

MEETING REPORT

2nd stakeholder meeting to discuss the design of a climate proof fish and seafood buying station

PO Number: 351927



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DESCRIPTION OF THE ACTIVITY

Title: 2nd stakeholder meeting to discuss the design of a climate proof fish and seafood buying station

Objective: Discuss and agree on the layout and services to be incorporated to the seafood station.

Date: 4 October, 2022 (Virtual meeting via zoom)

Countries: Bahamas, Barbados, Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Panama, Dominican Rep., St Vincent & The Grenadines, Venezuela

Participants: The meeting was attended by 32 participants, of whom 19 came from national governments and regional organizations, 6 fishers, 4 from industry, 2 independents and 1 from academia. The participation included two former Directors of Fisheries and the former Director of OSPESCA.

Language: English/Spanish

Interpreter: Milka Rubio (Chile)

SUMMARY OF DISCUSSION

OPENING REMARKS

Graciela Pereira – Executive Director – INFOPESCA

Ms. Pereira welcomed stakeholders from the Central American and Caribbean region, and thanked them for their participation to discuss the design of the climate proof fish and seafood buying station.

Raymon van Anrooy – FAO Senior Fisheries Officer – Counterpart in the project

Mr. Van Anrooy recalled that some three years ago, FAO developed a technical cooperation project in the Bahamas together with the Department of Marine Resources. The project intended to provide assistance to the fishing sector to rehabilitate it after the passage of hurricane Dorian. The project was very successful in terms of providing condos for lobster catchers. The project also provided fishing gears that were distributed to those affected by the hurricane.

In addition, it was discussed and agreed that the fishing infrastructure could benefit from other improvements in order to deal with future hurricanes and other problems associated with these impacts.

As a result, FAO began developing a climate proof fish and seafood buying station, but the project was unable to move forward due to time and funding constraints. FAO was able to find additional resources to continue the project at the end of 2021. We thank INFOPESCA and the involved staff for the efforts made so far in the design of the climate proof fish buying station and look forward to the suitable preparation of a design that can be used throughout the Latin American and Caribbean region.

Helga Josupeit – Senior Advisor - INFOPESCA

Ms. Josupeit presented the objectives of the meeting and programme. She highlighted that the main scope was to present the present lay-out and discuss improvements. This stakeholder meeting was the second of its type, to include comments and observation in the design of a pilot fish landing centre. The process will be finalized through a FAO Technical Paper.

PRESENTATION 1: DELIVERY AND RECEPTION OF FISH

Jo Scortino - Civil engineer - Consultant

Mr. Scortino declared that the climate proof fish and seafood buying station would not perform miracles; however, that its main function is to produce

goods that are attractive to buyers. The buyer's first impression of the fish on display takes place at the viewing and will impact the prices tendered when the buying starts.

The basic handling equipment is the HDPE fish box (High density poly ethylene – very tough plastic). The nestable fish boxes ensure that the fish is not bruised or squashed during the handling. The boxes also allow to maintain fish moist when covered with ice ensuring that the product is delivered to the buying station in an optimal state of conservation.

Weaved baskets, laundry baskets, vegetable crates and wash basins squash and bruise valuable species and let the ice water drain away, rendering the fish dry and therefore are not suitable for transporting fishery products. Thus, every effort should be made to switch to the appropriate fish boxes starting on board the vessels or boats., Packing the fish at the quay when the boats arrive should be avoided. Good housekeeping starts onboard of the vessel. The same practices needed to continue in the fish hold, at arrival at the port, during the transfer to trucks and the transport and discharge at the fish buying station. The correct use of boxes avoids double handling. Sorting and packing at the jetty should be avoided. As the double handling might lead to increase the temperature of the fish and, in addition, it is not always carried out under hygienic conditions.

The boxes are handed to the fish buying station through a hatch in such a way that the sterile receiving room is not soiled. The receiver on the inside takes the fisher's box, weighs the fish box, places the fish inside a station fish box (already rinsed and sterilised) and hands the fisher's box back from the adjacent hatch together with a weight chit which may be encashed at the office. The fisher's boxes are cleaned outside the station at an apposite washing place.

The incoming fish boxes should be weighed on electronic scales that can issue a weight chit (for the fishers) and automatically transfer the data directly to the office computer to compile the station's statistics. Following the weighing, the fish needs rinsing (with cool fresh or seawater) and is sent through the conveyor belt to the main packing area for icing and display or storage.

The station's fish boxes depend on the method of sale. In some countries, Styrofoam boxes are used for onward travel, especially air travel, as they are light. However, Styrofoam boxes are single use and may create environmental problems if abandoned after use. Therefore, in general, and especially for fish, HDPE boxes should be used. The exception will be live lobster, which need to be packed, with freezing pads, into Styrofoam boxes, for dispatch, mainly to airplanes or restaurants. In the case of lobster, these boxes can be used several times before becoming unusable, while in terms of fish, this smell is produced quickly; therefore they are only one time useable.

In other countries, in the fish sales area, middlemen turn up with their own HDPE boxes and transfer the fish therein before leaving the station. The middlemen buy a number of HDPE boxes from the very station, which they

keep in their trucks, so when they arrive at the station to collect the fish, they change their container, and then the station is responsible for washing, sterilizing and storing them for the next purchase. This is the best option, especially for those buyers who arrive with a small car, van or small truck. They do not have the ability to sterilize them by themselves. It also depends on national regulations.

Styrofoam boxes must be properly sterilized because the bacteria will adhere to them and can penetrate; after two or three times they will start to produce an unpleasant odour and once that happens the boxes need replacing. Sony in Japan has recently developed a recycling method for Styrofoam containers¹.

Costs of HDPE have come down recently and now they are not high. In some countries there is an obligation to use them when exporting products by air. They also have to have a lid and be the type of container allowed on board of aircrafts. In that case, it will probably be a bit more expensive, not only in terms of the cost of the box itself, but also in terms of storage. There are seafood stations with a large stock of HDPE boxes, which are bought in bulk. The design also foresees a large storage area for HDPE boxes.

One comment from the stakeholders indicated that the size of the boxes must take into account the design of the vessels to optimize space on board, to maintain safety and quality. One other participant observed that an important detail in Jo's presentation was the three different types of box suitable for fish (10 kilos, 20 kilos and 50 kilos), where the smaller box was more suitable for small fish, and the 50-kilo box is more suitable for more resistant fish. A third comment from the floor indicated that the design of the boxes must consider the conditions of each country and that studies on the costs need to be carried out. It depends on cultural and traditional issues that exist in each country. In some countries customers do not want to buy fish where ice is used in boxes.

The boxes are standard, are the same used in all parts of the world, they have rounded ends and it is not that they drain the water, but rather that it keeps it moist. They also prevent them from being crushed. These are the basic functions of this type of container. If many sardines are caught and we want to prevent them from being crushed, a small box is used. On the other hand, swordfish it is not stored in a box but on a pallet. For example, you can see this on the Japanese markets website, in the case of tuna, which is placed on a pallet. It is necessary to avoid pressing a large amount of product into a box, and it has to be handled in such a way as to not

¹**A High-Performance Recycling Solution for Polystyrene Achieved by the Synthesis of Renewable Poly(thioether) Networks Derived from d-Limonene.**

[Keith Hearon](#), [Landon D. Nash](#), [Jennifer N. Rodriguez](#), [Alexander T. Lonnecker](#), [Dr. Jeffery E. Raymond](#), [Dr. Thomas S. Wilson](#), [Prof. Karen L. Wooley](#), and [Prof. Duncan J. Maitland](#)

The novel process that enables the simultaneous densification, purification, and reclamation of food or beverage-contaminated EPS waste.

damage it. Therefore, vessel owners have to study the best way to deliver their product to the seafood station in good condition, and not worry or focus on the design of the box.

PRESENTATION 2: FISH TRADERS PRESENCE AT FISH BUYING STATION

Ruggero Urbani – Consultant - INFOPECA

Mr Urbani noted that fish buying stations make the sale more competitive, in many places an auction system exists, that increase transparency of sales. In addition, the type of station in discussion has beneficial effects on the quality of the product due to the evident hygienic improvements. The existence of a fish buying station makes controls by the Competent Authority more efficient and cost effective. In addition, the existence of the station gives the opportunity to carry out statistical surveys and record the trend of catches and sales, and their seasonality. On top of all, traceability and labeling system can be improved through clear recording systems at the fish buying station. This helps also to combat IUU fishing. The fish buying station could even become a registered fish plant for export to the EU.

Good lighting and weather protection can significantly improve quality and added value at same time, and make life easier for the middlemen and fish buyers. The visibility of the sale concentrated in a physical place increases the attractiveness of the fishing in charge of the buying station. The better utilization of the products (reduction of fish waste) is very important, also through effective supply of ice to fishers and traders.

The seafood station can become a center of capacity building for fishers and traders alike. The competent authority can explain some regulations, legislation and other useful things for the life of the fishing community. Trainings may be organized before or after fishing operations to, for example, update fishermen on traceability and labeling. The existence of the station is also an opportunity to bring together all the stakeholders in the seafood station. It is an occasion to reduce tensions and conflicts between fishers and traders. In this way, the seafood station can create an atmosphere in order to improve and contribute to this type of work.

PRESENTATION 3: HACCP PLAN LIVE LOBSTER

Daniel Gilardoni – Technical Advisor - INFOPECA

Mr. Gilardoni underlined that the building, facilities, utensils, water, and ice used to receive, hold, process, and ship live lobsters must be constructed and maintained in a way that minimizes potential product contamination. For this purpose, procedures must be implemented which include cleaning,

hygiene, pest control. These procedures should be included in the Sanitation Standard Operating Procedures and Good Handling Practices. Taking into account the origin of the lobsters (wild catch) and that they will not be fed during their storage, handling and transport, there is no danger that they will be administered drugs or medications per se or in the food.

A HACCP plan like this is quite simple. It can be applied easily, including training of the personnel. Keeping certain records and making certain checklists favors working in order and with routines, following all the steps. Having a HACCP plan like this one leads to generating a whole routine that facilitates work. It may not be required and in many countries, it is not required for domestic markets.

One comment from the floor was that it was important to build the facility with the food safety standard for the expected market, as there are many. USA and EU standards are different and some retailers, such as Costco, require even higher food safety standards.

Another participant of the meeting commented that there are countries that require compliance with the Aquatic Animal Health Code of the World Organization for Animal Health regarding crustacean diseases.

Another participant highlighted that in a meeting in Central America it was agreed that countries are paying little attention to processing and handling of fish and seafood, focusing all on how to manage the extractive part and jump towards commercialization. It is opportune to address this issue with a focus not only on exports, but also on domestic consumption. It is important that despite the level and progress of each seafood station, especially small and medium producers, they can have access to these new changes that allow them to better manage their fishery products. Central America has had experiences with seafood station with international cooperation and some have given very good results. Others for some reason have not had the expected success, but nobody doubts that the handling of fishery products is a key point as part of the chain for a good consumption of these products. It is important to train the technicians, but also the producers themselves, and the processors who are in need of this type of knowledge.

Jo Scortino replying to a question from the floor on how the stations will respond to climate change underlined that often the location of the stations was not ideal and they were either very close to the water or not high enough above the water level or were located in the wrong direction of the surface water drainage. The first priority is to choose the location well; this means not too close to the water or in a valley. In some instances there were issues of the structure itself. Most of the stations were built using the traditional method, using bricks, without supporting infrastructure. The roofs were designed for a moderate climate. The wind tends to lift roof tiles. That also needs to change. The materials were chosen in times when the

climate did not affect as strongly as today. Today we see that the weather is more severe and all this has to be considered.

One participant asked whether a HACCP plan was possible in a situation where lobsters are stored in artisanal tanks near the seashore and where buyers once a week collect the product. Mr. Gilardoni indicated that written procedures for good manufacturing and sanitation practices needs to be formulated. It is very important to ensure that the lobster are maintained in good conditions and do not get sick. A HACCP plan can be implemented but it is best to start with good practices and sanitation.

PRESENTATION 4: LAYOUT OF SEAFOOD BUYING STATION

Helga Josupeit – Senior Advisor - INFOPECA

Ms. Josupeit presented the layout, flow of products and bill of quantity to participants. She showed the product flow in the fish landing centre, which is linear, entering at one end of the building and leaving at the opposite end. The prices shown in the bill of quantity were prices for the Caribbean, therefore higher than what could be expected for Central America. The station is not designed for any specific fisheries, such artisanal or industrial.

Mr. Sciortino underlined that it is very important that the drainage on the floor does not mix with the waste from the bathrooms. There is the need for a tank that specifically collects the fluids from the fish and that can be cleaned. Water has to be drained by sewers if it is freshwater, and if it is seawater has to go back to the sea. Mr. Gilardoni indicated that it was important to add a shower in the bathrooms. Some food safety standards require showers. Many retailer audits are now requiring "social audits" as well and they require showers. Mr. Sciortino indicated that shower heads may be installed in the toilets themselves.

FINAL COMMENTS FROM STAKEHOLDERS

Thelma Quintero (Panama): I work at the Research and Development Resources Authority. We, as the governing entity in the Fisheries and Aquaculture part, have a direction for the promotion part, where we see all these issues related to the seafood stations, the association with fishers, so this information is extremely valuable, in order to obtain an example of a prototype that could be implemented in our country.

Arcadio Castillo (Panama): I represent the alliance of indigenous fishermen of Central America; I am from the indigenous region of Guna Yala located in the Panamanian Caribbean. We have our rudimentary seafood station in Guna Yala; however, the Panamanian authorities in charge of doing this work are not very interested. Thank you for the knowledge shared and I hope to adapt it to the vision of our people.

Ruggero Urbani (INFOPECSA): This station could have a big maintenance problem over time. There is no owner who has a specific interest in the management of this station. With local differences, from country to country, we have to consider that the construction materials have to be the best and as simple as possible. In maintenance, it is sometimes difficult to keep the level of structural hygiene over time. It is fundamental to have one person or one entity of the cooperative or of the fishing company in charge of the management and maintenance for this seafood station.

Rolando Ramírez (Costa Rica): I worked for more than 30 years in several government institutions in the fishing area and I was also closely linked to marketing, good practices, management and traceability. It is very important for a project of this type to consider the idiosyncrasy of the fishermen and their customs. It seems that the project should also consider sociological aspects of traditions in order to be able to better promote it and have greater acceptance.

Julián Suazo (Honduras): Honduras is interested in a type of seafood station, because we had a fish market with the support of a Spanish agency, but it never worked. There are stations in the country, even clandestine or without any regulation; mostly for fishery products, such as sea cucumber. With regard to the Queen conch, as it is a species regulated by the CITES Commission, the traceability parameters have been improving, but we also request support with a type of project such as a seafood station.

Emilia Araujo (Venezuela): I belong to the Ministry of Fisheries and Agriculture in Venezuela. Here, plants and stations brought from Spain have been implemented with a structure similar to the one presented. However, we could implement some structural components that have been presented in this workshop.

Rubén López (Guatemala): I think the design of the seafood station is very good. In Guatemala we have had some bad experiences in the construction of them. Sometimes they have been completely abandoned by the fishers, because they can no longer support them. This happens on both coasts, the Pacific and the Atlantic. Every project seems excellent to me, but work should be done on the social part of the fishers and see if they are going to commit to being able to maintain these stations. If not, they are abandoned.

Jo Sciortino (INFOPECSA): Regarding the management of these centers. I have worked in Asia and these centers are managed on the basis of a partnership between the middlemen and the fishers, who reach an agreement to bring the fish to the center. It is in the form of a concession that is granted to the association (also known as a PPP agreement), which is responsible for managing the facility. Management staff must be trained in HACCP and the people who work there also require handling training. It

may be necessary to hire more people, but the seafood station should not be managed by the fishers themselves. This must be clarified since knowledge about economics, and how to manage a business is required. Therefore, it requires professional administration. Cases where fishermen shun the center occur because a formal professional organization was not established at the time of delivery.

Brad Gentner (Grenada): I work for a private company, we are unique in that we operate as an NGO, but there is a hybrid relationship. I think it can be led by fishing organizations. We have an arrangement where we are the owners for a period of time until the investment pays off, and then we have low level investments. We are currently operating a project, we are relatively new, and we have realized that we have to develop capacities. We do this on the ground, sharing our knowledge and skills and transferring those skills to local fishermen's cooperatives. We do this as Jo described, we develop relationships with fishermen's cooperative, we enter or do business with them as co-owners of a center, which can be government owned, as it is in Grenada, where we are currently operating, or it can be a private facility, where we can operate in a more mobile way.

We have worked in all parts of the world and we have seen wonderful stations, whether they are private or built by government agencies, and they all have this problem regarding management. My view is that if you can't develop added value to your product and can't increase that margin in some way to be able to cover the maintenance of the installation, as these are low margin industries, they will have the same result that we see today. There are many centers in the region that were once of a high level in the 90s and that invested nothing in maintenance. Therefore, if they do not receive subsidies or cannot derive added value along the chain for maintenance, the result will be the same.

When designing these centers we have to think about how they are going to increase value and how they are going to plan for management. It is very difficult to encourage fishermen to change their way of operating from a truck to a facility, where there is data and machines and administrative data that we need, unless they add value to the process. Otherwise, there is no change a fisherman is going to accept that doesn't make sense financially for them. That is my opinion and it is our operating model. It is important to find additional value that can be applied to keep these facilities running. And this means being able to increase the capacity of the fishermen so that they can run their own businesses.

Helga Josupeit (INFOPECSA): There must be adequate administration of the plant and, of course, have officials who are trained. It takes at least five people to keep the plant running and management, as everyone has said, is very important. Always keep in mind that maintenance is something permanent. It is important to have the commitment of the fishermen.

Mario Aguilar (Mexico): We have heard and we know that sometimes implementation, persuasion, financing and all these tools are a particular challenge. Is there any study of the experiences of how all these tools have been implemented, which obviously produce a benefit for fishermen? It would be very interesting to know experiences of how the challenges to implement this have been overcome, and I insist, from financing to persuasion, going through the other technical issues. A study would be very helpful. The topic of this workshop is very important and goes far beyond the mere health issue and conversation. It has to do with sustainability and even with the welfare of fishermen.

Jo Sciortino (INFOPECA): The project could be a corporation, a PPP (Public Private Partnership), a hybrid between the private sector and the public sector, an association. The important thing is that there is a backbone, someone who is in charge of the organization. In that sense, they would be in the right direction. What would not be correct is to hand over the center to people who have never handled the complexities of a seafood station under the current requirements, taking into account competitiveness, hygiene, quality control, export controls. We have to consider all these elements. You can start with an NGO. The World Bank strongly encourages these partnerships as long as the facility is owned by the government. In this case, there may be an agreement or contract with the private sector and the fishermen. This is the direction it's taking; government ownership with a private investor running the facility under a concessional agreement.

Brad Gentner (Grenada): What we do is automate everything. It was previously mentioned that traceability is necessary, as well as controlling illegal fishing from the inventory, etc. We manage all through a software that can be monitored remotely and then we hand these products over to the owners and we can monitor all the inventories, the yields and that's how we generate additional income through the use of technology, through the use of the highest food standards and ecolabels. We do it directly. We use all these elements to be able to add value, to maintain it and monitor it as we make the transition.

WAY FORWARD

Helga Josupeit:

INFOPECA will prepare a project design for the development of the seafood station in the form of an FAO Fisheries and Aquaculture Technical paper. Another meeting like this is not planned, but there are issues that have come up, such as economic and social issues, and especially because there is great interest in artisanal fisheries. We could consider a final event to address the issues that arose from the discussion of why these stations have not worked.

ANNEXES

AGENDA

Time	Topic	Presenter
10:00-10:15 AST	Opening remarks	Graciela Pereira Raymon van Anrooy
10:15-10:30	Presentation of participants	Rodrigo Misa
10:30-10:40	Objectives of meeting	Helga Josupeit
10:40-11:00	Delivery and reception of fish	Jo Sciortino
11:00-11:30	Technical Aspects of Fish Buying Station	Ruggero Urbani
11:30-12:00	HACCP Plan Live Lobster	Daniel Gilardoni
12:00-12:30	Presentation of layout of seafood buying station	Helga Josupeit
12:30-12:45	Comments from Stakeholders	

LIST OF PARTICIPANTS

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BRIEF CV OF SPEAKERS

Jo Sciortino	Helga Josupeit	Daniel Gilardoni	Ruggero Urbani
<p>Civil engineer</p> <p>Involved in coastal tourism projects such as yacht marinas, diving infrastructure and marine parks infrastructure for both government entities and the private sector.</p> <p>Considerable experience in dredging, port structures and fish handling infrastructure</p> <p>Master planning for the sector, outline designs, marine environmental impact studies coordination, final design as well as construction management and supervision.</p> <p>Experience includes re-engineering of fishing ports into multilateral user ports in areas of overfishing and their integration into the national tourism infrastructure, including alternative livelihoods for de-commissioned fishing vessels.</p>	<p>Master's degree in Mathematics, Economics and Statistics.</p> <p>Worked as a Senior Fisheries Officer in the Fisheries Policy and Development Branch at FAO, with a specific emphasis on the Latin American Region.</p> <p>Specialized in providing advice, assistance and information to FAO members on policies, strategies, plans and programs for the sustainable development of fisheries and aquaculture and for the preparation of relevant socio-economic analyses.</p> <p>Experience in Value Chain Analysis, Trade Policy, and advising member countries on global fish trade issues and Global Market Data Analysis.</p>	<p>Dr in veterinary medicine and technology.</p> <p>Former professor at the Fisheries Research Institute of the Veterinary School of Uruguay.</p> <p>Worked for the Uruguayan fishing industry as Plant Manager, Production Manager and Technical Advisor.</p> <p>Coordinator of two important FAO projects with the Uruguayan government</p> <p>Former general director of the National Directorate of Aquatic Resources (DINARA) of Uruguay</p> <p>Former responsible for the Technical Secretariat of the Mixed Technical Commission of the Maritime Front (CTMFM).</p>	<p>PhD. Food Inspection and legislation of foodstuff of Animal Origin</p> <p>Master in Sanitary Management Master's degree in Veterinary Medicine</p> <p>Italian Ministry of Health Officer- Quality Control and monitoring of companies selling and distributing seafood.</p> <p>Responsible for authorizing, checking and verifying that buildings and facilities for the storing and processing of all kinds of foodstuffs of animal origin adhere to European Hygiene legislation, in order to confirm and issues the relevant sanitary authorizations and licences.</p> <p>Supervision of application of the HACCP (Hazard Analysis and Critical Control Point) and GMPs (Good Manufacturing Practices).</p>