

The study of production and commercialization of pork meat in Honduras : executive summary

JICA

NO. 2

DIRECTION OF AGRICULTURAL SCIENCE AND TECHNOLOGY,
MINISTRY OF AGRICULTURE AND LIVESTOCK (DICTA)

REPUBLIC OF HONDURAS

THE STUDY OF PRODUCTION AND
COMMERCIALIZATION OF PORK MEAT
IN HONDURAS

FINAL REPORT

EXECUTIVE SUMMARY

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MARCH 2002

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PRODUCTION AND COMMERCIALIZATION OF PORK MEAT IN HONDURAS EXECUTIVE SUMMARY

1. Introduction

The present study was carried out between December 2001 and March 2002, and included the performance of 150 surveys to porcine growers with herds of 5 female and/or 50 heads, distributed among 5 zones and covering 11 departments of the country.¹ A sample of 302 surveys were made to consumers in the cities of Tegucigalpa, San Pedro Sula, La Ceiba, El Progreso and Choluteca, and executives of the main processing companies were interviewed both in Tegucigalpa and San Pedro Sula.

2. Main findings

2.1 *Characteristics of the farms*

Orientation of production

The results of the investigation show that 81.2% of the farms of these characteristics are devoted to both breeding and fattening, 11.2% exclusively to fattening and 7.6% are specialized in breeding.

The average surface of the farms is 0.8 hectares, and they are located 13.1 km away from an important city or town. The farms display a large crowding with an average density of 3.11 animal units per m². The female-male ratio is 13.1, which is considered acceptable.

40% of the farmers live in their farms and 87% has 3 or more years of experience on the activity.

A high proportion of the farms (73.8%) does not have a legalized unit of production or is not legally established as a corporation. This fact becomes an important limitation for accessing financing or training services from formal centers. Notwithstanding the above, 95% affirms being the owner of the premises and goods where the operation is carried out.

Training and human resources

In spite of the fact that training is mentioned in specialized centers (CEDA, INFOP, ENA, CHINA MISSION, EAP-Zamorano), it has been mainly directed to the owners. The farms do not have enough skilled personnel available. Training received includes an important participation of commercial suppliers, technical-assistant enterprises and NGOs. The main source of information for 55% of the farmers is through magazines and bulletins, and one third of them also get it from workshops, courses and advices/talks with other farmers and technicians.

There is no available training for basic laborers in pork keeping and even less of qualified personnel with knowledge and skills to become foremen or managers of this type of farms.² The medium-level technical schools produce professionals with formation on agriculture and cattle growing, which, given their demand and salary level on the market, are not affordable for the average size of farms prevailing in the country.

¹ The distribution of zones and the departments involved is as follows: Zone 1: Departments of Choluteca, Francisco Morazán and El Paraíso; Zone 2: Olancho; Zone 3: Comayagua, La Paz and Yoro; Zone 4: Cortés and Santa Bárbara and Zone 5: Atlántida and Colón.

² The existing foremen are mostly the result of several years of experience and, generally, began on the activity as operators or laborers and learn on the run ("In job training").

In past years, several Honduran professionals were trained in Japan under the JICA's auspice. These professionals are now working in both, the private and public sectors. However, this amount of personnel is proved not to be enough to satisfy Hondurans needs in this regard, and the training of new resources in hog production should be considered.

Access to basic services

Generally, the farms have good availability of water and electric power and less access to telephone service (6% fixed telephone and 24% cellular telephone). The zone with less proportion of farms with access to basic services is Olancho, on Zone 2, and the larger telephone access is on the zones of greater relative development (Zone 1 and Zone 4).

Reproductive and genetic management

Most of the farms apply good criteria on reproductive management; the zones of less application of these criteria are Zone 2 (Olancho) and Zone 3 (Comayagua, La Paz and Yoro).

The replacement of boars is done mostly by purchasing at the local market (94% of the farms) and replacement of female pigs (sows) is done by combination of internal selection at the farm (64%) and purchase (42%).³ Local sources have presence at their respective areas of influence: ENA in Olancho, Misión China in Comayagua, La Paz and Colón, and EAP-Zamorano in Francisco Morazán and El Paraíso. Pork production in Zone 4 has become, besides, receiver of genetic material from Guatemala.

Crossbreeding (Encaste) prevails as genetic pattern (95% of the farms), the pure porcine herd accounts for 8.4% and the hybrid (PIC, Tri-Hybrid) is being used on 6% of the farms. By using the PIC variety, pork producers are reaching up to 240 pounds in 168 days (late-finishing pigs), feeding conversion index of 2.5, and a yield of 70% of in-canal output per pig.

The existing breeds mostly known by the farmers are Landrace, mentioned at 97% of the farms, followed by Duroc (96.4%), and the Yorkshire breed (89.4%). The Tri-Hybrid is mainly known in Zone 2 (Olancho), while an average of 44% of the farms in all zones are aware of the presence of PIC in the country, with a larger proportion of farms in Zone 1 (67%). The preference of the farmers involved in breeding is to use female pigs of York x Landrace crossing; which in turn are crossed mainly with Duroc males (54% of farms), Yorkshire (38%) and Landrace (37%).

Feeding and health improvement

Basic food is concentrate, using commercial concentrate in 73% of the cases and 37.4% of the farms also make use of their own concentrate. The latter happens mainly in Zone 2 (75% of the farms) and Zone 1 (71%), which also coincide with the fact that those zones are located on the departments of greater vocation and production of basic grains (corn). The use of supplementary foods is poor, and farmers are basically supplying whey (28% of the farms), banana (12%) and yucca (9%).

Feeding cost counts for 70% to 80% of the total production cost. On average, Honduran hog producers obtain a feeding conversion index of 4.7 pounds of concentrate food by each pound of meat produced, observing a range between 3.3 in Zone 4 (Cortés), to 5.3 in Zone 3 (Comayagua, La Paz y Yoro). Reducing this index is of high importance, as long as for each point this index goes down, production cost diminishes by around 1.80 Lempiras, which would significantly increase the price competitiveness of the national pork production. This amount would represent an additional income of 245.70 Lempiras per finishing pig to producer.

³ The percentages amount to more than 100% in cases where the question permitted multiple replies.

Very few farms are using proper bio-safe practices for the entrance of visitors (23%) and the surroundings of the swineherds (27%), which make them vulnerable to contamination.

97% of farmers use veterinary products to treat parasite attacks, and 99% applies vaccine against porcine cholera. Even though they may not be participating actively in a program of control and eradication of classic porcine epidemic, they do have expectations on advantages for their farms in participating in this type of programs.

Availability of facilities and equipment

On average, the farmers have minimum facilities available for the development of their activities; however, such facilities are seriously deteriorated and do not respond to the expectations of the farmers to extend the level of production at their farms. Having adequate facilities is helpful to reduce mortality, overstocking, and contributes to improve reproductive and feeding results in the swineherd.

Likewise, 95% own tools and knapsack pumps; however, the proportions decrease when considering other equipment such as carts (79%) weighing scales (72%) and refrigeration equipment (60%).

Environmental aspects

The handling of solid waste from the swineherd is treated by incineration (54%), recollection in garbage collectors (44%) and the burial of waste (43%). On the other hand, manure is transported to oxidation ponds (73%), and, as a second option, it is used as organic fertilizer at the farm (38%).

Only 13.4% of the farms reports having environmental license⁴, and those who do not have it, 2% have already requested it. The rest intend to request it in the future (58%) and others (40%) do not know if they will do it. Given the growth of the neighboring centers of population, the swineherds are, each passing year, closer to said populations, which will impact on the demand, by the Government, of the corresponding license, which, in turn, will imply the performance of minimum mitigation measures.

Handling of records

16% of farms, located mainly on Zone 2, do not keep records, and 78% keep the records manually. The most commonly used records refer to dates of crossing, dates of parturitions, birth, animal stock, weight of fattening, weight at weaning, death at birth, sales and mortality at weaning. Zone 2 consistently presents the less proportion of farms in each type of records. Zones 1 and 4 present, generally, the largest participation of farms. These two zones have been carrying genetic record of animals (64% in Zone 1 and 35% of farms of Zone 4). When asked about the benefits to be obtained from keeping records, 58% of farmers mentioned as a positive fact knowing the available inventory. Other benefits were mentioned at least by 20% of the farmers.

Financing

60% of the farmers do not make use of financing: 28% has access to loans from the formal banking and 20% benefits from credits of suppliers. 60% out of the 40% having access to some sort of financing provides mortgage guarantee, 20% on endorsement and 22% without a guarantee whatsoever.⁵ Likewise, 63% declared having obtained financing during the previous

⁴ The farmers were not asked to physically show the license document, so that, in most cases, it may be a permit of the Municipality and/or permit from the Environmental Management Unit of the Municipality.

⁵ Mainly associated to commercial credit, family loans and cooperatives.

year.⁶ More than half (55%) of such financings vary in rates between 15% and 25% and one-third obtained rates from 26% to 6%. On both ends, one third pays rates of less than 20%, while 18% of the farmers pay annual interest rates above 30%.

Union organization

29% of people surveyed stated that they belong to the ANAPOH, Zone 1 outstanding (54%), Zone 4 (41%), followed by Zones 2 and 5 (24% of the farmers in each zone). In general, the farmers, whether associated or not, would expect support from an association in the areas of marketing (76%), technical assistance (64%) and financing (55%).

Expectations and problems

When asked about the plans with their farms for the year 2002, they show an optimistic attitude regarding the future of this activity in the country, having intentions to extend or at least keep their production level.

The three main problems of the Honduran pork production, identified by the farmers themselves, were, in their order: marketing (71%), financing (57%) and technical assistance (55%). Which, with slight variations, is much similar to the expectations from ANAPOH. Finally, when asked about the support activities which they would expect to receive through SAG/Dicta, financing is most frequently mentioned (71%), technical assistance (62%) and the marketing conditions appear on a third place.

Other minor problems mentioned by the farmers are those of disease transmission agents, such as flies (Zone 2), mice and scorpions (Zones 3 and 5). Also external parasites such as the acarus (Zones, 3, 2, 1) were reported.

Cases of porcine cholera were reported in the last 3 years on 10% of the farms (all from Zones 5 and 1). 43% of these cases were not reported to any institution, and the few ones that were reported were informed to government agencies (21.4%) or private veterinary (21.4), and to a lesser extent, to neighbors (7%) and representatives of commercial suppliers (7.1%).

2.2. Status of national agro-industry

70% of the national processed production is sold countrywide and 30% is located on the central region of the country. 50% of the product of the processing plants is targeted to low-income population, 30% to middle-income, and 20% to high-income population. Increasing the level of production is among the objectives of 90% of the plants, in an endeavor to meet their installed capacity, estimated at around 200,000 pounds/day, which at present is used in 50%.

The agro-industrialists prefer to import products, due to better quality of the pig meat (i.e. lean meat and specific parts), availability (continuous daily, weekly or monthly supply), output (i.e. adequate weight of each part) and competitive prices.

2.3. Characteristics of the national market

According to statistics of the Central Bank of Honduras, the production of pork meat and the national porcine herd have shown low growth rates and, on the contrary, stagnation has

⁶ It is most possible that those who reported having received credit in the previous year correspond mainly to the users of credit from formal banking.

resulted since the year 2000.⁷ Such drop of the internal production has been offset by a growth of imports, mainly since 1998, surpassing 4,000 MT in 2000.

Apparent consumption of pork meat in Honduras is 3.57 Kg/person/year, which is very low compared to world per capita consumption of 14.73 kg per inhabitant.

Producers' main transaction form of the pork meat is in entire channel (72% of farms), followed by the sale of live cattle. The latter is the preferred method in Zone 3. Most of the farmers would expect the attainment of a price difference due to quality at the processing companies (58%) and supermarkets (54%).

The average producer sale price, among the surveyed pork producers, was Lps.12.83 for in-channel meat, and Lps.13.35 for in-channel-fatted meat. These prices represent between 13% to 19% above the price of imported pork meat. Besides, industrial processors and supermarkets argue that imported products have a more finished presentation, come in the required specific parts, and generally using vacuum-packing technology, which permits longer product preservation.

According to secondary sources consulted, the higher competitiveness of external prices is based on factors like: economies of scale reached by pork producers in developed countries (USA, Canada), the vertical integration that mega-projects have implemented, especially regarding concentrate food production yielding low concentrate prices, the application of advanced genetic technology, and the subsidies received by producers (European Union, USA).

2.4 Characteristics of the international market

The recent trend, as regards the units of production, has been the concentration in mega-projects in developed countries, availing of economies of scale. However, the difficulties for an environmental handling of projects of such size, recommend the convenience of less "mega" production units.⁸ In the opinion of experts, this situation favors a larger participation of countries under development on the world trade flows of pork meat. Honduras would be competing with Guatemala and Costa Rica in the Central American region.

The logical result of improving the capacity of production for export in Honduras will be the decrease of present imports from the United States, Canada and Costa Rica.

In the framework of the O.M.C. (WTO), Honduras has assumed similar responsibilities regarding the international pork meat trade. In this regard, at present the purchases of pork meat from overseas, pay a tariff of 15% of the amount of the import, and also sanitary certificates are requested from the exporting country, with the exception of the Central American regional trade, which, according to the Central American General Treaty for Economic Integration, establishes free trade of pork meat. In addition, two free trade agreements have been signed with Mexico and the Dominican Republic. The former did not include the pork meat, and the latter a tax exemption was established (10% in the first year, 5% in the second year and 0% in the third year). Both agreements will be terminated in the year 2005.

3. Strengthening production and commercialization

According to the findings of this study, several aspects may be identified, on which it is possible and/or recommended that, both JICA and SAG/DICTA/SENASA may coordinate efforts to improve the condition of the local production and increase the competitive capacity of the Honduras

⁷ However, it is worthwhile to mention the expectations of growth mentioned in this study and the existence of investment projects on this activity, starting on the year 2002.

⁸ We must bear in mind that, even if it is a small project in USA or Canada, that it will always be a large project, specially if we relate it to Latin American standards.

farmers, in order to overcome the import flow and open prospects to begin exports to the international market.

According to the problems identified on the study, and the comments of farmers interviewed, the needs/possibilities are classified in four major areas: Technical assistance, financing, institutional strengthening and marketing/commercialization.

It is mostly important to outline, however, that none of these recommendations is justified in an isolated and independent way: nor will all together have effectiveness if the problem represented by the existence of the back yard pig is not eliminated as nowadays it represents 70% of the local production of pork meat.

3.1 Technical assistance

To prepare and implement a program of **technical assistance and training**, through private suppliers and participation of the INFOP on the training of laborers specialized on the porcine field, under a scheme of formation of labor competences.

Access to **technology of information**: Access to microcomputers, together with an application in computers (software) to enable the writing of records and the reports of estimate of indexes to guide the activity of each individual farmer, as compared with the average performance of its zone or country, and with that in other producing countries. An alternative to this would be to develop standard information forms to be filled-up easily by pork producers, and then carry out the electronic processing at the Pork Producers Association or National Porcineculture Commission.

It is important to **build feeding capacity** in pork producers, in order to reduce the feeding conversion index, and increase price competitiveness of national pork meat production. The results in this study do not reflect a positive impact coming from supplementary feeding products currently used by hog producers; meaning that producers are not taking full advantages of the nutritious properties of locally available such supplementary feeding inputs, and, in many cases, they do represent an additional cost.

Genetic improvement. The farmers surveyed reflect an acceptable knowledge and management of their swineherds in this regard. However, in order to completely cover the internal demand and substitute both imports as well as the production of back yard hogs, it is required that the technified sector grows from 6,000 female hogs (sows) at present, to 18,000 in a period of 5 years, which would represent an average increase of 16 female hogs per year per farm. This situation shows that, even when 80% breeders comes from the internal selection on the swineherds, there is a need to considerably increase the availability of breeders on the local market, for both female hogs (sows) and boars.

Environmental management: It is advisable that, in a joint effort JICA/SAG/SERNA, measures be taken to turn such farms environment-efficient. As a result of this process, a greater output of production and a larger advantage, including economic, would be expected from the use of waste of the farms.

3.2 Financing

Pork producers need access to financing for improvement of facilities and purchase of breeders. This may be carried out under a FONAPROVI-like financing program, and shall be accompanied by an accelerated process of legalization of farmers into organized mercantile enterprises. Other options, like private windows in the Central American Bank for Economic Integration (CABEI), and de Interamerican Development Bank (IDB) should also be considered.

The use of this financing may be also associated to the participation on a training program and/or use of trained resources under a specialized program for porcine farms, and to the incorporation of measures resulting from an environmental auditing.

The expected growth in national herd will be accompanied by other collateral needs, like higher requirement of crops (Maize, Sorghum, Soybean) as basic inputs for concentrate food production. This situation will create opportunities for new concentrate producer firms, enhancing of building capacity of actual firms, and/or the possibility of co-investment or agreement between ANAPOH and the actual or potentially concentrate producer firms. This may also require the revision or updating of the current agreement between crop producers and the agro-industry regarding the procedures for import of basic grains, and the price-band mechanism currently under way.

3.3 Institutional strengthening

Creation of the National Porcineculture Commission. This would be an institution for proposal/validation of policies and measures related to this sector of production. It could also incorporate a system of statistics management for the sector. This entity would be formed by public and private representatives, and would support the coordination between local farmers and the supermarkets and processing plants, in order to obtain a close relation and promote larger consumption of national production coming from the technical sector.

Strengthening of the National Association of Honduran Porcine Farmers. This institution would be of great importance to promote the technological improvement of the information of records at the farm, improvements on the environment management and on the formation and use of personnel trained on production and management techniques.

Reform of certification scheme. A nation-wide extension of the presence of technical specialized personnel is necessary at the places of slaughtering. At present SENASA has presence on the municipal processing plants and on a small number of slaughterhouses in the process of certification of the quality of meat sent to the market. It is also clear that, under this scheme, it is not possible to extend the coverage of SENASA in this activity.

The best way to face this problem is allowing a greater participation of the private and municipal sector in this activity. That is, that the slaughterhouses and processing plants contract private professionals to certify the meat going to the market. The costs of this certificate shall be added to the costs of operation of the slaughterhouse and processing plant, and, therefore, shall be recovered on the unit prices per slaughtered animal. Under this scheme, SENASA would keep its general supervisory and regulatory role.

A collateral problem on this activity lies on the poor capacity existing to perform the corresponding laboratory analyses, mainly in most of the municipal slaughterhouses. Here we have another opportunity for the joint implementation by JICA/SAG/SENASA and SERNA of a policy of incentives for the putting into operation of private **hematological and/or bromatological laboratories**, in principle, which may gradually incorporate hydro or other analyses. Therefore, the participation of pork keeping farmers (ANAPOH) and cattle ranchers in general (FENAGH) is important.

3.4 Key elements in domestic consumption promotion

The preparation of a campaign aimed to increase the pork meat consumption in the country, shall consider the following aspects of the consumers in Honduras:

Current consumers

The increase in pork meat consumption by this segment does not represent a promising future, given that 21% of the surveyed consumers in supermarkets, and 13% of those in popular markets, would be willing to increase their household consumption. However, a campaign would

make the difference at increasing the confidence on national production of pork meat. Any campaign aimed to capture these consumers should focus on:

- The feminine population, which constitutes two thirds of buyers, meaning that they make the *decision on choosing the household alimentary culture*.
- The middle and middle-high class stratum, which has a greater consumption capacity, and an actual low level of consumption.
- Adult persons within the family, whom mostly enjoy eating pork meat.
- Obtaining and divulgating improvements in the most valued aspects by consumers, which are the hygiene of the point of purchase, the freshness and the reliable source of the product.
- Improving the presentation of those parts of the pork that are more preferred by consumers: chops in first place, followed by ribs, legs, as well as the loin or chine.
- Supermarkets and Intermediary retailers should develop semi-prepared plates adapted to modern consumers, *needing less time to cook at home; taking into account that the preferred form of preparation of the pork meat by households are those that implies a longer time of cooking, such as fried and baked.*

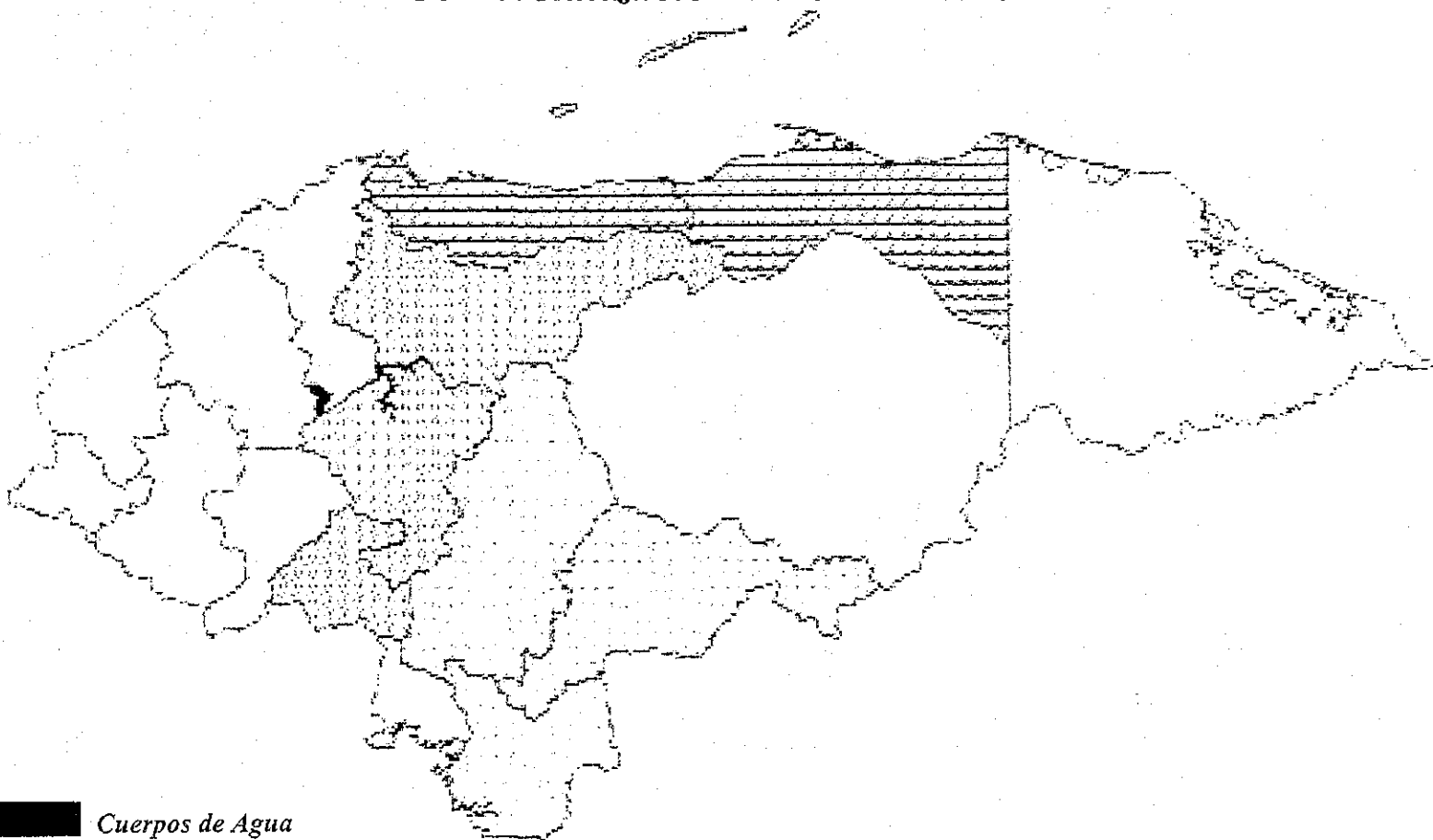
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



The main reason for the 26% of interviewed not to consume pork meat is the afraid of sickness supposedly caused by the consumption of such product. In second place, they argue due to medical restrictions. Such factors must be taken into account in designing promotional campaigns aiming to convert them into pork meat consumers.

Based on the above, it is important to highlight that 34% out of these actual no-consumers is in good disposition to become consumers if they perceive those risks and afraid disappear. In consequence, any strategy to bring this population into the pork meat consumption will have to:

- Address and publicize better controls on animal inspections in all establishments dealing with breeding, growing, intermediating, and slaughtering pigs, in an effort to guarantee the healthy condition of the pork meat, and generate the confidence on the population regarding its safe consumption.
- Make the population know the procedures through which the meat origin is certified, and inform them about the institutions in charge of such certification. This will guarantee consumers that they are acquiring a reliable, from-technified swineherd, good quality and sanitary and environmentally sound product.
- Make the population know about statistics showing the real incidence of diseases caused by the ingestion of pork meat, as an effort to eradicate misinformation prevailing among potential consumers.
- Carry out promotional campaigns that highlight the changes that those establishments in the pork meat production chain (swineherds, slaughterhouses, meat processors, market places, supermarkets) are putting into effect in order to ameliorate the product presentation, the establishment's hygiene, and the reliable source of the product.
- Carry out informative campaigns aimed to eradicate the existing taboo against the pork meat, by stressing the real properties of this product in terms of fat and calorie contents, and its evolution in the last 20 years.
- Promote the progress reached in genetics, nutrition, and handling of the pork meat production, through marketing campaigns, conferences addressed to medical doctors and nutritionists. Consumers in butcher's shop, supermarkets, and restaurants should also be aware of this type of information.

Mapa de Zonas de Encuesta a Productores "Estudio de Producción y Comercialización de Carne de Cerdo en Honduras"



-  *Cuerpos de Agua*
-  *Zona 1 (Francisco Morazán, El Paraíso, Choluteca)*
-  *Zona 2 (Olancho)*
-  *Zona 3 (Comayagua, La Paz, Yoro)*
-  *Zona 4 (Cortés, Santa Bárbara)*
-  *Zona 5 (Atlántida y Yoro)*
-  *Departamentos no incluidos en el estudio*

