

Summary brief *ex post* for the case of:

“Adding value to products of family farms in Brazil: investigating geographic indications in Santa Catarina State”

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I – The innovation story

The case study focuses on the innovation processes leading **to the recognition and establishment of geographic indications (GI)** in Santa Catarina State, in the South of Brazil. The case involves organizational innovations that promote origin and quality, thus, contributing to the recognition of traditional products on the markets. Santa Catarina State can be distinguished from other states by the existence of dynamic family farming, which played a major role in the development of agro-industrial centres in the sixties. However, since the nineties, rural actors have been seeking alternatives to the agro-industrial model, by promoting local products from the state’s different regions. In this project, we conduct a detailed analysis of the case of GI for “Vales da Uva Goethe”. Goethe wine has been produced since the start of the 20th century. It is associated with the history of the colonization of Santa Catarina State and to the consumption patterns of the local population, which is of Italian origin. The Goethe grape variety is a symbol of the Santa Catarina wine industry. Goethe vines were uprooted after it lost its competitiveness. Its current revival goes hand in hand with an improvement in the quality of wines and the development of its original genetic and sensorial characteristics, which are distinct from other Brazilian wines. In addition, this organizational innovation led actors to adopt innovations in the winemaking methods and to develop a new product.

The study covers a region of almost 2 800 km². The development trajectory is marked by industrialization, which came with coal mining and the development of the ceramic, plastic and aluminium industries. Agriculture and livestock production represented 12.91% of the added value of the regional gross domestic product in 2008. The farms are small (7 775 structures surveyed in 2006) and include mixed farms (annual crops and perennial fruit crops), vines, which represent 350 ha, with an estimated 40 hectares of the Goethe variety. The work to characterize the impacts was conducted in the municipalities within the geographic area of the GI and in neighbouring municipalities. In order to establish a time frame, we considered the innovation from 2004 to 2014, given that the period from 2005 to 2011 was when there was the greatest cooperation between research and regional actors. The chronology of the innovation was established on the basis of a bibliographic analysis and interviews with the different people involved in the process. It was subsequently completed and validated during the first participative workshop (Figure 1). The chronology highlights four distinct phases:

1. The emerging demand and the GI proposal. The project to establish GI in the Urussanga region is part of a political and institutional dynamic that strives for the recognition of the assets and potential of local resources, a revaluation of the links between products and their places of origin and new methods for regional promotion. The legislation referring to geographic indications was passed in 1996. The new interest in product certification and signs of quality and origin is manifest on a national level with the organization of international conferences, exchange programmes and development research projects. In the Urussanga region, local actors are considering the prospects for rural development that focus on adding value to local resources and the Italian culture. The aim is to develop tourism in the region. In 2004, the publication of an article on Goethe wine was the key

factor in motivating SEBRAE and producers to launch the process for the recognition of geographic indication. The Goethe wine and grape producers' association "Progoethe" was created in 2005. It brought together seven wineries, 12 grape producers, hostels, restaurants and traders in the region. Funding applications were submitted to various organizations (the Santa Catarina State's research foundation, the Ministry of Agriculture, SEBRAE, prefectures). Researchers and technical agricultural services were solicited at that time.

2. The time for identification and recognition: Several research institutions were involved, including SEBRAE, EPAGRI, the University, CIRAD, as well as the Santa Catarina government and the town halls in the municipalities concerned by production. Three projects were set up between 2006 and 2008, with a view to developing the technical dossier in order to register the geographic indication with the INPI (the Brazilian national institute for intellectual property), to assist producers (organizational support, marketing support) and improve the quality of wines. This period was conducive to the development of new knowledge and to learning. Technical documents were published, highlighting the region's history, the special qualities of this hybrid wine and vine management methods. New winemaking methods were tested and assessed by producers and technicians (tasting sessions). The projects also provided the opportunity for discussion with technicians and other producers involved in adding value to the products. Over time, the producers have improved their wine production, tested new marketing methods and defended their products. The researchers and technicians have also improved their *modus operandi* and the way they conduct action research projects to add value to traditional products. The application for registration was submitted to the INPI in 2009. The geographic name "Vales da Uva Goethe" was recognized by the government of Santa Catarina State in 2010 and by the INPI in 2012.

3. The period post application: what do we do now? From 2009 until 2011, once the application had been submitted, the research institutions continued to interact with producers on a regular basis. Santa Catarina's Federal University and CIRAD withdrew in 2011, while EPAGRI's experimental station in Urussanga continued to support producers. During this period, a new project financed by the Ministry of Agriculture and the town hall helped producers launch their new GI. The Institute Totum from Sao Paulo, a group of consultants specializing in product certification was chosen. For 2 years, they developed three types of activity: informing consumers about the notion of geographic indication (comic books, information leaflets); defining control methods (control plan, producer contracts); and lastly, an activity that was not planned initially, reviewing the specifications, which proved difficult to implement.

4. Strengthening GI on the markets. Since 2014, GI labelled wine has been distributed, but there is still a great deal to do in order to strengthen this product on the market. The arrival of new universities (UNESC) and research centres (EMBRAPA) has meant that new joint projects of research and development activities can be envisaged. We hope this will help the actors strengthen their GI on lucrative markets.

CHRONOLOGY OF THE INNOVATION

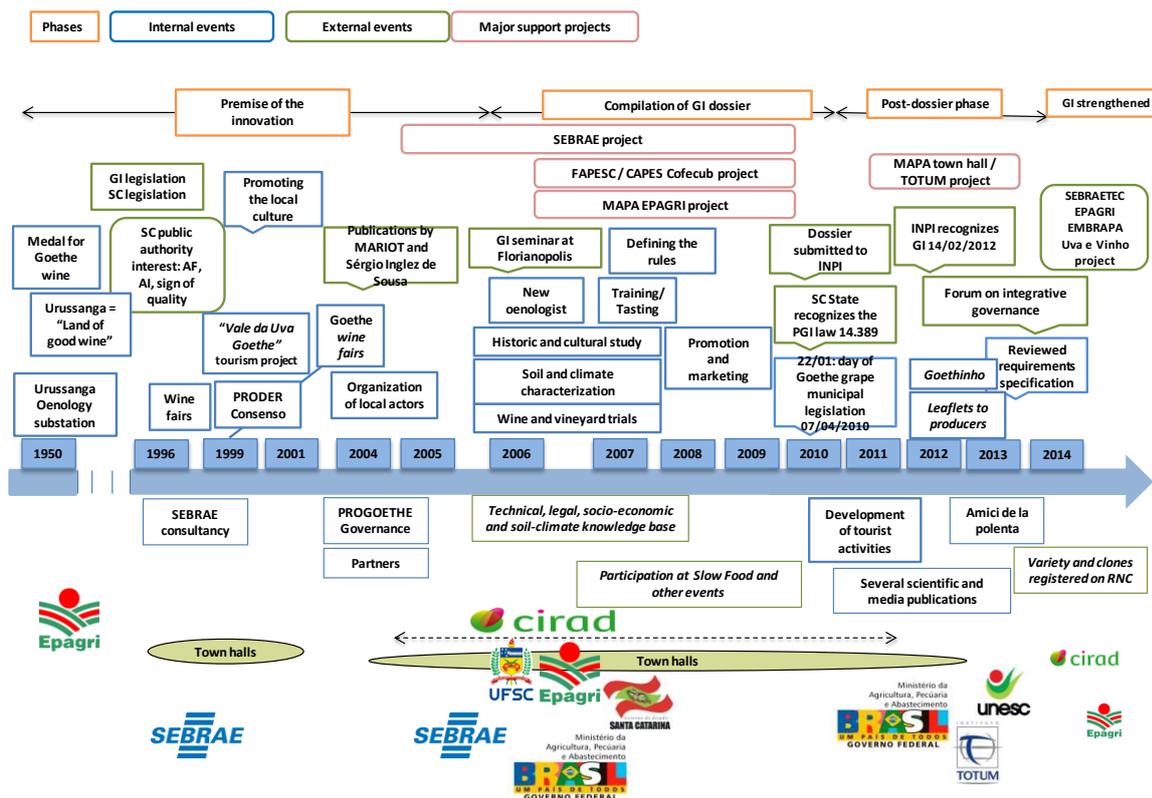


Figure 1 - Chronology

The actors concerned evolved during these four phases. It seemed pertinent to differentiate between two periods (Figure 2). During the first period (2005-2010), we observed close cooperation between a research consortium made up of several research and development institutions and the association Progoethe. Since 2011, the consortium has disappeared. The association Progoethe has gradually become a central actor for the development of the geographic indication and new projects. It communicates with numerous partners working in the region, but there is no real coordination.

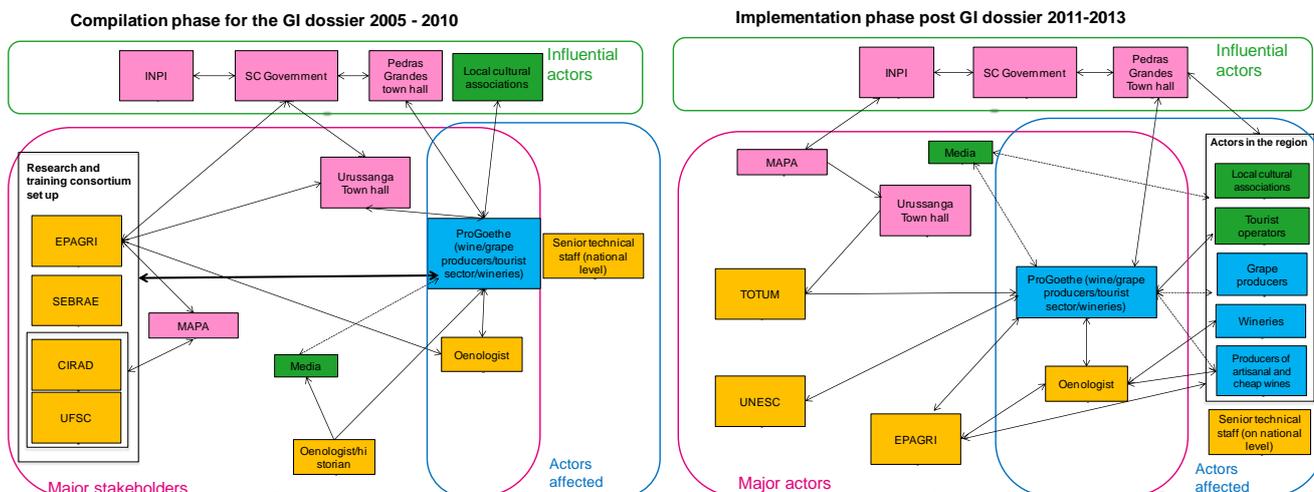


Figure 2 – Map of actors

II – Lessons drawn from the analysis of the impact pathway

There have been several versions of the impact pathway, which gradually improved as the study progressed. It was first developed **during the ImpresS Workshop** by a member of the project team and the research advisor (February 2015). Once the impact descriptors had been identified and the chronology finalized (workshop 1), a second version was drafted by the team supervising the study (July 2015). This version was subsequently improved and simplified with the help of a member of the methodological **team** in December 2015 (**work session with the research advisor and the project team**) and in February 2016 (a team member proofread it to make the pathway more intelligible). Therefore, the construction of the impact pathway did not involve local stakeholders. However, the supervisory team did use the interviews conducted with the local actors to analyse and **systematize** the causal relationships. We validated the impact pathway three times: with the head of EPAGRI and the head of Progoethe in December 2015, and with the association Progoethe during the validation workshop in March 2016. Given the complexity of the impact pathway, it was difficult to discuss the causal relationships in detail.

The experience gained from the exercise was extremely positive. We drew four lessons from it: (i) The impact pathway makes it possible to link facts and specific activities to outcomes or impacts that can be observed and measured. During projects, we often have to manage a multitude of activities and products that go beyond the projects' logical framework. The impact pathway provides the opportunity to make all these activities more coherent. (ii) There are numerous outcomes and they show the difference between what is produced by research and what is actually mobilized and adopted by the actors. Having said that, it is not always easy to differentiate between an outcome and an impact. There are several different kinds of outcome in our impact pathway. They are the products of research that have been valued (photos on walls, books on sale in bookshops, films). They can also be the people who play a key role that we discovered gradually during the surveys. They can also be new methods of interaction between the private sector and research. (iii) The notion of outcomes in the case of GI is fundamental and means that we can envisage a new approach to developing the project for GI recognition. In projects like this, there is often a discrepancy between the project duration and **the time it takes to finalize the request for the GI registration**. Numerous institutions give themselves a limited time to submit the application. Identifying intermediary products in the project programme would help avoid the problems linked to GI applications that are submitted too fast. (iv) The impacts that we observed are commonly found in other geographic indication projects (increase in sale price of GI labelled products, development of new markets and tourism). However, other impacts are specific to this case study: revaluation of the wine-growing activity in the region, the professional development of small-scale grape juice and wine producers in the region. The analysis of the impact pathway helps us to grasp the scaling up effect. The fact that we worked from the producers' statements underlines the economic impacts in level 1. (v) Finally, the last observation on the method: the impact pathway exercise involves working from the descriptors that are subsequently combined into impacts and measured by indicators. We attempted to summarize and simplify the process to ensure that we had an intelligible product. However, we question the fact that simplification can lead to making choices and it may even lead to underestimating certain impacts (for example, new economic opportunities for young people). The impact pathway reveals three categories of beneficiaries: the producers involved in the GI approach; other wine producers, small-scale grape juice producers and regional actors (tourist sector); the researchers and technicians whose experience is recognized on a national level.

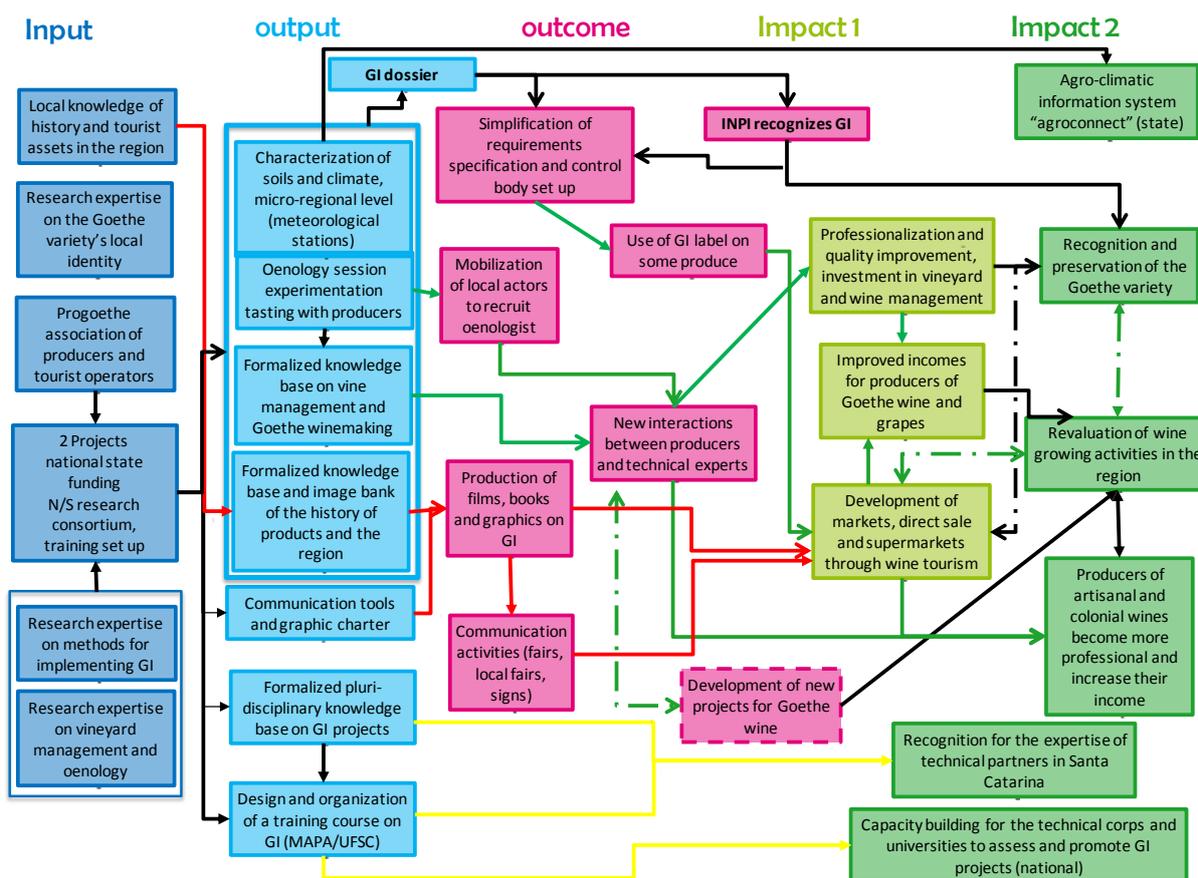


Figure 3 – The impact pathway

III – Measuring impacts (indicators by type of impact)

The different impact indicators can be measured in different ways depending on the nature of the indicators. We were able to obtain quantitative secondary statistical data by using the databases available in Brazil on a federal level and on the Santa Catarina State level (statistical data from IBGE, the CNPQ's CV platform, EPAGRI/CEPA economic data). In addition, we analysed websites, photographs and monuments. Some indicators were measured by surveys directly linked to the projects conducted between 2004 and 2011 (technical reports, activity reports, students' research, analysis of publications). Lastly, we obtained information on the majority of the indicators after submitting a questionnaire to 43 wine and grape producers, wineries and wine traders in the region (five municipalities). We also conducted 50 interviews with actors in the region or involved in the development of GI in Brazil. However, the team encountered difficulties when measuring indicators. These difficulties were partly due to lack of time (the study was delayed at the start). The team had to construct the impact pathway and measure the impacts simultaneously. If we had been able to develop the impact pathway and the causal relationships beforehand, we could have been more rigorous when targeting questions and measuring the impacts.

III-2 – Ranking the impacts

The exercise to rank the impacts was conducted on two occasions, during two participative workshops. The participants were asked to indicate the most important indicators and, then, to rank the impact indicators from 1 to 5. Improving the income for producers of Goethe wines and making the producers more professional were identified as being the most important impacts.

| Identified impacts 1 | Indicators | Outcomes |
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| Professionalization and quality improvement, investment in vine and wine management | Change in production costs between 2005 and 2015 (since the GI) | Increase in annual costs of production and establishment on a constant currency basis of 13.5% (with a smaller increase in establishment costs about 4%). |
| | Payment for grape quality | 61% producers claim to pay more for quality grapes, 14% say that they do not pay a different price (25% did not express themselves). This price differential ranges from 10% to 70% more, with an average of 25%. |
| | % wine producers who changed their wine making practices | 78% wine producers from Progoethe claim to have changed their winemaking practices. These changes are above all linked to acquired knowledge and technology (in the case of producers from Progoethe and the small-scale wine producers). 13% claim not to have made any changes and a further 9% did not express themselves on the subject. |
| | % producers who changed their agronomic practices (management) | 60% producers claim to have changed their vine management practices. |
| | % local actors questioned who perceived an improvement in the quality of wine | 100% local actors that were questioned claim that the quality of local wines has really improved. |
| | % producers who bought equipment for wine growing | 88% producers claim to have bought equipment for wine growing. For example, we identified the following purchases: stainless steel vats, bottler. |
| | Purchase of inputs (yeast and enzymes) | Since the noughties, EPAGRI has bought enzymes and yeasts to distribute to producers, but the quantities bought have increased since the GI project. EPAGRI bought 60 Kg in 2013/2014, 65 Kg in 2014/2015 and 40 Kg in 2015/2016. This reduction is due to climate (lower production) and to an increase in individual purchases made by wineries that bypass EPAGRI. |
| | Continued application of a low level of chemical products compared to the cultivation of <i>Vitis vinifera</i> | 100% grape producers claim to continue applying low levels of chemical products on the Goethe vines compared to <i>Vitis vinifera</i> vines. The Goethe variety (hybrid) is more resistant than other varieties. |
| | Improving the incomes of Goethe wine and grape producers | Change in sale price of Goethe / Cabernet grapes |
| Improving the incomes of Goethe wine and | Change in sale price of Goethe wines 2005-2015 | In 2005, Goethe wines were sold on a scale ranging from R\$ 4.50 to R\$ 12.00 (average R\$ 7.30). In 2015, Goethe wines were sold at R\$ 7.00 for the bottom of the range and up to R\$35.00 (sparkling wines). There has been no change for the wines at the bottom of the range. The price for better quality (sparkling) wines rose 30% between 2005 and 2015. |
| | % price GI/ Non GI | Not yet available |
| | Change in producers' | Producers bought IP labels from Progoethe (one label per bottle): |

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| grape producers (continued) | purchases of IP labels | 4 000 labels in 2013, 6 000 in 2014, 8 000 in 2015. |
| | % grape producers who have increased their production of Goethe grapes since 2005 | 53% grape producers active in 2005 claimed to have increased their production of Goethe grapes. |
| | % producers who increased their wine production (2005-2015). Estimate of average production | 80% increased, 20% produced the same volume as in 2005. Average production for each producer was 2 850 litres in 2005 and 4 103 litres in 2015 (average increase of 44 %). The volume of Goethe wine produced by the producers surveyed went from 39 850 litres in 2005 to 73 850 litres in 2015. By taking into account the 40 ha of vines of the Goethe variety, we estimate that with wine production at 180 000 – 200 000 litres, the majority of these grapes are mixed and sold as artisanal wine (<i>vinho colonial</i>). |
| | Change in the quantity of wine sales | Among the local dealers interviewed, 57% claimed to have increased wine sales, while the rest maintained the same volume of sales. However, all intend to increase wine sales, particularly of Goethe wine (and 57% also want to increase sales of wine from other grape varieties). |
| Developing markets, direct sale and supermarkets through wine tourism | Change in wine consumption in restaurants | Monitoring the number of glasses consumed in November 2015 shows that the consumption of Goethe wine is more or less equivalent to that of Cabernet (in a restaurant that proposes mainly meat dishes). This confirms the evolution in demand, which shows that consumers like Goethe wine. |
| | Change in the diversity of new products sold | In 2010, some producers diversified their wine production with new ranges, sparkling wines, liqueurs, “grappas” (wine spirits made from grape marc , grape juice and balsamic vinegar). |
| | % wine growers selling their products directly ☒ | 68% wine growers market their products via direct sale (which corresponds to an average of 93% of their sales), 21% sell about half of their production via direct sale (54% on average) and only 11% sell their products via other distribution channels (direct sale represents merely 8.5% for these producers). |
| | Change in the new distribution channels for local wines | 80% wineries now sell in regional supermarkets (30% before 2005) or export their products to the capital and 40% also sell to restaurants. |
| | Integrating new social and economic activities around wine | Among grape and wine producers, several (50%) have invested in a new activity or new products, such as producing grape juice, developing wine tourism. |

| Identified impacts 2 | Indicators | Outcomes |
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| Revaluation of the wine-growing activity in the region | Change in number of wine producers in the region | The number of artisanal grape and wine producers has increased. 4 grape producers have started making wine. A new entrepreneur is buying grapes to make wine. Two wineries have closed (no succession) in the Pedra Grande region. |
| | Change in producers' professional pride | Local producers are now much more proud of their product and their origin. They talk about GI and Goethe wine with great pride at the participative workshops and on their internet sites. |
| | Signs that local actors are promoting the winemaking activity | Monuments (wine bottles), street signs with grapes, restaurants that show off photos and winemaking equipment. Tourist signs showing GI on roads. In 2016, a samba school in Florianópolis honoured the wines from Santa Catarina (Enredo) " <i>A tradição do Vinho, na força de um povo: Isso é Santa Catarina</i> " (classed 4 th). |
| | The theme of wine features in local photographic competitions and cultural festivals | Since 2008, the "Urussanga Photo Club" has organized a local competition called " <i>Giornata Fotografica</i> ", which always features the theme of wine, grapes and even " <i>Vales da Uva Goethe</i> ". In addition, in 2013 and 2014, UNESCO and the committee of the Urussanga catchment basin organized a local photography competition. Wine growing was a key element among the photographs presented by candidates. |
| | New wine-based tourist activities | Since 2008, wine producers have organized grape harvesting festivals in Urussanga. Since 2012, they have also been reckoning with the partnership with the association " <i>amici de la polenta</i> ", by receiving a growing number of visitors and cultural associations. In 2015, a cycling association in Urussanga was set up and since then it has organized events and cycle tourism in the vineyards (" <i>passeio ciclístico caminhos do vinho Goethe</i> "). In 2015, at the Urussanga wine fair, there was the first Downhill challenge called the " <i>Vales da Uva Goethe</i> " challenge. |
| Agro-climatic information system | Change in the average number of meteorological stations installed in the region | Before 2000 = 1/year, between 2000 and 2005 = 3.6/year, between 2005 and 2010 = 10.2/year, between 2010 and 2015 = 25.4/year. |
| "agroconnect" (state) | Visitors to the Agroconnect website for meteorological information (number of visitors to the site and their region of origin) | In 2015: 9 595 users visited Agroconnect (51 000 sessions) (78.5 % are regular visitors). The months with the most visits are August to November (figures for other years are not available but CIRAM confirms that there has been an increase). |
| Capacity building for the technical corps and the universities to assess and promote the GI projects | Creation of a GI discussion forum in Brazil | In 2009/2010 a discussion group on internet was strengthened by several researchers from different regions in Brazil. It is still active and receives more researchers and more interested people each year. |
| | Creation of a GI forum in Santa Catarina State | A forum (Câmara Setorial de Certificação de Qualidade de Produtos Agropecuários Catarinenses) was created within the Santa Catarina State Department of Agriculture. It comprises 16 public and producer bodies . |
| | Review of the federal legislation for GI | A proposal to review the legislation was drafted by a working group composed of the team involved in the project. In 2009, the proposal was transmitted to the parliament and the presidency. |
| | Change in number of training courses organized by EPAGRI in the Urussanga region | Before 2005, only 2 training courses per year. Between 2012 and 2015: 2 courses on wine and grapes, 8 courses on oenology and 2 conferences on these themes. |

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| Producers of artisanal and cheaper wines are becoming more professional and increasing their incomes | Change in the quality of wines at local competitions | Since 1994, home made wine competitions have been organized. The organizers confirm that the quality of wines proposed at the competitions has improved since the GI. |
| | N° of visitors at the Urussanga wine fair in 2015 | Verbatim " <i>Urussanga is the most important wine fair in Santa Catarina !</i> " The number of visitors at the last fair in 2015 was estimated at 70 000. The origin of the visitors to the wineries (not yet available). |
| | Evolution in direct sale and in products sold by artisanal producers | The artisanal producers confirm that volumes of sales have increased. They went from selling bunches of grapes to more elaborate products (grape juice and cheap wines). Increase in number of direct sale outlets in the region. The Goethe variety is the most sought after by consumers. |
| Appreciation and conservation of the Goethe variety | New research project on Goethe wine | EMBRAPA has developed a research programme to improve the vine plants (initially planned for 2015-2020 but postponed due to the economic crisis) |
| | Registration on the national cultivar register (Registre Nationale des Cultivars, RNC) at MAPA | The local Goethe variety is a natural mutation that occurred in the region and was not yet registered. In 2014, EPAGRI registered the "Goethe" and "Goethe Primo" cultivars on the RNC at MAPA. |
| | Evolution in sales of plants of the Goethe variety | En 2008/2009, the company EB Viveiros started producing Goethe vine plants, with an annual production of 2 000 plants. Evolution in sales of Goethe vine plants (not yet available). |
| | Renewal of Goethe vines | Goethe vines were renewed by the majority of producers, whereas before GI they were uprooted. |
| | Evolution in the number of researchers and technicians involved in the production of Goethe wine and grapes | At EPAGRI in Urussanga, only one researcher devoted 20% of their time to wine growing and oenology in the region in 2005. Today, there is one oenology researcher, one plant science researcher and one plant pathology researcher devoted to this field and they spend 60%, 50% and 20% of their working time, respectively. |
| | N° of scientific articles and press articles that concern the Goethe variety | Some 100 publications between 2002 and 2015, 21 articles in reviews, 34 communications, 4 chapters in books, 31 summaries, 4 books. 20 publications in national newspapers, half of which appeared in the year that students registered their work . |
| | Visibility of the conservation of the Goethe variety on a national and international level | In 2010, 2 representatives from Progoethe were invited to talk on the national TV SESC. Discussion with international partners (RIMISP), producers of hybrid and American wine from Serra Gaucha contacted producers from the association Progoethe to develop their GI project. |
| | Local competitions for Goethe wine | Since 2008, a specific category for "Goethe" is included in local wine competitions (wine fair). |
| Recognizing the expertise of the technical partners in Santa Catarina | Recognition for the researchers involved in the Goethe GI project on a national level ☑ | The researchers (pluri-disciplinary) involved in the GI project "Vales da Uva Goethe" have now gained recognition and are solicited for training courses on GI, to implement other GI projects, to collaborate at events, to join research partnerships, etc. The first example is the online training course for GI in Brazil set up by the Brazilian government (through MAPA). The course was run in 2009, 2010, 2011 and 2013 with 3 000 participants. One of the researchers involved in the Goethe GI project, who is a law professor at the UFSC and course coordinator, became president of the INPI in Brazil in 2015. In 2015, researchers (legal experts) took part in the procedures to bring the GI up to the standards of ABNT (ISO members from Brazil). |
| | Recognition for EPAGRI for its expertise regarding the soil climate characterization for the GI | Recognized for its expertise, EPAGRI CIRAM is regularly contacted by research or development organizations to conduct research (characterization of regions, support to demarcate areas of production. |