Project STDF/PG/116: Development and Implementation of a Movement Cattle Control System in Costa Rica

FINAL REPORT

(January 2012)

I. Introduction

The project "Development and Implementation of a Movement Cattle Control System in Costa Rica" arises as a response to some of the weaknesses that SENASA has been trying to overcome since 2006 and were ratified in the assessment made by the World Organization for Animal Health (OIE) in 2007, specifically to strengthen the National Epidemiological Surveillance Program and provide the framework for a gradual and sustainable traceability program.

The project was built considering the general principles of traceability defined by the OIE and was supported during the formulation by Dr. Emilio Leon, who has conducted numerous consultancies in this and other issues for both the WTO and the OIE. After a request made by the Inter-American Institute for Cooperation on Agriculture (IICA, for its initials in Spanish), Dr. Leon conducted an assessment of the project progress.

The project was performed jointly by SENASA and the Inter-American Institute for Cooperation on Agriculture, through its office in Costa Rica. To implement the project, the IICA established a contract with the WTO.

II. Conditions at the beginning of the project

The first report described the situation related to the control of cattle mobilization and traceability up to February 2009, it is important to have this baseline previous to the beginning of the project, to measure its progress and impact of the activities developed. In this regard, it should be noted that although the country had been developing epidemiological surveillance activities, control and eradication programs for endemic diseases, processes certification and control in ports of entry, it didn’t has an efficient movement control system and traceability, so that there were many difficulties establishing the point of origin of animals with sanitary problems detected in slaughter plants, marketing centers and livestock auctions.

2.1. Regulatory framework:

The regulatory framework regarding traceability of animals or animal products in Costa Rica initiates in the year 2006 with the enactment of the SENASA Law[1] (Animal Health National Service), which authorizes the Service to establish, regulate and implement the necessary actions in terms of traceability, however, the regulatory process in this particular law had not been completed at the beginning of the project. Also, in 2004 a new bill arises to regulate the mobilization of cattle for the purpose of protecting its property, this proposal was initially rejected.

Prior to this project, the regulation of internal transport of livestock was governed by the provisions of the Executive Order N° 28432-MAG-SP, established in the year 2000. This decree established that those interested in transporting cattle had to request in a police station a transport guide, which could be required during transportation or at auctions and slaughterhouses. In this document the ownership of the transported animals must being declared as well as their origin and destination, nevertheless there was not a way for verifying the stated information, turning the document into a requirement of little use for research purposes in unlawful mobilization and of no use from the traceability point of view, plus the information contained in this guides was not transferred to any database, complicating by all means any possible query.

On the other hand, concerning the identification of animals for property purposes, there were regulations since 1958 through the provisions of Law No. 2247 and the law requiring cattle branding. Since 2006, the SENASA Law empowers the service to establish the manner and conditions under which the animals must be identified in order to comply with the provisions established in regards to traceability of animals or animal products.

2.2. Farm registration:

In Costa Rica, according to the latest livestock survey (MAG-PEGB-VE/CORFOGA 2000) there were 46,640 farms with 1,369,715 animals. Since 2000, there were updates of data through official visits from various branches of SENASA. This information was provided from the regional level because there was not a centralized national database and in some cases there were repeated records between the regional and central level or between different units of SENASA. Also the difficulties to centralize and manage information generated often overlaps and inconsistencies in the records.

Upon the start of the project, a general review of the existing database took place. The revision identified 56,000 records, some of them with incomplete information and with different types of inconsistencies (location errors, incompleteness, duplication, etc.), that made necessary to debug and validate some of the records on field and the integration of different databases in a centralized information system.

[1] Law 8495, published in the official journal, La Gaceta Nº 93 on May 16th, 2006.

2.3. Animal Trade:

The majority of cattle (8000 to 15,000 heads per week) which is marketed in the country come from livestock auctions, either directly from producers or through intermediaries. Livestock auctions are required to have a veterinarian that monitors the sanitary status of marketed animals. Before project implementation, the auction´s veterinarian used to request the transportation guide to the owner of the animals and give it to the auction to be filed.

All business transactions were recorded in the auction's information system, and there were therefore several different information systems that seem incompatible among themselves. Also, the generated data wasn´t transmitted to SENASA, making particularly difficult to trace animals traded this way.

2.4. Sacrifice and slaughter:

Before starting the project, the legislation establishes that the sacrifice and slaughter plants must have the services of a veterinarian to ensure the sanitary status of the animal and the product. The veterinarian requested the transportation guides and these were filed at the plant. Like the auctions, this information was not transferred to SENASA, complicating the animals tracking.

III. Project Management

Project management was done through a Project Executing Body (PEB), composed by SENASA and IICA. This Body was implemented after the agreement was formalized between IICA and the WTO.

The PEB was formed by members of the Executive Unit of SENASA and the designated IICA officials. In each case the appointments were made directly by superiors through formal notes. The Representative of the IICA Office in Costa Rica and the Head of SENASA formed the Managing Committee.

The PEB was composed as follows: For SENASA, the Head of National Traceability Program as coordinator, the Head of the Epidemiology Unit, a representative of Cooperation and Protocol Unit, a representative of the Legal Consultancy Direction, a representative for the Screwworm-Epidemiological Surveillance Control Program, a representative of the Material Resources Department –DAF (Financial and Administrative Direction, for its initials in Spanish), the Head of the Information Technology Department, and for IICA, a Specialist in Agricultural Health and Food Safety as Technical Secretariat. At some meetings, the PEB could invite other officials from both institutions according to specific needs of the topics addressed, such as administrative and accounting staff of the IICA.

The PEB actions and executive procedures were regulated, from the technical and administrative perspective. All minutes and documents generated have been filed by both, the Technical Secretariat (IICA) and the Cooperation and Protocol Unit of SENASA.

All decisions are taken through the PEB, just as the scheduling and reports. The minutes and agreement letters were copied to the Managing Committee.

A quarterly action plan was developed for programming and follow up activities.

IV. Project Activities

To simplify the presentation results, the project has been divided in three phases, an initial phase where the elements were prepared for the implementation of a mobilization control and traceability system (preliminary phase), a second phase where a pilot plan was conducted in a region of the country to validate and adjust the developed tools, and a third phase where the activities were extended throughout the national territory (final phase). This presentation does not necessarily correspond to the schedule of project activities.

4.1 Preliminary phase:

This phase includes the first year of the project and contains activities designed to prepare elements for the implementation of a pilot plan for the validation of a cattle mobilization control and traceability system. The following describes the main results.

a. Analysis and discussion of rules

In 2006, SENASA formulated a project called "Strengthening the National Epidemiological Surveillance and Traceability of Animals in the primary production stage" which was subsequently submitted for consideration by the Working Group of the STDF (Standards and Trade Development Facility). The project was formulated after taking into account the specific needs of the involved stakeholders (livestock farmers, cattle merchants, auctions, carriers and slaughter houses). Once the final proposal was ready, the stakeholders were consulted so final adjustments could be made.

Later, with the advice and support from the Canadian International Development Agency during 2008 and 2009, workshops were organized to train the different stakeholders of the chain, in the roles and responsibilities of each in the execution of the project. This process was parallel to the evaluation of the proposal by the Working Group of the STDF.

During this process it was concluded that there was consensus on the need to improve existing systems in the country to control mobilization of cattle and the need to develop a system that allows taking control of different nationwide realities (sanitary monitoring, epidemiologic surveillance, compliance of nonconformities from major trading partners, prevention of livestock theft, etc.) and of low complexity and cost. At the end of this process, the following were adopted as the elementary principles of the proposal: gradualness, sustainability and functionality according to the needs, possibilities and realities of livestock in the country.

With the approval of Law 8799[2] in May 2010, the Livestock Development Corporation (CORFOGA for its initials in Spanish) and SENASA formed a commission to regulate this law, this workgroup raised the convenience of seeking a regulatory framework that would integrate into a single

[2] Law 8799 or ***"Control Act for cattle and its prevention and punishment of robbery, theft and receiving stolen goods"***

system, the requirements and regulations of the Law 8799, in regards to traceability and mobilization controls, those that had been discussed and approved during the consultative processes described above, so that the system to be implemented should allow the determination of the origin and ownership of all cattle to be mobilized and marketed in the country.

Finally, with the STDF 116 project execution, a campaign was drawn in order to publicize the existing national regulations; this campaign included livestock farmers, livestock carriers, farmer organizations, private companies, slaughterhouses, police, judiciary, veterinarians and others actors.

b. System implementation (operational phase)

During the preliminary phase, the following actions took place:

• Procedures were defined for validation and updating of existing records, the personal was trained[3] on these grounds. Then, the verification of field records of production units began and it was periodically evaluated to determine progress and constraints presented.

• The conditioning process began at the SENASA regional offices in order to implement the activities of validation and updating of records, for which computer equipment, GPS devices and a plotter were purchased[4].

• The communication and outreach phase of the project began with the respective stakeholders.

• The design of the mobilization guides and other related forms started[5].

• The application for establishments and carriers registration was developed and validated and subsequently the validated information was migrated to this new database.

• The software application for the registration at offices, auctions and slaughterhouses was developed.

• The activities aimed at implementing a pilot project to validate the tools and procedures of the control system for cattle mobilization and traceability began. The Brunca region in the southern part of the country was selected for this purpose and it established an alliance with the Southern United Rancher Chamber (CGUS, for its initials in Spanish). Likewise, an advisory group was formed for the pilot project, consisting of rancher chambers of the region, livestock auctions, police and SENASA officials; so that the activities schedule of the pilot was established. Finally, office simulations were carried out to test the implementation of forms and other operational facets of the traceability program.

• The process of outreaching and police training began, in order to facilitate road control procedures for animal mobilization.

[3] In the first annex, a table summarizes the training activities, dissemination and analysis undertaken during the project.
[4] In the second annex, a list of equipment and other assets purchased during the project execution is presented.
[5] Documents and forms are presented in the third annex.

4.2 Pilot project:

As mentioned in the previous section, the Brunca region was selected to develop the pilot. In this phase, tools and procedures were validated and the necessary adjustments to its nationwide implementation took place. The following were the main activities related to this pilot:

• Training on the use of applications and registration procedures for the establishment, administration of the transport documentation and operation of the system at auctions and slaughterhouses.

• The process for farmer registration and the management of the documents required for the mobilization of cattle (cattle mobilization guides and blogs for carriers) was started. To improve coverage of the registration service, an agreement was signed between SENASA and CORFOGA for hiring additional staff at the regional level.

• The verification of new registrations or inconsistencies at the field level was conducted.

• The use of computer applications to record mobilization in auctions and slaughterhouses started.

• An outreach and communications strategy was established and launched in order to complete the process and extend it nationwide[6]. Awareness sessions were held with farmers, carriers, auctions, SENASA officials and the extension offices.

• Adjustments and changes were made to the format of the documentation used by the system, based on the experience generated in the pilot.

The pilot plan was carried out accordingly to the activities schedule. The progress was monitored by the advisory group. Based on the encountered constraints actions, nationwide strategies and even modifications to the proposed regulations were rescheduled.

At the end of the pilot implementation, an external evaluation was hired with funds from IICA, which was conducted by Dr. Emilio León in order to measure the project progress and to reschedule the activities to be initiated nationwide.

4.3 Ending phase:

In this phase of the project, the activities were expanded throughout the country. Various tools and procedures were implemented and a system for mobilization control and group traceability was set up. Some of the activities included in the implementation of this phase began before or during the pilot.

The following are the main activities undertaken to implement the traceability system at national level:

• Review and updating of records continued nationwide. This process was regularly evaluated and

[6] Annex fourth presents the elements of the strategy

corrective measures were taken where problems were identified.

• The development of software applications was completed[7].

• 59 sites were fitted nationwide for establishment registration and documentation management for transportation and system operation in auctions and slaughterhouses.

• The implementation of the information system developed for the project intended to record all movements in country auctions (22 establishments) was achieved.

• The implementation of the information system developed for the project intended to record all movements in country slaughterhouses was also achieved.

• Mobile units were purchased and given to the police in order to be located in all the regions. This activity replaces the conditioning of police stations, which could not be carried out due to the drawbacks of investing in these police stations.

• Document checks at the road, auctions and slaughterhouses continued.

• Network connections were conditioned in the SENASA and MAG offices, also in the mobile stations participating in the Mobilization System Control and Traceability of Cattle.

• The purchases of equipment for offices were completed.

• A commission between CORFOGA and SENASA was formed, with the participation of rancher chambers, meat industry representatives and auctions for the regulation of the "Control Act for cattle and its prevention and punishment of robbery, theft and receiving stolen goods".

• The Act 8799 "Control Act for cattle and its prevention and punishment of robbery, theft and receiving stolen goods" was published in the official journal. The validity entry was acquired in November 2010 and repeals and amends the existing regulations concerning cattle mobilization and identification. Due to the fact that this law regulated the mobilization of cattle from the point of view of property, and the STDF/PG/116 project needed to establish regulations in the mobilization of cattle in regards of traceability, it was a need to include, in the regulations of law 8799, all the elements necessary to achieve both the goals of the law and the project. Therefore, with the STDF project, it was possible to unify the objectives of the law with those of the traceability, by means of the regulations of the law.[8]

• Training and dissemination activities for ranchers continued, they also included carriers, police, auction and slaughterhouse workers, public prosecutors and veterinarians.

[7] In the fifth annex, a list and a brief explanation of the applications developed during the project is presented.
[8] The rule of law 8799 is presented in annex 6

• A promotional video was shot with IICA funds. It was delivered to various SENASA offices to be used in briefings about the traceability system. This video is part of the communication and outreach strategy activities. [9]

V. Project results: Description of the implemented system

The developed system allows the traceability of animals from the auction or slaughter plant to the origin of shipment.

5.1. System components:

5.1.1. Registration: All establishments engaged in the production, transport, marketing and slaughter of cattle must be registered in the system developed for this purpose.

Registration of farms: With its implementation, the system has achieved that all the country's farms that mobilize cattle are subject to be registered in the registry created for this purpose. All farms are assigned a unique identification code, a responsible person and a specific location defined by geographical coordinates. Showing legal documentation, the responsible person must demonstrate his ownership status on the farm.

With this, all mobilization of cattle that is originated on a farm will have a known origin and defined a responsible person. Registration is done using a web application in a centralized database, allowing the availability of information for any establishment where access to the database is granted.

Carrier records: Since the implementation of this system any carrier of cattle that is mobilized trough the public roads of the country must be registered and licensed as such. Each carrier is assigned a unique identification code and must carry a log of mobilizations, which must record the number of guides covering the mobilization, the origin, destination and the date. This helps with the accomplishment of the basic animal welfare measures during transport and allows access to the identity of those responsible for the cattle transportation from one setting to another (farm, slaughterhouse, auction).

Auction records: All establishments engaged in the marketing of animals through public auction must be registered and keep track of all cattle that enter and leave the establishment. This information system is common to all establishments of this kind and sends the information to a centralized database, which provides nationwide access to origin and destination of the cattle marketed this way and also allows slaughterhouses to have information on animals that have been auctioned bound for slaughter.

Slaughterhouses registration: All establishments dedicated to the slaughter and sacrifice of cattle must be registered and keep records of all cattle entering the setting. This information system is common to all slaughterhouses in the country and sends the information to a centralized database, which provides nationwide access to the origin of cattle entering these establishments. Slaughterhouses that have a process information system can link the information of process lots to

[9] The promotional video is presented in annex 7 (http://vimeo.com/38665737)

the information related to the source of the animals, in order to continue allowing traceability from the farm of origin to the stages of processing and distribution of the product.

5.1.2. Mobilization control: All movement of cattle should be done with a mobilization guide, this document may be required at the police checkpoints on the road and is a prerequisite for entering an auction or slaughterhouse. The mobilization guide contains information concerning the origin and destination of the animals, number of animals to be mobilize, their characteristics, responsible person, owner and carrier. The guide is numbered uniquely and its number is unambiguously associated to a farm and its responsible through a computer application that manages the documentation and sends it to a central server, which gives the livestock auctions, slaughterhouses or roadside checkpoints the chance to review the correspondence of the document (mobilization guide) with the declared origin, responsible person and owner of the animals.

5.1.3. Records of incoming and outgoing cattle: All facilities described above must keep a record of incoming and outgoing cattle. In the case of auctions and slaughterhouses this record is automated by the software applications described above. On the case of farms, this registry is made through the filing of mobilization guides that have recorded the movements of cattle to or from the farm.

5.1.4. Animal identification: All cattle to be marketed or mobilized in the country must be identified with the mark of cattle for the registered owner. The procedure of ownership change must be performed without alteration of an earlier mark. The mark of the last owner should be declared in the mobilization guide when the animal is moved. The marks used to identify the animals must be related to the farm where the animals are located, allowing the identification of an individual or a batch of cattle with a specific origin.

5.1.5. Information management system: The information system consists of several interconnected modules: The registration system for establishments and agricultural activities, a web-based system with a central database. The Auction Information System, which is a desktop application that synchronizes the information with the central database. Slaughterhouses Information system, desktop application that synchronizes with the central server. Office Management System, Web application that manages the delivery and reception of guides and related documents. The registration system and record updating system, mobile application that runs on devices (handheld type) used for the registration and updating of information related to facilities in field conditions. Both the web and desktop applications load information into the central database allowing comprehensive management of all information system components.

Although the registration system module was developed for the registration of establishments engaged in primary production, distribution, marketing, slaughter and sacrifice of cattle, arrangements were made in order to enable in the future a broader cluster of activities, increasing the coverage of establishments engaged in other livestock practices.

The resulting database was unified to the existing SENASA databases.

VI. Major achievements

• Implementation of a mandatory and nationwide system for group traceability and mobilization control, which makes it possible to trace the origin of an individual or a group of cattle from any slaughterhouse in the country to the farm of origin, whether it has been marketed in any auction and the target market.

• The current system requires that all cattle movement must hold the necessary information to prove ownership, source and responsibility for the animals and establishes penalties for breaching these provisions.

• The current system is the basis for the development of more precise traceability and far-reaching systems, as well as the implementation of traceability systems in other species.

• As a complement to the already-initiated System, individual Identification and Traceability of cattle is developed, this one being voluntary. The implementation of these systems fulfills the requirements for the majority of the export markets the country has and ultimately increases the competitiveness of the sector.

• It was achieved to avoid the duplication of procedures related to registration of establishments, aligned with the Operation Veterinary Certificate (CVO).

• With the mobilization control, it is possible to meet animal welfare requirements related to transportation of animals.

• The experience gained in developing and implementing the system in Costa Rica is being spread to other countries with similar processes, even in different production chains other than bovine (Bolivia, Peru and Honduras).

a. Strategic partnerships and additional funding:

Alliances:

• Agreement between SENASA and CORFOGA for hiring 8 technicians to support the pilot project activities.

• Support from the Canadian Government, through the partnership with the Canadian International Development Agency through the consulting firm TDV- global, which enabled the *Definition of the project's communication strategy.*

• Integration of 15 organizations of farmers and 8 private companies for enabling 23 sites for registry and processing of documents, which together with the 9 sites of the Ministry of Agriculture and Livestock and SENASA's 27 summed a total of 59 sites enabled.

Complementary funds

- National Food Plan

Due to the importance of the registration of establishments and the need to facilitate the process of updating data in the field, the Ministry of Agriculture and Livestock through SENASA, approved a budget of $ 50,000 for the purchase of 20 mobile devices (handheld type) that complement the development of a mobile software application for automating the data collection and record updating in the field.

• IICA

IICA selected the specialist in agricultural health and food sanitation from the office in Costa Rica to support the implementation of the project, through the Technical Secretariat of the Project Executing Body. In the same way, both IICA's Administrator and Administrative Assistant supported the purchase process in the context of the project. Finally, IICA made possible the realization of a promotional video, which was given to SENASA, and an external evaluation by the Argentinian expert Dr. Emilio León. IICA's total contribution is estimated in US$45.000.

VII. Limitations

It´s possible to point out two types of constraints, some related to the internal execution (within SENASA) and also, related to external factors that affected the implementation of activities.

a. Internal constraints

1. The progress of updating the records in the 8 regions of the country was variable, mainly due to:

• There was no dedicated staff for this work, so that the performance displayed by the technical personnel dedicated to this task, was low. To correct this problem, the most delayed regions were supported with field staff from other regions that had already completed the process.

• Lack of coordination between field staff and the respective registration site. Elements such as regular meetings designed to monitor progress and supervision of field staff and a reinforced training program were scheduled in order to address this problem.

• Problems related to disrespect of the procedure and guidelines established for the realization of the process of review and updating of the registered farms. Administrative penalties were implemented for officials who did not fulfill the assigned tasks.

The limitations described above were corrected trough meetings with the region's Directors, more frequent training and applications of regulatory sanctions.

2. Unavailability of staff to respond to requests for registration of livestock and documentation managing.

• With the validity entry of the nationwide system, there was such a workload for registration and documentation managing, so that the offices enabled were saturated, this was critical during the months of November 2010 to January 2011. Virtually all the SENASA staff in these offices was dedicated exclusively to the attention of users, however the staff was not enough to meet quickly and efficiently the demand, which resulted in occasional incorrect procedures which then

interfered with the information processing and caused discomfort in some users.

The limitations were improved by hiring temporary extra staff (for 6 months) paid by CORFOGA and the signing of agreements with rancher chambers and other organizations to enable more sites and an improved service

b. External constrains

• The Operation Veterinary Certificate (CVO) is a document issued by SENASA which delivers the authorization to individuals or to a legal person to engage in one or more livestock activities (production and transport of animals, processing of animal, slaughtering and sacrifice of animals). During project development there were some problems with the CVO implementation, related to the imposed restriction to process the CVO and the related cost this represented. This situation led to dissatisfaction in some sectors, which limited the producer´s voluntary registration in the registry system. As an alternative solution, a one-year (2010) amnesty was given in regards to the payment of the CVO, this simplified the operation activities.

• The validity entry of the Act 8799, involved modifications to the regulatory framework that had been developed and agreed with all stakeholders involved and speeded up the actions that were planned under the project in nearly three months.

• The obligation of the cattle brand as a requirement imposed by the 8799 Law, forced many ranchers who did not meet this requirement to register their marks, which implies an additional step with an associated cost.

• Changes in legislative and regulatory framework exempted the police to deliver the mobilization guides; this was wrongly interpreted as if the police had given up the authority to control mobilization which hampered the integration of new tasks and the establishment of support agreements.

VIII. Lessons learned

• The interdisciplinary team of project implementation: Veterinary professionals in epidemiological surveillance and traceability program, legal advisors, systems engineers and representatives from the SENASA management and technical staff from IICA smoothed the design and implementation of activities in a sustainable manner within the institution.

• Partnerships with the private sector and its involvement in implementing the project strengthened the activities and decreased the specific constraints to the implementation of a system involving changes in procedures and an active role of users.

• Partnerships with various organizations allowed better use of resources and leveraging additional resources to strengthen the activities of the project.

- Use of national technicians[10]: compared to the budget other countries reported for the implementation of national programs, it was possible in Costa Rica to implement a system that achieved the goals proposed by the country, of nationwide and mandatory enforcement, with costs lower than US$ 1.500.000.oo, which were contributed by the project, the private sector, SENASA, and international cooperation. Among the factors that made the low cost of the system possible, it is important to highlight the use of national technicians for the development of efficient and low-priced tools. If the total expenses of the development of these tools had been based on the initial budgets (in which tools already in use in other countries were taken into account), the resulting budget would not have been enough to cover all expenses.

[10] A financial report is presented in annex 8

ANNEXES

Annex 1.
Resumen de actividades de capacitación, diseminación y análisis realizadas durante el proyecto.

Annex 2.
Lista de equipo y otros bienes adquiridos durante el proyecto.

Annex 3.
Formularios, guías y otra documentación implementada durante el proyecto.

Annex 4.
Estrategia de divulgación y comunicación.

Annex 5.
Resumen de las aplicaciones desarrolladas durante el proyecto.

Annex 6.
Reglamento Ley 8799

Annex 7.
Video promocional

Annex 8.
Informe Financiero al 31 agosto 2011.