



Evaluation of the Quarantine and Inspection System for Galapagos (SICGAL) after Seven Years¹

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The Quarantine Inspection System for Galapagos (SICGAL) began as a pilot project in May 1999 and was formally established in June 2000. Since August 2001, SICGAL has operated as a semi-autonomous program of the Ecuadorian Agricultural Health Service for Galapagos (SESA). SICGAL's principal source of funding is a 5% earmark from the entrance fees to the Galapagos National Park (GNP). It also receives some funding from the national SESA office.

From 2002 to 2007, SESA-SICGAL has received technical assistance and supplies from two major projects: *The Environmental Management Program for the Galapagos Islands* (funded by the Inter-American Development Bank and national counterpart funding) and the UNDP-GEF/ECU/00/G31 project, *Control of Invasive Species in the Galapagos Archipelago* (funded by the United Nations Development Program through the Global Environment Facility).

SICGAL has been in operation for seven years. Considering the support it has received via international cooperation, SICGAL is expected to have improved its capacity to reduce the number of exogenous species entering Galapagos.

An assessment to determine SICGAL's technical and operational efficiency, conducted from June 2006 to January 2007¹, was comprised of:

- a. An institutional evaluation, which considered the legal, financial, administrative, operational, and technical effectiveness of SICGAL in terms of fulfilling its objectives.
- b. A practical evaluation of SICGAL's effectiveness to intercept products and organisms harmful to Galapagos during quarantine inspections.
- c. An evaluation of the knowledge of inspectors.

Results and trends

During the evaluation of SICGAL, a central problem became evident: *SICGAL cannot significantly reduce the number of introduced species and its effectiveness is progressively declining.*

Three main causes were identified:

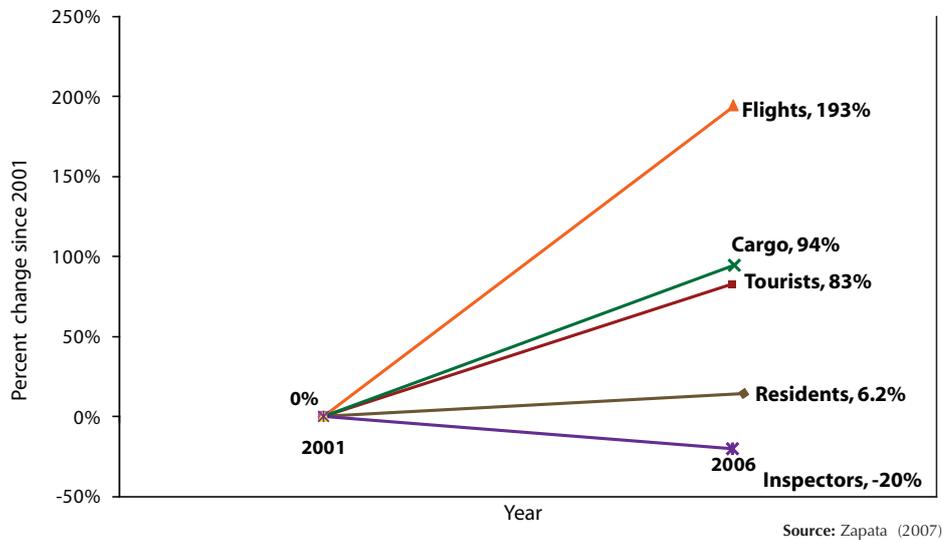
- SICGAL is under-funded and under-staffed, and therefore unable to cope with the increase in demand for its services resulting from growth in tourism and the resident population of Galapagos.
- The system is technically ineffective and inefficient.
- Local governance in Galapagos is unnecessarily complex, offering no clear direction in public policy and decision making.

Annex 1 defines the principle factors that influence SICGAL's effectiveness.

Insufficient resources to respond to service demands

The scenario in which SICGAL was created seven years ago is no longer the same. Since SICGAL began operations, its staff has been cut by 20%, while the resident population and the number of tourists in Galapagos continue to increase. The population doubled over the last ten years, with an annual growth rate over 6%² (Fig. 1). The number of tourists visiting the Galapagos each year has also doubled, with an average annual increase of 12%², and the number of passengers traveling to Galapagos has increased by 100%³.

SICGAL does not have sufficient resources to respond to the increase in demand for its services resulting from growth in tourism and the resident population of Galapagos.

Figure 1. Percent change in key indicators related to SICGAL, 2001 to 2006

The increase in the number of people entering Galapagos has resulted in an increase in demand for goods and services, most of which must be imported from mainland Ecuador. Food is imported via maritime transport (about 75%) and by air (about 25%). The volume of foodstuffs imported to Galapagos from 1998 to 2006 increased by 50% (maritime freight) and 94% (air freight)^{3,4}.

Commercial flights increased by 193% from 2001 to 2006, with an average growth rate of 27% per year³. New commercial routes were added, e.g., Manta-Galapagos (ICARO airline). Private flights also land in Galapagos, with a minimum of 343 reported from 2001 to 2006, including flights from international airports³ (see the article in this Report on 'Air traffic to Galapagos is increasing').

Although the number of cargo vessels has not increased significantly, there has been an increase in the amount of cargo per ship. In 2005, cargo ships were carrying cargo not only in their holds but elsewhere as well⁴. In 2006, there were as many as five ships, each making 24 trips per year to Galapagos⁵.

Vessels from abroad periodically enter the Galapagos Islands. Moreover, in 2006, vessels with a capacity for over 500 passengers visited the islands. Two cruise ships with this capacity are currently arriving every year. The number of vessels of this size is expected to increase to as many as 12 per year.

The system is technically ineffective and inefficient

Insufficient number of inspectors

There is no direct proportional relationship between the number of SESA-SICGAL inspectors and the increasing number of flights, cargo ships, and passengers and cargo (inspection units) entering Galapagos. The ratio of inspectors to inspection units is very low (Table 1). Further, under-staffing makes it impossible to inspect airplanes and ships at both their origin and destination to ensure enforcement of fumigation certificates.

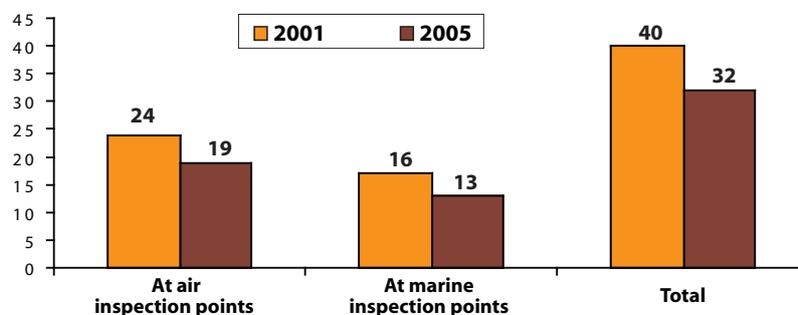
From 2001 to 2006, the number of inspectors was cut by 20%, compared to a 100% increase in the number of inspection units.

Table 1 shows how SICGAL's response capacity has been reduced. In Year 1 of operation, 40 inspectors, considered the minimum required to operate the system, were contracted. The system currently operates with approximately 32 inspectors (20% less than in 2001). On the other hand, from 2001 to 2005, the number of passengers, suitcases, and cargo per inspector has grown significantly: 103%, 105%, and 143%, respectively.

Table 1. Inspectors and inspection units at points of origin and destination in 2001 and 2005³.

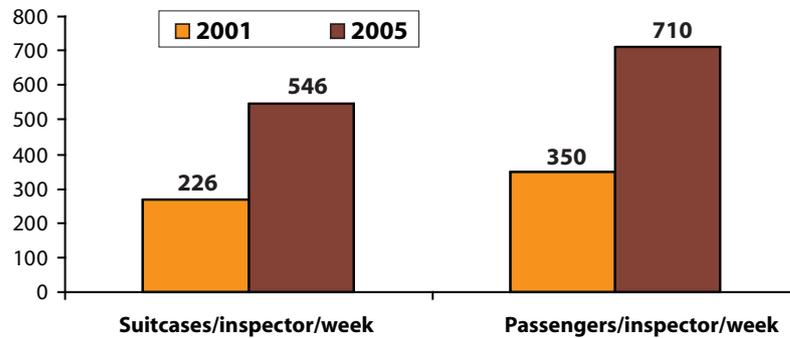
		2001 (N°/shift)	2005 (N°/shift)	% change
INSPECTORS				
N° of inspectors		40	32	- 20%
N° of inspectors at air inspection points	San Cristóbal	4 (3)	3 (2)	- 25%
	Baltra	5 (4)	4 (3)	- 20%
	Isabela	2	1	- 20%
	Quito	8 (5)	6 (3)	- 25%
	Guayaquil	5 (3)	5 (3)	—
N° of inspectors at marine inspection points	Guayaquil	6 (4)	4 (2)	- 33%
	San Cristóbal	4 (3)	3 (2)	- 25%
	Santa Cruz	5 (3)	4 (2)	- 20%
	Isabela	2	2	—
INSPECTION UNITS				
Commercial flights /year		749	1,266	69%
Passengers on commercial flights /year		90,910	149,635	65%
Passengers/inspector/week		350	710	103%
Suitcases on commercial flights /year		69,091	113,722	65%
Suitcases/inspector/week		266	546	105%
Cargo on commercial flights/year (MT)		1,625	2,631	62%
Cargo/inspector/week (MT)		10.4	25.3	143%
Cargo ships		4	4	—
Trips by cargo ships per year		96	96	—

Source: Cruz, J. D. and Causton, C (2007)

Figure 2. Decrease in the number of SICGAL inspectors at inspection points from 2001 to 2005


Source: Cruz, J. D. and Causton, C (2007)

Figure 3. Increase in inspection units per inspector per week from 2001 to 2005



Source: Cruz, J. D. and Causton, C (2007)

Lack of technical staff

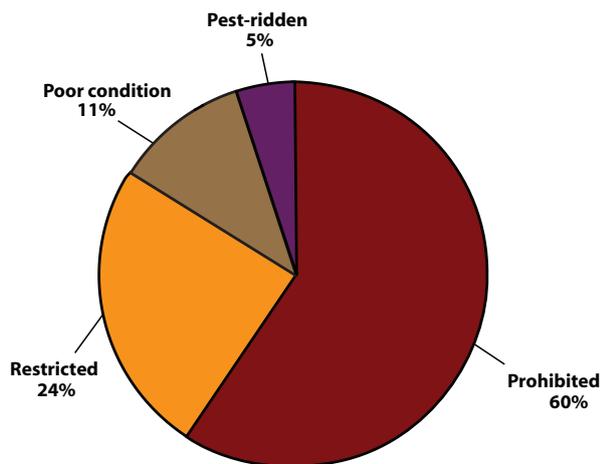
In addition to the lack of trained inspectors working effectively, there are no technical specialists on staff to support fieldwork of the inspectors or to monitor technicians (Annex).

Technical-operational effectiveness

During 2006 there were **2151** confiscations (Figures 4 and 5). The primary reason for most confiscations was

that they were prohibited or restricted products (**85%**). Products with pests (confiscated because they contained organisms) represented **5%** of total confiscations. This leads to the conclusion that inspectors focus on identifying larger products rather than searching for small organisms, such as invertebrates, plant seeds, etc. Nearly half of the confiscations (46%) were from Galapagos residents.

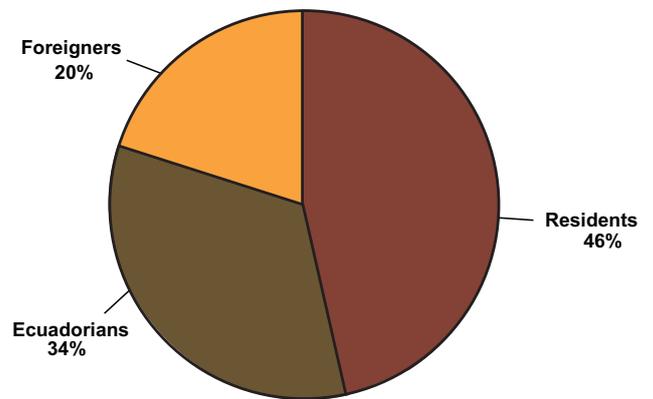
Figure 4. Confiscations by SESA-SICGAL inspectors in 2006 by primary reason



Total: 2,151 confiscations in 2006

Source: SESA-SICGAL database

Figure 5. Confiscations by SESA-SICGAL inspectors in 2006 by passenger's origin



Total: 2,151 confiscations in 2006

Source: SESA-SICGAL database

It appears that most products are either confiscated from passengers who are unaware of regulations (and do not intentionally hide products) or from passengers who voluntarily admit to carrying organic products; they are not due to the effectiveness of the inspectors in intercepting introduced organisms. During an evaluation in 2006, in which volunteer passengers intentionally carried organic products and attempted to avoid detection, the interception rate was **0%**. It appears that when someone wants to transport restricted products to Galapagos there is little or no likelihood of an inspector detecting them.

The effectiveness of SESA-SICGAL inspectors in detecting and confiscating smaller exotic species entering the islands is very low. The evaluation of effectiveness at intercepting organisms at the Baltra airport revealed that inspectors intercepted only **1** out of **8230** organisms entering Galapagos¹.

According to SESA-SICGAL data for 2001–2006, the total number of confiscations per year has declined (Table 3). It is likely that this failure of current control procedures is affected by the reduced response capacity of SICGAL (number of inspectors) and the increase in the number of inspection units.

Table 3. Total confiscations and year-to-year trends, 2001-2006.

Year	Total No. of confiscations	Percent change per year
2001	2,518	
2002	1,827	-27%
2003	937	-49%
2004	2,460	163%
2005	2,308	-6%
2006	2,151	-7%

Source: SESA-SICGAL database

The actual rate of interception by inspectors is 1 out of 8230 individual plants and invertebrates entering Galapagos.

Technical competence of inspectors

The level of technical competence of inspectors regarding SICGAL, evaluated in 2005 and 2006, averaged **66%**¹. The most knowledgeable inspectors are located in Santa Cruz and Quito, with the least knowledgeable in Isabela and San Cristóbal. Of the **18** inspectors in Galapagos, only **2** have a university degree related to SICGAL’s activities (agriculture, veterinary medicine, biology, environmental sciences, etc.). In Quito and Guayaquil, all inspectors are university-trained professionals. However, an inspector’s performance is not directly related to their education. Specific training and experience can, at times, compensate for professional qualifications.

The greatest priority in terms of filling gaps in knowledge involves inspection procedures, a key component that directly influences inspection efficiency.

Legal regulations and procedures are inadequate, insufficient, or not applied

Legal regulations and procedures are the basis for the system’s uniformity and consistency. Current legal regulations that support the work of SICGAL have major gaps and discrepancies⁵. Among other problems, there are no penalties for infractions⁶.

Administrative framework: lack of clear public policy and authority

SESA-SICGAL lacks the necessary level of technical and administrative staff, in terms of experience and knowledge, to effectively implement inspection and control policies or to manage the quarantine and inspection system. SESA-SICGAL has also not been able to operate with sufficient autonomy because of legal constraints and its own shortcomings and poor leadership.

The deficiencies of SESA-SICGAL have prevented it from obtaining adequate funding. At present it receives only 5% of the tourist entrance fee to the GNP and additional transfers from the national SESA office.

The political framework for decision-making is complex and often redundant. There is little coordination among the numerous institutions and committees. Staff within these institutions often fill multiple roles within and among committees, working groups, and various inter-agency delegations. This complex tangle of organizations and committees was designed to ensure participation, but in practice it has proven confusing and ineffective.

Conclusions and recommendations

SICGAL's inability to avert new introduced species arriving in Galapagos cannot be addressed solely by improving staff and institutional competency. Rapid growth in the different means of transport and the number of people and products entering Galapagos has resulted in ever-increasing demands for services, which SICGAL, under the most favorable conditions, is unable to meet.

Until a clear policy is set to limit growth in and access to Galapagos, any improvement to SICGAL will have a limited impact.

The following recommendations resulted from the 2006-07 assessment:

1. Implement a training and professional education program for inspectors, based on performance evaluations and the SICGAL Inspector Training Manual.
2. Reform the legal framework of SICGAL, based on the legal assessment conducted under the GEF project, *Control of Invasive Species in the Galapagos Archipelago*, and include penalties to discourage infractions.
3. Contract as a SESA-SICGAL employee an attorney or someone specifically responsible for advancing necessary legal reforms.
4. Restructure the institution, developing a new organizational structure and creating key positions for SICGAL's operations.
5. Ensure adequate funding for SICGAL to operate properly.

SICGAL's action capacity is mainly limited by a lack of qualified personnel, adequate leadership, and an appropriate legal framework.

Annex. Assessment of the principal factors influencing the effectiveness of SICGAL¹.

		The system is technically ineffective and inefficient			Administrative framework: lack of clear public policy and authority			SICGAL lacks response capacity
SICGAL staff is unable to achieve effectiveness	Legal norms and procedures are inadequate, insufficient or not applied	Little or no infrastructure, equipment or materials	External clients do not support SICGAL activities	Organizational structure of SESA Galapagos does not permit effective response	Participation is weak and poorly coordinated	Funding is insufficient to meet growing responsibilities	Increased food, persons, and means of transport entering Galapagos	
Inadequate number of inspectors and monitoring technicians	Technical procedures are not applied properly or evaluated regularly	Suitable inspection filters and equipment at airports or ports do not exist	The public is not well informed about SICGAL regulations	SESA-Galapagos is dependent administratively on the national SESA head office	Weak coordination of activities among institutions comprising SICGAL	People who generate health risks and problems do not cover costs of control or prevention	Population growth (natural and due to migration) over 6% per year	
Job instability and staff turnover	Legal framework doesn't include penalties for infractions	Inspection areas at ports have no zones to keep unauthorized persons out	The public has a bad impression of SICGAL	The position of "SESA-SICGAL Coordinator" is unstable and low-prestige	The SICGAL Committee has little political capacity	No awareness of cost-benefits of prevention	More tourists every year	
Low professional level of inspectors	No legal department to enforce penalties or provide follow-up	The assessment system of SESA- Galapagos is weak	Some means of transport and passengers do not fully comply with regulations	SESA-SICGAL has no solid administrative or technical staff	No adequate mechanisms for participation	Lack of adequate financing for SICGAL to operate fully	Per capita consumption is rising: consumerism	
No technical staff on the payroll	The Special Law for Galapagos, Regulations for Total Control of Introduced Species and other norms are out of date	Maritime transport provides no health security		Disparity in capacity among different SESA-SICGAL offices	CIMEI committees are uninvolved with SICGAL health policy	Galapagos does not produce enough food		
Lack of knowledge about legal procedures and norms		Inspection materials and equipment are insufficient or not in constant supply			The INGALA Council has no health policy (which should be consistent with SICGAL health policy)	Lack of coherent policies, including the problem of introduced species		
Low inspector commitment and responsibility		Insufficient equipment to inspect vessels from abroad			Weak organization of commercial and agriculture sectors	Increased number of airports with flights to Galapagos		
No formal monitoring of staff performance		No facilities for quarantine treatment or isolation				Insufficient community awareness regarding the threat posed by invasive species		

Source: Zapata, C (2007).