

CASE STUDY

IMPACT EVALUATION OF THE TRAZ.AR PROGRAM IN SANTE FE, ARGENTINA



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The Program

TRAZAR program (from traceability in English) is a very successful example of the application of ICT-methods in rural areas to increase the efficiency and potentialities of small/medium-scale cattle farmers. This program took place in Santa Fe province, Argentina, between 2004 and 2006 and consisted of using ICT to track the production cycle of cow herds. TRAZAR is a software that stores all the information related to the identified animals and can be accessed and managed through the internet by its users. The project involved developing the software, promoting the system in workshops and finally applying it to the beneficiaries that auto-selected to the program. The field work comprises two phases: the identification of the animals that can be performed by a number called *caravana* that every animal carries, or using radio frequency identification technology; and the storage of all the information in the software which in turn produces different kinds of reports that the farmers can use to know the evolution of their stock, sanitary situation, and they can also be in touch with other farmers or potential buyers. Traceability involves tracing each animal from the time of its delivery until the meat is distributed, and is a requirement to export meat to high value markets, such as the European Union. Therefore, the main objective of the program was to equip small/medium scale cattle farmers with this tool so that potentially they could export best quality Argentine beef.

This program was financed by the IADB and FOMIN and the field work started with workshops in Santa Fe to make the cattle farmers aware of the advantages of the system. More than 100 cattle farmers attended, but only 40 enrolled. These 40 initial beneficiaries created a cooperative called Progran in order to commercialize their products together. This was an extremely relevant externality of TRAZAR, because the farmers constituted a group which provided them with more market power, possibilities to reach high value markets, social capital and a better knowledge of the business. Before the program, these same farmers in its majority commercialized herd, selling the cows and calves to the nearest cold-storage of meat processing company. Once they started to use

this software, and belonged to Progran, they got involved in all the links of the beef production chain: primary production of animals, commercializing, industrialization and distribution. Therefore, through the gains engendered by the constitution of this producers' consortium, TRAZAR can be regarded as another case of ICT methods applied to help solving market failure problems due to coordination and asymmetric information problems.

As in the case of any application of ICT-methods to production, its success is not guaranteed. It depends on the context, the reception and other policies that may complement and help profit from the intervention. Unfortunately, the last 6 years have been very difficult for the actors involved in the beef market in Argentina. Since 2004 the government has been interfering especially in this market with a wide range of uncoordinated and disruptive policies, mainly for the most constrained small/medium-scale farmers. Those measures comprise setting caps to retail prices and livestock, changing the slaughtering minimum weight, raising export taxes and banning or rationing beef exports. These policies that were initially thought to fight inflation, affected the whole sector, and particularly the beneficiaries of TRAZAR, who invested in reconverting their production to export markets, and then had to reallocate partially their production due to the change in the rules.

The Impact Evaluation

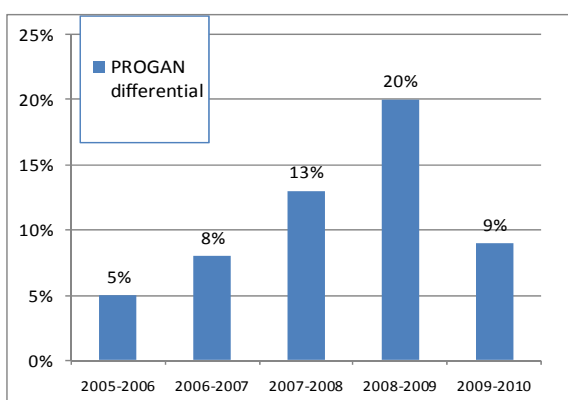
To evaluate the impact of TRAZAR on the income and welfare of the small-scale farmers, ideally we would have to compare their performance to what would have happened to them in the absence of the program. To recreate that counterfactual, Galiani and Jaitman (2010) selected a control group conformed by 40 farmers from Santa Fe with similar pre-treatment characteristics in terms of scale, region, income and problems, as those that enrolled in TRAZAR. As regards the treatment group analyzed, it is constituted by the 40 initial beneficiaries, from which only 24 (60%) decided to continue using

TRAZAR software once the financial support finished, and the 40% remaining left the program¹.

According to the results of the evaluation, the treatment fulfilled its overall objective of strengthening the competitiveness of cattle farmers in the international meat market by complying with traceability requirements for the herd. Since 2005 Progan was assigned a portion of the Hilton quota (highest valued exports to the EU). The improved competitiveness in turn had a positive effect on the profitability of the small/medium scaled enterprises involved. In fact, the members of Progan would either commercialize their cattle through the cooperative or sell their animals to the nearest meat processing firm (what their neighbors do).

Figures 1 and 2. PROGAN exports and income differential of its members

Destination	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	Total	
Hilton	Germany	62,479	24,837	273,550	319,159	308,322	988,347
	Spain		127,062	300,914	10,400	74,700	513,075
	Netherlands	195,877	340,290	244,478		134,792	915,438
	Italy	46,806					46,806
	UK	62,052	192,587	189,413	311,883	33,982	789,916
Total Hilton	367,214	684,776	1,008,354	641,442	551,796	3,253,581	
Not Hilton	Germany	2,770		10,531		90,487	103,788
	Dutch Antilles	43,228		18,714			61,942
	Chile	32,496	333,767				366,263
	Spain		7,113				7,113
	Netherlands	2,117	8,158	10,401	194,144		214,819
	Italy	6,757	8,757				15,513
	Russia	61,013	18,796	185,420	369,123	163,248	797,599
Total not-Hilton	148,380	376,590	225,066	563,266	253,734	1,567,037	
Total	515,595	1,061,366	1,233,420	1,204,708	805,530	4,820,619	



Source: Galiani and Jaitman (2010)

¹ The treated group analyzed considers the 40 beneficiaries of the program, irrespective of their status after 2006 when the funding was over. Including only those 24 farmers who kept on using the system (paying for TRAZAR after 2006) would over-estimate the effect of the program.

As mentioned above, the last years were very difficult for the beef industry, due to the constant change in the rules by the government, and in spite of the high international prices for meat. As a response to losses, approximately 60,000 producers left the business and the remaining contracted their livestock increasing the cattle herd liquidation. In Figure 3 we can see that during the program (2004-2006), the treated group increased their cattle herd by 8.8%, while the control group started a liquidation phase. After the program, the initial beneficiaries also started decreasing the number of heads on average, but in a lesser extent than the control group. We can also see that the qualified employment increased in the treated firms, due to the improvement in the systems used.

Figure 3 Evolution of Livestock and Employment

	Treatment Group	Control Group
Livestock (n°heads)		
2003	896.9	852.7
2006	975.8	831.8
2010	887.8	708.0
var 2006/2003	8.8%	-2.4%
var 2010/2006	-9.0%	-14.9%
var 2010/2003	-1.0%	-17.0%
Employment		
Avg. Change in LOW-skilled rural workers 2003-2010 (n° workers)	-0.08	-0.02
Avg. Change in HIGH-skilled rural workers 2003-2010 (n° workers)	1.2	0

Source: Galiani and Jaitman (2010)

Members of PROGAN, like Mario and Diego, also confirmed that TRAZAR changed the way in which they were involved in their business. They claim that now “they know how the beef market works, because in the past they were selling animals, but now they sell meat and decide to which market”. This satisfaction is shared by all the members surveyed, who explained that apart from the group-related improvements in income and potentialities, inside the farms the main results of the intervention are driven by the fact that the farmers had to reconvert their production to comply with the high standards of sanitation, quality and animal welfare requested by high value markets. For example, they started

using flags to manage the herd (instead of more aggressive and invasive methods), improved the reproduction selection, reduced animal stress to get better meat, and registered their activities in TRAZAR software, among others advances..

Overall TRAZAR program had very positive results for the individual rural farmers, because through the group consolidation their small enterprises have more potentialities as they commercialize together complying with top quality, sanitation and welfare animal standards. If less disruptive years are to come, the group might profit even more from the social capital they built and the knowledge and market power they acquired. Furthermore, Progan is making alliances with other cooperatives that emerged after the replication of TRAZAR in other Argentine provinces following the success of the experience in Santa Fe. The program was as well implemented in Nicaragua and the IADB is also working on the harmonization of traceability standards in Central American countries.

Refernces:

Galiani, S. and L. Jaitman (2010), "Evaluación del Programa TRAZ.AR en la Provincia de Santa Fe, Argentina", Draft for IADB