

The Making of a New Agricultural Research and Extension System — The Case of Bolivia —

By Walter Nuñez¹, Peter Pfaumann² and Willi Graf^{3,4}

Introduction

In the United States and in Europe, Governments run agricultural research and extension systems combined with formal and informal education of farmers which are responsible for important increases in productivity per unit of land and labor over the last 50 years. Government support to agriculture was justified with the perception of the overwhelming importance of food security for the nations induced by the food crisis of the mid 19th century in Europe and the two World Wars in the 20th century and the need to improve living conditions in rural areas. Developing countries, including Bolivia, copied the institutional model of European and US-American research and extension systems. But only in a few cases this strategy yielded the expected benefits. Around 1985, most of the agricultural research and extension systems in Latin America and Africa experienced a heavy institutional crisis. Generally they were plagued with administrative and scientific inefficiency, caused by structural limitations, limited availability of qualified staff and weak interaction with research clients.

In Bolivia, the *Instituto Boliviano de Tecnologías Agropecuarias* (IBTA) was no exception to the rule of inefficient National Agricultural Research Systems (NARS). As an example, average potato yields in Bolivia increased between 1961 from 4.8 t/ha to 5.7 t/ha

in 2000. Potato is the principal staple food in Bolivia and was a declared priority of the research and extension system. At the same time yields in the US jumped from 22.2 t/ha to 42.7 t/ha and in Switzerland from 24.3 t/ha to 42.4 t/ha (FAO, website) (MDSP, 2001). In the early nineties, IBTA entered a deep institutional crisis with decreasing levels of international and Government support (Aguilar and Bojanic, 1994). But in difference to other national institutes in for example Ecuador or Peru, IBTA did not only agonize but it actually disappeared in 1997 after an unsuccessful attempt for reform led by the then *Subsecretaría de Agricultura* and the World Bank. The collapse of IBTA created a unique situation: A country with over 40 % of its work force in agriculture, producing around 20 % of its Gross Domestic Product and 25 % of its exports deprived of its national agricultural research and extension institution.

The birth of SIBTA (*Sistema Boliviano de Tecnología Agropecuario*)

In 1998 the Ministry of Agriculture decided to relaunch the discussion about the national research and extension system and presented a first idea to international agencies and national agricultural entities. The proposal already had preliminary support from the *Banco Interamericano de Desarrollo* (BID) and consisted in creating four private foundations with participation of the Government for four major agricultural zones, the *Altiplano*, *Valles*, *Chaco* and the *Trópico húmedo* called *Macro Ecoregiones* (MER). The system should be guided by the demand of small producers for innovation. The overall objective of SIBTA was defined as:

To develop the agricultural, forestry and agroindustrial sector through innovation in agricultural production, transformation and marketing chains to a level of international competitiveness to allow for presence in

¹ Consultant, former Minister of Agriculture of Bolivia

² Coordinator - GTZ - agricultural support program for Bolivia

³ Deputy Coordinator, Swiss Development Cooperation, Bolivia

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international markets and to resist the competition of importation in local markets.

This development is to reduce substantially rural poverty, inequality, improved food security for rural and urban population and environmental sustainability.

(Source: translated from Decreto Supremo 25717; Gobierno de Bolivia; 2000)

It was assumed that through competitive grants, a private market for innovations services would emerge and improve the quality of services available to farmers.

At this stage, a series of issues were still open and needed clarification. Among the most important ones were:

- Was it reasonable to assume that Bolivia had enough service providers of good quality to satisfy the need for research and extension services?
- Was it reasonable to assume that farmers organization would be in the position to mobilize the 15 % contribution to the total cost of projects either from their own pockets or from municipalities?
- If technological innovation was to occur what kind of system would help farmers to mount farming businesses and rural transformation?
- How to broaden international and national support to the basic idea?
- How to facilitate the transfer of public resources to private foundations?
- Should the foundations be entirely new institutions or attached to existing entities?

National leadership is essential

It was probably the period in which an important feature of the construction of SIBTA was most decisive: The leadership of the Ministry of Agriculture. The then Minister of Agriculture, with the support of the Ministry of Presidency called all nine Governors of the country (*prefectos*) in for a meeting in Cochabamba. There, the basic concept of SIBTA was explained and the resistance to a concept that was not based on the administrative organization of the country but on agroecological criteria dismantled. By that time, the Swiss Development Agency (SDC) had already started to support the idea of SIBTA with *seed money*.

The breakthrough in terms of international support nevertheless, came with the successful negotiation of the MAGDER with USAID. By mid-1999, SIBTA had a solid base of international support. Gradually, Holland, Great Britain and Germany confirmed their commitment. The MAGDER made a decisive move by creating the *Comité de Acompañamiento al SIBTA (CAS)* presided by the Viceminister of Agriculture and integrated by all international agencies interested in supporting the system.

The MAGDER, assisted by the CAS was instrumental in accelerating the decision to create the four foundations from scratch, although the initial proposal approved by BID assumed that the *Fundación PROINPA*, a research and extension institution for Andean products based in Cochabamba was to be the Foundation for the *Altiplano*. Political Leadership was also necessary to gain the support of the Finance Ministry for the transfer of public resources to the private foundations. Equally critical was the action of the MAGDER when the farmers union started blocking roads in the *altiplano* to protest against the exclusion of their concerns from the national development agenda. The list of 50 revindications of the farmers to end the road blocks included the swift implementation of SIBTA!

The stony way to national acceptance and coordination of international support

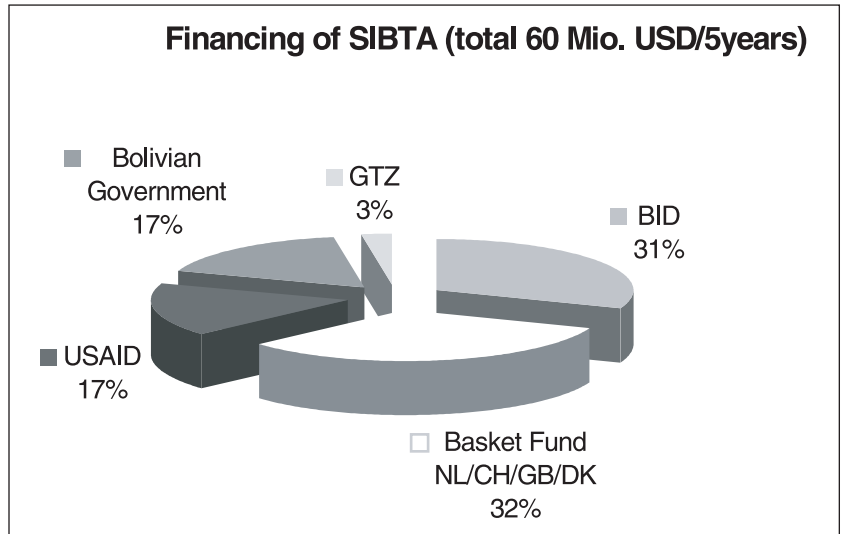
Bolivia is highly dependent on international support. Annually between 500 and 700 Million USD in international grants and concessional loans flow to the country whereas total exports amount to 1'200 Million USD. In 1998 the Government of Bolivia stipulated a new form of cooperating with international agencies and banks under the name of *El Nuevo Marco de Relaciones (NMR)* (VIPFE, 1999) a scheme similar to the Comprehensive Development Framework (CDF) proposed by the World Bank (World Bank, website). SIBTA soon became an example of the application of the NMR. Leadership of the Government, strong participation of civil society, and coordinated support by the international community were key words putting SIBTA in line with the NMR.

However, in reality the development of SIBTA was not at all easy. At first, BID requested the creation of all foundations prior to disbursements. Under pressure, the MAGDER precipitated the process and created Foundations, but without adequate ownership by farmers organizations and other local entities and a still shaky conceptual basis.

Realizing that both national and international support to these Foundations and hence to SIBTA, were weak, the MAGDER decided to rediscuss the concept primarily with bilateral donors, assuming that the terms with BID could be renegotiated. The result of this process was a logframe for the initial planning of SIBTA. Based on this logframe, a joint mission commissioned by bilateral donors and the MAGDER with the consent of BID gave the final touch to the proposal needed for wider donor approval. BID established its administrative coordination unit (*Unidad de Coordinación del Programa de Servicios Agropecuarios – UCPSA*) which started to work on the completion of the conditions to implement SIBTA. By that time some first lessons from the process became evident:

- 1) In order to assure ownership the Foundations already created had to be recreated with much broader participation of civil society and modified rules and regulations.
- 2) Even when foundations were created for the second time, it took considerable time and effort until the Board members of the Foundations elected by the General Assembly, fully understood the system and the importance of their role.
- 3) The establishment of SIBTA took much more time than expected. It took three years from the first presentation of the idea by the MAGDER to the first public bid for research grants! Recruitment of staff for the Foundations, despite very competitive salaries was more difficult than expected. In a little

Figure 1:



more than a year, three executive directors had to be changed and various public calls for applications had to be declared nil because of procedural mistakes or unsuitable candidates. Disbelieve that in Bolivia an orderly, fair recruitment process was possible in a program like SIBTA, ambitious selection criteria, the lack of highly qualified professionals in Bolivia and remote locations for the headquarters of the Foundations where the main reasons for these problems.

- 4) Without bilateral support (through a joint startup grant from Holland, Great Britain and Switzerland) to MAGDER and the UCPSA it would probably have been impossible for Bolivia to meet with the preconditions for credit disbursement by BID ⁵.
- 5) The idea of a basket fund for international support to SIBTA was not acceptable to all bilateral agencies. USAID and Germany opted for parallel funding but fully in line with the objectives and the procedures defined by SIBTA and its five year plan.
- 6) Parallel funding by USAID, combined with technical assistance provided to the *Fundación Valles*, proved to be much faster and more flexible than the support through the basket fund and BID, both applying procedures defined by BID ⁶.

⁵These three countries decided to support SIBTA through a basket fund, understood as joint funding of several countries with unified operational and administrative procedures for follow-up.

Box 1: Basic features of SIBTA (see also figures 1 and 2)

- 4 Private Foundations with participation of the public sector for 4 agroecological regions are the backbone of the system. Each Foundation has a maximum of 12 professional staff ⁷.
- 60% of Board members and the President must represent the private sector including smallholder farmers and their organizations.
- Foundations define research priorities (commodities, themes) based on demand; co-finance projects (15% must come from research demand), organize public bidding for execution, organize project supervision and review.
- Projects for innovation (*Proyectos de Innovación Tecnológica Aplicada – PITA*) and institutions to carry them out are identified in a two step procedure:
 - 1) Relevant and genuine demand is identified (selection among a number of rough project profiles).
 - 2) Interested project executing entities (Universities, NGO's, consulting firms, etc.) are invited to present proposals in a public bid. Project size is up to 100'000 USD for up to three years.
- Currently each foundation has around 1.5 Mio USD/year for project financing. The total budget of SIBTA amounts to approx. 20 Million USD/year.
- Each foundation must develop a plan for financial sustainability on the basis of local financing and an Endowment fund to be raised with the 15% contributions of beneficiaries to the PITAs and additional sources of income.
- Strategic research is covered by competitive grants managed by the MAGDER in strategic projects (*Proyectos de Investigación Estratégica Nacional – PIEN*).
- For the management of agricultural genetic resources a special national system is created whereas the implementation is mandated to specialized institutions (public or private).
- The *Comité Consultativo* (CC) headed by the Minister of Agriculture and integrated by the Presidents of the 4 Foundations and representatives of academic and professional organizations in the field of agriculture, supervise the correct application of system principles and suggests modifications if necessary.
- International support is organized in the *Comité de Apoyo al SIBTA* (CAS) headed by the Viceminister for Agriculture. The Presidential Decree about SIBTA also defines the role of the CAS.

7) Without a strong leadership by the MAGDER despite three changes of Ministers it would have been impossible to get SIBTA on its feet.

The baby phase of a system – no quick fixes

One of the striking features of the starting phase of SIBTA is the predominance of institutional and administrative issues. Establishing the foundations, recruitment of staff, getting public bids right, fulfilling the conditions for international funding and similar

questions were dominant. The work with farmers and other stakeholders on priority setting for innovation, clearly played a secondary role. Hopefully, this will change within the next couple of month, but it is good to remember how costly it is to create new institutions or in this case a new system. However, in Bolivia, IBTA had disappeared, there was no other option than to go for something completely new and to take the unique situation as an opportunity.

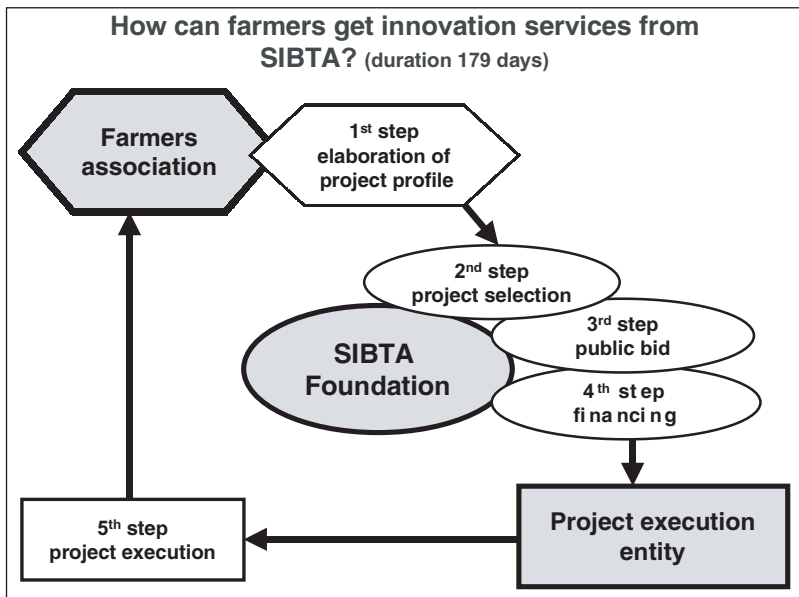
At the end of 2002 most of the stakeholders agreed that SIBTA was an interesting institutional setup which deserved credit. The principle strengths identified were:

- Active participation of smallholder farmers and stakeholders of the commodity chains at all levels of decision making.
- Demand from producers and from markets is taken into account in setting priorities for innovation.

⁶The process of negotiating conditions with the MAGDER, to meet all the conditions of the three countries which had interest in the basket fund (Denmark joined later) and getting government approval for the package took over 2 years!

⁷Especially the Fundación del Valle has an important technical assistance project financed by USAID with additional staff.

Figure 2:



- The creation of an incipient market for innovation services with a certain level of competitiveness.
- For a young system a relatively high identification of stakeholders with SIBTA.
- Autonomy from political interference especially in staffing⁸.

Considerable weaknesses still prevailing were:

- Unclarified differences in perceptions about how to understand “demand orientation” among stakeholders. Some give more importance to market demand, others to demand for innovation support by farmers.
- In some Foundations the contribution of agricultural innovation to *pro-poor-growth* and hence to the implementation of the National strategy for Poverty Reduction (*Estrategía Nacional de Reducción de la Pobreza – EBRP*) was insufficiently spelled out in the setting of priorities for investments.
- The long duration of the process from the moment when a project profile is accepted to the start of the execution (should be 179 days, typically it took almost one year in the first round).

⁸ In August 2002, the government changed and the personnel of many professional positions dependent from the administration was replaced. SIBTA and the Foundations were not touched by these movements.

- Many farmer representatives urged to combine the innovation focus of SIBTA with a line for agricultural investments (small machinery for first level transformation, farming inputs, etc.).
- The absence of a conceptual framework for multiplying the benefits of initial innovation projects supported by the Foundations through an extension process.
- The still prevailing institutional weakness of at least three of the four foundations.
- The relatively low turnout of competent project implementers in the public bids and hence lack of real competition in project bidding, leaving the question open whether it would really be possible

to create a functioning market for innovation services.

- The still low commitment of municipalities and regional authorities (*Prefecturas*) to SIBTA in financial terms. In fact, it was anticipated that municipalities would assist poor farming communities to cover the 15% contribution to the PITAs and that the *Prefecturas* could invest in demand identification and strategic studies.

Conclusions and outlook

There is little doubt, that to create SIBTA out of the ashes of IBTA, was a high risk operation. Success is still uncertain and will depend on the implementation of a strategy for financial sustainability for the Foundations within the next 10 – 15 years and obviously the benefits created by the system for farmers and stakeholders in commodity chains and to the society at large. Nevertheless, thanks to its institutional structure and the demand focus, in a few years, SIBTA has created more ownership over the innovation system by small farmers and other stakeholders than has ever existed in the country. More private institutions are carrying out government funded innovation projects than ever before. It is also highly positive that the system has not been affected by political interference after the change of government.

With respect to donor coordination, SIBTA certainly is a good example of the application of the principals of Sector Wide Approaches (SWAPs) (World Bank, website) to the sub-sector of research and extension. However, the example shows, that in the case of the construction of new institutions or systems with all its uncertainties, the process of establishing mechanisms like basket funds may be very lengthy. A system with parallel funding at the beginning and the objective to switch to a basket fund once the system is established may be more practical and efficient.

Unifying administrative procedures is only beneficial when the unification does not occur at the level of the most demanding procedure for the local partner such as the complex systems of non-objections for specific expenses applied by some agencies. The guiding principle must be to facilitate project implementation for the local partner and assure transparency for all stakeholders.⁹

The ambiguous position of SIBTA between the public and private sector has created many misunderstandings and inefficiencies. To what extent must a private foundation with public funding respect the rules of the public sector in bids, in recruiting, and general administration? The solutions for these questions must grow out of the system itself. Doing business in a transparent way, finding solutions to overcome bureaucratic obstacles is the task of the professionals employed by the system. International agencies can help this process, but they can not resolve the problem.

The decision to work along commodity lines was taken to assure that the innovations would create the economic benefits needed to reduce poverty. To assure the sustainability of farming systems it is necessary that PITAs take into account such concerns and that the strategic projects (PIENs) address such issues.

For the future of SIBTA it will be crucial to guarantee widespread benefits of the system through a selection

of commodities which have the potential to create such benefits either among consumers, producers or other stakeholders of the commodity chain and secondly through the multiplication of promising results through extension processes. To become a privileged instrument for the Bolivian society to enhance *pro-poor-growth* should be the highest ambition of SIBTA. A convincing demonstration of widespread benefits will spur local contributions by beneficiaries, municipalities and *prefecturas* needed to sustain the system beyond the contributions of international donors and development banks.

Bibliography

- Aguilar, A. and Bojanic, A.; 1994; Diagnostico para cambiar al IBTA; Rev. PROCAMPO NO. 52, La Paz (Bolivia)
- FAO; 2002; Food sheets, www.fao.org; Rome (Italy)
- Ministerio de Desarrollo Sostenible y Planificación (MDSP); 2001; Más allá de las cifras; La visión campesina de los cambios estructurales en la productividad rural y los recursos naturales; La Paz (Bolivia) p. 187
- Gobierno de Bolivia; 2000; Decreto Supremo No. 25717; march 2000, La Paz (Bolivia)
- Ministerio de Agricultura, Ganadería y Desarrollo Rural (MAGDER); 2001; Plan pluriannual del SIBTA; La Paz (Bolivia); p. 74
- Viceministerio de Inversión Pública; 1999; Nuevo Marco de Relacionamiento; www.vipfe.gov.bo; La Paz (Bolivia)
- World Bank; 2000; Comprehensive Development Framework; www.worldbank.org; Washington D.C. (USA)

Other reference websites

- Fundación Valles; www.fdta-valles.org; Cochabamba (Bolivia)
- Fundación Altiplano; www.fdta-altiplano.org, Oruro (Bolivia)
- Fundación PROINPA; www.proinpa.org, Cochabamba

⁹ In the case of SIBTA, the members of the Basket Fund committed the mistake of accepting BID procedures for the disbursement of its contribution to SIBTA. Currently, negotiations are under way to simplify procedures of the Basket Fund and of BID.