actions and activities provided in the text of the Convention were mapped and referred to each Ministry represented in CONICQ with the purpose of sharing inter-sectorial responsibilities on the implementation of this treaty in Brazil.

The integration of various governmental sectors has been fundamental to overcome further upcoming challenges to the implementation of the Framework Convention in the country. One of them related to the fact that Brazil is the second world producer and the main tobacco exporter.

\(^9\) Ministério da Saúde / Secretaria de Vigilância em Saúde. Vigitel Brasil 2006 \url{Clique aqui para abrir o relatório completo VIGITE}
\(^{10}\) DECREE of August 1, 2003 Set up the National Committee for the Implementation of the Framework Convention on Tobacco Control and its Protocols \url{http://www.planalto.gov.br/ccivil/DNN/2003/Dnn9944.htm}
There are at present in the country near 200 thousand families of small farmers included in the tobacco production chain which is controlled by large transnational tobacco manufacturing companies. These are families who undergo situations of strong vulnerability, once most of them rely almost exclusively on this crop, within a context where demand for national tobacco is dependent of the international market conjuncture, since 85% of the national production is exported. Coupled to it, the process of negotiation of the Convention during the last four years has, by itself, gathered the commitment of several countries to its objectives, expressed through both the prompt adherence to the treaty and the prompt adoption of stiff measures aimed at banning smoking in enclosed public spaces, at enforcing the dissemination of strong sanitary warnings in tobacco products packs and at restricting advertisements and sponsorship of cultural and sport events by cigarette brands among others.\textsuperscript{11}

The lack of access to income alternatives put tobacco growers in the hands of the large manufacturing companies which take advantage of such vulnerability to manipulate their voices against measures aimed at smoking reduction, especially in the tobacco producer countries. This sort of dynamics threatened the process for ratification of FCTC by Brazilian Congress in 2005. The strong and aggressive lobby against FCTC, organized by large tobacco transnational companies and correlated organizations, resorted to arguments of a presumed negative impact of FCTC ratification on the subsistence of tobacco growers.

After almost two years of intensive debates and seven public hearings held by the Senate in the regions of tobacco production, it was understood that FCTC, rather than a threat, represents an opportunity to tobacco growers.

This process has consolidated the commitment of Brazilian society to the Convention and its objectives. It has consolidated the understanding that the Convention offers protection and not a menace to tobacco growers, once in its preamble, and in articles 4 and 7 as well, it recognizes the impact that the global reduction in consumption may have over demand for production, in the long term, and opens room for the search for economically viable alternatives, particularly for tobacco growers. Moreover, in its article 18, the Convention also expresses concerns regarding the severe risks to which tobacco growers and their families are exposed, such as the high risks of acute or chronic pesticide poisoning and risks of developing green tobacco sickness which occurs through skin absorption of dissolved nicotine from tobacco leaves during harvesting.

\begin{flushleft}
\begin{itemize}
\item \textsuperscript{11} Smoke Free Europe 2005 \texttt{http://www.smokefreeworld.com/europe.shtm}
\item Graphic Gallery – Cigarette Packs Health Warnings \texttt{http://tobacco.health.usyd.edu.au/site/supersite/resources/docs/gallery_packwarnings.htm}
\end{itemize}
\end{flushleft}
Brazil was the 100th country to ratify the Convention, in November, 2005, still on time for participating in the first session of the Conference of the Parties to FCTC (COP1) with voting rights.\footnote{United Nations Press Release – 2005 - BRAZIL TO DEPOSIT 100TH RATIFICATION OF WHO FRAMEWORK CONVENTION ON TOBACCO CONTROL ON 3 NOVEMBER http://www.un.org/News/Press/docs/2005/lt4393.doc.htm
UN News Center – 2005 - Brazil becomes 100th member to join UN tobacco control treaty http://www.un.org/apps/news/story.asp?NewsID=16463&Cr=WHO&Cr1=Brazil}

In February of 2006, during COP1, Brazilian delegation promoted and negotiated the inclusion of article 17 of the Convention (alternatives to tobacco growing) as a priority within COP agenda. As a consequence, the COP agreed to create an Ad Hoc Study Group on Alternative Crops with the purpose of proposing guidelines for the implementation of article 17 of the Convention.\footnote{COP Resolution: A/FCTC/COP/1/15 creating a Study Group on Alternative Crops http://www.who.int/gb/fctc/PDF/cop1/FCTC_COP1_15-en.pdf}

In February of 2007, Brazilian Government along with WHO, while COP interim secretariat, organized the First Meeting of Study Group on Alternative Crops.\footnote{First Meeting of the Ad Hoc Study Group on Alternative Crops - Report http://www.inca.gov.br/tabagismo/cquadrooms/inicial.asp?pagina=relatorio1.pdf&item=cquadrooms
Public hearing on agricultural diversification and alternative crops to tobacco for the WHO Framework Convention on Tobacco Control (WHO FCTC)
http://www.who.int/tobacco/framework/cop/events/public_hearings_brazil/en/index.html} Such initiative has been inter-sectorially coordinated in Brazil by the Ministries of Health, Agrarian Development, Agriculture and Foreign Affairs, and convened representatives from various tobacco producer countries, as well as of non governmental organizations and other organizations as the Food and Agriculture Organization (FAO) representing UN Interagency Taskforce on tobacco control (Tobacco Free Initiative – TFI)\footnote{United Nations Taskforce http://www.who.int/tobacco/taskforce/en/}, and the World Bank. The purpose of the meeting was: to analyze the current global context and future perspectives of tobacco production and consumption; gather information on the impact of tobacco production on health, environment, economy and sustainable development; identify factors that facilitate tobacco cultivation as well as factors that difficult it and those which facilitate the development of alternative crops; and identify information and knowledge gaps that must be filled up in order to provide directions to COP regarding the implementation of measures connected to articles 17 and 18 of Framework Convention. This diagnostic will be presented at the second session of COP.

In November of 2005 Brazil launched the National Program of Support to Productive Diversification in Tobacco Growing Areas under the coordination of the Ministry of Agrarian Development. Such initiative represented a further significant step of Brazilian government towards expanding its own compliance to the Framework Convention.
In order to implement this initiative, the Ministry of Agrarian Development has been looking for identifying national production diversification experiences in tobacco growing regions, and also promoting training and providing technical assistance and rural extension (TARE) to small scale farmers and family growers. Partnerships are established between governmental organizations and civil society for the implementation of projects that may contribute for a sustainable rural development in tobacco growing regions.

The participation of a network of TARE organizations in the Program contributes to overcoming the challenges posed to production diversification activities aimed at income generation and improvement in the quality of life of families engaged in tobacco growing. The ongoing activities are based on the principles and guidelines set up in the National Policy on Technical Assistance and Rural Extension (NPTARE) by the Ministry of Agrarian Development.

One of the challenges for the Brazilian diversification program is to assure and expand the financial resources aimed at particular activities of production diversification in the medium and long terms. Financial resources enable to perform researches in the fields of production and commerce; to promote technical qualification; and to implement rural extension with the required quality and sufficient range for attending the 200 thousand families who cultivate tobacco.

The inter-sectorial room created by CONICQ also enables actions for strengthening this program by means of integration and promotion of cooperative plans involving other government sectors in the training and education processes addressed to farmers, in research development, in monitoring, protection and promotion of the health of both farmers and environment.

We understand that, just like there is no magic formula for quitting smoking, there is also no magic solution for finding and implementing crops alternative to tobacco.

It is not a simple task, since it involves issues concerning production systems and prices, cultural and geographical factors, infra-structure, trading assurance, research, training on new production modes and their integration to the policies of sustainable development, among other factors that must be appraised. Both conjunctural and commercial factors within national and international scopes must be taken into account.

It is important to Brazil to establish partnerships with TARE organizations, to strengthen organizations of family tobacco growers and to further the consolidation of actions aimed at sustainable rural development.

The forecasts on the consumption of tobacco products suggest that there is enough time for managing this matter without fright, considering that even scenarios of most restrictive policies on tobacco control foresee a raise in tobacco consumption in the short and medium terms. On the other hand, considering the complexity of the subject, we shall not lose such a precious time.
Yet, there is one certainty: considering the interdependence of all nations in the fields of health and commerce, national and international cooperation is a fundamental element in this process and must be taken as urgent priority in the agenda of COP for the next proceedings on this issue.

In this perspective, it becomes crucial to strengthen the participation of other United Nations agencies as FAO, as well as of the World Bank, the International Labor Organization (ILO) and the World Trade Organization (WTO), so that all them, in association with the World Health Organization (WHO), cooperate with countries and at COP for extending debates on the issue, support the essential researches and make efforts for the inclusion of this matter in the global agenda of sustainable development.

In this perspective of cooperation, the present work has been elaborated by Brazil aiming to share the country’s experience in this process and to collaborate with COP in the implementation of the articles 17 and 18 of the Convention.

If, on the one hand we can celebrate the strength of FCTC for globally mobilizing tobacco control, on the other, we are committed to support tobacco growers in the implementation of activities that generate income and afford quality of life to their families. We do not want these people to be left to misfortune, to be victims of the lack of opportunities and of the strategies of tobacco manufacturing industry. After all, the search for social justice is the mind that leads all State parties to support FCTC, and promoting healthy production modes is promoting social justice too.
Tobacco Growing, Family Farmers and Diversification Strategies in Brazil: Current Prospects and Future Potential for Alternative Crops

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1 Introduction

There is substantial evidence pointing to the harmful effects of the control exercised by tobacco industry over the organization of the tobacco agro-industrial chain in developing countries. The production system used by tobacco farmers is highly labor intensive and requires a considerable amount of pesticides and other agrochemicals. The most cited problems with this production system include the health risks and environment harms resulting from the inappropriate use of pesticides and deforestation, the employment of child labor associated with the extensive use of family labor in tobacco growing and the indebtedness of small family producers to the big tobacco companies\textsuperscript{16}.

Despite the major concerns associated with the increasing expansion of tobacco farming in developing countries, the adoption of diversification strategies and control measures aimed at reducing tobacco production still face considerable barriers mainly due to governments concerns on the potential detrimental effects that such measures would cause in terms of agricultural job losses, decreased tax revenues and export earnings. In this sense, although the industry-commissioned studies on the economic contribution of tobacco clearly overestimate the contribution of tobacco farming activities worldwide\textsuperscript{1}, there is a growing body of scientific evidence to suggest that the concerns on the detrimental macroeconomic effects that tobacco control policies might have on tobacco producing countries turn out to be largely unfounded when the data and evidence

\textsuperscript{16} For a detailed analysis of the main concerns about the health and safety of small family farmers who grow tobacco in the South of Brazil please see a study by Christian Aid/DESER available at: http://www.christian-aid.org.uk/indepth/0201bat/
on the actual economics of tobacco and tobacco control are examined\textsuperscript{17}.

While alternatives to tobacco do exist, lack of resources, lack of capabilities to create new market niches to most traditional food crops, and other restraints associated to transport and storage infrastructure all contribute to make any transition to alternative cash crops quite difficult. In this context, national governments have an important role to play either by enhancing research on viable alternatives to tobacco growing, or by designing and supporting rural development programs aimed at helping tobacco farmers’ transition to other enterprises.

The main objective of this study is to provide a comprehensive overview of the economic aspects of tobacco farming in Brazil and to assess the viability of agricultural alternatives to tobacco production. The analysis of opportunities and challenges for the implementation of crop diversification programs in Brazil draws on the policy lessons emerging from three selected case studies. The paper also examine the Brazilian experience concerning the design and implementation of public policies that can provide the adequate financial support to foster diversification from tobacco crops among Brazilian small family farmers.

This paper is organized in six sections including the present introduction. The second section provides a brief overview of the Brazilian tobacco industry and highlights the growing role played by Brazil and other developing countries in the global expansion of the tobacco industry. Section three begins by presenting the structure and dynamic of the Brazilian tobacco value chain according to the role of the diverse actors (small-farmers, tobacco companies, farmers' associations, etc.) in organizing the productive chain. Section four, analyses the initiatives adopted in the municipalities of Santa Cruz do Sul, Schroeder and Santa Rosa de Lima to foster diversification from tobacco to other sustainable crops; the role of different actors in implementing these interventions; and the reach of such initiatives. This section also emphasizes the main challenges and barriers associated with initiatives aimed at fostering crop diversification in Brazil, concluding with the lessons that can be taken from these experiences. Section five discusses the Brazilian experience concerning the design and implementation of public policies aimed at supporting small family farmers and diversification from tobacco crops. The section also provides an overview of eight selected rural development programs that may give the adequate financial support to foster diversification from tobacco crops among Brazilian small family farmers. Finally, the main conclusions are presented in section six.

\textsuperscript{17} For a comprehensive analysis about the economic significance of tobacco see, among others, Jacobs et al. (2000), Van der Merwe (1998), Warner et al. (1995); and Buck et al. (1995).
The global tobacco industry represents a remarkable oligopoly dominated by few highly profitable transnational companies which control both the international trade in tobacco products and an extensive network of related and supporting industries worldwide. The global expansion of tobacco industry during the past decades has led to sharp increases in tobacco leaf production, as well as to the growing participation of developing countries in the tobacco farming and manufacturing activities\(^\text{18}\). However, despite the growing role of developing countries in these linkages within the value chain, most of the tobacco exporting countries depend heavily on a small number of external customers associated to major retailers or brand-name companies.

On the one hand, for developing countries that are major tobacco producers, the access to global tobacco production networks is increasingly based on both their lower costs of production and their functional integration to the lead transnational tobacco companies. In this sense, these local producers remain tied to specific activities within particular links of the tobacco value chain – particularly tobacco growing - that are increasingly related to low entry barriers and to declining incomes. On the other hand, the ability of the lead tobacco transnational companies to govern the global value chain rests on intangible competences – like R&D, branding and marketing activities – which are characterized by high entry barriers and which command high returns (Vargas, 2004). Hence, although the global tobacco farming activities entails a strategic stage in the tobacco value chain, accounting for approximately US$ 20 billion, this is only a small share of the total amount generated from the sale of manufactured tobacco products (Mackay and Eriksen, 2002).

This section presents a brief overview of the social and economic implications of tobacco farming in Brazil. The analysis departs from the growing participation of developing countries in the world tobacco production and discusses the key issues concerning the structural characteristics and geographical distribution of tobacco farming activities in Brazil.

\(^{18}\) World tobacco leaf production in dry weight increased from 4.3 million tonnes in 1970 to 8.1 million tonnes in 1997, an increase of almost 90 percent over this period (FAO, 2003).
2.1 The growing role of developing countries in tobacco farming

Tobacco farming activities are spread over more than 100 countries around the world, with developing countries accounting for about 85 percent of world production. The top tobacco-producing countries are showed in Table 1 below. The People’s Republic of China is the world’s largest producer of tobacco, supporting about 41 percent of the world’s total production. However, because China consumes most of its own production, it does not yet pose any significant threat to other tobacco producing countries in international trade. The United States was the second largest producer until 1998, but its share has dropped from 10.2 percent in 1998 to 4.4 percent in 2005.

Table 1: World’s top tobacco-growing countries, the area cultivated and tobacco leaf exports, 2005

<table>
<thead>
<tr>
<th>Country</th>
<th>2005 production metric tons</th>
<th>share of world total volume</th>
<th>2005 Area Harv (Ha)</th>
<th>Share of total world area</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>World</strong></td>
<td>6,565,250</td>
<td>100.0%</td>
<td>3,981,233</td>
<td>100.0%</td>
</tr>
<tr>
<td>Developed Countries</td>
<td>971,737</td>
<td>14.8%</td>
<td>447,222</td>
<td>11.2%</td>
</tr>
<tr>
<td>Developing Countries</td>
<td>5,593,513</td>
<td>85.2%</td>
<td>3,534,011</td>
<td>88.8%</td>
</tr>
<tr>
<td><strong>Low-Income Countries</strong></td>
<td>1,233,178</td>
<td>18.8%</td>
<td>989,300</td>
<td>24.8%</td>
</tr>
<tr>
<td>China</td>
<td>2,685,500</td>
<td>40.9%</td>
<td>1,402,200</td>
<td>35.2%</td>
</tr>
<tr>
<td>Brazil</td>
<td>878,651</td>
<td>13.4%</td>
<td>492,889</td>
<td>12.4%</td>
</tr>
<tr>
<td>India</td>
<td>598,000</td>
<td>9.1%</td>
<td>438,000</td>
<td>11.0%</td>
</tr>
<tr>
<td>United States of America</td>
<td>290,100</td>
<td>4.4%</td>
<td>124,240</td>
<td>3.1%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>141,000</td>
<td>2.1%</td>
<td>145,000</td>
<td>3.6%</td>
</tr>
<tr>
<td>Turkey</td>
<td>140,716</td>
<td>2.1%</td>
<td>190,000</td>
<td>4.8%</td>
</tr>
<tr>
<td>Greece</td>
<td>123,000</td>
<td>1.9%</td>
<td>56,000</td>
<td>1.4%</td>
</tr>
<tr>
<td>Argentina</td>
<td>118,000</td>
<td>1.8%</td>
<td>66,000</td>
<td>1.7%</td>
</tr>
<tr>
<td>Italy</td>
<td>110,000</td>
<td>1.7%</td>
<td>38,000</td>
<td>1.0%</td>
</tr>
<tr>
<td>Pakistan</td>
<td>84,400</td>
<td>1.3%</td>
<td>45,100</td>
<td>1.1%</td>
</tr>
<tr>
<td>Thailand</td>
<td>70,000</td>
<td>1.1%</td>
<td>40,000</td>
<td>1.0%</td>
</tr>
<tr>
<td>Malawi</td>
<td>69,500</td>
<td>1.1%</td>
<td>150,000</td>
<td>3.8%</td>
</tr>
<tr>
<td>Korea, Dem People’s Rep</td>
<td>65,400</td>
<td>1.0%</td>
<td>46,000</td>
<td>1.2%</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>65,000</td>
<td>1.0%</td>
<td>40,000</td>
<td>1.0%</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>62,000</td>
<td>0.9%</td>
<td>43,004</td>
<td>1.1%</td>
</tr>
<tr>
<td>Japan</td>
<td>49,000</td>
<td>0.7%</td>
<td>19,448</td>
<td>0.5%</td>
</tr>
<tr>
<td>Philippines</td>
<td>47,800</td>
<td>0.7%</td>
<td>33,771</td>
<td>0.8%</td>
</tr>
<tr>
<td>Canada</td>
<td>43,000</td>
<td>0.7%</td>
<td>16,000</td>
<td>0.4%</td>
</tr>
<tr>
<td>Spain</td>
<td>40,192</td>
<td>0.6%</td>
<td>13,747</td>
<td>0.3%</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>39,000</td>
<td>0.6%</td>
<td>30,352</td>
<td>0.8%</td>
</tr>
<tr>
<td>Colombia</td>
<td>35,760</td>
<td>0.5%</td>
<td>17,684</td>
<td>0.4%</td>
</tr>
<tr>
<td>Korea, Republic of</td>
<td>35,666</td>
<td>0.5%</td>
<td>18,000</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

Source: FAOSTAT. Available at: [http://faostat.fao.org](http://faostat.fao.org); UNCTAD (2005);
Although around one third of world tobacco production is traded internationally, tobacco leaf export does not have a significant share in total export values in most of tobacco producing and exporting countries. Brazilian, share for tobacco leaf exports in total exports is only 1.1 percent. In USA and Turkey, other major tobacco exporting countries, tobacco exports account for less than one percent of total exports. Thus, for almost all tobacco exporting countries, except for Malawi and Zimbabwe, where tobacco accounts, respectively, for about 49 and 7.5 percent of total export earnings, tobacco accounts only for a small share of foreign earnings.

Recently, Brazil became the second largest producer in the world and consolidated its position as the world’s largest exporter of tobacco. This increased production and export of Brazilian tobacco are directly attributable to: (i) the comparatively low cost of production; (ii) the integrated production system, involving contracts directly between farmers and industry; and (iii) the quality of the Virginia tobacco produced in Brazil (Vargas, 2005: 2).

The burgeoning of Brazilian tobacco production in international markets also reflects an important trend of shifting tobacco farming to low-income and middle-income countries over the past two decades (World Bank, 1999). As shown in Figure 1 below, developing countries increased their share of world tobacco production from 51 percent to 85 percent from 1962 to 2005; the total share of tobacco production in developed countries fell from 49 percent to 14.8 percent (FAO, 2003).

**Figure 1: Tobacco Production by Developed and Developing Countries, 1962-2005**


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19 Some large tobacco-growing countries - like Malawi, United Republic of Tanzania and Zimbabwe - manufacture very few tobacco products of their own. In addition, some important cigarette and cigar-producing countries do not grow any tobacco domestically.

20 In 2005.

21 Zimbabwe used to be one of the world’s biggest tobacco exporters. During the 1990s the country accounted for about 20% of global exports of flue-cured tobacco, used for blending with cheaper leaf. However, since 2001, a major land transfer in the country has resulted in a considerable reduction in tobacco growing. (Zimbabwe Tobacco and Products, Annual Report, 2004; available at [http://www.fas.usda.gov/gainfiles/200405/146106428.doc](http://www.fas.usda.gov/gainfiles/200405/146106428.doc)).
The increasing participation of developing countries in world tobacco production is explained by several factors. First, production costs in developing countries are lower than in developed countries. Second, tobacco use in developed countries has declined, while tobacco demand in developing countries—for both cigarette manufacturing and exports—has increased, catalyzing increased tobacco production. Third, as part of a broader globalization trend during the 1990s, the multinational tobacco companies have established a growing presence in developing countries, and encouraged the expansion of tobacco growing in order to supply new processing plants. Finally, in many developing countries tobacco is still considered a relatively profitable cash crop, particularly when compared with other traditional food crops (World Bank, 1999: 61). Moreover, there are indirect benefits associated with tobacco growing, including loans, inputs, technical support, or other forms of support from government or the industry, and well-developed marketing systems, that help make tobacco an attractive crop for small farmers in developing countries, and that hamper efforts to switch from tobacco to alternative crops (Jacobs et al., 2000; World Bank, 1999: 5; Vargas and Campos, 2005).

For many developing countries, exports of domestic tobacco leaf in the global market depend heavily on a small number of foreign customers associated with the major retailers of tobacco products. This makes access to global tobacco trade networks increasingly based on relatively low costs of production, good quality of leaves and functional integration with the major transnational tobacco companies. The ability of the major transnational tobacco companies to govern the global tobacco value chain rests on R&D, branding and marketing activities, which are characterized by high barriers to entry and command high returns (Vargas, 2004: 10). Because there are many developing countries growing tobacco but a limited number of manufacturers, it is difficult for growing countries to compete in the global market unless they keep the production costs low, quality high and have good trade networks. Hence, although global tobacco farming activities are a key stage in the tobacco value chain, accounting for approximately US $20 billion, this is only a small share—less than 10 percent—of the total amount generated by tobacco companies from the sale of manufactured tobacco products.

### 2.2 Effects in Brazilian Tobacco Exports

Since 1993, Brazil leads world exports of tobacco leaf. Between years 2000/2001 and 2004/2005 Brazilian exports increased by 65 percent. Other two countries which advanced in the contest for foreign market shares are China and Malawi, with growths, in the same period, of 38.5 percent and 32.3 percent, respectively (USDA, 2007).

---

22 However, tobacco does not always provide the best returns. For example, one recent study indicated that mixed cropping without tobacco provided higher net returns than mono-cropping tobacco. However, tobacco farmers in developing countries are carried away by the high gross return from tobacco instead of comparing net returns (Malhotra, 2001: 15, World Bank, 2003: 5).

23 This figure is based on the estimated global value of tobacco crops (Mackay and Eriksen, 2002: 46).

24 For a discussion on the asymmetries emerging from the process of income appropriation along the different stages of the global tobacco chain please see Vargas (2004). According to a recent study (WHO, 2004:16), the combined net revenue of the three biggest tobacco transnational companies is around US$100 billion per year.
Owing to decrease in production by some countries (chiefly United States and Zimbabwe which until recently were the main competitors of Brazilian exports), Brazil is expanding tobacco production every year and has increased its participation in the foreign market. About 85 percent of Brazilian tobacco leaf production is exported, and tobacco leaf represents nearly the total amount of exports in the sector (99.5%).

As shown in Table 2 below, between 1994 and 2004, the total volume exported (tobacco leaf, cigarettes and tobacco by-products) grew 76.7 percent, producing an average annual revenue of US$ 1.1 billion. In 2004, the total tobacco exports were near 593 thousand tonnes – a raise of 24.1 percent in relation to 2003. The average export price was US$2.40/kg, producing an income of US$ 1.425 billion (30.8% higher than in the previous year).

Table 2: Tobacco Leaf Exports by Chief Countries (tonnes)

<table>
<thead>
<tr>
<th>Country</th>
<th>2000/01</th>
<th>2001/02</th>
<th>2002/03</th>
<th>2003/04</th>
<th>2004/05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brasil</td>
<td>341,500</td>
<td>435,500</td>
<td>476,000</td>
<td>466,000</td>
<td>564,000</td>
</tr>
<tr>
<td>Estados Unidos</td>
<td>179,892</td>
<td>186,302</td>
<td>153,427</td>
<td>155,454</td>
<td>162,000</td>
</tr>
<tr>
<td>China</td>
<td>113,259</td>
<td>139,918</td>
<td>140,783</td>
<td>146,123</td>
<td>156,900</td>
</tr>
<tr>
<td>Índia</td>
<td>123,185</td>
<td>85,500</td>
<td>120,000</td>
<td>125,000</td>
<td>90,000</td>
</tr>
<tr>
<td>Malawi</td>
<td>101,250</td>
<td>110,168</td>
<td>124,301</td>
<td>121,021</td>
<td>138,000</td>
</tr>
<tr>
<td>Itália</td>
<td>100,608</td>
<td>109,524</td>
<td>119,165</td>
<td>120,882</td>
<td>110,000</td>
</tr>
<tr>
<td>Turquia</td>
<td>100,900</td>
<td>96,450</td>
<td>88,840</td>
<td>107,870</td>
<td>100,000</td>
</tr>
<tr>
<td>Zimbábue</td>
<td>182,072</td>
<td>135,017</td>
<td>143,487</td>
<td>101,836</td>
<td>61,500</td>
</tr>
<tr>
<td>Grécia</td>
<td>85,389</td>
<td>80,300</td>
<td>90,000</td>
<td>98,000</td>
<td>98,000</td>
</tr>
<tr>
<td>Argentina</td>
<td>55,400</td>
<td>73,700</td>
<td>80,600</td>
<td>78,400</td>
<td>79,000</td>
</tr>
<tr>
<td>Outros</td>
<td>748,287</td>
<td>788,721</td>
<td>555,286</td>
<td>555,253</td>
<td>537,130</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2,131,742</td>
<td>2,241,100</td>
<td>2,091,889</td>
<td>2,075,839</td>
<td>2,096,530</td>
</tr>
</tbody>
</table>

Fonte: USDA
Table 3: Brazilian Tobacco and Tobacco By-Products Exports¹

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity (tons)</th>
<th>Index (1994 = 100)</th>
<th>Value (US$1,000)</th>
<th>Export Price (US$/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>335,567</td>
<td>100</td>
<td>1,030,708</td>
<td>3.07</td>
</tr>
<tr>
<td>1995</td>
<td>321,298</td>
<td>96</td>
<td>1,174,961</td>
<td>3.66</td>
</tr>
<tr>
<td>1996</td>
<td>365,254</td>
<td>109</td>
<td>1,515,392</td>
<td>4.15</td>
</tr>
<tr>
<td>1997</td>
<td>409,919</td>
<td>122</td>
<td>1,664,806</td>
<td>4.06</td>
</tr>
<tr>
<td>1998</td>
<td>392,875</td>
<td>117</td>
<td>1,558,990</td>
<td>3.13</td>
</tr>
<tr>
<td>1999</td>
<td>358,746</td>
<td>107</td>
<td>961,237</td>
<td>2.59</td>
</tr>
<tr>
<td>2000</td>
<td>353,022</td>
<td>105</td>
<td>841,474</td>
<td>2.38</td>
</tr>
<tr>
<td>2001</td>
<td>443,847</td>
<td>132</td>
<td>944,316</td>
<td>2.12</td>
</tr>
<tr>
<td>2002</td>
<td>474,472</td>
<td>141</td>
<td>1,008,169</td>
<td>2.10</td>
</tr>
<tr>
<td>2003</td>
<td>477,541</td>
<td>142</td>
<td>1,090,219</td>
<td>2.26</td>
</tr>
<tr>
<td>2004</td>
<td>592,844</td>
<td>177</td>
<td>1,425,762</td>
<td>2.40</td>
</tr>
<tr>
<td>2005</td>
<td>629,630</td>
<td>188</td>
<td>1,706,520</td>
<td>2.71</td>
</tr>
</tbody>
</table>

Fonte: SECEX/DECEX.
¹ Comprises tobacco leaf, cigarettes and other tobacco products

From 1994 to 2005, the raise in volume of tobacco exported was of 88 percent. In 2005, Brazilian exports of tobacco leaf reached 629.6 thousand tonnes, a volume 8.2 percent higher than that registered in 2004, and 34.5 percent higher than in 2003.

In national terms, the tobacco leaf represented 1.1 percent of Brazilian total exports (agricultural and manufacturing products) which, in 2005, amounted to US$118.3 billion (FOB). For the southern region of the country, tobacco was the second main export product, representing 5 percent of the US$ 26 billion total exports by the region. The firms from South region accounted, in 2006, for the export of 337.1 tonnes of tobacco, amounting to US$ 1.307 million. Nearly 87 percent of tobacco exports were transacted through Rio Grande do Sul State, and the remaining 13 percent through Santa Catarina State. The main export firms were: Universal Leaf Tabacos (40.3%), Alliance One Brasil (33.9%) and Souza Cruz (25.8%).
The exportation of cigarettes, cigarillos and cigars has been almost insignificant in the latest years, reaching 2.83 tonnes in 2005 with a total value of US$ 16.2 million and an average price per kilo of US$ 5.74.

Currently the tobacco export firms are betting on the reduction of the export prices for attaining new markets. Furthermore, it is important to emphasize that the tax exemption for exportation of *in natura* products and semi-processed products provided extraordinary gains to the transnational companies established in Brazil, which started exporting leaf tobacco to be processed in their countries of origin. Thus, a fundamental part of the production process, where value is added and job posts are created, is carried out in the import countries.

Although the export price for leaf tobacco has decreased, the exportations revenue is growing every year due to increases in both exported quantity and production. Such grow can be mainly explained by the decline in world final tobacco stocks and also by the significant expansion in demand for Brazilian tobacco by China (a raise of 347% in export values from 2003 to 2005), by Indonesia (raise of 223%), by Poland (raise of 220%), by Philippines (raise of 207%) and by South Africa (raise of 77%), as can be seen in Table 4.

Table 4: Brazilian Tobacco Leaf Exports by Destination

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>203,478,948</td>
<td>211,459,285</td>
<td>179,817,754</td>
<td>211,459,285</td>
<td>(11.6)</td>
</tr>
<tr>
<td>Germany</td>
<td>116,876,420</td>
<td>147,747,071</td>
<td>174,361,456</td>
<td>147,747,071</td>
<td>49.2</td>
</tr>
<tr>
<td>Netherlands</td>
<td>65,808,919</td>
<td>57,403,345</td>
<td>65,632,343</td>
<td>57,403,345</td>
<td>(0.3)</td>
</tr>
<tr>
<td>Russia</td>
<td>63,321,879</td>
<td>56,959,056</td>
<td>104,249,220</td>
<td>56,959,056</td>
<td>64.6</td>
</tr>
<tr>
<td>China</td>
<td>55,670,528</td>
<td>101,864,985</td>
<td>248,822,276</td>
<td>101,864,985</td>
<td>347.0</td>
</tr>
<tr>
<td>Philippines</td>
<td>27,921,720</td>
<td>81,166,008</td>
<td>85,712,188</td>
<td>81,166,008</td>
<td>207.0</td>
</tr>
<tr>
<td>Turkey</td>
<td>34,127,642</td>
<td>24,517,011</td>
<td>52,245,959</td>
<td>24,517,011</td>
<td>53.1</td>
</tr>
<tr>
<td>Poland</td>
<td>18,611,238</td>
<td>24,855,377</td>
<td>59,528,141</td>
<td>24,855,377</td>
<td>219.9</td>
</tr>
<tr>
<td>Indonesia</td>
<td>14,097,956</td>
<td>36,583,300</td>
<td>45,642,099</td>
<td>36,583,300</td>
<td>223.7</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>37,372,410</td>
<td>39,495,857</td>
<td>43,348,042</td>
<td>39,495,857</td>
<td>16.0</td>
</tr>
<tr>
<td>South Africa</td>
<td>30,408,466</td>
<td>67,841,924</td>
<td>53,935,331</td>
<td>67,841,924</td>
<td>77.4</td>
</tr>
<tr>
<td>Other countries</td>
<td>339,643,306</td>
<td>439,454,752</td>
<td>386,243,590</td>
<td>439,454,752</td>
<td>13.7</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1,007,339,432</strong></td>
<td><strong>1,289,347,971</strong></td>
<td><strong>1,499,538,399</strong></td>
<td><strong>1,289,347,971</strong></td>
<td><strong>48.9</strong></td>
</tr>
</tbody>
</table>

Source: MDIC/SECEX.
In 2005, China was, individually, the main import country of Brazilian tobacco, accounting for 16.6 percent of the income generated by tobacco exportations, being the Chinese participation, in 2004 and 2003, of 7.9 percent and 5.5 percent, respectively. United States and Germany that jointly represented 32 percent and 28 percent, in 2003 and 2004, have reduced their relative participation to 24 percent in 2005.

2.3 Tobacco farming in Brazil: production and markets

In 2005, according to data from IBGE (PAM – Produção Agrícola Municipal) (Municipal Agricultural Production), Brazilian tobacco production was 889.4 tonnes, equivalent to R$ 3.5 billion, within an area of 494 thousand ha. South region alone accounts for 94.5 percent of Brazilian production, being Rio Grande do Sul the state responsible for over a half of total production.

In comparison to year 2000, the harvest production of 2005 has been 53.4 percent higher and the harvest area has expanded 59 percent in this period. According to AFUBRA, the forecast for 2005/2006 harvesting is of a national production of 769,660 tonnes, using an area of 417 thousand hectares25.

Table 5: Tobacco crops in Brazil in 2005

<table>
<thead>
<tr>
<th>Brazil and Regions and States</th>
<th>Sown area</th>
<th>Production Quantity</th>
<th>Productivity</th>
<th>Production Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hectares</td>
<td>Tonnes</td>
<td>Hectares</td>
<td>Hectares</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>1,801</td>
<td>3,545,333</td>
</tr>
<tr>
<td>Brazil</td>
<td>493,761</td>
<td>889,426</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>South region</td>
<td>466,535</td>
<td>862,763</td>
<td>94.5</td>
<td>97.0</td>
</tr>
<tr>
<td>Northeast region</td>
<td>25,545</td>
<td>25,707</td>
<td>5.2</td>
<td>2.9</td>
</tr>
<tr>
<td>North region</td>
<td>1,431</td>
<td>846</td>
<td>0.3</td>
<td>0.1</td>
</tr>
<tr>
<td>Southeast region</td>
<td>250</td>
<td>110</td>
<td>0.1</td>
<td>440</td>
</tr>
</tbody>
</table>

Source: IBGE - Produção Agrícola Municipal (PAM), 2005.

25 For comparative effects, since the criteria applied by IBGE and AFUBRA are different, the production of 2004/2005 harvest according AFUBRA was of 843,990 tonnes, using a total area of 439,220 hectares.
The map below explains the concentration of tobacco production in different regions of the country. According to data from IBGE, tobacco crop is present in 763 counties, what means 65 percent of the counties from South region. If we consider only those counties where tobacco production is significant (yield over 20 ton), there will be 645 counties (144 in Paraná, 223 in Santa Catarina and 278 in Rio Grande do Sul).

In Rio Grande do Sul, tobacco production is mainly localized in the middle-regions Central-Eastern (200 thousand ton), Porto Alegre Metropolitan region (67 thousand ton), Southeast (60 thousand ton) and Northwest (56 thousand ton). In the Southern region, the counties of Venâncio Aires, Candelária, Canguçu, Santa Cruz do Sul, Camaquã and São Lourenço do Sul stand out. In Santa Catarina, the middle-region of Vale do Itajaí is the main producer (80 thousand ton), followed by the South of the state (73 thousand ton), then the North (62 thousand ton) and the West (50 thousand ton). In county terms, the outstanding counties are: Canoinhas, Itaiópolis, Santa Terezinha, Araranguá and Ireneópolis. In the state of Paraná, the production is rather localized in the regions Center-South (83 thousand ton), Southeast and Curitiba Metropolitan area (24 thousand ton, both). The main producer counties are Rio Azul, Ipiranga, Piên and São João do Triunfo.

In the Northeast region of the country the tobacco production presents a greater relative significance in the states of Bahia, Sergipe and Alagoas. In the state of Bahia there are 36 producer counties (yield over 20,000 ton), Salvador Metropolitan middle-region featuring with a production of 7,219 tonnes, especially the counties of Cabaceiras do Paraguaçu (1,600 ton), Cruz das Almas (1,487 ton), Sapeaçu (1,476 ton) and Governador Mangabeira (1,470 ton). In Alagoas tobacco production is localized in the middle-region of Agreste Alagoano (10,798 ton), particularly in the counties of Arapiraca (5,760 ton) and Girau do Ponciano (1,710 ton). In Sergipe the tobacco production is quite located in the middle-region of Agreste Sergipano, with 2,163 tonnes most of which in the county of Lagarto (1,430 ton). Yet in Bahia, mostly concentrated in the region of Recôncavo Sul, there are nearly 7 thousand farmers dedicated to the cultivation of dark tobaccos specially used for manufacturing cigars and cigarillos.
Figure 2: Geographical Distribution of Tobacco Leaf Production in Brazil - 2005

Source: IBGE-Produção Agrícola Municipal - 2005
2.4 Tobacco Farming in the South of Brazil

Rio Grande do Sul is the main tobacco producer with a yield, in 2005, according to Sindifumo, of 386 thousand tonnes (50% of the total production of the region), followed by Santa Catarina with 248 thousand tonnes (32%) and Paraná with 140 thousand tonnes (18%), totalizing 895 thousand tonnes in the whole region.

In comparison to the harvest of 2003, the total production of South region experienced a decrease of 9.1 percent, particularly in the states of Rio Grande do Sul and Santa Catarina, due to a severe drought during the first months of the year which injured the crops not yet harvested, and affected quality and productivity of the crop. The average decrease of productivity in the region was 6.3 percent, and in Rio Grande do Sul it was of 9.3 percent. Parana was the only state showing growth in production (1%). However, in the course of these two years, the sown area increased in the three states, being of 2.3 percent the average growth in the region. In terms of varieties produced, out of the total yield in South region Virginia tobaccos participation was of 82.7 percent, while Burley and Ordinary types responded for 16.4 percent and 0.9 percent of total production, respectively.


<table>
<thead>
<tr>
<th>State</th>
<th>Sown Area (ha)</th>
<th>Production (t)</th>
<th>Productivity (kg/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rio Grande do Sul</td>
<td>203,804</td>
<td>206,321</td>
<td>435,324</td>
</tr>
<tr>
<td>Santa Catarina</td>
<td>135,949</td>
<td>138,194</td>
<td>278,320</td>
</tr>
<tr>
<td>Paraná</td>
<td>67,416</td>
<td>71,883</td>
<td>138,844</td>
</tr>
<tr>
<td>Total South region</td>
<td>407,169</td>
<td>416,398</td>
<td>852,488</td>
</tr>
</tbody>
</table>

Source: Sindifumo.
The table below presents some counties from the three Southern states, selected with basis on the significance of tobacco yield in the county (either with respect to the yielded quantity or the weight of this product in the total value of agricultural production, not including livestock), and comparing it with both the importance of rural population in the county and the human development index\(^26\).

In almost all of the forty counties, tobacco responds for more than 50 percent of the county agricultural production. In more than one third of these counties, tobacco represents over 80 percent of the gross value of the whole agricultural production. Furthermore, such structure of the production system is an outcome of a lengthy historical process and is quite consolidated, creating significant difficulties for the introduction, in the short and medium terms, of new production systems.

A characteristic common to the major part of these counties is the predominance of rural population. In more than a half of the counties rural population represents over 60 percent of total population. In spite of tobacco growing occupying small areas of land and despite the high dependence on tobacco for income generation, tobacco culture has the capacity to retain people in the rural space. The requirement of labor for tobacco production may be one of the influential factors.

\(^{26}\) Data regarding production refer to 2005 (IBGE, Municipal Agricultural Production), while population and HDI data refer to 2000.
Table 7: Participation of tobacco crop in the Gross Value of Production (GVP), Rural Population and Human Development Index – in selected counties

<table>
<thead>
<tr>
<th>COUNTY</th>
<th>TOBACCO CROP (2005)</th>
<th></th>
<th>% of Rural Population</th>
<th>HDI</th>
<th>State HDI classif</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Production (ton)</td>
<td>GVP</td>
<td>% tobacco in GVP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PARANÁ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piên</td>
<td>8,775</td>
<td>38,259</td>
<td>79.8</td>
<td>70.6</td>
<td>0.753</td>
</tr>
<tr>
<td>São João do Triunfo</td>
<td>8,174</td>
<td>36,783</td>
<td>70.3</td>
<td>71.8</td>
<td>0.679</td>
</tr>
<tr>
<td>Rio Azul</td>
<td>10,308</td>
<td>46,386</td>
<td>62.4</td>
<td>66.7</td>
<td>0.738</td>
</tr>
<tr>
<td>Guamiranga</td>
<td>4,428</td>
<td>19,926</td>
<td>59.3</td>
<td>77.2</td>
<td>0.702</td>
</tr>
<tr>
<td>Paulo Frontin</td>
<td>3,610</td>
<td>14,440</td>
<td>47.2</td>
<td>73.3</td>
<td>0.735</td>
</tr>
<tr>
<td>Rio Negro</td>
<td>4,300</td>
<td>18,748</td>
<td>44.9</td>
<td>21.8</td>
<td>0.801</td>
</tr>
<tr>
<td>Ipiranga</td>
<td>9,250</td>
<td>35,150</td>
<td>43.0</td>
<td>70.0</td>
<td>0.728</td>
</tr>
<tr>
<td>Ivaí</td>
<td>4,400</td>
<td>16,720</td>
<td>40.0</td>
<td>68.8</td>
<td>0.701</td>
</tr>
<tr>
<td>RIO GRANDE DO SUL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dom Feliciano</td>
<td>12,600</td>
<td>42,464</td>
<td>92.3</td>
<td>80.8</td>
<td>0.730</td>
</tr>
<tr>
<td>Boqueirão do Leão</td>
<td>8,200</td>
<td>31,627</td>
<td>92.0</td>
<td>80.6</td>
<td>0.752</td>
</tr>
<tr>
<td>Sinimbu</td>
<td>9,870</td>
<td>37,753</td>
<td>90.4</td>
<td>88.3</td>
<td>0.759</td>
</tr>
<tr>
<td>Barros Cassal</td>
<td>7,920</td>
<td>26,532</td>
<td>89.2</td>
<td>71.4</td>
<td>0.695</td>
</tr>
<tr>
<td>Vale do Sol</td>
<td>13,200</td>
<td>50,582</td>
<td>85.7</td>
<td>93.2</td>
<td>0.759</td>
</tr>
<tr>
<td>Arroio do Tigre</td>
<td>10,725</td>
<td>43,704</td>
<td>81.6</td>
<td>56.9</td>
<td>0.764</td>
</tr>
<tr>
<td>Vera Cruz</td>
<td>10,600</td>
<td>37,694</td>
<td>81.3</td>
<td>53.5</td>
<td>0.791</td>
</tr>
<tr>
<td>Santa Cruz do Sul</td>
<td>16,131</td>
<td>67,347</td>
<td>79.0</td>
<td>12.9</td>
<td>0.817</td>
</tr>
<tr>
<td>Venâncio Aires</td>
<td>25,000</td>
<td>88,900</td>
<td>77.9</td>
<td>40.9</td>
<td>0.792</td>
</tr>
<tr>
<td>Candelária</td>
<td>23,100</td>
<td>94,133</td>
<td>77.2</td>
<td>53.2</td>
<td>0.757</td>
</tr>
<tr>
<td>Agudo</td>
<td>12,150</td>
<td>55,448</td>
<td>67.3</td>
<td>67.6</td>
<td>0.786</td>
</tr>
<tr>
<td>Canguçu</td>
<td>21,542</td>
<td>70,012</td>
<td>66.1</td>
<td>65.6</td>
<td>0.733</td>
</tr>
<tr>
<td>São Lourenço do Sul</td>
<td>15,583</td>
<td>46,318</td>
<td>54.3</td>
<td>46.3</td>
<td>0.777</td>
</tr>
<tr>
<td>Gramado Xavier</td>
<td>5,000</td>
<td>17,515</td>
<td>93.7</td>
<td>89.6</td>
<td>0.749</td>
</tr>
<tr>
<td>Barão do Triunfo</td>
<td>5,940</td>
<td>28,809</td>
<td>92.4</td>
<td>91.1</td>
<td>0.739</td>
</tr>
<tr>
<td>Segredo</td>
<td>7,505</td>
<td>30,583</td>
<td>88.2</td>
<td>75.6</td>
<td>0.720</td>
</tr>
<tr>
<td>SANTA CATARINA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vitor Meireles</td>
<td>4,920</td>
<td>22,927</td>
<td>91.6</td>
<td>80.1</td>
<td>0.771</td>
</tr>
<tr>
<td>Vidal Ramos</td>
<td>7,201</td>
<td>33,557</td>
<td>81.9</td>
<td>76.2</td>
<td>0.766</td>
</tr>
<tr>
<td>Santa Terezinha</td>
<td>8,651</td>
<td>40,314</td>
<td>81.7</td>
<td>87.1</td>
<td>0.739</td>
</tr>
<tr>
<td>Orleans</td>
<td>5,639</td>
<td>26,278</td>
<td>75.9</td>
<td>36.1</td>
<td>0.814</td>
</tr>
<tr>
<td>Araranguá</td>
<td>8,479</td>
<td>39,512</td>
<td>74.7</td>
<td>17.7</td>
<td>0.814</td>
</tr>
<tr>
<td>Içara</td>
<td>7,710</td>
<td>35,929</td>
<td>70.0</td>
<td>18.7</td>
<td>0.780</td>
</tr>
<tr>
<td>Petrolândia</td>
<td>4,236</td>
<td>19,613</td>
<td>67.5</td>
<td>71.5</td>
<td>0.783</td>
</tr>
<tr>
<td>Bela Vista do Toldo</td>
<td>4,820</td>
<td>22,461</td>
<td>66.0</td>
<td>90.1</td>
<td>0.703</td>
</tr>
<tr>
<td>Taio</td>
<td>4,229</td>
<td>19,242</td>
<td>61.6</td>
<td>51.5</td>
<td>0.809</td>
</tr>
<tr>
<td>Itaipópolis</td>
<td>9,978</td>
<td>46,398</td>
<td>61.3</td>
<td>54.1</td>
<td>0.739</td>
</tr>
<tr>
<td>Canoinhas</td>
<td>11,325</td>
<td>52,775</td>
<td>61.2</td>
<td>26.6</td>
<td>0.781</td>
</tr>
<tr>
<td>Irinéopolis</td>
<td>8,051</td>
<td>37,518</td>
<td>58.8</td>
<td>69.5</td>
<td>0.768</td>
</tr>
<tr>
<td>Presidente Nereu</td>
<td>2,544</td>
<td>11,855</td>
<td>94.9</td>
<td>66.3</td>
<td>0.774</td>
</tr>
<tr>
<td>José Boiteux</td>
<td>3,068</td>
<td>14,297</td>
<td>93.7</td>
<td>68.1</td>
<td>0.753</td>
</tr>
<tr>
<td>Witmarsum</td>
<td>2,892</td>
<td>13,477</td>
<td>89.0</td>
<td>81.2</td>
<td>0.807</td>
</tr>
</tbody>
</table>

Source: IBGE, Produção Agrícola Municipal, 2005; IBGE, Censo Demográfico, 2000;
Another important issue worth remarking is that, although tobacco represents a substantial weight in the economy of these counties, tobacco crop has not been a development factor for them. The major part of the producer counties exhibited in table 7 are among those with lower development in their respective States. In Parana, the counties of Ivaí and São Triunfo occupy the last positions in terms of human development, respectively, 334th and 376th among the 399 counties in the state. Barros Cassal (463rd), Segredo (442nd) and Dom Feliciano (432nd) are similarly among the last in human development out of the 496 counties of Rio Grande do Sul. Also in Santa Catarina, the counties of Bela Vista do Toldo (288th) and Itaiópolis (271st) appear almost in the end of the rank of 293 counties in the state27.

27 The total number of counties in each state refers to the year 2000.
This section provides an overview on the structure of tobacco productive chain in Brazil. The analysis of the tobacco commodity chain in Brazil reveals a high diversity both in the nature of the linkages and of the actors and institutions involved in the several phases associated with tobacco growing, processing and retailing activities. In addition, each link in this chain entails a particular geographical reach, as well as a specific form of governance and institutional designs.

### 3.1 Institutional Framework for tobacco farming in Brazil

In order to understand the way the linkages between tobacco growing and tobacco processing phases are developed, it is necessary to explore the nature of the interactions between smallholders and the lead tobacco companies. The relationship between tobacco growers and processing firms in Brazil is carried through the so-called *integrated production system*. In this system, the firms provide the seeds, the technical assistance, determine the use of inputs and agricultural pesticides and, at the same time, guarantee the purchasing of the tobacco leaves produced by their ‘integrated’ growers (Vargas, 2004). The main features of the *integrated productive system* in the Brazilian tobacco industry are explained in Box 1.

---

**BOX 1**

**Integrated Production System**

The integrated production system involves the establishment of contractual obligations between smallholders and tobacco processing or retailing firms. In other words, once participating in this supply agreement, smallholders are committed to provide the firms with all their tobacco leaf production and to follow technical guidance and price classification schemes set by these firms. On one hand, the firms are responsible for providing the integrated smallholders with seeds; for selling the main agricultural inputs like fertilizers and authorized pesticides and insecticides; for giving technical advice through the firms’ supervisor and instructors teams; for controlling and intermediating smallholder loans with official banks; for providing transport from the fields to the tobacco warehouses and processing plants; and for buying the entire crops from the smallholders (Afubra, 1998). On the other
hand, integrated smallholders are bound to volume, quality and production costs defined by the firms. Thus, through the establishment of such kind of linkages, and in order to reach the competitive standards defined by the international markets, the tobacco firms get to control both the tobacco varieties produced at local level and the quality and costs of such production.

Although the integrated production system has been adopted in the cluster since the 1920s, it was in the 1970s that this system assumed a crucial role in the reorganisation and modernization of the tobacco cluster in the region. Before the consolidation of the integrated production system in the cluster, the tobacco growing activities were mostly based in the use of organic fertilizers; smallholders determined the quantity produced and they were not bounded to the technical guidance of the tobacco firms. As the lead tobacco companies in the international tobacco industry started establishing branches in the cluster, the smallholder’s autonomy was abolished through the adoption of new tobacco growing practices. This process of changes in the social organisation of tobacco production in the South of Brazil was crucial to allow the large tobacco companies assume the complete control over the tobacco value chain at local level. (Vargas, 2004)

The linkages between growers and processing firms in the tobacco cluster in Brazil not only play a fundamental role in the dynamics of production and innovation at the stage of agricultural production, but also shape the core institutional designs in the Brazilian tobacco value-chain. Through the *integrated system*, the firms get to determine which technological pattern will be put into practice by the tobacco producers and assure exclusive rights in supplying. Therefore, through the integrated system the firms not only keep total control over the quality and cost of their main input, but also tend to set conditions on the volume of production through signalling to the producers their estimated demand. Moreover, there is no market for alternative crops and tobacco farmers grow food only for their own consumption. In this sense, the leading tobacco companies in this cluster operate in a way which may be described as a universal cartel, promoting the same system of farming and paying the same prices for the crop (ILO, 2003: 36)

It is important to highlight that this social organisation of tobacco production at local level – based on an integrated production system that is controlled by the lead tobacco multinational companies – is strongly reinforced by the predominance of associations and organisations mainly aimed at coordinating labour relations and mediation between producers of tobacco leaf and processing firms.
Contracting of tobacco production entails the signature by farmers of the following documents: a) **Request Order for Inputs**: (including list of inputs necessary for raising the crop, forecast on the harvest, area used for reforesting, firewood consumption and information on financing, as well as authorization for the firms to deduct debts of farmers from the tobacco production value); b) **Agronomical Prescription** (inputs to be used in the tobacco crop during growing with technical recommendations on handling, application and prescribed amount); c) **Farmer’s Information Register** (identification and payment prospect data on the farmer, aimed at farming financing); d) **AFUBRA Insurance** (authorization for buying crop insurance aiming coverage against hail, fire, tornados and death); e) **Letter of Agreement** (in case the grower leases the land where the tobacco is grown); f) **Statement on compliance with Rural Territorial Tax (ITR)**; g) **Adherence to the Program “Future is Now”** (commitment to the program’s goals, particularly regarding rules on protection of children and adolescents).

The exceeding formal requirements for signing contracts make farmers confused. According to testimonies, many growers neither read the contracts nor the other documents they sign for deeming them lengthy and difficult to understand; they neither understand the purposes of such papers. The firms claim to guide their staff for clarifying any doubt the partner growers may have. Nevertheless, testimonies corroborate that technicians are always “in a hurry” when they take the papers to be signed, leaving no time enough to clarify doubts. Most of the times, technicians take “a pile of papers” and simply indicate the lines where the farmers must sign.

Afubra, Abifumo, Sindifumo and the Tobacco Growers Union are the main industry associations aiming at regulating the relationships between growers and tobacco industry in the Brazilian tobacco industry. The Brazilian tobacco growers association - AFUBRA (Associação dos Fumicultores do Brasil) was created in 1995 and it numbers about 150,000 associated producers today in the three southern States of Brazil. The foundation of AFUBRA was just related to the need of mediating the prices paid by the industry to producers through the consolidation of the integrated production system. The Brazilian tobacco manufacturers union – Sindifumo (Sindicato das Indústrias do Fumo) was created in 1942. However, its representative function acquired major importance only from 1980 on when the sector underwent substantial growth. At present, it numbers about 20 associates, which corresponds to the total number of firms related to the purchase,
process and trade of tobacco in the region. It is worth mentioning that AFUBRA represents the interests of the International Tobacco Growers Association (ITGA) in Brazil and it is also part of the board of ITGA. Moreover, AFUBRA works closely with SINDIFUMO in the forefront of the battle against most of tobacco control policies that have been discussed in Brazil during past years.

The Brazilian tobacco manufacturers association – Abifumo (Associação Brasileira de Fumo) numbers 26 associated firms in the whole country, though it represents the specific interests of the sector’s greater firms, especially concerning matters related to tax legislation. Finally, the tobacco growers union (Sindicato dos Trabalhadores Rurais) has an active participation in the process of negotiation related to the production costs and prices paid for tobacco leaf to the agricultural producers. Worth mentioning is that the process of negotiation of prices paid to the rural producers has always involved an asymmetric bargaining power that favours the tobacco companies. Moreover, even if such organisations carry out an important role in the maintenance of the integrated production system and in the organisation of labour relations, they have a very limited reach for engaging local actors in alternative development paths associated with re-conversion strategies.

The interaction between local and global governance modes explains much of the key organisational mechanisms within the tobacco chain. Nevertheless, the complex institutional framework supporting the relationships between tobacco growers and processing companies at local level cannot be explained solely through the vertical linkages within the global chain. Accordingly, this institutional framework reflects path-dependent processes emerging from local externalities and from the development trajectories of the cluster since the 1920s.

In addition to this group of organizations working on the integration between growers and tobacco processing firms, it is important to describe the role performed by two other relevant institutions representative of farmers and tobacco processing firms.

The first of these is the “Joint Technical Commission” which includes representatives of farmers and of tobacco firms and is coordinated by Sindifumo-RS. It is in the scope of action of this commission that, on annual basis, negotiations for setting the conditions for the tobacco growing (particularly, the index for price adjustment) take place. Tobacco growers are represented by the Labor Unions Federations of the southern states of Brazil – FETAG (Rio Grande do Sul), FETAESC (Santa Catarina) and FETAEP (Paraná), by the Agrarian Federations of the three states (FARSUL, FAESC and FAEP) and also by AFUBRA. Other organizations connected to the sector, such as the Federation of Family Farming Workers of South Region (FETRAF-SUL/CUT) and the Movement of Small Farmers (MPA), have no representative status in the Commission.

A second relevant institution is the Câmara Setorial da cadeia Produtiva do Fumo (Sectorial Chamber of Tobacco Supply Chain), created in 2003 in the sphere of
the Brazilian Ministry for Agriculture, Livestock and Supply. This chamber operates as a national board for debating and formulating public policies aimed at the different segments of tobacco sector in Brazil. The representation of farmers, especially in the Thematic Group on Tobacco Income and Complementary Activities, is performed by the following organizations: AFUBRA, CONTAG, CNA, CUT, FETRAF-SUL/CUT and MPA, under the coordination of AFUBRA.

3.2 Tobacco farmers’ profile

According to the tobacco Growers’ Association of Brazil (Afubra), more than 700 localities and almost 235,000 growers, mainly comprised of small landowners, are involved in growing tobacco in Brazil. A major characteristic of tobacco farming is the extensive utilization of family labor, which represents around 90% of the total workers involved in growing activities. The remaining 10% is comprised of seasonal workers and totals about 45 thousand jobs per crop year.

The average size of tobacco farms was 16.8 hectares in 2005/06. The land distribution associated with tobacco growing activities in the South of Brazil is illustrated in Figure 4. This figure shows that 20% (or more than 39 thousand families) do not own any land and work as sharecroppers or in land leasing arrangements. Also, the Figure highlights that 36 percent of tobacco growers in southern Brazil own properties of between 1 and 10 hectares (Afubra, 2005). Moreover, only 2% of tobacco growers own more than 50 hectares.

Figure 4: Tobacco Growing Landowners, by Holding Size, 2005 (hectares)
According to AFUBRA (2006), tobacco crops take 16.6% of the average area of farms although representing 68% of the properties’ income. Tobacco farmers also grow other crops for their subsistence or to supplement their income. These other crops like corn, beans, vegetables and fruit, take up 23.4 percent of the average area. Another 60 percent of the farm area is taken up by pastures and livestock (20%), native forest and reforested areas (28%), unused areas, weirs or waterways, homes and outbuildings (12%). Although the average earnings associated with these crops are a quarter of those obtained from tobacco, ongoing initiatives have demonstrated that the net returns provided by other crops, like organic vegetables or bananas, may be higher than the net returns provided by growing only tobacco (Vargas and Campos, 2005).

Table 8 shows a profile of the current tobacco growing activities in the South of Brazil. The data from the Brazilian Tobacco Growers Association show a considerable increase in the number of growers, the area used for tobacco cultivation and leaf produced between 2000 and 2005.

Table 8: Profile of Tobacco Farming in the South of Brazil

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of municipalities (un)</td>
<td>656</td>
<td>787</td>
<td>19,97</td>
</tr>
<tr>
<td>Number of holdings</td>
<td>99,230</td>
<td>158,390</td>
<td>59,62</td>
</tr>
<tr>
<td>Number of families</td>
<td>134,930</td>
<td>198,040</td>
<td>46,77</td>
</tr>
<tr>
<td>People employed</td>
<td>499,250</td>
<td>831,770</td>
<td>66,60</td>
</tr>
<tr>
<td>Area of holdings (ha)</td>
<td>1,681,590</td>
<td>2,672,550</td>
<td>58,93</td>
</tr>
<tr>
<td>Area with other crops (ha)</td>
<td>938,260</td>
<td>1,522,230</td>
<td>62,24</td>
</tr>
<tr>
<td>Area of tobacco (ha)</td>
<td>253,790</td>
<td>439,220</td>
<td>73,06</td>
</tr>
<tr>
<td>Tons of leaf produced (ton)</td>
<td>509,110</td>
<td>842,990</td>
<td>65,58</td>
</tr>
<tr>
<td>Average price (US$/Kg)*</td>
<td>1,16*</td>
<td>1.60*</td>
<td>37,93</td>
</tr>
<tr>
<td>Participation of tobacco crops in farmers’ income (%)</td>
<td>80</td>
<td>68</td>
<td>(15)</td>
</tr>
</tbody>
</table>

Source: Anuário Brasileiro do Fumo, 2002 and 2006
(*): Estimative according to FUNCEX data for the R$/US$ average rate for March/2001 and March/2005
The figures in Table 8 also show that tobacco growing has continued to spread throughout the three southern Brazil states during the past 5 years. Faced with the need to increase production in order to meet global market demand and as tobacco is grown on small properties, where it is difficult to expand the area devoted to this crop, the tobacco companies operating in the region have adopted a strategy of moving into new areas. Consequently, there has been a continued expansion of tobacco growing into new areas in the southern zone of Rio Grande do Sul, where yield and quality are similar to traditional tobacco producing regions like the Rio Pardo Valley.

3.3 The tobacco companies: local production and global markets

The subsidiaries of tobacco multinational companies, that are mainly located in the South of Brazil, represent a major link in the competitive strategy of the global tobacco industry. The main activities performed by those firms are focused both on tobacco growing and processing and on the export of non-manufactured tobacco and primary processed tobacco. There are presently five branches of tobacco multinational companies that play a central role in the organization of the Brazilian tobacco value chain through the ownership of processing facilities and through the control of an extensive network of smallholders at the growing stage.

The branches of the multinational tobacco companies were established in the region mainly during the 1970s. Most of these firms account for more than 500 employees and have other industrial facilities located in the states of Santa Catarina and Paraná. Such units are mainly aimed at the storage of the tobacco produced in these States and they account for almost 50 percent of the tobacco processed by the lead firms in the Rio Pardo Valley. Although holding other industrial processing units in the State of Santa Catarina, Souza Cruz has been heavily investing in order to improve its storage and processing capacity in Rio Pardo Valley region (Vargas, 2004).

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28 Most of the large firms in the tobacco cluster also held commercial and storage units in Santa Catarina and Paraná to secure the control and organisation of their non-manufactured tobacco supply network distributed on the three States in the South of Brazil.
Historical Perspective of Tobacco Farming in Brazil

Tobacco growing activities in the South of Brazil dates back to 1824 when the first German colonies were settled in the State of Rio Grande do Sul. From the second half of 19th century, tobacco growing, based mainly on smallholders and family labor, became the main agricultural activity in Rio Pardo Valley region. As the activities related to tobacco culture acquired economic importance in this region, a nucleus of locally-owned firms emerged and a physical and institutional infrastructure to support production and trading was created. Until the early 1920s, most of the region exports were unmanufactured tobacco leaves. From the 1920s several local-owned processing plants were established in the region leading to a significant growth in the participation of the tobacco industry in the regional and national economy (Liedke, 1977).

The initial development of tobacco farming activities in the State of Rio Grande do Sul and particularly in Rio Pardo Valley region benefited from favourable regional conditions, notably: i) the structure of land ownership based in smallholders and family labour; ii) the existence of local skilled labour in handling these activities and; iii) an incipient infra-structure for production and trading.

These factors facilitated the emergence of local firms and their subsequent growth up to the 1970s. The entry of multinational companies in the 1970s reduced the importance of local actors in the organization of activities connected to production and innovation. Two factors have been fundamental to determine the setting up of subsidiaries of tobacco multinational companies in Brazil. Firstly, there were no requirements of any capital investment related to land purchasing or extensive labour hiring as the agricultural production structure in the main tobacco producing region (Rio Pardo Valley) – based on small properties and family labour – assured low production costs. Secondly, in the 1970s there was a commercial blockade on Zimbabwe (Rhodesia) - at that time the major tobacco supplier for the European market. This historical accident allowed a significant rise in Brazil’s export share in the world tobacco market (Montali, 1979).

Finally, the great impulse for the consolidation of tobacco farming in the South of Brazil occurred during the 1970s, when the increasing demand in the international market led to the installation of the main tobacco multinational companies in this region. This process happened in a gradual way. Initially, the multinational companies injected resources into local firms. Subsequently, these multinational companies took total or majority share control of these local firms, keeping the former owners in management (Vogt, 1994:105).
Souza Cruz, founded in 1903, started boosting tobacco production in South Region as from 1920, when the company installed its first tobacco processing plant in Santa Cruz do Sul. In the following decades, it has consolidated its position in the market by opening plants and branches all around the country. Souza Cruz is subsidiary of the British American Tobacco (BAT), the world’s second major group in tobacco market, with operations in 180 countries and have a global market share of 15.4 percent. Souza Cruz is also the leader company in the Brazilian cigarettes market, with an annual share of 75 percent of the total market. It has also a leading position in tobacco exports, which became a significant part of the company’s business.

The company operates through an integrated production system with 45 thousand farmers. The tobacco leaf production is mostly processed in Santa Cruz do Sul, though the company also has plants for processing tobacco leaf in Blumenau (SC) and Rio Negro (PR). Its two modern factories of Cachoeirinha (RS), inaugurated in 2003, and of Uberlândia (MG) have annual capacity for 110 billion cigarettes. In the beginning of 2005, the company invested R$14 million in a new line for processing the tobacco leaf stems, in Santa Cruz do Sul.

Philip Morris Brasil is a subsidiary of Philip Morris International that is part of Altria Group and the world’s leading company in the tobacco market and holds a 15 percent share in the international cigarettes market. Philip Morris International’s subsidiary companies sell cigarettes in over 160 countries. Between 1970 and 2004, the company’s operating income raised from US$ 54 million to US$ 6.6 billion and production amount has grown from 87 billion to 761 billion cigarettes. The company produces the world’s bestselling cigarette’s brand (Malboro), besides other brands well accepted in Brazil (L&M and Dallas). Philip Morris started its operations in Brazil in 1973, inaugurating its first factory in Curitiba, in state of Paraná. Fifteen years later moved its processing plants to Santa Cruz do Sul.

Universal Leaf Tabacos Ltda is a subsidiary of Universal Leaf Corporation which was founded in 1918 in the United States of America and the world’s leading company in tea and tobacco leaf business. The company operates in Brazil since 1970, being the largest [tobacco leaf] exporter of Rio Grande do Sul. In 2004, the company’s exports amounted US$ 396 million. The headquarters of the subsidiary company, in Santa Cruz do Sul, has the industrial plant with the world’s greatest daily capacity for tobacco leaf processing. In the three southern states of Brazil the company holds a production integrated system involving 55 thousand tobacco growers. In the harvest of 2004/2005 Universal processed about 205,000 tobacco tonnes.

29 http://www.altria.com/about_altria/01_00_02_philipmorrisintl.asp
30 Jornal Gazeta do Sul, de 03/03/05 e 18 e 19/05/05 e Jornal Folha do Mate, Venâncio Aires, de 14/03/05.
**Alliance One**, a company resulting of the merger, in 2005, of Dimon do Brasil Tabacos Ltda and Meridional de Tabacos (Standard Commercial Corporation), is headquartered in Santa Cruz do Sul. As from the merger the company ceased the operations of some processing plants in the country, keeping seven factories in the three states of South Brazil with a processing capacity of 270,000 tonnes altogether. The company integrates 56,000 tobacco growers and exports 90 percent of the tobacco leaf processed.

**CTA – Continental Tobaccos Alliance S.A.**, with headquarters in Venâncio Aires (RS) and established in 1994, is integrated with 17 thousand tobacco growers in the three states of South Brazil. It has three branches which operate exclusively in tobacco leaf procurement: Ararangua and Ituporanga, in the state of Santa Catarina, and Irati, in the state of Paraná. Nearly 90 percent of the tobacco processed by CTA is shipped to over 50 countries in North America, European Union, Eastern Europe, Africa, Middle East, Latin America and Eastern Asia. In 2004, CTA’s revenues were R$ 638 million.

**Kannenberg & Cia Ltda** started its activities in 1953. In 1996 the company began exporting processed tobacco to several countries. It is headquartered in Santa Cruz do Sul (RS) and has branches in Morro da Fumaça and Apiúna (SC) and in São Mateus (PR). Kannenberg has about 8,200 integrated tobacco growers from which purchases each year near 42,000 tobacco tones, being 80 percent of this amount exported to countries in Asia, European Union, North America, Latin America, Eastern Europe and Africa.

**Brasfumo Indústria Brasileira de Fumos Ltda** is a company of national capital structure, with headquarters in Venâncio Aires (RS). The company started activities in 1991 as a tobacco Merchant. Brasfumo has currently capacity for processing an average of 8.5 tobacco tonnes per hour. The company has about 5,900 integrated growers and an annual production volume of about 23.5 thousand tones fully aimed at exportation.

Altogether, the Brazilian tobacco production chain congregates about 16 tobacco companies in the South of Brazil\(^{31}\). In addition to the large conglomerates mentioned above, there are also medium and small sized firms which join, total or partially, the productive process of the majors through the supplying of processed tobacco leaf.

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31 According to Sindifumo registers.
or non-manufactured tobacco. Although few of these firms are locally owned small enterprises, the productive chain is completely dominated by the large subsidiaries of tobacco multinational companies (Vargas, 2004).

The existence of distinct segments of tobacco firms according to markets size and scale led to the establishment of an implicit division of labour between firms. The small and medium sized firms are linked to the productive process of the largest tobacco processing plants in the region (Souza Cruz, Dimon and Universal Leaf) as suppliers either of tobacco leaves (in the case of the small ones) or of manufactured tobacco (in the case of the medium).

Along with the other tobacco firms, that operate as secondary tobacco leaf suppliers for the lead processing firms, there are both local owned companies and subsidiaries of tobacco multinational conglomerates. The firms in this segment do not necessarily have processing facilities and some of them - mostly the local owned small ones - operate in a small-scale trade that does not allow them to achieve external markets channels. Usually, they are functionally integrated to the large processing plants in the cluster in a way that is not particularly different from the linkages these large firms have with tobacco growers. The linkages between these tobacco wholesalers and the processing plants are organised through subcontract or contract sales that also imply as much sales exclusivity as rigid patterns related to variety, volume and quality of the tobacco supplied (Vargas, 2001).

A general overview of the tobacco value chain in the South region of Brazil is provided in Figure 5 below. The phases related to the growing, storage, primary processing and exports comprise the core activities performed in the three States of the South. Although some of the intermediate goods and other related and supporting industries and institutions are located within the region, most of these goods and services are provided from sources located outside the region. Firstly, growing practices involve the use of fertilizers, herbicides, pesticides, seeds and several other inputs related to handling the crop. Most of these inputs are provided through the large tobacco companies and acquired from global suppliers. Secondly, the key activities related to marketing, export distribution, wholesale and R&D, are under the control of the headquarters of the large transnational companies in the cluster and/or specialized international exporter agents.
3.4 Impacts on the distribution of gains:

The asymmetric relationships between tobacco farmers and tobacco industry discussed above have considerable effects on the distribution of returns along the Brazilian tobacco global value chain.

3.4.1 Tobacco farmers

The low prices received by Brazilian growers have been one of the major factors inducing investments of transnational tobacco companies in Brazil and consequently boosting the rise of tobacco domestic production. In countries where the average payment to producers is higher, as in Japan, USA and Europe, the trends are for declines in production. Thus, it is possible to infer a straight relation between production amounts and labor costs within the dynamics of tobacco production chain. In the Brazilian case, not even the low rates reached by the US dollar in the latest years – what supposedly would harm exports – have hindered the growth of transnational investments which profits are ensured by means of the low costs of Brazilian tobacco production.

Table 9 below presents the evolution of the average price received by tobacco growers in the three southern Brazilian states between 1998 and 2006. The average price paid to tobacco growers in South Region during the harvest of 2005/2006 was of R$ 4.15/kg, representing a loss of 4.2 percent in relation to the former harvest (R$ 4.33/kg). This value is also lower than the average price established in the price table for TO2 tobacco (which was R$ 4.67 and was adjusted in 14.5%). Such a difference, which had already occurred with the previous harvest, is particularly due to changes in manufacturers’ strategy regarding tobacco grading. Insofar production increased in the latest years expanding supply, manufacturers became more rigorous in grading tobacco yield.

Table 9: Average Price received by Tobacco Growers in the South of Brazil

<table>
<thead>
<tr>
<th>Harvest</th>
<th>RS</th>
<th>SC</th>
<th>PR</th>
<th>R$/Kg South Region</th>
<th>Var. % South</th>
<th>RS</th>
<th>SC</th>
<th>PR</th>
<th>US$/Kg South Region</th>
<th>Var. % South</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998/99</td>
<td>1.82</td>
<td>1.88</td>
<td>1.80</td>
<td>1.84</td>
<td>-3.7</td>
<td>1.04</td>
<td>1.08</td>
<td>1.03</td>
<td>1.06</td>
<td>-36.9</td>
</tr>
<tr>
<td>1999/00</td>
<td>2.01</td>
<td>2.01</td>
<td>1.93</td>
<td>2.00</td>
<td>8.7</td>
<td>1.12</td>
<td>1.12</td>
<td>1.08</td>
<td>1.12</td>
<td>5.7</td>
</tr>
<tr>
<td>2000/01</td>
<td>2.51</td>
<td>2.43</td>
<td>2.25</td>
<td>2.45</td>
<td>22.5</td>
<td>1.17</td>
<td>1.13</td>
<td>1.05</td>
<td>1.14</td>
<td>1.8</td>
</tr>
<tr>
<td>2001/02</td>
<td>2.86</td>
<td>2.89</td>
<td>2.71</td>
<td>2.85</td>
<td>16.3</td>
<td>1.17</td>
<td>1.18</td>
<td>1.11</td>
<td>1.17</td>
<td>2.6</td>
</tr>
<tr>
<td>2002/03</td>
<td>4.02</td>
<td>3.94</td>
<td>3.77</td>
<td>3.95</td>
<td>38.6</td>
<td>1.24</td>
<td>1.22</td>
<td>1.16</td>
<td>1.22</td>
<td>3.4</td>
</tr>
<tr>
<td>2003/04</td>
<td>4.34</td>
<td>4.19</td>
<td>4.03</td>
<td>4.24</td>
<td>7.3</td>
<td>1.46</td>
<td>1.41</td>
<td>1.36</td>
<td>1.43</td>
<td>17.2</td>
</tr>
<tr>
<td>2004/05</td>
<td>4.23</td>
<td>4.51</td>
<td>4.24</td>
<td>4.33</td>
<td>2.1</td>
<td>1.44</td>
<td>1.54</td>
<td>1.45</td>
<td>1.48</td>
<td>3.5</td>
</tr>
<tr>
<td>2005/06</td>
<td>4.17</td>
<td>4.24</td>
<td>3.91</td>
<td>4.15</td>
<td>-4.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Afubra e Instituto Cepa/SC.
In addition, significant differences can be noticed in the average price paid to growers in each state of the South Region. Tobacco growers in Parana, for instance, received the lowest payment in return to their yield in 2005/2006 – in average R$ 3.91/kg.

During the latest years, the table prices, which should be established through a Covenant signed by representatives of both growers and manufacturers, have been unilaterally set by Sindifumo through adjustment indexes quite lower than those claimed by growers. The main dissension between farmers and manufacturers regards the calculation of labor costs that leads to differences between the harvest production costs estimated by Sindifumo and by Afubra. However, many tobacco growers yet disagree with the formula adopted by Afubra [once even this does not reflect the real costs]. Just for exemplifying, the production costs presented by Afubra for the harvest of 2003/2004 was of R$ 4.03/kg, while for a grower from the county of Palmeira (PR) the cost reached R$4.86/kg.

Prices received by Brazilian growers, despite the raises either negotiated or granted by manufacturers presenting a positive annual fluctuation, in fact exhibit cyclic periods of sometimes larger, sometimes smaller raises. An essential tool for ascertaining the price effectively received by growers is, rather than the price table, the tobacco grade defined through governmental regulation issued by the Ministry of Agriculture and which is currently being revised by the Thematic Group on Tobacco Income and Complementary Activities within the Sectorial Chamber of Tobacco Production Chain. As a price table is established for each tobacco grade, manufacturers use to ascribe better grade when, by means of the price, they want to foster growers and tobacco crops; conversely, they lower the grading (as was the case in the last two harvests) when they decide to pay less to the growers.

In the last three harvests, the retention by the government of Rio Grande do Sul of the overplus tax on tobacco products, not returning to the companies a value amounting R$ 350 million, a loss accounted by companies though mostly transferred to farmers, has directly influenced the low prices received by tobacco growers.

In comparison with developed countries which produce tobacco, the prices received by Brazilian tobacco growers is significantly lower. In Brazil, tobacco growers receive 4.5 times less than those in the United States of America, 7.5 times less than those in Europe and 13.5 times less than those in Japan, as illustrated in Table 10 below.

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32 Testimonies by farmers, through mere observation, state that such cycles comprise four years.
Table 10: Tobacco prices received growers in selected countries

<table>
<thead>
<tr>
<th>Country</th>
<th>PRICE PER KILOGRAM (in Reais)</th>
<th>PRICE PER ARROBA (in Reais)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brasil</td>
<td>3,00</td>
<td>45,00</td>
</tr>
<tr>
<td>Estados Unidos</td>
<td>13,55</td>
<td>203,25</td>
</tr>
<tr>
<td>Europa</td>
<td>22,58</td>
<td>338,70</td>
</tr>
<tr>
<td>Japão</td>
<td>40,64</td>
<td>609,60</td>
</tr>
</tbody>
</table>

Source: Sindifumo-SP

3.4.2 Tobacco companies

The total revenue of tobacco sector in Brazil (exports and domestic consumption) was of R$ 14.2 billion in 2005, exhibiting a raise of 20 percent in relation to the revenue of 2003. Although Brazil exports 85 percent of its tobacco production, the exports revenue represents 28.8 percent of the total revenue of the sector. Most of the revenue is obtained from cigarettes domestic consumption (71.2%) as shown in Table 11.

Table 11: Total Revenue of Tobacco Industry in 2003 and 2005 (in R$)

<table>
<thead>
<tr>
<th>Items</th>
<th>2003</th>
<th>%</th>
<th>2005</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco and by-products exports</td>
<td>3.256.600.000</td>
<td>27.4</td>
<td>4.107.593.640</td>
<td>28.8</td>
</tr>
<tr>
<td>Cigarettes domestic consumption</td>
<td>8.617.505.500</td>
<td>72.6</td>
<td>10.137.436.900</td>
<td>71.2</td>
</tr>
<tr>
<td>Total</td>
<td>11.874.105.500</td>
<td>100,0</td>
<td>14.245.030.540</td>
<td>100,0</td>
</tr>
</tbody>
</table>

Source: Afubra/ Câmara Setorial do Fumo.

Although tobacco crop be apparently profitable, the revenue generated by tobacco industry in Brazil exhibits an unequal distribution. As observed from Table 12, the government absorbed, by means of tributes and taxes, R$ 6.4 billion (46.6%) out of the total revenue generated by tobacco industry in 2004. Manufacturers were benefited with a share of 21.3% out of the total (R$2.9 billion), while in 2003 this share corresponded to 26.9%, and the retailers revenue represented 5.9%.
The participation of tobacco growers in the total revenue, which was of 15.4 percent in 2002, and raised to 19.9 percent in 2003 and to 26.4 percent in 2005, still is modest considering the extent of their involvement in the production, the use of their land and family labor, that assures to Brazilian tobacco the acknowledgement as one of the world’s best in quality. This increment of growers’ participation in the revenue is mostly due to significant increments in the production costs, the margin effectively gained by growers is quite small. While fluctuation in the prices paid to growers increased 88 percent between 2000 and 2005, production costs in the same period increased 148.7 percent.

Table 12: Revenue Distribution for Tobacco Sector in 2003 and 2004 (R$)

<table>
<thead>
<tr>
<th>Segment</th>
<th>2003</th>
<th>%</th>
<th>2004</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>5.589.684.000</td>
<td>47.1</td>
<td>6.457.504.330</td>
<td>46.4</td>
</tr>
<tr>
<td>Manufacturers</td>
<td>3.190.991.900</td>
<td>26.9</td>
<td>2.957.749.140</td>
<td>21.3</td>
</tr>
<tr>
<td>Growers</td>
<td>2.365.250.400</td>
<td>19.9</td>
<td>3.680.650.500</td>
<td>26.4</td>
</tr>
<tr>
<td>Retailers</td>
<td>728.179.200</td>
<td>6.1</td>
<td>824.053.130</td>
<td>5.9</td>
</tr>
<tr>
<td>Total</td>
<td>11.874.105.500</td>
<td>100.0</td>
<td>13.919.957.100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Anuário Brasileiro do Fumo.

Souza Cruz is the leading company in Brazilian cigarettes’ market, with a 75.2% participation and a gross operational revenue of R$ 7.9 billion (2005). In 2005, the company accomplished a net income of R$ 693 million (equivalent to 42% of its net worth), nearly 5 percent less than in the prior year (R$ 732 million) as show in Table 14. The company’s exports provided revenue of US$ 338.2 million, a value 23.4 percent higher than the obtained in 2003, due both to increase in quantity exported and to increase in the average sale prices, in US dollars.

Pioneer of the tobacco production integrated system, Souza Cruz operated with 45 thousand families of integrated growers in 2005, purchasing a total amount of 207 thousand tonnes of leaf tobacco
Table 13: Financial Results of Souza Cruz - 2003 to 2005

<table>
<thead>
<tr>
<th>Items</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net income – R$ million</td>
<td>769</td>
<td>732</td>
<td>693</td>
</tr>
<tr>
<td>Operational Income – R$ million</td>
<td>1.019</td>
<td>963</td>
<td>966</td>
</tr>
<tr>
<td>Net worth – R$ million</td>
<td>1.537</td>
<td>1.616</td>
<td>1.651</td>
</tr>
<tr>
<td>Cigarettes Sales – billion sticks</td>
<td>76,8</td>
<td>74,3</td>
<td>75,9</td>
</tr>
<tr>
<td>Cigarettes Domestic market share - % (*)</td>
<td>76,8</td>
<td>75,2</td>
<td>59,2</td>
</tr>
<tr>
<td>Exports – thousand tons</td>
<td>96,6</td>
<td>112,1</td>
<td>117,1</td>
</tr>
<tr>
<td>Exports - million US$</td>
<td>274,0</td>
<td>320,9</td>
<td>338,2</td>
</tr>
<tr>
<td>Investments - million R$</td>
<td>128</td>
<td>105</td>
<td>148</td>
</tr>
</tbody>
</table>

Source: Souza Cruz.

(*)As from 2005, Souza Cruz adopted a new estimation procedure, including cigarettes’ informal market.
This section focuses on diversification strategies adopted in Brazil to foster the transition from tobacco to alternative crops. It analyzes the efforts undertaken in some Brazilian municipalities to support small-scale family farmers in their transition from tobacco to other sustainable livelihoods. The analysis comprises three case studies in selected municipalities in the South region of Brazil: Santa Cruz do Sul, Schroeder and Santa Rosa de Lima. Although all are located in the two main tobacco-producing states, Rio Grande do Sul and Santa Catarina, these municipalities show different degrees of economic dependence on tobacco and differences in their forms of insertion in the tobacco agro-industrial chain in Brazil.

The municipality of Santa Cruz do Sul, in the state of Rio Grande do Sul, is located in the Rio Pardo Valley region, which represents a major link in the Brazilian tobacco industry, supporting an impressive network linking small scale family farmers to multinational tobacco companies and global markets. Most of the municipalities in the Rio Pardo Valley are substantially dependent on activities associated with the tobacco industry. Although this economic dependence has created considerable barriers to switching from tobacco to alternative crops, the region also presents important initiatives aimed at improving agro-ecological production. In the state of Santa Catarina, both the municipalities of Schroeder and Santa Rosa de Lima are less reliant on income from tobacco growing activities. In this sense, the success of crop substitution and diversification initiatives in this region have been, to a great extent, improved by the existence of favorable conditions for the adoption of alternative cash crops like bananas, fresh vegetables and other products associated with organic or agro-ecological enterprises. An analysis of these experiences helps to shed light on the main challenges and opportunities associated with implementing crop substitution and diversification strategies in tobacco producing countries.

4.1 Challenges for crop diversification in Brazil

The diversification of income in tobacco growing areas has deserved a growing attention on the part of governmental institutions, organizations of civil society and, yet, farmers’ organizations. The development of diversification programs and projects should consider the huge challenges and hindrances post to the search for sustainable diversification strategies.

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33 This section draws extensively on Vargas and Campos (2005).
A study sponsored by DESER – Department of Socio-Economic Rural Studies, based in the project “Rede de Agricultores Gestores de Referências” (References Manager Farmers Network), during the years 2004 and 2005, gathered information from over 2,100 farmer families, among which 346 were tobacco growers and 185 out of these were located in regions Center-South, of Paraná, Itajaí High Valley (Alto Vale do Itajaí) and Mountain Plateau (Planalto Serrano), in Santa Catarina, both regions producer of greenhouse tobacco.

Although this work has been developed from rather specific perspectives such as agro-ecology, the action of credit cooperatives towards their affiliated members and the action of development agents in their communities, restricting the project’s target audience, it is possible to identify some relevant indicators in the tobacco grower families.

One important issue is the agrarian structure and the size of the land. In average, the tobacco grower families have just small pieces of land. While in average the properties of families who do not produce tobacco is of 17 hectares, among tobacco producers this average decline to 14.7 hectares. Moreover, exposing the problems regarding land property, about 10.6 percent of these tobacco grower families work exclusively in leasehold lands and 20.8 percent, in addition to their own land, lease land from others, in a total percentage of 31.4. Limitations of agricultural areas make difficult to tobacco growers to move forward to other crops, therefore diversifying their activities.

For tobacco grower families, the Production Gross Value (PGV) of tobacco produce sales represents 65 percent out of the total value, revealing the strong specialization of the activity. The production and commerce of milk (11% of the total value) appears as the second main product for most of tobacco growers. Among growers of greenhouse tobacco this specialization is still greater, representing a 75.4% of the total gross value.

The income level, either real or apparent, among tobacco growers also constitutes a main hindrance for these farmers to move towards other activities. Among greenhouse tobacco producers the PGV is 46 percent higher than among farmers who do not grow tobacco. Dismissing investments and fixed costs depreciations, the Agrarian Income (PGV (-) production costs) obtained by tobacco growers is 80% higher than that obtained by farmers who do not grow tobacco (considering greenhouse tobacco growers, this difference reaches a 104%). The Agrarian Income of farmers who do not produce tobacco is significantly more dependent on complementary non-agrarian incomes (particularly retirement stipends and social security allowances) than in the case of tobacco growers.

The income of a 10.4 percent of tobacco growers depends exclusively on tobacco produce, while for a 21.9% of the farmers tobacco responds with a 90 percent of the PGV and for a 40.7 percent it represents more than 75% of PGV.

The produce aimed at subsistence is also small among tobacco growers, meaning an average value of R$ 2,521.00 (estimated through the value of purchasing the products) and for 27 percent of the families this value is under R$ 1,000 per year.
Tobacco produce occurs among families that still count on a significant number of members, specially young and middle-aged, as a labor force. The average number of family members is 4.2 persons among greenhouse tobacco growers, while farmer families that do not produce tobacco have an average of 3.8 members. In tobacco grower families the number of persons between 15 and 25 years old is 14 percent higher, and of persons aged between 26 and 60 is 5 percent higher.

The reasons why many families gave up growing tobacco, appointed by 79 families that once were tobacco producers, are chiefly related to: problems with tobacco prices (40.5%); health problems related or not to use of pesticides (32.9%); and lack of labor force (25.3%).

The gross return on tobacco compared to alternative crops is a key issue for any crop substitution program aimed at supporting small family farmers in switching from tobacco to other crops. Although the profitability of tobacco farming has fallen during recent years, tobacco remains a highly attractive crop to small family farmers, providing a higher net income yield per unit of land than other conventional food crops like corn or black beans. Table 15 compares production costs and financial returns for corn, black beans and tobacco crops, according to information provided by the Brazilian TobaccoGrowers Association (AFUBRA).

### Table 14: Operational Production Cost for Selected Crops, 1999/2000, US$/ha

<table>
<thead>
<tr>
<th>Description</th>
<th>Tobacco</th>
<th>Burley</th>
<th>Corn</th>
<th>Bean</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Variable costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor</td>
<td>969.26</td>
<td>771.11</td>
<td>104.94</td>
<td>124.05</td>
</tr>
<tr>
<td>Agricultural operations</td>
<td>78.59</td>
<td>61.10</td>
<td>53.79</td>
<td>25.91</td>
</tr>
<tr>
<td>Inputs</td>
<td>423.71</td>
<td>402.82</td>
<td>142.53</td>
<td>70.76</td>
</tr>
<tr>
<td>Wood</td>
<td>145.71</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Others</td>
<td>121.01</td>
<td>108.90</td>
<td>27.80</td>
<td>26.88</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td>1,738.08</td>
<td>1,343.93</td>
<td>335.06</td>
<td>247.60</td>
</tr>
<tr>
<td><strong>2. Fixed costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>160.47</td>
<td>163.06</td>
<td>48.17</td>
<td>48.21</td>
</tr>
<tr>
<td>Soil treatment</td>
<td>10.35</td>
<td>11.46</td>
<td>8.37</td>
<td>8.37</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td>170.82</td>
<td>170.82</td>
<td>56.54</td>
<td>56.58</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,909.09</td>
<td>1,518.75</td>
<td>391.60</td>
<td>304.18</td>
</tr>
<tr>
<td>Yield kg/ha</td>
<td>2.026</td>
<td>1.678</td>
<td>3.600</td>
<td>1.200</td>
</tr>
<tr>
<td>Cost US$/kg</td>
<td>0.94</td>
<td>0.90</td>
<td>0.11</td>
<td>0.25</td>
</tr>
<tr>
<td>Average price US$/kg</td>
<td>1.17</td>
<td>1.12</td>
<td>0.11</td>
<td>0.22</td>
</tr>
<tr>
<td>Gross income US$/ha</td>
<td>2,370.42</td>
<td>1,879.36</td>
<td>396.00</td>
<td>264.00</td>
</tr>
<tr>
<td>Net Income US$/ha</td>
<td>454.57</td>
<td>360.91</td>
<td>151.51</td>
<td>(42.11)</td>
</tr>
<tr>
<td>Day/Man/ha.</td>
<td>149</td>
<td>134</td>
<td>22</td>
<td>26</td>
</tr>
</tbody>
</table>

Source: AFUBRA (2000)
Table 15 shows that the costs of tobacco production are about five times higher than those associated with corn production and about six times higher than the costs of black bean production. This difference reflects, in particular, the greater labor needed for tobacco production (149 days/man/ha). However, the net income provided by tobacco (US $454.57 per hectare) far exceeds the returns on corn crops (US$1.51 per hectare) and black bean crops (US $42.11 per hectare).

However, the analysis of operational costs for tobacco in Southern Brazil fails to take into account a major cost element: the cost of land. Including the cost of land, estimated at about 15% of the net income from tobacco growing in the region of Santa Cruz do Sul, would raise tobacco production costs considerably.³⁴ Although this also affects the profitability of other crops, and would not change relative profitability, the important point is that the prices paid to local producers – prices set by the major tobacco companies and by local institutions like SINDIFUMO and AFUBRA – do not take into account the cost of land utilization (Silva, 2002).

**Summing up, tobacco production:**

- Has a relatively stable potential of generating an income which few other crops (perhaps those of market niches) attain to generate. Annual fluctuations create constant expectations that next year will be better.
- Has a guaranteed and easily accessible market. There are practically no concerns regarding marketing. Insecurity level is quite low.
- The integration process (including some option) also creates dependence.
- Is a highly intensive crop: large produce within small areas, being suitable to the environment of families owning small land.
- The entry into tobacco production often occurs for lacking of choices, and since it requires a high investment, particularly for greenhouse tobacco, exiting is difficult.
- Requires a technical and technological knowledge that is accumulated in the course of many years. Furthermore, there is a technical supervision of the production process, what improves security.

In view of the above, diversification programs in the areas of tobacco crops should consider a number of articulated factors: potential of income generation, security and stableness for production and marketing, family's reproductive conditions, family's health and welfare conditions among others. Moreover, proposals must take into account not

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³⁴ According to data provided by Silva (2002), the land cost values per hectare are currently between US $275.86 and US $379.31 in the region of Santa Cruz do Sul.
only the family unit individually, but also their insertion in the community and region. The access to mechanisms and policies which promote diversification must be connected to dynamics aimed at restructuring development processes of the region where tobacco production is inserted.

Finally, when analyzing the barriers to tobacco crop substitution in the South of Brazil, one should also consider the government financing policies (at local, state and national levels) that affect tobacco leaf growing and processing. As emphasized in previous sections, tobacco growing in Brazil is concentrated in several specific regions in the South that are much more heavily dependent on this crop than the country as a whole. The political weight of tobacco in the regional economy impedes implementation of local public policies aimed at fostering crop substitution.

It is worth mentioning that, in the course of the 1990s, the state government of Rio Grande do Sul created a program specially focused on the development of the tobacco industry, the PROINCI/RS, based upon Fundopen, the so-called Enterprise Operation Fund. These programs gave tax incentives to several multinational tobacco companies, including Souza Cruz, Universal Leaf or Phillip Morris, to expand production capacity in Rio Pardo Valley. During the 1990s, for instance, Souza Cruz (a subsidiary of BAT) obtained from the state government tax benefits of approximately US $900 million for constructing the world’s largest tobacco processing complex in Santa Cruz do Sul and a cigarette factory in the municipality of Cachoeirinha.35 It is worth mentioning also that, until 2001, the federal government has allocated resources from the main program of support for family farming (PRONAF – National Program of Family Farming) as one of the main financing sources for tobacco production in Southern Brazil. According to data from the Department of Rural and Social Economic Studies - DESER, in 1997 about 32% of the total funding resources of PRONAF at national level went for tobacco production. The percentage was even higher in the three tobacco producing states: 46% in Rio Grande do Sul, 55% in Santa Catarina and 16% in Paraná. In 2001, the federal government prohibited the use of PRONAF resources for financing tobacco production. However, other forms of support have been adopted, such as the use of resources from BNDES (National Economic and Social Development Bank) for financing tobacco growers in the South of Brazil. Through this initiative, BNDES approved a financial grant of R$ 167 million (about US $56 million) to 14,694 tobacco growers to be used for constructing stoves and sheds for curing, drying and storing tobacco leaf36.

35 Most of the tobacco multinational companies located in the Rio Pardo Valley also held commercial and storage facilities in the States of Santa Catarina and Paraná to secure the control and organization of their unmanufactured tobacco supply network across the three States in the South of Brazil. These units have also received state government tax benefits.

36 According to information provided in the BNDES website: http://www.bndes.gov.br/noticias/not823.asp
4.2 Santa Cruz do Sul: alternative crops in the “Brazilian capital of tobacco”

Santa Cruz do Sul is one of the main municipalities in the Rio Pardo Valley region in the State of Rio Grande do Sul. The Rio Pardo Valley includes 25 municipalities that, with few exceptions, are largely reliant on income from tobacco crops. The crop substitution and diversification strategies adopted in the municipality of Santa Cruz do Sul need to be analyzed in light of the impact on tobacco farming activities in the region of the Rio Pardo Valley.

The tobacco industry has brought about significant changes in the Rio Pardo Valley region’s production system with several negative economic, social and environmental impacts. In terms of health and environmental impacts, tobacco farming is associated with well-known problems of soil depletion, erosion, destruction of native fauna and flora and the use of highly toxic pesticides. In terms of economic and social impacts, there is an increasing consensus in the region that the agro-exporting model exemplified by tobacco growing does not represent a sustainable development option for most Rio Pardo Valley municipalities. Firstly, there is a marked lack of backward and forward linkages between the tobacco industry and other economic sectors of the local economy in the Rio Pardo Valley. Most inputs—fertilizers, herbicides, pesticides, seeds and several other inputs used in growing and handling the crop—are provided through the large tobacco companies and acquired from global suppliers. Very few of the goods and services used in tobacco farming are bought from sources inside the region. Second, the key activities related to marketing, export distribution, wholesale and R&D, are under the control of the headquarters of large transnational conglomerates in the region and/or specialized international exporter agents. The heavy control exercised by the major tobacco companies in Rio Pardo Valley over the links in their production chain, guarantees them control of the primary sources of economic revenue along the tobacco value chain (Vargas, 2004: 31).

Moreover, the upgrading and modernization of the tobacco processing firms led to investments in new machinery and to the adoption of new production techniques that resulted in a drastic reduction in employment, in production and administration. The fall in tobacco manufacturing jobs was intense in the first half of the 1990s, and still persists, another instance of competitive adjustment in the tobacco sector bringing negative consequences to the region.

37 The exceptions are the municipalities of Encruzilhada do Sul and Pântano Grande, which, for historical reasons, have specialized in rice instead of tobacco.
The heavy economic dependence of local economies and regional governments on tobacco tax income is one of the greatest barriers to promoting policy interventions aimed at assisting farmers to adopt alternative crops.\textsuperscript{38}

According to data provided by IBGE (IBGE-PAM, 2005), corn, sugar cane and cassava, together with tobacco are the agricultural mainstays in the municipality in terms of quantity. Tobacco leaf production reached its highest volume in 2004 (17,696 tons), accounting for almost 2\% of total Brazilian production, and remained around 16,000 tons until 2005. By contrast, although corn production reached its highest volume in the municipality in 1998 (38,000 tons), this accounted for only 0.13\% of total Brazilian corn production. The volume of sugar cane production increased sharply compared with other food crops, from 3,600 tons in 1994 to 28,000 tons in 2002. However, this crop accounts for only a marginal share of Brazil sugar cane production (0.01\%).

An alternative way to look at the importance of tobacco in Santa Cruz do Sul is through its share in the total value of production of the main agricultural products in the municipality. In 2000, tobacco accounted for around 60\% of the total value of seasonal crops, followed by corn at 18\%, cassava at 7\% and rice at 5\% (Table 16). In 2005, the share of tobacco crops in the total value of seasonal crops reached more than 80\%.

\begin{table}[h]
\centering
\begin{tabular}{|l|c|c|c|c|c|c|}
\hline
\hline
Total & 100 & 100 & 100 & 100 & 100 & 100 \\
Rice & 9.2 & 7.48 & 6.67 & 3.64 & 5.34 & 1.31 \\
Sweet potato & 0.68 & 0.38 & 0.28 & 1.39 & 0.75 & 0.98 \\
Sugar cane & 19.29 & 19.24 & 17.49 & 0.77 & 5.26 & 2.26 \\
Black beans & 6.13 & 4.8 & 4.62 & 0.74 & 0.56 & 1.58 \\
Tobacco & 3.02 & 2.96 & 4.72 & 71.34 & 59.3 & 80.42 \\
Cassava & 11.54 & 7.48 & 5.43 & 10.1 & 6.98 & 5.6 \\
Corn & 16.9 & 17.46 & 12.58 & 9.44 & 18.53 & 5.77 \\
Others & 33.24 & 40.20 & 48.21 & 2.58 & 3.28 & 2.08 \\
\hline
\end{tabular}
\caption{Main seasonal crops - selected products, Santa Cruz do Sul and Brazil, 1995, 2000 and 2005 (% of total production value)}
\end{table}

Source: IBGE – Produção Agrícola Municipal

In the course of the last several years, the search for an alternative and sustainable

\textsuperscript{38} In some municipalities like Santa Cruz do Sul and Venâncio Aires, tobacco generates more than 40\% of total tax revenues.
model for rural development in Rio Pardo Valley has resulted in the creation of some important initiatives aimed at promoting crop substitution schemes, particularly associated with agro-ecological endeavors.

Agro-ecological production belongs to a wide category known as “alternative agriculture,” which aims primarily to use no pesticides, and to minimize the use of all chemical inorganic inputs. Usually, these farmers use alternative techniques such as organic fertilization and multi-cultures, and attempt to substitute chemical cycles with biological cycles. Multi-crop farming is a requirement for generating productive diversity, allowing a biological balance that is fundamental in avoiding diseases and other detriments common to any monocrop.39

In the Rio Pardo Valley, the first efforts to support agro-ecological production, at the end of 1980s, were undertaken by non-governmental organizations providing technical assistance to different groups of family farmers. Efforts to consolidate agro-ecological production as an alternative to tobacco growing have gradually brought in new diverse local partners, including farmers’ associations, non-governmental organizations, municipal governments and the public extension agency of the state (EMATER\RS). According to a recent survey, more than 330 families are involved in agro-ecological products in the Rio Pardo Valley region (Etges et al, 2002). Agro-ecological production is based entirely in family farms that are smaller than 15 hectares and produce more than 40 products. These products are sold in fairs, regional and local supermarkets and restaurants, and include a wide variety of horticultural products, erva-mate (Brazilian tea), peaches, oranges, beans and corn, among others.

The Center of Assistance for Small Farmers (CAPA) plays a key role in the Rio Pardo Valley as the main organization working to develop initiatives for crop substitution and diversification addressed to small farmers through programs aimed at production, distribution and selling of agro-ecological products.

Associated with the Brazilian Evangelical Lutheran Church (IECLB), CAPA is a nongovernmental organization dedicated to fostering family agriculture through sustainable rural development. CAPA’s activities are not limited to training farmers, but also include incentives for processing, manufacturing and marketing products. There are five CAPA offices in the three states of southern Brazil (Rio Grande do Sul, Santa Catarina and Paraná). According to CAPA information, these offices represent approximately three thousand farmers, organized into 11 cooperatives, 102 groups and associations of ecological food production and 47 groups of alternative health and integral nourishment, 39

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39 The strong presence of family farming in Southern Brazil has been a key factor contributing to the expansion of agro-ecological production in the region. According to data collected by the Farming Census 1995-1996 (IBGE), family farms comprise 90.5% of farming businesses in the states of Rio Grande do Sul, Santa Catarina and Paraná (about 900,000 businesses). As a result, in the Southern region of Brazil, agro-ecological production is historically strongly identified with family agriculture.
CAPA has already promoted the establishment of 13 community agro-industries and one processing facility for seeds (UBS) in the city of Canguçu (RS). Projects are developed by technical teams of professionals in the areas of agriculture, health, management and communication.

CAPA’s office in Santa Cruz do Sul was established in 1987 as part of a strategy for expanding IECLB activities in the region of the Rio Pardo Valley. Although the office’s working area involves a wider territory (including the Center-South and Taquari Valley regions), the main focus of this CAPA office is in six municipalities of the region: Santa Cruz do Sul, Vale do Sol, Vale Verde, Candelária, Vera Cruz, Paraíso do Sul, Santa Maria and Paverama. The center gives technical support to 426 small-family farmers, which have been organized into 28 work groups in the region.

As part of its action in the region, CAPA created a regional cooperative of farmers, ECOVALE – Regional Cooperative of Ecologists Family Farmers. This cooperative includes 80 farmers dedicated to the production and marketing of agro-ecological products. The main products of the cooperative are vegetables, rice anderva-mate (Brazilian tea), and the main marketing channels are ecological fairs held each week in the cities of Santa Cruz do Sul, Vera Cruz, Vale do Sol and Venâncio Aires. Recently, a new and important market for Ecovale products opened through supplying day nurseries in the city of Vera Cruz. It is interesting to note that in some of the municipalities of the Rio Pardo Valley region – such as Vale do Sol and Venâncio Aires – many municipal initiatives for diversification and tobacco crop substitution are made possible through partnerships with the Center of Assistance for Small Farmers.

In the case of Vale do Sol, the partnership with CAPA since the mid-1990s has been crucial to agro-ecological production as an alternative to tobacco culture in the municipality. Currently, the city has six associations of farmers working with agro-ecological products (Done, Aane, Soque Group, Uniserapi, Boa Esperança and Acro). In addition to the agreements established with the municipal administrations in the region, the Santa Cruz do Sul CAPA office also establishes partnerships with farmers’ organizations for training and technical assistance. These partnerships are an important source of funding for CAPA’s activities, and the funding also helps CAPA to attract other financing from international and national agencies. The partnerships also facilitate communication between the Center and farmers’ regional organizations.

Preliminary estimates of the revenues of small farmers involved in these initiatives show that they provide feasible alternatives to tobacco farming for small farmers in the region, in terms of profitability, marketing and production financing. According to data
provided by the Center, small family farmers associated with ECOVALE have an annual average income of US $1,560 (this annual income ranges from a minimum of US $312 to a maximum of US $4,684).

Based on these figures, it is possible to establish a preliminary comparison between the net income associated with agro-ecological farming in Rio Pardo Valley and net income from tobacco crops. According to the figure provided in Table 14 above, tobacco yielded a return of US $360.91-454.57 per hectare. As noted earlier, an average tobacco farm in Brazil is 18.5 hectares, of which 2.6 are under tobacco. So the average net income from tobacco per family can be estimated as US$938.37 to $1,181.88, considerably less than the average net income of farmers associated with ECOVALE.

The main features of ECOVALE are shown below:

Table 16: Profile of ECOVALE

<table>
<thead>
<tr>
<th>Municipalities involved</th>
<th>Santa Cruz do Sul, Vera Cruz, Vale do Sol, Venâncio Aires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of associated farmers</td>
<td>80</td>
</tr>
<tr>
<td>Main products</td>
<td>Vegetables, rice and erva-mate (Brazilian Tea)</td>
</tr>
<tr>
<td>Main market channels</td>
<td>7 (seven) ecological fairs: Santa Cruz do Sul (3), Vera Cruz (1), Vale do Sol (1) and Venâncio Aires (2)</td>
</tr>
<tr>
<td>Cooperative gross income in 2003</td>
<td>US $81,000*</td>
</tr>
<tr>
<td>Average net family farmer’s income (year)</td>
<td>US $1,560</td>
</tr>
</tbody>
</table>

* OBS: This income represents the gross annual sales of farmers associated with ECOVALE in 2003

Aside from the agro-ecological experiences associated with CAPA and other local governmental actors, a recent initiative to provide alternatives to tobacco monoculture in the region is found in the development of a pilot project on fish farming in the municipality of Sobradinho. Although this initiative is still in its initial stages, already it has created 50 reservoirs. This initiative is based on the work of a local association of fish farmers –

40 The information on ECOVALE and CAPA in Rio Pardo Valley was compiled by the authors through interviews with Sighard Hermany, coordinator of the Center of Assistance for Small Farmers in Santa Cruz do Sul in May, 2002.

41 It was emphasized during the interviews that most of the small farmers associated to ECOVALE have other sources of income that might include tobacco crops. However, the information provided by the cooperative doesn’t allow us to distinguish the profile of farmers fully dedicated to agro-ecological production from those that are also involved with tobacco production.
Braspeixe (Association of Brazilian Line Fish Farmers) – and currently has the support of the municipal Secretary of Agriculture, the State Government, and the University of Santa Cruz do Sul. The Association, which represents about 20 small farms in the municipality, intends to serve as a model for sustainable development in the region. A local university, the University of Santa Cruz do Sul, participates in the initiative through research and technology production, allowing the development of farming systems adjusted to local conditions.

4.3 Diversification from tobacco in the State of Santa Catarina

This section examines two experiences involving the reduction of tobacco crops and the expansion of alternatives crops in two municipalities in the State of Santa Catarina. In the municipality of Santa Rosa de Lima, the reduction of tobacco crops has been accompanied by the expansion of organic farming and, in the municipality of Schroeder, by the expansion of banana cultivation. In each case, this section analyses the standard farming characteristics of each municipality and the switch from tobacco. Following this analysis, the study focuses on the actions of the local actors and institutions that influenced the switch away from tobacco growing.

4.3.1 Banana farming in Schroeder: the consolidation of local agricultural patterns

In 2000, the municipality of Schroeder had a population of 10,811 inhabitants, distributed over a total area of 149 km². It is situated in the micro-region of Joinville, in the northeast of the State of Santa Catarina, in a region of old and strong industrialization and near to two of the municipalities with greatest participation in the industrial production of the State, particularly in the textile and electro-mechanics/metallurgy sectors. As a result, in 2000, 87% of residents in Schroeder lived in the urban area. Regarding public health, the municipality had no hospital facility, although it had two clinic centers and four outpatient clinics. Concerning basic sanitation services, only 9% of houses were connected to the sewage system, although 53% of houses were connected to the water system (IBGE, 2000). Regarding transportation and communication infrastructure, the municipality is connected to the main road systems of the state, and access to telephone lines is common, as is the Internet for a growing number of farmers (particularly those in associations).

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42 A micro-region can be defined as a territorial area that is smaller than the state to which it belongs, but larger than a municipality. Typical examples of such micro-regions are provinces, districts, departments or even mega-cities.
During the whole of the 1990s, the banana has remained the main agricultural product in the municipality, contributing an annual average of about 60% of total agricultural production value. The reasonably diversified agricultural pattern, based on bananas, rice, cassava, sugar cane and corn also remained, with very little tobacco leaf production.

In 1990, tobacco accounted for less than 1 percent of the total value of agricultural production in Schroeder. With the exception of 1998 when tobacco reached its highest value in the municipality’s agricultural production (approximately 3 percent), as a share of total production value, tobacco has remained one of the lowest crops during the 1990s. The main agricultural development in Schroeder during the 1990s was banana production gradually increasing in importance, with a slight reduction in the production of rice, corn and cassava. These four remain the main agricultural products.

As shown in Figure 5, the value of banana production as a percentage of total agricultural production in the municipality increased from 49% in 1994 to 69% in 2002. Moreover, the preliminary data for 2003 and 2004 signals a value still greater according to the local producers’ association.43

![Figure 6: Schroeder: Main Agricultural Products 1994-2002, by Share of Total Value of Agricultural Production](image)

**Source:** IBGE – Produção Agrícola Municipal

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43 The volume of production for selected products is presented in a separate table in Annex 4.
Key actors and institutional background: the role of ABS

At the end of the 1970s, banana producers from a nearby municipality (Guaramirim) created a group in the agriculture department of the local Industrial, Commercial and Agricultural Association, which became the current municipal ABS - Banana Producers Association. Also in this period, EPAGRI, the Santa Catarina State’s government agency for agricultural research and rural extension services, was already working to improve production through genetic manipulation. Motivated and helped by the creation of the Banana Producers Association of Santa Catarina, the farmers gradually established themselves in the state and national markets. Later, trying to adapt to the quality standards required for further success in the market, the farmers’ associations from some municipalities, in connection with EPAGRI, developed efforts for improving the uncontrolled phases of the productive process (monitoring against diseases and post-harvest). Through technological advancement, they achieved gains in productivity.\(^\text{44}\)

Later, in 2000, the Association of Producers of Luiz Alves, in partnership with EPAGRI, set up a pilot monitoring project (sanitary control) aimed at the local plantations. (Monitoring is essential in the control of Yellow Sigatoka, the principal disease affecting bananas.) The fruitful results achieved aroused the interest of other farmers from neighboring municipalities. However, strong results were observed only in municipalities that had a well organized association strongly linked by common objectives. Monitoring is important because it is used to determine the proper time for spraying (given the temperature, wind and rain conditions of each region). Good monitoring, realized with the support of the EPAGRI meteorological station (CLIMERH\(^\text{45}\)), has another important benefit (besides Sigatoka control): it increases efficiency in the number of sprays each year.

In Schroeder, monitoring started in 2002. This initiative (of assimilating technology into farming practices) would not have been possible without the mobilization of the organized producers, not to mention the important technical assistance provided by EPAGRI. Cooperative links are seen, for instance, in the shared purchase of spraying technologies and the strong cooperation among producers for processing and distributing their bananas. The development of banana cultivation was reinforced by the installation of three processing (dried bananas) firms in the municipality, which foster commercial relations in the region.

\(^{44}\) One of the first examples of the search for technological advancement is the 1993 joint initiative by the Associations of Producers and EPAGRI’s technicians that organized a trip to Ecuador (a world reference in the sector), taking 12 people (technicians and farmers) from six of the better organized municipalities: Guaramirim, Luiz Alves, Corupá, Jaraguá do Sul, São João do Itaperiú and Schroeder.

\(^{45}\) Centro Integrado de Meteorologia e Recursos Hídricos de Santa Catarina (Integrated Center of Meteorology and Hydric Resources of Santa Catarina).
The profitability of alternative crops: Bananas in Schroeder

The success of Bananas Producers’ Association of Schroeder (ABS) can be expressed by the following features: 92 associated producers own a combined area of 937.5 hectares, accounting for the production of 2,250,000 boxes/year (approximately 50 thousand tons), an average of approximately 50 tons/ha, higher than the national average. Comparing data on banana production across the whole municipality clearly shows the influence of ABS. This association, formed informally during meetings organized by a local leader (and banana producer) in 1991, is a paradigm for a successful association. According to data provided by ABS, in 2004, the average price for bananas was R$ 160.00-200.00 /ton. The gross income per hectare was approximately R$ 8,000 (US $2,700), and net income for small producers was around R$ 2,400 per hectare/year (US $811). This net income is considerably higher than the profits from growing tobacco, providing strong incentives to local farmers to switch to banana production.

Tobacco has not been produced in Schroeder since 2001. According to interviews with local farmers in the municipality, tobacco was phased out gradually. The main causes identified were: the farmers’ dissatisfaction with the way that tobacco is classified, dependence on a single annual crop, and continuous falls in tobacco producers’ revenues.

4.3.2 Santa Rosa de Lima: organic food crops as an alternative to tobacco

The municipality of Santa Rosa de Lima has a total area of 184.29 km² and is located in the mid-southern region of the state of Santa Catarina. According to IBGE’s Census, Santa Rosa de Lima had a population of 2,007 inhabitants in 2000, seventy nine percent living in the rural area. Of the 493 existing homes, only 4% were connected to a water system and less than 1% of houses had access to the sewer system. Regarding health services, the municipality had only two outpatient clinics and no hospital (IBGE, 2000).

The road system which leads to the town is precarious (narrow and winding dirt roads) and the telephone network reaches very few houses out of the urban area (through both conventional and cellular lines). Although most houses have electricity (both in the rural and urban area), it is extremely expensive compared to other regions in the state and has to be acquired through a cooperative created specifically for this purpose.

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46 The authors conducted a number of interviews with small farmers and local government authorities and local associations in Schroeder, in January and February 2003.
As for access to formal education, the situation is improving, although almost the entire older generation has only a fourth grade education. In the past, the municipality provided no resources for people to continue their education.

In 1905, the first groups of German settlers started arriving in the town, although it was not until 1920 that the migratory flow intensified through the integration of Italian and Azorean settlers. Contrary to the usual procedures at that time, there was no support from either the government or the settler companies in the region. So the farmers had to rely on their own initiative to structure the initial settlement of a region, facing problems of access (uneven topography and dense forests) and without any basic infrastructure, particularly roads and communication.

Multi-crop farming and breeding small animals have been the strategies used by farmers since settlements began to guarantee survival and, at the same time, generate a commercial surplus. A typical farm grew, for instance, peanuts, black beans, rice, cassava, potatoes and corn crops, in addition to breeding dairy cows and “lard pigs”, a rustic species of pig freely bred and fed with a stew made of sweet potato, cassava, corn and pumpkin. Gradually, with the intensification of regional trade, the region also started to participate in the trade of live animals and other agricultural surplus, yet within the context of commercial relations based upon “personal links, a lack of competitiveness and the arbitrariness of the few traders with respect to the prices of products sold by the farmers” (Muller, 2001: 71).

For a long time, until the mid-1960s, trading lard was the main, and economically profitable, activity of the settler farmers. However, with the coming of the “green revolution” (or agricultural modernization), this activity started decreasing as soy and its products (stimulated by official agricultural policy) replaced lard, leading to new consumption standards. Contrary to what would be expected, hog agro-industrial integration, still significant in that region and in other regions of Santa Catarina State, did not appear in the municipality of Santa Rosa de Lima. The crisis in pig-breeding activities was not solved by introducing processes for hog agro-industrial integration, as occurred in other regions of the State. This would have required, aside from initial investments, an infrastructure of roads, which did not exist in the municipality.

One alternative found to overcome the demise of pig-breeding activities was tobacco agro-industrial integration. Although gradual, this transition from pig breeding to tobacco farming was consolidated between the 1970s and the 1980s through the strategies of tobacco companies. Tobacco cultivation had previously been only on a small scale, using manual labor and without significant economic impact. A new strain of tobacco inaugurated the agricultural “modernization” process in Santa Rosa de Lima. Also known as “greenhouse tobacco”, this crop was introduced along with the integrated production system, through which all inputs – seeds, chemical fertilizers, pesticides – as
well as technical assistance and access to agricultural credit lines were supplied by the company.

As emphasized earlier, despite tobacco being harmful to farmers’ health and involving intensive labor by the whole family (particularly during the harvest), tobacco was attractive for its profitability and for providing financial security to farmers through its guaranteed sale. The revenue from the sale of the tobacco crop allowed farmers to acquire goods and invest in their property.

However, tobacco culture began to decline from the beginning of the 1990s, (especially with the crop of 1996/97), inaugurating a second big crisis in the municipality of Santa Rosa de Lima. The revenue decrease from tobacco production is attributable to, among other reasons, the: a) rise in interest rates and costs of bank financing; b) rise in raw material prices; c) stagnation of prices of agricultural products; and d) greater “rigor” in tobacco classifying criteria by the leaf dealers (through which the companies started under-assessing production value). As emphasized in previous studies (Muller, 2001: 119), the unstable situation and arbitrariness of the tobacco market, along with restrictions on agricultural credit benefits, resulted in revenue loss by producers and led many of them to give up tobacco production. The evolution of the volume of tobacco produced in this municipality is compared with tobacco production in the main regions in the State of Santa Catarina in Table 18.

<table>
<thead>
<tr>
<th>QUANTITY (Tons)</th>
</tr>
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<tbody>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Santa Catarina</td>
</tr>
<tr>
<td>Santa Rosa de Lima</td>
</tr>
<tr>
<td>Oeste Catarinense (1)</td>
</tr>
<tr>
<td>Norte Catarinense (2)</td>
</tr>
<tr>
<td>Serrana (3)</td>
</tr>
<tr>
<td>Vale do Itajai (4)</td>
</tr>
<tr>
<td>Grande Florianópolis (5)</td>
</tr>
<tr>
<td>Sul Catarinense (6)</td>
</tr>
</tbody>
</table>

Source: IBGE – Produção Agrícola Municipal

Searching for revenue alternatives during the tobacco crisis, one of the farmers’ options was the development of dairy activities. In the mid-1990s, with the installation of a dairy company in the region, trading conditions improved considerably. The foundation of the
Association of Ecological Farmers of Serra Geral Slopes –AGRECO– represents a major initiative in the search for alternative farming cultures. From its foundation, AGRECO has been a key actor in fostering crop diversification and the organic farming transition in the region.

Many researchers in agro-ecology believe that family agriculture, that is, the small property managed by the family nucleus, may be the most likely locus for consolidating this new standard based on more flexible production techniques. Every property needs a specific solution, requiring “craft care” rather than industrial production. The Serra Geral Slopes region, which lends its name to AGRECO, also includes farmers from other neighbor municipalities in Santa Rosa de Lima, such as Anitápolis, Armazém, Grão-Pará, Gravatal, Rancho Queimado, Rio Fortuna and São Martinho.

Key actors and institutional background: the role of AGRECO

AGRECO was founded in 1996 by a group of twelve families with the aim of assisting small farmers in a region in decay caused by the tobacco crisis. The main impulse for its creation came from a local leader, an owner of a supermarket network in the state’s main city, Florianópolis. This businessman made a proposal to the local farmers: he would purchase the entire harvest that the families could produce without using pesticides (initially with exclusivity). The idea arose from his contact, during trips to Europe, with a promising market niche – the sale of organically cultivated products, that is, without pesticides (AGRECO, 2003).

In its initial stage, from December 1996 to mid-1998, the association counted on the assistance of teachers from the Center for Agricultural Sciences (Centro de Ciências Agrárias-CCA) of the Federal University of Santa Catarina (UFSC) and technicians from EPAGRI, as well as the support of the local government. At the time, the whole production was sold and sent each week to two supermarkets in the network in Florianópolis. The association’s role was to provide skilled technical support to its members, coordinate the whole production chain and centralize sales. The first problems related to this marketing appeared early and can be summed up as follows: the association’s board of directors faced increasing difficulties in establishing new sales contracts and, at the same time, synchronizing the production cycle of cultivated foods (Schmidt: 2002).

The second stage lasted from mid-1998 to the beginning of 2000 and signaled an important change of course for the association. First, between mid-1998 and the end of the same year, the number of associated members jumped from 200 to nearly 500, including more than 200 families and extending to other municipalities (as mentioned above). Second, and this is the main reason for the sharp increase in the number of associated members, the region was preparing to enter a project for the development of family agriculture – “Inter-municipal Project for Module Agro Industries Network”- designed and financed by the federal government, through the Department for Rural Development (SDR) of the Ministry of Agriculture.

The original project aimed to install, in a particular region of the State of Santa Catarina, 53 small rural firms financed by PRONAF – Agro-industry (National Program
for Family Farming) - and with resources from BNDES (National Bank for Economic and Social Development). The Centro de Estudos de Promoção de Agricultura de Grupo (Center of Studies for the Promotion of Group Agriculture) - CEPAGRO, which works in the Center of Agricultural Sciences (CCA) of UFSC, played a significant role in this period; besides coordinating the proposed project at regional level, it also provided the technical assistance required for integrating the region in the project.

One of the main purposes of the project was to add value to family farming production by installing small agro-industry units, integrated as a network and connected to a central unit of management support, of inter-municipal character, and managed by the farmers themselves. According to information provided by CEPAGRO, the federal government project would meet (in the perspective of local leaders) the concerns of the associated farmers once it could contribute to “creating jobs” and “strengthening the association links”. Furthermore, the project would include the following services: a) technical assistance; b) marketing and trading; c) joint purchase of machines, equipments and inputs; and, the most important, d) joint sales to final consumers. Joint sales were intended to cut out middlemen in the selling process, realizing greater profits for farmers.

Meanwhile, the region accessed technical support from the state (necessary anyway for building the agro-industry units) by joining the “State Program for Family Farming Development through Vertical Production (DESEVOLVER). The DESEVOLVER program counted on the financial support of the National Council for Scientific Development (CNPq), through the “Program of Adjusted Technologies”, and was useful for providing skilled technical teams to help the farmers. At the governmental level, according to Schmitd (2002), the support of municipal prefectures, EPAGRI and, later, of Santa Catarina Superintendence of National Institute for Settlements and Agrarian Reform was fundamental to the accomplishment of the region’s participation in the DESEVOLVER program.

Regarding building agro-industry units, only 14 projects have received initial approval. Simultaneously, the problems related to the selling process have intensified because the main buyer declared bankruptcy and closed in May 2000. There are also other serious difficulties: a) the overwhelming volume of production because of the explosion in the number of associated members; b) intensification of competition with producers from the metropolitan region of Florianópolis; c) difficulty in transporting perishable products long distances to supply the refined demand of the great urban centers; and d) financial difficulties caused by spoilage (return of goods) and the debts of big buyers.

Perhaps for this reason, the idea of working with (non-perishable) processed products through agro-manufacturing was pursued as an alternative strategy by the board of AGRECO to overcome this latest crisis.
The third\textsuperscript{47} and last stage comprises the period since 2000. In this stage, 27 agro-industry units were established (out of the 53 initially planned) and started producing a range of products of vegetable and animal origin, such as hog salami, honey, brown sugar and its byproducts (melado and cachaça), pickles (vegetables and fruit), eggs, processed milk and vegetables (sold exclusively in local fairs). Pickles offer the ability to change vegetable producers (of the first stage) into non-perishable product manufacturers.

The support received during this stage came basically from a partnership with the Brazilian National Agency for Small Business - SEBRAE, through the project “Sustainable Rural Life”, a pilot project and agricultural sustainable development model that was being implemented in other regions by the same institution. The three-year project injected financial resources to cover expenses for the farmers’ training and guaranteed the operation of the association’s office.

The current situation of the associated agro-manufacturers is very heterogeneous, but can be summed up as follows. According to data collected by field research, preliminary findings are that:

1) The agro-manufacturers who get to place their products in the supermarket networks (honey and brown sugar, for instance) are in a better situation than those who worked with less elaborated products sold in local fairs and groceries;

2) Almost all the farmers did not get their livelihood only through selling organic products, needing other sources as well, which varied from one property to another;

3) Although producers were unanimous regarding the success of the experience in view of its social character, a majority of the producers were unsatisfied with the high debts resulting from the financing taken from PRONAF and employed in a pioneer experiment. Many said that “they paid too expensive a price for learning” and that, after the building of the agro-industry units, they found themselves without the required working capital to assure economic success (as in any other business);

4) Still, in relation to the social character of the project, it was observed that association efforts in the region were strengthened, which enabled the creation of a credit cooperative and an association of rural tourism (citing only the main result), which are direct results of the pioneering agro-ecological experiment.

Concerning the central matter of this study – the substitution of tobacco by agro-ecological products – it is estimated that approximately 35 to 45 families presently remain

\textsuperscript{47} All information on this phase was obtained through field research done at the end of 2003 and reported in a preliminary way in: Oliveira, B. Carvalho, L. (2004).
associated and working with organic foods (although this is not, as explained above, their main revenue source). Other families returned to tobacco or to other activities connected to conventional agriculture. The evolution of agricultural production in Santa Rosa de Lima is presented in Table 19.

### Table 18: Santa Rosa de Lima: Value of Agricultural Production 1995-2002 (%)

<table>
<thead>
<tr>
<th></th>
<th>1995</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orange</td>
<td>3.16%</td>
<td>4.02%</td>
<td>5.83%</td>
<td>6.31%</td>
</tr>
<tr>
<td>Peach</td>
<td>1.87%</td>
<td>1.34%</td>
<td>0.63%</td>
<td>0.00%</td>
</tr>
<tr>
<td><strong>Permanent crops</strong></td>
<td>5.03%</td>
<td>5.36%</td>
<td>6.46%</td>
<td>6.31%</td>
</tr>
<tr>
<td>Rice</td>
<td>0.10%</td>
<td>0.18%</td>
<td>0.18%</td>
<td>0.12%</td>
</tr>
<tr>
<td>Sweet potato</td>
<td>0.00%</td>
<td>1.79%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Potato</td>
<td>3.45%</td>
<td>1.70%</td>
<td>3.50%</td>
<td>1.53%</td>
</tr>
<tr>
<td>Sugar cane</td>
<td>1.78%</td>
<td>9.64%</td>
<td>8.07%</td>
<td>6.37%</td>
</tr>
<tr>
<td>Onion</td>
<td>1.87%</td>
<td>2.23%</td>
<td>1.17%</td>
<td>1.95%</td>
</tr>
<tr>
<td>Beans</td>
<td>1.78%</td>
<td>1.79%</td>
<td>1.61%</td>
<td>2.06%</td>
</tr>
<tr>
<td>Tobacco</td>
<td>78.01%</td>
<td>50.18%</td>
<td>62.15%</td>
<td>64.68%</td>
</tr>
<tr>
<td>Cassava</td>
<td>2.07%</td>
<td>5.18%</td>
<td>4.22%</td>
<td>2.54%</td>
</tr>
<tr>
<td>Water-melon</td>
<td>0.00%</td>
<td>3.21%</td>
<td>1.26%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Corn</td>
<td>5.92%</td>
<td>18.75%</td>
<td>11.39%</td>
<td>14.45%</td>
</tr>
<tr>
<td><strong>Temporary crops</strong></td>
<td>94.97%</td>
<td>94.64%</td>
<td>93.54%</td>
<td>93.69%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

*Source: IBGE – Produção Agrícola Municipal*

Finally, in the two cases studied, neither the cultivated area nor the value composition of municipal agricultural production show significant changes in the last decade. In the municipality of Santa Rosa de Lima, the amount of tobacco produced grew until 1994, decreased as a percentage of total value for the rest of the decade, then rose again after 2000. After tobacco, sugar cane, cassava and corn were the main agricultural products in the municipality throughout the 1990s. In the municipality of Schroeder, tobacco was always a minor crop, and from 1998, the municipality stopped cultivating it. Bananas, sugar cane, cassava and corn have remained the main municipal products.
4.4 Policy lessons for diversification

The case studies analyzed in this section demonstrate that specific diversification programs, placed within broader rural development programs, can make switching from tobacco to alternative crops viable, even in regions/municipalities that are heavily reliant on tobacco. In this respect, the experiences of Santa Cruz, Schroeder and Santa Rosa de Lima have some important features in common. In all these municipalities, farmers associations (AGRECO, ABS) and NGOs (CAPA) have played a key role in organizing small farmers and launching diversification and crops substitution initiatives. Also, all these initiatives have been associated with training and technical support in order to provide small farmers with the necessary skills and competencies to make their transition to alternative crops feasible.

In Schroeder, the Bananas Producers' Association (ABS) has established important partnerships with state technological institutes like EPAGRI aimed at providing technical support to improve productivity and quality in bananas production. In Santa Rosa de Lima, EPAGRI has also provided, with other local and regional technological and training centers, technical support to the organic farmers' association (AGRECO). In Santa Cruz do Sul, CAPA has a technical team of eight professionals in the areas of agriculture, health, management and communication that provides most of the technical support for small family farmers who grow organic products in the region. In addition, CAPA has also developed some partnerships with local universities and EMATER.

Also, the three case studies show that the efforts to foster crop substitution have been linked with identification of new market channels and opportunities for adding value in alternative food crops. In particular, the role of CAPA demonstrates that the success of the agro-ecological experience in Rio Pardo Valley was based not only on the training of farmers, but also entailed incentives for processing and marketing products.

The table below summarizes the main features of the experiences with farm diversification and crop substitution analyzed in this study.
Table 19: Crop substitution and farm diversification in Brazil: main features

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Santa Cruz do Sul</th>
<th>Schroeder</th>
<th>Santa Rosa de Lima</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key actors/organizations</td>
<td>NGO and farmers cooperative (CAPA and ECOVALE)</td>
<td>Farmers association (ABS)</td>
<td>Farmers association (AGRECO)</td>
</tr>
<tr>
<td>Average share of tobacco in total agricultural production value</td>
<td>High (60%)</td>
<td>Very low (Less than 1%)</td>
<td>High (40%)</td>
</tr>
<tr>
<td>Alternative crops</td>
<td>Organic food crops (mainly horticulture)</td>
<td>Bananas</td>
<td>Organic food crops (mainly horticulture)</td>
</tr>
<tr>
<td>Number of producers directly involved</td>
<td>80</td>
<td>92</td>
<td>35 -45</td>
</tr>
<tr>
<td>Technical support and training</td>
<td>CAPA and EMATER</td>
<td>EPAGRI</td>
<td>EPAGRI and Universities – UFSC</td>
</tr>
</tbody>
</table>

Source: Vargas and Campos (2005)

Concerning the importance of government policies, the study suggests that in regions dominated by tobacco farming, local/state governments have a rather limited interest in leading crops substitution programs. However, as demonstrated by the CAPA experience in Rio Pardo Valley, partnerships with local government authorities are critical to disseminate and consolidate broader farmer diversification efforts.

Finally, it is important to highlight that any tobacco-farming diversification or crop substitution strategy must be suitable to the specificities of the local/regional production structures. In the case of Schroeder, the importance of local banana production was crucial to the successful switch from tobacco in the municipality.

Thus, in each case study analyzed in the state of Santa Catarina, the reduction in tobacco production was different. In the case of Santa Rosa de Lima, as previously seen, tobacco production was reduced, but not in a sustained way, and tobacco farming coexists with other crops. In the municipality of Schroeder, bananas became the focus for local agricultural specialization, because of the financial returns generated for the farmers. Therefore, we can say that banana growing has taken the place formerly occupied by tobacco. However, bananas also displaced almost all other crops in the municipality. Moreover, we should not forget that tobacco growing was always a small part of local agricultural production compared to other regions in the state.
This section provides an overview of eight selected rural development programs that may give the adequate financial support to foster diversification from tobacco crops among Brazilian small family farmers. The information concerning these programs was mainly provided by the Ministry of Agrarian Development.

Following the ratification of the Framework Convention by Brazilian Senate, in October of 2005 – an outcome of the strong mobilization by governmental institutions and by relevant organizations representative of civil society and family farming and, particularly, of the commitment undertaken by federal government of guaranteeing support to family farmers – Ministry of Agrarian Development immediately announced the creation of a Program for Supporting Production Diversification in Tobacco Growing Areas. The main objective of the program is preparing tobacco grower families to face the trends of declines in tobacco consumption and, consequently, in production, by assuring the possibility of crops diversification as an alternative income generation for the families engaged in tobacco growing.

5.1 Program for Supporting Production Diversification in Tobacco Growing Areas

In general terms, the program of support to diversification proposes four thematic strategic lines, which include financing, research, technical assistance and support for strengthening market of alternative products. The purpose is encouraging and supporting farmers, in regions where tobacco is traditionally grown, who are willing to diversify their activities, introducing new agrarian activities.

a) Financing – promotion of specific financing policies aimed at produce diversification in tobacco producer properties.

b) Access to technology – strengthening and expansion of research and technical assistance initiatives as a way for encouraging production diversification. For 2006, the program anticipates financial resources of about R$ 5 million.

c) Value Aggregation to local production – aims at raising income of family farmers by means of organization and value aggregation to primary agricultural production. In this perspective, the program will impel associativism and cooperativism,
the establishment of new agro-industries and investment in research on new products and production processes.

d) Support to marketing – tobacco growers will have the purchase of their new products guaranteed by the Program of Food Acquisition (PFA)\textsuperscript{48}, as way of attaining a gradual and sustainable entry in the market. The Ministry of Agrarian Development budgeted R$ 5 million, in 2006, to fulfill this goal.

The program divides the tobacco producer region into five subregions distributed as follows: three in Rio Grande do Sul, one in Paraná and one in Santa Catarina. Each subregion will receive R$ 1 million for investing in marketing in the sphere of the Program of Food Acquisition (PFA), and R$ 1 million for training, rural extension and research (which is focused on value aggregation and consolidation of diversification and agro-ecological systems).

The program also innovated in establishing a decentralized method for definition and destination of these resources. Assemblies were held in every subregion with the purpose of debating and reaching a consensus on what programs should be implemented in each subregion, involving State Office of the Ministry of Agrarian Development (body representative of the Ministry in each State), Subregion Coordinating Committee (regional coordination board convening public institutions and organizations of civil society) and institutions and organizations with interest in developing diversification projects.

5.2 Program of Rural Development that can Support Diversification Initiatives\textsuperscript{49}

5.2.1. Pronaf

Pronaf – \textit{Programa Nacional de Fortalecimento da Agricultura Familiar} (National Program of Family Farming Strengthening), created in 1995, aims at strengthening family farming while a social category, by means of financial support (for defraying and investment in rural activities), of training and support to the social and economic infra-structure of the rural areas characterized by family farming. Although it is a broad program, its major accomplishments have been focused in the credit field (costs and investment).

The target audience of the program is constituted by family farmers who share the following characteristics: a) part of the family income comes from agrarian activity, varying in accordance with the beneficiary’s category (30% in group B, 60% in group C, 70% in group D and 80% in group E); b) holding or exploring land proprieties limited to four

\textsuperscript{48} For a detailed view on this governmental program see section 5.2.2.

\textsuperscript{49} All the initiatives described in this section are part of the rural development policy created and supported by the Brazilian Ministry of Agrarian Development
fiscal modules (or up to six modules in case of livestock activity); c) exploring the land as owner, tenant, partner or leaseholder; d) agrarian labor predominantly by family members; e) living in the rural propriety or in a nearby village or urban area; f) annual gross family income amounting up to R$ 60 thousand.

According to the category of the family farmer, Pronaf provides varied interest rates and rebates on the capital sum as detailed in the Tables provided in Annex 2.

In the harvest year 2005/2006, Pronaf accomplished 1,908,277 contracts, applying R$ 7.6 billion, being R$ 4.1 billion for expenditures and R$3.5 billion for investments.

Until the harvest of 2001/2002, tobacco producers could access Pronaf for financing the costs of their crops. But this policy was being questioned once the financial resources were passed directly to the tobacco companies, which managed the resources by supplying all inputs to the growers, under their contract provisions. The financing contracts were made in the Bank agency indicated by the firm and could even be in a city or State other than that of the grower. For paying off the financing, the firm discounted from the grower by the time of the tobacco produce delivery.

Despite tobacco companies take on responsibility for paying interests of Pronaf financing – what could represent a gain to the producer – the farmer’s obligation of purchasing inputs from the company itself, with prices established by the latter, not only annulled the bonus granted by the firm as also changed Pronaf into a policy which favored rather the tobacco company than the farmers. These have been some of the analyses and conclusions of studies performed by DESER under request of both the Ministry of Agrarian Development and the Federal Audit Office.

This debate prompted the cease, as from 2001, of financial resources from FAT (Worker’s Supporting Fund) for defraying tobacco crops. Also, as from 2002, the companies quit using Pronaf resources for tobacco, in accordance with Art. 8 of Resolution 3001, of 24th July of 2002, by Banco Central do Brasil (Brazilian Central Bank), which prohibited credit grants under Pronaf if related to tobacco production accomplished in partnership or under integration systems with tobacco processing companies. Since then, tobacco crops have been defrayed through bank liabilities [Mandatory Resources (Recursos Obrigatórios – MCR 6.2)].

Since 2003, tobacco growers can access the financing line Pronaf Custeio (Costs defraying) under the condition that the resources will be exclusively allocated for the implementation of other cultures (corn, beans, milk etc.).

Nevertheless, following debates around the approval of the Framework Convention, the Secretariat of Family Farming (SAF/ MDA), in considering the social and economic problems that programs on tobacco control may generate in the medium and long terms, as well as the financing needs in the context of the strategies for sustainable development and for crop conversion and economic transition of tobacco growers, in 2005 reopened to family farmers dedicated to tobacco growing in partnership and integration with tobacco

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50 See DESER, O Pronaf e a Integração Fumicultor e a Agroindústria Fumageira, Curitiba, 1998.
manufacturers financing through Pronaf investment lines. The conditions imposed to this financing line is that the investments must be allocated to activities, crops and/or breeding other than tobacco culture. The farmers who access this credit must prove that at least 20% of the income generated by the land comes from activities others than tobacco.

Thus, Pronaf, by means of its financing lines – either costs defraying and investment or special lines – constitutes a significant tool for promoting diversification or conversion by tobacco growers.

The significance of this measure was emphasized by the Secretary of Family Farming, Valter Bianchini: “It is necessary that Brazilian tobacco growers receive special attention regarding the matters of diversification and crops substitution, by means of facilitating technical and financial resources. The development of other subsistence ways is essential, once the expected scenario resulting from this worldwide movement towards tobacco control is of a declining demand for tobacco products. The change in Manual de Crédito Rural (Rural Financing Handbook) will stimulate rural producer to undertake other activities, cultures and/or breeding, in order to reduce their dependence upon tobacco crops, expanding therefore their possibilities of producing food.”51 For specific financing of tobacco crops costs, the farmers may access traditional rural financing lines, which annual interest rates are about 8.5%.

5.2.2. Program for Food Acquisition

PFA – Program for Food Acquisition from Family Farming, created in July of 2003, is a public policy developed with the purpose of advancing family farming, promoting social inclusion in the countryside and guaranteeing food for populations under a context of food insecurity by means of purchasing from family farmers’ produce.

The purpose of PFA is being a structuring action within the Program “Zero Hunger” able to generate a stable socio-economic family farming activity. When purchasing family farming produce, the Government ensures a fair price, as well as income for the farmers and, at the same time, reduces prices of the food aimed at social programs and makes easier the process of food donation.

Through resources come from the Ministry of Social Development, the Program for Food Acquisition is managed by means of committee composed by representatives of the Ministry of Social Development (MSD), Ministry of Agriculture, Livestock and Supplying (MALS), Ministry of Agrarian Development (MAD), Ministry of Finance (MF) and Ministry of Planning, Budget and Management. The operationalization of PFA is performed by the National Supplying Company (NSC/ MALS) and by the Ministry of Social Development. The institutional purchasing (or Direct Local Purchase) and simultaneous donation to governmental and/or non-governmental organizations which provide publicly recognized assistance to people under social vulnerability is limited to a annual value of R$ 3,500.00 per beneficiary.

51 According to press release: 03/05/05 (www.pronaf.gov.br).
By means of the “direct purchase and simultaneous donation”, PFA has demonstrated that public policies, particularly institutional purchase, can contribute to diversify products commercialized by family farmers. Although the program is recent and has benefited only a small number of farmers, it is possible to perceive that it got to stimulate the introduction or expansion of products which did not composed the farming produce or which had little significance in the total produce. It is believed that this incentive may contribute for organizing production and for searching new market channels.

The Program for Food Acquisition (PFA), with resources of Ministry of Agrarian Development (MAD), develops in addition two other sub-programs. The first, “Direct Purchase from Family Farming”, has the purpose of ensuring income to family farmers when market prices for their products are lower than the PFA’s reference prices, and is limited to R$3,500.00 per family. The products which compose this program are: beans, corn, wheat, sorghum, cassava flour, rice, cashew nut, and Brazilian chestnut. The second sub-program, “Formation of Stock by Family Farming”, provides resources for financing associations and cooperatives which have at least 80% of their associates composed by small farmers. Such financings are limited to R$ 1.5 million per organization, with annual interest rates of 3.5%, an have the purpose of allowing associations to purchase inputs from their associates, process and store them for afterwards selling the products at more favorable opportunities.

5.2.3. Rural Extension and Technical Assistance Program (RETA)

The National Policy of Technical Assistance and Rural Extension was created in 2003 under the coordination of the Department of Rural Extension and Technical Assistance (DRETA) a division of the Secretariat of Family Farming (SFF). This policy is aimed at implementation and consolidation of sustainable rural development strategies, promoting the creation of both new job posts and income. Based on the fundamental values of respect to plurality and to social, economic, ethnic, cultural and environmental diversities, this national policy aims at including the gender, race and generation perspectives in every program and project it supports, emphasizing thus the quest for social inclusion of the poorest Brazilian rural population.

The implementation of RETA Program, either through the public institutions or through participation of non-governmental organizations, specially by expanding innovative actions (as, for instance, the projects: Experimenter Farmers, Development Agents, Farmer to Farmer, Referential Networks) will play a fundamental role in the implementation of proposals for diversification in the areas of tobacco production.

5.2.4. Family Farming Insurance

Created in 2004, the Family Farming Insurance consists in a program exclusively addressed to farmers who contract financing for defraying crops costs through PRONAF. For family farmers who apply for defray financing of zoned crops (cotton, rice, bean, caupi bean, apple, corn, soy, sorghum and wheat) and of cultures of banana, cashew, cassava, castor beans and grape the adherence to the insurance is compulsory (mandatory). Thus, over 95 percent of crops defray financings made through Pronaf will be covered by the Family Farming Insurance.
The Family Farming Insurance aims at guaranteeing a 100 percent coverage of the financing and over 65 percent of the expected net income of the enterprise financed by the small farmer, limited to R$ 1,800.00. Such innovation is assuring a significant percental of the income expected by the small farmer in the moment of contracting operations of agrarian defraying through Pronaf.

For tobacco growers who decide expand diversification of their income by means of other cultures, with financing by Pronaf, the Family Farming Insurance can provide a better defense in case of harvest frustration.

5.2.5. Family Farming Prices Insurance

For complementing the insurance above detailed, in 2006 the federal government created the Family Farming Prices Insurance which contributes to avoid small farmers indebtedness resulting from decline in prices of agrarian products and favors new agrarian investments by these family farmers. In addition, the prices insurance also benefits consumers, since it makes possible to keep low prices of the food basket.

The program operates into a system of product-equivalence. In the financing contract, the financing value is converted in a product quantity for a given reference-value annually issued by NSC. If, by the time of paying off the financing, the market price of the financed product is lower than the reference-value, the farmer receives a discount in the financing value equivalent to this difference.

For the harvest of 2006/2007, seven agrarian products will benefit from the program: corn, bean, cassava, rice, soy, sorghum and milk, conditioned to have financings from the National Program of Family Farming Strengthening (Pronaf) and without implying changes in criteria for obtaining Pronaf credits in the bank system.

5.2.6. Biodiesel Program

The Biodiesel Program has gained importance insofar the debate on diversification of energy matrix, for renewable and environmentally correct forms of energy generation, grows.

Aiming at guaranteeing and strengthening the participation of family farming in the Biodiesel Program, the federal government created the Social Fuel Stamp addressed to firms which purchase their inputs from family farming, allowing, therefore, that small farmers obtain guarantees for price, production delivery and technical assistance.

Furthermore, the Secretariat of Family Farming is implementing several other policies aiming at facilitating the access of family farming to the program. Among these programs, are: Pronaf Biodiesel, with a specific financing line which does not interfere with other financed activities; Pronaf Agroindustry, aimed at financing machines and equipments for producing fuel oils; training, discussion forums and technical assistance in the program.
Integration of tobacco growers in Biodiesel Program may well be one of the alternative actions to allow diversification with guarantee of income.

5.2.7. Rural Tourism Program

Other activity that may contribute to diversification in areas of tobacco production is Rural Tourism and the development of other non-agrarian activities. Rural tourism has, particularly, acquired a great importance in debates on rural and family farming development. Changes in the ways of organization of rural populations indicate tourism as a potential tool for providing diversification of income sources, valorization of local culture, marketing of produce by small farmers themselves and promote self esteem of these communities. Furthermore, the multidisciplinary and multisectoral characteristic of tourism, helps an adequate use of the territory and advance recuperation and preservation of local economy.

Além das discussões visando alterações na legislação, considerando as especificidades do turismo rural e do papel da agricultura familiar nesses empreendimentos, algumas políticas já estão sendo desenvolvidas, com o objetivo de dinamizar o turismo rural com base na agricultura familiar. O Pronaf, nos grupos “C” e “D”, contempla o financiamento do turismo rural e atividades não agrícolas (por exemplo, artesanato) entre as finalidades dos créditos de investimento.

5.2.8. Agro-ecology Program

The Secretariat of Family Farming, division of the Ministry of Agrarian Development, handles another important policy which may contribute to actions characterized by environmental sustainability and income generation. This is the “National Program for Supporting Ecological Agriculture by Family Farming”.

This program, in addition to make resources available to families which already produce in a agro-ecological way and to those which intend to convert their production to the agro-ecological mode, according to the Secretary Valter Bianchini “aims at being an instrument for articulating public policies directed to family farmers, artisan fishers, small aquaculturists, and families who live from extractive activities, riperians, quilombolas, indigenous people and other people from the Forest, as well as governmental and non-governmental organizations, institutions of rural extension, of education and research, so that they can perform or support the transition from traditional modes of production to sustainable forms of agriculture, livestock, fishery, aquaculture, extractive activities and handling of forest systems”.

The Agro-ecology Program provides resources for supporting production, processing and marketing of organic food and has as objectives: training of farmers and technicians in the production agro-ecologically based; technical assistance and rural extension; incentive to research and education aimed at agro-ecology; and subsidized credit for transition to agro-ecology.
6 Final Remarks

This paper has provided an overview of the economic aspects of tobacco farming in Brazil and has analyzed the main opportunities and challenges for the implementation of agricultural alternatives to tobacco production. In doing so, the study has aimed at identifying policy measures that could contribute in the implementation of the articles 17 and 18 of the WHO FCTC.

Although tobacco farming diversification programs are not assumed an effective way to reduce tobacco use, there is also a growing consensus that efforts to help small farmers to switch from tobacco to alternative crops might be a useful part of sustainable local economic development programs. However, the efforts to support small farmers to diversify and to switch from tobacco to alternative crops still face considerable barriers in developing countries.

In Brazil, as shown in section two, the expansion of tobacco production in the southern region, particularly during the 1990s, has enhanced the power of large tobacco companies over tobacco farming activities and has created important lock-ins in terms of regional development paths in many localities.

In this respect, despite the barriers to find substitute crops and alternative livelihoods to tobacco, the case studies analyzed in section four demonstrate that specific diversification programs, placed within broader rural development programs, can make switching from tobacco to alternative crops viable, even in regions/municipalities that are heavily reliant on tobacco.

In view of the above, a number of broader but critical issues must be addressed when looking at the implementation of diversification programs in the areas of tobacco crops. These issues may be summarized as follows:

First, the Brazilian case studies show that the efforts to foster crop substitution have been linked with identification of new market channels and opportunities for adding value in alternative food crops. Besides the potential of income generation, it is also important to take into account security and stableness for production and marketing, family’s reproductive conditions, family’s health and welfare conditions among others variables. The role of CAPA, for instance, demonstrates that the success of the agro-ecological experience in Rio Pardo Valley was based not only on the training of farmers, but also entailed incentives for processing and marketing products.

Second, the analysis also suggests that in regions dominated by tobacco farming, local/state governments have a rather limited interest in leading crops substitution
programs. However, as demonstrated by the experience of NGOs in Rio Pardo Valley, partnerships with local government authorities are critical to disseminate and consolidate broader farmer diversification efforts.

Finally, it is important to highlight that any tobacco-farming diversification or crop substitution strategy must be suitable to the specificities of the local/regional production structures. In the case of Schroeder, the importance of local banana production was crucial to the successful switch from tobacco in the municipality. Moreover, policy measures must take into account not only the family unit individually, but also their insertion in the community and region. The access to mechanisms and policies which promote diversification must be connected to dynamics aimed at restructuring development processes of the region where tobacco production is inserted.

The full implementation of the Framework Convention on Tobacco Control in Brazil undertakes a key role. Since its ratification in the country, in October of 2005, FCTC achieved important outcomes regarding cigarette-smoking control as matter of public health. In the sphere of the actions aimed at economic transition by small farmers and rural workers pertaining to tobacco growing chain, an increasing articulation is observed between the various Ministries – with participation of organizations of civil society and, particularly, of family farmers – with the purpose of advancing the quest for concrete measures connected to the Program for Supporting Production Diversification in Tobacco Growing Areas.

The advancements in guaranties towards the survival and strengthening of family farming, specially that segment of growers connected to the tobacco production chain, also depends on the advancements of such articulations between the various social agents (governmental and non-governmental), as well as on consolidation, improvement and progress in the creation and implementation of public policies.

A significant progress in Programs of Diversification will not only reduce uncertainties regarding processes of exclusion affecting small farmers, as also and especially contribute to strengthen both family farming and the new dynamics of local sustainable development.


Anuário Brasileiro do Fumo. Santa Cruz do Sul: Gazeta Grupo de Comunicações, various issues.


Programa Nacional de Fortalecimento da Agricultura Familiar – PRONAF. Pronaf apóia a Revonversão das Unidades Familiares dos Produtores de Fumo. Brasília, 03/05/05. Available at www.pronaf.gov.br/noticias/05_03b.htm.


PROPOSALS FOR DIVERSIFICATION IN AREAS OF TOBACCO GROWING

This annex reflects a complementary view on the broader issues associated to the implementation of diversification programs in the areas of tobacco crops addressed in the conclusions.

It comprises a synthesis of proposals debated during the I Conference on “National Program of Production Diversification and the Framework Convention on Tobacco” held in Porto Alegre, on February 12 -13, 2007. The conference had an expressive attendance by representatives of several Ministries which integrate CONICQ, organizations of family farming, social movements, associations, non-governmental organizations, pastoral care services, municipal administrators and institutions of research and rural extension.

1. Presumptions and fundamental guidelines for implementation of Diversification Program.

• The progress in the process of diversification or conversion in areas of tobacco growing in Brazil is critical and must be integrated to actions that effectively enable the implementation of sustainable forms of family farming, preferably based on agro-ecological production. In other words, it does not suffice to leave a production system characterized by high dependence and monoculture for entering another similar. The diversification program must entail the purpose of a healthier feeding, by involving the issues of production and health and promoting the strategy of food security.

• The choice for alternatives to tobacco production must also respect the local and territorial potentialities for agriculture development, taking into account the economic, social, ethnic and cultural contexts. It presupposes socio-economic-cultural knowledge about these regions and their concrete and viable potentialities.

• It is important to promote the strengthening of the institution comprised by CONICQ, currently constituted by 13 Ministries, as a guarantee of integration of the governmental action. The issue of the Framework Convention shall make part of the general agenda of Federal Government and must be incorporated to the Pluri-annual Plan. It is equally important to build mechanisms for promoting effective participation of state and municipal governments, due to their relevance in the actions directly related to farmers.

• The formulation, implementation and assessment of programs aiming diversification in areas of tobacco growing must involve the effective participation of family farming organizations and other organizations of civil society.
Diversification programs must include, as well, investment in processes for organization and cooperation of farmers, once individual solutions are poorly effective.

2. **Diversification and public policies.**

It is impossible to consider a strategic program having the purpose of advancing diversification in tobacco growing areas without the State’s actual participation by means of long term public policies which induce, enable and allow the implementation of such strategy.

The currently existing public policies directed to support family farming in Brazil may contribute to the success of programs for diversification of tobacco growing, if: i) specific and sufficient resources are addressed to the implementation of such policies in areas of tobacco growing. Thus, it is proposed the constitution of a National Fund for the Implementation of the Framework Convention, with specific resources designed, among other ends as required by the Framework Convention, to public policies for supporting production diversification by tobacco growers; ii) the current public policies, along with its necessary improvements, be intensified both quantitatively and qualitatively in areas of most intensive tobacco production; iii) an effort by both government and civil society take place for articulating and integrating this set of policies.

Among the public policies that may and shall compose this integrated and articulated system of governmental actions aimed at production diversification by tobacco growers, are:

- **Rural credit (investment and costs defraying)**, through PRONAF – National Program for Strengthening Family Farming, with emphasis on the credit for investment and with a grace period and terms consistent with the programs of diversification or conversion. In the same way, an emphasis must be put on the credit programs which enable value aggregation by the farmers themselves, by means of implementation of cooperative, associative or family agro-industries.

- **Program of Food Acquisition – PFA** which shall allow the purchase for the institutional markets (school lunch, hospital, prisons etc.), besides enabling purchases for simultaneous distribution and for formation of buffer stocks.

- **Policy of Family Farming Prices Assurance**, as a way of securing income, associated to the Program of Family Farming Agrarian Insurance and expanded also to farmers and products that do not access financing from Pronaf.

- **Technical Assistance and Rural Extension (ATER)**, comprehensive and qualified, integrating state divisions of ATER, NGOs and the farmers who are able to disseminate experience and knowledge.

- **Agrarian Reform and Credit**, taking into account that a significant part of tobacco growers is constituted by partner and leaseholders, or by owners of very small land areas.
• Programs for strengthening cooperativism and associativism, as well as agro-
  ecology.

• Extension and improvement of division into agrarian zones aiming at a greater
diversity of products in areas which are currently tobacco producers.

• Strengthening of programs aimed at training small farmers in production, marketing
  and management, as well as strengthening farmers’ networks.

• Implementation of educational programs on the harmful effects of tobacco
growing, as much for consumers as for producers.

• Creation of Scientific Initiation Scholarships aimed at the development of research
  on diversification and/or conversion in areas of tobacco production.

• Effective implementation in rural areas of the health public system which shall
  advance in the recognition of work-related diseases in agrarian activities. Such
  initiative must include the Integrated Health System (SUS), the Program for
  Family Health (PSF) and the Program of Community Health Agents.

• Improvement of the policy of qualified education, assuring its adequacy to the
  specificities of the rural context and of family farming.

3. Concrete recommendations

The I National Conference on “National Program for Production Diversification
and Framework Convention on Tobacco” also proposed the following concrete
recommendations:

• To strongly support the creation of a tax on sales of tobacco products, particularly
  on cigarettes (CIDE-TABACO, or similar) with the purpose of financing the
  actions of implementation in Brazil of the Framework Convention. Such actions
  shall include the areas of health, education and agriculture, and particularly
  diversification and conversion in areas of tobacco growing.

• To strengthen state and/or regional committees on implementation of the Program
  for Diversification in Areas of Tobacco Growing, with the participation of public
  institutions, farmers’ organizations and other organizations of civil society.

• To hold a second Conference in the South Region, with the purpose of deepening
  debate, exchanging information on ongoing projects and programs, and designing
  proposals on strategies for the next period.

• To create and implement a system for monitoring and evaluating Projects on
  Diversification. Such initiative presupposes exchange on experiments and initiatives
  developed in the country involving the implementation of the Framework Convention,
as well as the possibility of proceeding interchanges for exchanging experiences.
## Table A1: CONDITIONS FOR RURAL CREDIT OF PRONAF - MODES AND GROUPS – Harvest 2006/2007 Plan

<table>
<thead>
<tr>
<th>GROUP</th>
<th>TARGET AUDIENCE</th>
<th>MODE</th>
<th>CRÉDIT / CEILING</th>
<th>INTEREST RATES</th>
<th>DISCOUNT ON REGULAR PAYING</th>
<th>TERM</th>
<th>PERIOD OF GRACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRONAF A</td>
<td>Rural workers settled through Agrarian Reform/ beneficiaries of Agrarian Credit.</td>
<td>Investment</td>
<td>Up to R$ 16,5 thousand + R$ 1,5 thousand through ATER</td>
<td>1,15% p.a.</td>
<td>From 45% in case of technical assistance, or 40% in the other case applied in each operation.</td>
<td>Up to 10 years.</td>
<td>Up to 5 years.</td>
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<tr>
<td>PRONAF A/C</td>
<td>Producers that left Group A or PROCERA</td>
<td>Costs defraying</td>
<td>From R$500,00 to R$ 3 thousand</td>
<td>2% p.a.</td>
<td>R$ 200,00 in each operation.</td>
<td>Up to 2 years.</td>
<td>N.A.</td>
</tr>
<tr>
<td>PRONAF B</td>
<td>Small family farmers with gross annual income of up to R$ 3 thousand.</td>
<td>Investment and costs defraying</td>
<td>Up to R$ 1,5 thousand per operation. Discount for regular paying of 25% up to the accumulated financed value of R$ 4 thousand.</td>
<td>1% p.a.</td>
<td>25% applied to each operation.</td>
<td>Up to 2 years.</td>
<td>Up to 1 year.</td>
</tr>
<tr>
<td>PRONAF C</td>
<td>Small family farmers with gross annual income between R$ 3 thousand and R$ 16 thousand.</td>
<td>Investment and costs defraying</td>
<td>Investment: from R$ 1,5 thousand to R$ 6 thousand Costs: from R$ 500.00 to R$ 4 thousand</td>
<td>Inv. 3% p.a. Costs: 4% p.a.</td>
<td>Investment: R$ 700.00 per farmer. Costs: R$ 200.00 per farmer.</td>
<td>Investment: up to 8 years.</td>
<td>Investment: up to 5 years.</td>
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<tr>
<td>PRONAF D</td>
<td>Small family farmers with gross annual income between R$ 16 thousand and R$ 45 thousand.</td>
<td>Investment and costs defraying</td>
<td>Investment: up to R$ 18 thousand Costs: up to R$ 8 thousand</td>
<td>Inv. 3% p.a. Costs: 4% p.a.</td>
<td>Not included.</td>
<td>Investment: up to 8 years.</td>
<td>Investment: up to 5 years.</td>
</tr>
<tr>
<td>PRONAF E</td>
<td>Small family farmers with gross annual income between R$ 45 thousand and R$ 80 thousand</td>
<td>Investment and costs defraying</td>
<td>Investment: up to R$ 36 thousand Costs: up to R$ 28 thousand</td>
<td>7,25% p.a.</td>
<td>Not included.</td>
<td>Investment: up to 8 years.</td>
<td>Up to 5 years.</td>
</tr>
<tr>
<td>PRONAF Agroindustry</td>
<td>Small family farmers, cooperatives and associations which wish process or manufacture their produce.</td>
<td>Investment</td>
<td>Up to R$ 18 thousand</td>
<td>3% p.a.</td>
<td>Not included.</td>
<td>Up to 8 years</td>
<td>Up to 5 years.</td>
</tr>
<tr>
<td>GROUP</td>
<td>TARGET AUDIENCE</td>
<td>MODE</td>
<td>CREDIT / CEILING</td>
<td>INTEREST RATES</td>
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<tr>
<td>PRONAF Costs defraying for Small Family Agroindustries and Marketing</td>
<td>Small family farmers, cooperatives and associations</td>
<td>Costs defraying</td>
<td>Individual: up to R$ 5 thousand In association: up to R$ 2 million</td>
<td>4,5% p.a.</td>
<td>Not included</td>
<td>Up to 12 months.</td>
<td>Not applicable.</td>
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<tr>
<td>PRONAF Quota Part</td>
<td>Small family farmers associated to cooperatives of rural producers.</td>
<td>Costs defraying, Investment and net working capital</td>
<td>Individual Credit: up to R$ 5 thousand</td>
<td>4,5% p.a.)</td>
<td>Not included</td>
<td>Up to 6 years for fixed invest. Up to 3 years in other cases.</td>
<td>To be defined within the project</td>
</tr>
<tr>
<td>PRONAF Youth</td>
<td>Youth between 16 and 25 years old who attended or are attending training centers, secondary agro-technical schools and/or professional courses.</td>
<td>Investment</td>
<td>Up to R$ 6 thousand</td>
<td>1% p.a.</td>
<td>Not included</td>
<td>Up to 10 years</td>
<td>Up to 5 years</td>
</tr>
<tr>
<td>PRONAF Agro-ecology</td>
<td>Small farmers from Groups: C or D, who develop agro-ecological and/or organic production systems.</td>
<td>Investment</td>
<td>Group C: up to R$ 6 thousand Group D: up to R$ 18 thousand</td>
<td>3% p.a.</td>
<td>Not included</td>
<td>Up to 8 years.</td>
<td>Up to 3 years</td>
</tr>
</tbody>
</table>

**Source:** MDA – Secretaria da Agricultura Familiar