

Production and Trade of Cambira Fish in Brazil

¹Adilson Anacleto, ²Alesandra Sopelsa, ³Greicy Ellen Lopes de Brito, ⁴Sebastião Cavalcanti Neto

¹Administration Department, Associate Professor, Paranaguá Campus/Professor from the Interdisciplinary Postgraduate Program - Society and Development – PPGSeD, Campo Mourão Campus, State University of Paraná, Paraná, Brazil.

^{2,3}Administration Department, Scientific Initiation Researcher, State University of Paraná, Paranaguá, Paraná, Brazil.

⁴Administration Department, Associate Professor, Paranaguá Campus

Correspondence Author: Adilson Anacleto, State University of Paraná, Paranaguá, Paraná, Brazil.

E-mail: adilson.anacleto@unespar.edu.br

Received date: 28 January 2019, **Accepted date:** 13 March 2018, **Online date:** 28 March 2019

Copyright: © 2019 Adilson Anacleto *et al.*, This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

Fishing on the Brazilian coast has been practiced for centuries. In Paraná Coast since the colonial period the technique of fish conservation denominated cambira was adopted, which consists in salting, drying and smoking the fish, technique that was passed from generation to generation until the nowadays. However, in the last decades the production and commerce of cambira has been reduced. Considering the importance of this activity for the cities in Paraná Coast and aiming to understand the reasons that led to the reduction of the production and trade of this delicacy, this study aimed to elaborate, in the perception of the producers, an overview regarding the production and trade of cambira evidencing the implications and socio-economic potential in the regional context. For this, an exploratory and descriptive research was carried out and, between July and November of 2018, it was accomplished face-to-face interviews with five cambira producers considered specialists in the activity. The study found that the producers were in average 62 years old, married, they practiced small-scale artisanal fishing, mostly incomplete elementary school (n = 80%) and produced the cambira for 30 years. The main species of fish used in the manufacture were mullet (*Mugil brasiliensis*), catfish (*Bagre marinus*), anchovy (*Pomatomus saltator*), mackerel (*Scomberomorus cavala*) and parati (*Mugil curema*). The main potentialities observed in the interviewees' perception were the alternative of family income obtained with this food production and trade, fish durability and the fact that the cambira is a typical and tasty dish from Paraná Coast, influencing even the regional tourism. The main implications observed were the decrease in family income with the low demand by the tourists for the delicacy, the difficulty of the producers in accessing the fairs for direct trade with the consumer and the lack of public power incentive in divulging the cambira in the regional events. It seems that the limiting factors could be mitigated as the entrepreneurial capacity of the families involved in the production and trade of cambira was strengthened, at the same time the collective organization should be raised, increasing the bargaining power with the public agencies, thus facilitating the opening of new marketing opportunities in fairs and events in Paraná Coast.

Key words: Fishermen association. Seafood. Fish trade. Micro industry. Handmade processing.

INTRODUCTION

Fish is considered a relevant food since its inception, especially because it has high nutritional value, being rich in proteins and several nutrients such as calcium, potassium, selenium, iron, iodine, vitamins A, D and B complex, besides having considerable amount of omega-3. Fishing activity is the source of income and financial support for thousands of families in several countries. The United Nations Organization for Food and Agriculture (Fao, 2010) estimates that the world population employed in the fishing activity is close to 36 million people, from this, 15 million are engaged in fishing as an exclusive activity, 13 million as a complementary activity and 8 million on an occasional basis (Cgee, 2007).

In Paraná Coast the sea fishing is performed in the coast and bays of the Atlantic Ocean in the cities of Guaraqueçaba, Matinhos, Paranaguá, Guaratuba and Pontal do Paraná. Fishing in this region has great socioeconomic importance, being the base of income generation of approximately 5.7 thousand fishermen (Kowalski, 2018). There are in Paraná Coast, according to Pinheiro et al. (2010), about 60 rural or urban fishing villages, in the interior of the bay and on the oceanic fronts, and some of them are small villages that exclusively live from the fishing activity and are accessible only by water.

Fish is classified as a highly perishable food because it has a short time between capture and consumption. If there is a delay between these activities, depending on weather conditions, fish meat begins the process of deterioration (Fao, 2010). The prevention of this problem is the correct form of conservation, with the cooling since the fish capture or being frozen after the expense; but in Paraná Coast, most of the fishermen are classified as artisanal fishermen, who do not always have resources such as refrigerators and freezers, which are able to promote the correct conservation of the fish, giving greater longevity to the meat (Franca, 2019).

Fishing has been present in several periods of history and it is going with the development not only of the sector, but also with the technology. However, even with all the evolution, and although there are currently many suitable conditions and equipment for the correct conservation of the fish, Paraná Coast still has several remote fishing communities and distant from the urban centers, where there is no electricity and the capacity of investment is limited (Pinheiro *et al.*, 2010). In these communities the alternatives of fish conservation are done by salting and smoking of surplus or non-commercialized fish (Silva, Gonçalves, 2015).

Specifically related to Paraná Coast, one of the practices that had great importance in the regional food, as well as in the conservation and greater durability of the fish and that were passed from generation to generation and are present until today, is called cambira (Anacleto *et al.*, 2019).

Cambira can be classified as a form of drying, salting and smoking the traditional fish from several species caught in Paraná Coast. The practice has Azorean origin and Bossi *et al.* (2015) describes that in some regions the processed fish in this way represents two to three days of main food in fishermen families, besides generating income through its commercialization. The name cambira, according to Silva and Gonçalves (2015), comes from the old habit of, after the salting, the fish is hung to dry in the sun on a type of clothesline made from lianas, which name was cambira (*Arrabidaea* sp). Over time, consumers began to refer cambira when they were buying the fish hanging on the lianas.

In the last decades the Paraná Coast has showed a strong reduction in the fishing capacity, especially by the reduction of the number of fishermen, a factor that reflects in the diverse forms of fish trade in a general context, particularly in the production and commerce of cambira (Lucena *et al.*, 2017, Anacleto *et al.*, 2019). Given the importance of this activity for the cities in Paraná Coast, it is urgent that the causes and effects of this issue be understood in depth, paying special attention to the fishermen's own perception of the market decline.

Although similar products such as crab meat, shellfish and oysters show satisfactory growth rates, the cambira shows an inverse trend. In addition, given the few studies that were found on the subject, this field research aimed to elaborate an overview regarding the production and trade of the cambira in Paraná Coast, evidencing its implications and potential in the context of the regional economy.

MATERIALS AND METHODS

A descriptive exploratory research was performed, since this type of study intends to describe the facts and phenomena of a certain observed reality. The study was also classified as a case study (Gil, 2007) due to the small number of producers currently. The research aimed to understand the cambira manufacturing processes, as well as the implications and potential of the commercialization in the fishermen perception who were also producers in Paraná Coast.

The method used for the study was field research, which sought information in the researched region and provoked a deepening of the subject in the interviewees, emphasizing, as proposed by Minayo (2001), a universe of meanings, aspirations, beliefs, values and attitudes, which corresponds to a deeper space of relations, processes and phenomena that cannot be reduced to the variables operationalization in what refers to the production and commerce of cambira.

The study similarly to that proposed by Pinheiro *et al.* (2010), was directed to the cambira producers who were considered specialists in the activity.

The research had as a script an interview containing 18 semi-structured questions. The reason for the study was initially explained to the interviewees, emphasizing their importance in participating as respondents.

Data collection was carried out between July and November 2018, having as population sample two producers in Pontal do Paraná, one in Matinhos, and two in Guaratuba, totaling five interviewees. With the help of these five fishermen of recognized leadership and knowledge of cambira manufacture, similarly to that proposed by Anacleto *et al.* (2019), a cross impact matrix was organized, following the propositions of Anacleto *et al.* (2018), who describe the matrix as the crossing of the implications between them, and later the opportunities between them. The matrix employs percentage values from 0 to 100 for each opinion expressed by the interviewees in a collective way in relation to the other opinions expressed, comparing each item analyzed in the relation of influence practiced and the influence received in the production and trade of cambira; thus, the higher the index, the greater the relevance and attention to be given in order to solve the problem suffered by the producers or the valuation to be given to the opportunities.

The impact matrix generates an index of relevance (importance for development) that can be obtained by the equation:

$$IR = \frac{FA \times FB \times 10}{\sum SF}$$

IR= Relevance Index of the situation evaluated;

FA = Indexes of received influence;

FB = Indexes of practiced influence;

Σ SF= Sum of indexes (FA x FB) of all the questions analyzed.

Still according to Anacleto *et al.* (2018), after the collection of the primary data, an interpretive and descriptive analysis of the contents obtained during the interviews was carried out, using the data triangulation technique between the observation of the researchers and the similar answers obtained from the handmade fishermen who used the fishing in its activities.

RESULTS AND DISCUSSION

The respondents of the interview were in average 62 years old, were married and had mostly incomplete elementary schooling (n = 80%). Despite the age, some interviewees (n = 60%) still practiced artisanal fishing. In the other cases, fishing was practiced by other family members, such as children and grandchildren.

The type of fishing practiced was with canoe, what, according to Anacleto *et al.* (2019), is characterized by the system of "fishing from sun to sun", which means that the fisherman leaves with the first rays of sunrise, arms his fish catching nets and at the end of the day, at sunset, he collects the nets and returns to his residence; or it means that the fishermen throw their nets at sunset and pick them up at dawn of the next day. Similar to that reported by Anacleto *et al.* (2019), fishing was also recorded with the use of sea-bottomed vessels, either on the beach or in the bays.

The most commonly used fish were the mullet (*Mugil brasiliensis*), catfish (*Bagre marinus*), anchovy (*Pomatomus saltator*), mackerel (*Scomberomorus cavala*) and parati (*Mugil curema*), besides the most common shark species in Paraná Coast such as the angel shark (*Squatina argentina*) and hammerhead shark (*Sphyrna spp.*), it is emphasized that "cação" is the name given to the shark by fishermen when they are going to sell this kind of fish.

The average time spent in the cambira production activity among the interviewees was 30 years, except in Pontal do Paraná, where the producers have been working for the last 48 and 55 years respectively. These, when questioned on the history of the cambira, they told the following reports:

The history of the cambira is: formerly, about 40 years ago, the fisherman had no light, no refrigerator, so what did they do? They took the mullet, cleaned it, opened it, and salted it. Then the fish spent a day in the *moira*, then spent more two or three days in the *moira*, then they took it from the *moira* and lay in the sun (Respondent 1).

The second interviewee reported similarly to the first, and added:

Put the cambira in the morning when there is sun, and before nightfall it is necessary to take it to not get wet, pick it up, then in the next day do the same sequence for three or four days it turns yellow. Then put it hung on the clothesline, make the fire, the fire was on the floor, there was no stove, there was nothing, the fire was under the fish, this fire was used to cook the other food which was left in the 'smoker', on the fire. For about four or five days the cambira was ready then it was tied in a plastic bag and it could stand for eight months. Then, when they were ready, they used it to make their food with tomatoes, peppers, onions, garlic like a soup or baked it with the cambira (Respondent 2).

The totality of the interviewees reported that the knowledge of how to produce the cambira was obtained with their ancestors, parents, grandparents and great-grandparents. A smaller proportion of the respondents (n = 60%) reported that nowadays their children or grandchildren dominate the total production process of the cambira.

The production of cambira is relatively simple and is based on rudimentary techniques in which the fish is treated by removing the viscera, salted, placed to dry on a clothesline made with liana and exposed to the sun and the wind.

The cambira production observed in Paraná Coast occurs in two ways: at the northern end of the Coast, where the cambira is also called Paraná cod because in this region the salting and drying process occurs on a larger scale. In the southernmost region, besides the salting and drying, the fish also has a process similar to smoking.

In this place, the fishermen when being questioned about how the cambira was produced, they told the following situation: We kill the fish, we fix (clean) the fish, salt it, but the fish has to be very fresh, if the fish is not fresh, the cambira stinks, and it spoils the sales of the good cambiras. (Respondent 3).

Commonly reported in the literature, the cambira was made from fish that had not been sold and therefore was transformed to take advantage of and give greater durability; however, a significant part of the respondents (n = 60%) reported that fish freshness is a relevant condition for good quality and attractive smell.

The first phase of the cambira production process begins after the arrival of the fishermen on land, when the immediate cleaning of the fish occurs with scaling (removal of scales) and evisceration (removal of the viscera).

In all cases the head is separated from the body and, if the fish is small (between two and three kilograms), it is opened by the belly, removed the spine and opened until it is flattened. However, when the fish is large it is necessary to divide into large steaks, which can vary from one to two kilograms.

After this stage the fish is washed in running water until completely gets free from blood residues. From this point of view, follows the report:

Look, you have to wash right, if the fish gets dirty, if the fish is not cleaned enough, it attracts flies that spoil the cambira, so we have to throw everything away. (Respondent 4).

After washing under running water, the fish will stand for a few minutes until the water is completely drained. Then begins the process of salting the fish.

The interviewees reported that, from experience, they no longer needed to weigh the fish or the salt to make the salting. The amount of salt according to them ranges from 22% to 35% of the weight of the fish cleaned and ready for production of the typical dish.

Respondents use the iodized fine salt in the salting process, reporting that for a good result it is necessary to:

It necessary to spread the salt right, this part is very important, if it is left a piece without salt, it already spoils everything, the cambira is lost and it is necessary to throw away, then it is hung in the sun with the "liana cambira", but if the sun is too strong, better to leave it in the shade because with hot weather and airless the cambira does not dry too much and it is better to eat, if you do everything well, the fish is good to eat for about six months. (Respondent 4).

The process of drying the fish hanging on the clothesline varies according to the weather, which can go from two to four days or a little more. According to the interviewees, small fish such as "tainhota" and parati, are faster, and shark, a larger fish, lasts more time.

The whole process requires a lot of attention and dedication. The cambira cannot take rain nor strong sun. During the day the fish is dried, and at night it is collected and goes through the process (called by the fishermen) of "smoking". In the first sun rays the cambira leaves the smoking process and goes to the drying again, and so on until it is ready. About the smoking process we received the following report:

The cambira secret is in the smoking process. You gather the fish from the sun at the end of the day and hangs on top of the wood stove where the smoke from the stove goes. People cannot think that this is smoking. The smoke of the stove leaves the fish with different taste then it is not a cambira. To be the true cambira it is necessary to dry it in the sun during the day and be smoked at night in order to keep that color and taste which only cambira has (Answer 5).

According to the interviewees ($p = 100\%$), the smoking process requires attention, because if the wood used is not adequate, it may give a strange smell in the cambira. Wood such as eucalyptus and pinnus with origin from reforestation, and that are abundant in the region, are rejected; the preference is for native trees of the region that do not exhale smell in the smoke, as is the case of cinnamon and cupiúva.

The conservation of fish in the form of cambira occurs by the action of salt that causes a strong dehydrating effect, and by the speed of penetration that protects the fish from deterioration since the beginning of the process. According to Fao (2010), the salt penetration and the water outflow is a typical example of osmosis, in which skin and cell membranes act as semipermeable surfaces. The direction of flow is always from the weak solution to the strong one, until a balance is established between the them, indicating the end of the salting process and the protection of the fish.

After the smoking phase, the fish is packed in transparent plastic bags for commercialization.

The preparation of the dish based on the cambira (Figure 1) is done in the same way since the beginning of the century: with the removal of excess salt from the fish, it is later cooked in an iron pan with seasonings and served with native banana from the region. It pleases the palate of locals and tourists.



Figure 1: Cambira ready for baking, and cambira ready for consumption in Paraná Coast (Photos:Alesandra Sopelsa and Cintia Junges – Gazeta do Povo).

Related to the reduction of the cambira trade, Campos *et al.* (2017) describes as essential that the scenario of the activity be evaluated so that the limitations, implications for the commercial development are known and if the presented opportunities can prospect the activity in the future; in Paraná Coast, however, the respondents reported that the cambira trade has decreased in the last decades and they associate the reduction of the fish to the reduction of cambira demand (Table 1).

Table 1. Implications and potentialities of handmade production and trade in the perception of cambira producers in Paraná Coast.

	Implications (Threats)	IR		Opportunities (strengths)	IR
1	Decrease in family income	30,32	1	Family income alternative	23,89
2	Difficulty of access to fairs for direct trade with the consumer	18,44	2	Cambira Durability	16,63
3	Lack of incentive of the public power in divulging the cambira in regional events	14,21	3	Typical dish from Paraná Coast, very tasty	11,88
4	Low tourist demand	11,92	4	Use the winter production for sales in summer season	10,91
5	Decrease in quantity of fish favors the sale of fresh fish	9,04	5	Big events in the region such as the Festa do Divino in Guaratuba, Festa do Rocio in Paranaguá, and Festa Feira in Morretes.	10,91
6	Low price summer season ends	5,53	6	Gastronomic network in Paraná Coast	8,74
7	Lack of knowledge about the cambira for the	4,48	7	High number of producer fairs that occur weekly in	5,65

	local population (the tradition is getting lost)			the region, what could be a marketing space	
8	Substitute products better known as the cod	2,02	8	Increase in sales due to the summer season	4,89
9	Difficulty in obtaining firewood	2,02	9	Use of family labor	3,94
10	Association of fishermen (fishermen community) does not encourage	2,02	10	Historical cultural food manufactured in the same way for centuries	2,56

The analysis of the scenario reveals that, although all the opportunities are classified as relevant by the producers and traders of cambira, all the implications act in a limiting way to the development of the activity. If the cambira was identified as the solution to the limitations of fish conservation, especially in more remote places in the region, nowadays the new configurations of this economic activity reveal a scenario where the fish catching in the state has been reduced, taking into account the demand for fresh consumption with no need for transformation.

Currently the sale of Cambira is no longer the main source of income for any of the interviewees' families, because according to them the search for the typical dish has diminished, a factor that can be attested according to the reports:

Formerly we sold everything, now we make little cambira, and neither sometimes we do not even sell anyone, because there is not always demand for the product, then we do more for ourselves to eat. But we used to sell a lot. (Respondent 1)

Today I have about 4kg only, but I've sold a lot here, we always sell very cheap. For example, I have a fish in the ice, I defrost it, then I cannot freeze again, what happens, I see that the fish cannot be frozen anymore, I open and I make the cambira, I took advantage of it, I did not throw it away. (Respondent 2)

The cambira trade has always been associated to the search for the consumer, but if it is offered by the producer, the product can have a greater volume of commercialization, according to the reports of the interviewees who said that if they have some units ready in the fish markets, they affirm that they can sell them:

There was not much demand like that, because a lot of people do not know the cambira, only the oldest ones that know this type of fish prepared this way. (Respondent 1)

Everything I do I sell. Few people know, people do not know because the cambira is very old, but everything that I bring and the people buy, they get interested in it and take the product. (Respondent 2)

They were asked whether the low demand for the dish is related to hostility by people in consuming it, the producers said that there is no rejection in the proper sense of the word, but due to lack of knowledge about the delicacy, some people choose not to buy.

In this context, when an activity shows tendency to the decline, Anacleto et al. (2019) says that it is urgent that new proposals can be considered as a way to maximize the income of these families, avoiding the exodus of fishing activity; thus, in addition to the traditionally fish and shrimps fished, the exploitation of culture and traditional forms of regional feeding may be an alternative for survival. Laraia (2001) reaffirms that man is an heir of a long cumulative process, which reflects the knowledge and experience gained by the many generations that preceded it, and that this cultural richness is attractive and interesting as a way of sustaining and maintaining these families in their places of origin.

Thus, the production and trade of cambira could have a commercial orientation directed to the "caičara" culture, where the secular traditions are valued, especially during the summer season. The trade can be benefited from this cultural tourism, but to do so, it is necessary to have an entrepreneurial attitude of those involved with the production and trade of the product.

Paraná Coast has a strong tradition in the exploration of gastronomic tourism. Morretes is considered the Brazilian capital of "Barreado", being the place of the country where the dish is most commercialized. The city is located in the central region of the Paraná Coast. Another example of the exploitation of this possibility of trade and tourism is associated to the cambira, in the regional pole city, called Paranaguá, which annually performs the State Mullet Fair (Festa Estadual da Tainha), where tons of fish are sold directly to the consumers, facilitating the flow of production and improving the income of the families involved.

The commercialization of fish caught in Paraná Coast was modified by the economic and social events that occurred over time. Fishing, as well as its traditions, as reported by Pinheiro et al. (2010), cannot be left out of local development plans; however, managers seem always interested in larger results that lead to higher tax leases, and the pattern associated to small-scale fisheries in Brazil seems to fail. Then, fishing tradition tends to lose its economic viability and to get in collapse with no organized management processes.

Anacleto et al. (2019) emphasizes that the preponderant factor to the development of these fishing communities, similar to those involved in the cambira production and trade, is the low capacity of collective organization, as far as the organization in associations, cooperatives or even in the search for the help of the public power in concessions to this production class. According to the authors, the low efficiency of the class representation institutions linked to the low participation of fishermen in the collective processes in order to search for improvements, result in a scenario where the problems of the class that should receive better treatment do not occur. This results in a cycle of difficulties where the fisherman has the income less than the ideal, because he does not have the conditions to invest in the activity, and because he cannot invest in the activity, he ends up getting the income less than what should be good for him.

The fishermen from Paraná Coast, according to Anacleto et al. (2019), demonstrate a certain passivity in the commercializing, who stay waiting the migratory flow of tourists. The transformation of production in excess of the winter period could be a source of income in the summer season, when customers are in large quantities in the region and fish are missing. It is known that there has been an increase in demand for small-scale artisanal processing products, such as the use of cambira. Although there is an overproduction in the winter period, few fishermen use the craft industry record that has been evident in recent years.

The entrepreneurial characteristics of a group can be derived from the natural condition of community leaders who manifest themselves in various ways, and also by the community interest, such as the need of increasing financial income, autonomy in personal decisions and greater participation in public life, as described by Barroso (2004).

In this context, Anacleto *et al.* (2019) point out that it is essential in the fishing communities Paraná Coast to establish a class organization processes in order to solve the problems of production, commercialization and income of fishermen and farmers families from the region.

The expansion of the collective organization linked to the expansion of the entrepreneurial capacity in the communities where the cambira is produced could generate the development based on the capacity of negotiation with the public power in the support and real incentive to the cambira tradition in Paraná Coast. The expansion of the product commercialization places at regional fairs and events, the creation of a regional identity stamp, and the dissemination of the cambira history and tradition are examples of simple actions that could generate fast results in the recovery of this tradition. On the other hand, these actions can only be performed by the members of community.

From this, in order to the maintain the fishing communities it is necessary to involve them in the management processes of the training, although not all the communities are able to create their own rules. A solution should be pointed out in the development processes based on the fisheries management by the public power. Pinheiro *et al.* (2010) metaphorically describes that it is not a question of giving fish or teaching how to fish, but that the processes of development and maintenance of the tradition and culture of artisanal fishing in Paraná need to be recreated, based on the opinion of the fishermen involved in the process, from subsistence to commercial artisanal fishing. He also suggests that fishermen should be heard on what might be the referrals in this new context where the drastic decline of the stocks and the loss of cultural identity are occurring.

The characteristics understood as necessary for the act of undertaking can be emphasized in the processes of resistance to the difficulties, as well as the desire to provoke the rupture with the situations that generate difficulties, as in the case of the cambira. The characteristics of the entrepreneur, in a general context, must be perseverance, responsibility, dedication, creativity and especially organization (DRUCKER, 2003).

The process of undertaking in the fishing communities, where the capacity of collective organization is weakened, transcends the simple placement and clash against adverse situations. The process of undertaking involves motivation, attitudes, behaviors of change of what is common and in the breaking of paradigms and prejudices; while at the same time seeking to solve the problems, it also provides recognition to these people for their achievements and authority for their decisions and the results from these decisions. The entrepreneurial impulse, besides enabling the development of new ideas and competences, acts in the realization of their own values and dreams.

Entrepreneurship is a process that, according to Drucker (2003), can be developed in all people and in diverse communities, even those where the social situation is more fragile. From the moment that the people can perceive the results of the entrepreneurial action, these people can see the change as positive, so generally, these people do not provoke the change themselves, they are always seeking the changes, they react to the change and exploit it as an opportunity of advancement. Entrepreneurs are eliminating trade and cultural barriers, reducing distances, renewing concepts, and breaking paradigms.

Related to the fishing communities associated to the production and trade of cambira, due to the long time dedicated to the activity, to the cultural issues and the scenario showed, new conceptions and approaches in development should be considered in the fishery management processes, in the stimulus to the entrepreneurship and in the organization of the collectivity.

The change in this scenario, according to Anacleto (2018), involves the investment capacity by the fishermen. However, they are traditionally under-capitalized and need technical and financial assistance. Still according to the author, the fishing communities located in Paraná Coast, here inventoried, have precarious access to the market due to lack of commercial structures, insufficient labor, insufficient productive capital, weak institutions and, generally, weak bargaining power with others actors in the production chain. Thus families, which are mostly socially vulnerable, have difficulty in accessing financing programs due to the lack of technicians who present feasibility projects, the lack of guarantors and guarantees of debt repayment. It is created a cycle of difficulties in which the producing communities are and cannot access the resources of foment in order to improve the production, and, because they cannot access the resources of foment to enforce the production, they remain impoverished.

The social development requires the interlocution between the actors involved. Dialogue is premised on the result of carefully articulated actions in a collaborative way. However, Muraro *et al.* (2015) says that not ever people involved in the production sector (especially socially vulnerable families) are able to organize themselves in order to obtain better prices and reach more specialized markets without external assistance, as well as they do not have the consciousness of their technological limitations in terms of production and trade.

According to Ferreira *et al.* (2011) and Anacleto (2018) describe, the extractivist communities from Paraná Coast, due to the weakened social situation, remain "invisible" to the public power, which does not give the support for necessary changes in the entrepreneurial activities, approaching the ecological and social dimensions and that aim to strengthen the productive chain in all segments, especially small producers.

In this context, Ferreira *et al.* (2011), emphasizes that public institutions have a great responsibility to break with the rationality put on it, proposing, through the dialectic, alternative ways and that should be constructed collectively, reducing, for example, the tensions that exists in the relation between the fishermen in the communities with the external actors.

According to Anacleto (2018), interlocution between actors is an essential condition for the construction of new approaches that aim the regional development in a sustainable way, since it can point to the needs of adjustments, logistic corrections and technological changes that can generate privileged information for fishermen about consumer desires, autonomy in the productive process and reduction of dependence on other trade spheres; resulting, finally, it can strengthen the families and their permanence in their home environment.

The lack of approximation between public authorities and the fishermen with the commercial sectors has been an obstacle to the development of the activity, especially in relation to the beneficiation, conservation and trade processes of production. The joint action organized by the public power by specialized technicians, who consider the effective participation of the fishermen, can generate a set of actions that could promote improvement and could act as facilitators in the development and improvement of the productive chain. Still as described by Anacleto (2018), as important as the credit, land, labor, is access to new markets and technological processes.

Ferreira *et al.* (2011) and Negrelle *et al.* (2014), when discussing the challenges that there are in Paraná Coast, understood as a territorial dilemma, present that the most important challenge of any development policy is the organization of those who are in poverty or those who have less chances to get the opportunities. In this sense, the participation of the communities involved in the discussion of these socioeconomic processes becomes fundamental in the scope of development policies and the proposition of new social structures organized in a collaborative way.

Thus, the collective organization seems to be the main alternative in the search for mitigation of the issues that limit the development of the cambira production and trade as an alternative of income in these fishing communities. Similar to that proposed by Andreoli (2007), it is urgent to carry out new studies, such as to evaluate the feasibility of the use of cambira as an alternative to the development of the tourism. Therefore, it is necessary to consider thought streams that are alternatives and promote dialogues between the communities, the public power and the scientific community, so in a collective way, they can propose and analyze all the factors in order to transform this reality, combining to these concepts broad discussions under the social vision, knowing and respecting the communities' wishes, their knowledge and the limits of sustenance arising from the production and trade of cambira as a cultural delicacy from Paraná Coast.

FINAL CONSIDERATIONS

The study showed that the cambira producers were 62 years old, married, practice in small-scale the artisanal fishing, had incomplete elementary schooling ($n = 80\%$) and had been producing the delicacy for 30 years.

The main species of fish used in the manufacture of cambira were mullet (*Mugil brasiliensis*), catfish (*Bagre marinus*), anchovy (*Pomatomus saltator*), mackerel (*Scomberomorus cavala*) and parati (*Mugil curema*).

The main potentialities observed in the interviewees' perception were the alternative of family income obtained by the production and trade of the dish, the durability of the fish transformed into cambira and the fact that the cambira was a typical dish from Paraná Coast, very tasty and that can be explored by tourism.

The main implications observed were the decrease in the income of families with the low demand of tourists, the difficulty of producers in accessing the fairs for direct trade and the lack of public power incentive in order to divulge the cambira in the regional events.

It seems that the limiting factors could be mitigated as the entrepreneurial capacity of the families involved in the production and trade of cambira were strengthened, while at the same time the growth of the collective organization increases the power of bargaining with the public agencies, thus facilitating the opening of new marketing fronts in fairs and regional events in Paraná Coast, as well as wide dissemination of this typical regional product.

REFERENCES

- Anacleto, A. 2018. Cadeia produtiva da pesca de siri com gaiolas no litoral paranaense: características, implicações sociais, ecológicas e perspectivas econômicas. In: Sulzbach, Mayra Taiza; Archanjo, Daniela Resende; Quadros, Juliana. (Org.). Litoral do Paraná: Território e Perspectivas. Volume III: Dimensões de desenvolvimento. 1ed. Rio de Janeiro: Autografia, 2018, v. III, p. 178-207.
- Anacleto, A., Costa, A.M., Lourenco, A.C.P., Pinheiro, D.C. 2018. Ostreiculture in the Extreme Northern Islands of Paraná Coast. *International Journal of Development Research*, 8(1): 19156-19159.
- Anacleto, A., França, M.N., Surian, V.V. 2019. The Traditional Fishing in Parana Coast- Brazil, Implications, potentialities and Socioeconomics Aspects. *International Journal of Advanced Engineering Research and Science*. 6(1):1-6.
- Andreoli, V. M., Anacleto, A., Muraro, D., Anacleto, A.F.M. 2007. As relações entre justiça social e desenvolvimento sustentável em remanescentes de comunidades caiçaras inseridas em ambientes florestais no litoral sul do Estado do Paraná. In: Congresso Internacional de administração, 2007, Ponta Grossa. *Anais do Congresso Internacional de administração*, v. único.
- Barroso, C. 2004. Metas de desenvolvimento do milênio, educação e igualdade de gênero. *Cad. Pesquisa*, 34(12): 573-582.
- Bossi, M.T., Ferreira, A., Limeira, D.M., Preto, A. L. 2015. A pesca do parati: importância socioeconômica e resgate cultural. Instituto Federal catarinense, anais... VI Mostra Científica E Tecnológica p.1-4, Araquari, 2015.
- Campos, A. M., Anacleto, A., Bianca D.N. 2017. Retail trade of fishes in natura in Paraná Coast - Brazil. *Business Management Dynamics*, 6(1): 2-8.
- Cgee. 2007. *Mar e Ambientes Costeiros*. Brasília, DF: Centro de Gestão e Estudos Estratégicos, 114p.
- Drucker, F.P. 2003. *Inovação e Espírito Empreendedor: Prática e Princípios*. Ed. Pioneira Thomson. São Paulo.
- Fao. 2010. *The state of world fisheries and aquaculture*. Food and Agriculture Organization (FAO), Roma, Italia. 197p.
- Ferreira, M.R., Negrelle, R.R.B., Zanatta, R.A.F. 2011. Terra inválida, gente invisível: o caso das comunidades rurais extrativistas do litoral paranaense. In: Frigo, V.D., Abrahão, C.M.S., Quadros, D.A. (Orgs). *Litoral do Paraná: reflexões e interações*. Matinhos: Editora UFPR Litoral. p. 13-38.
- Gil, A. C. 2007. *Como elaborar projetos de pesquisa*. 4. ed. São Paulo: Atlas.

- Junges C. Um prato cheio de história. Especial para Gazeta do Povo. 25.11.2011. Disponível em: <http://www.gazetadopovo.com.br/vidaacidadia/litoral/conteudo.phtml?id=1195917>. Acessado em: 26 de outubro de 2018.
- Kowalski, R.L. 2018. Litoral do Paraná reúne mais de 57 mil pescadores. Disponível em: [https://www.bemparana.com.br/noticia/litoral-do-parana-reune-mais-de-57-mil-pescadores->](https://www.bemparana.com.br/noticia/litoral-do-parana-reune-mais-de-57-mil-pescadores-) Acesso em: 25 de setembro de 2018.
- Laraia, R. B. 2001. Cultura: um conceito antropológico. 14. ed. Rio de Janeiro: Jorge Zahar.
- Lucena, A.C.M., Mendonça, J.T., Muehlmann, L.D., Medeiros, R.P. 2017. Socioeconomia da pesca no litoral do estado do Paraná (Brasil) no período de 2005 a 2015. Desenvolvimento e Meio Ambiente, 41(1): 140-157.
- Minayo, M.C.S. Pesquisa social: teoria, método e criatividade. Petrópolis, RJ: Vozes, 2001.
- Muraro, D., Negrelle, R.R., Cuquel, F.L., Anacleto, A. 2016. Market management: the impact on the development of an ornamental plants supply chain in Curitiba, Brazil. Ciencia e Investigación Agraria, 42(3):453-460.
- Negrelle, R.R.B., Bordignon, S.E., Ferreira, M.R., Sampaio, L.K. 2014. Sphagnum (velvet) wild harvesting and trade: characteristics, social-economic and environmental implications, and perspectives. Ornamental Horticulture, 20(1):53-65.
- Pinheiro, L., Cunha L.P., Andriguetto Filho, J.M., Hanazaki, N. 2010. Pesca de pequena escala e a gestão patrimonial: o caso da pesca da tainha no litoral paranaense. Desenvolvimento e Meio Ambiente, 21(1):143-155.
- Silva G. H., Gonçalves, M. C. 2015. Otimização Turística do Sambaqui do Guaraguaçu, Pontal do Paraná. Anais... IX Fórum Internacional de Turismo do Iguassu, 2015 Foz do Iguacu – Paraná – Brasil 22p.