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Artisanal fishermen contribution for the integrated and sustainable coastal management - application of strategic SWOT analysis

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Abstract

This study evaluates the contribution of artisanal fishermen that live in small-scale fishing communities, for the coastal integrated and sustainable management. Generally, there is almost no dialogue between these professionals of the small-scale fishing, the scientific community, the technical experts, as well as policy-makers related with the coastal areas management. This conjuncture compromises the implementation of integrated and sustainable management plans, for which this study should contribute. The approach was performed as an interdisciplinary exercise, essentially using qualitative methods; it was based on a dialogal methodology, the interview, semi-structured, directed to a panel of privileged informers. The small-scale fishing communities studied have different frameworks and are located in several NUTS II of the Portuguese territory. The Strategic SWOT Analysis was performed to the categories which emerged from the qualitative content analysis of the interviews. The study of the categories "Artisanal fishermen" and "Associativism" allowed their characterization and the establishment of Strategic Recommendations and Strategy Supporting the Political Decision-making related with integrated and sustainable coastal development. When included in feasibility studies, the artisanal fishermen's proposals can permit the implementation and execution of management plans, more efficient and connected to the reality; in the present case, an inclusive perspective to the littoral integrated and sustainable development.

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1. Introduction

The geographical location of Portugal in a transition area for warmer ecosystems - in the southern limit of boreal species, in the western limit of many species with Mediterranean affinities and in the northern limit of subtropical species - explains the high species diversity reported in the fishing landings. So, the fishing gears used by artisanal fishermen are diversified and still largely hand-made. The small-scale fishing practiced by artisanal fishermen, whose catches are destined for direct human consumption, has locally high economic and social importance, through the stability and opportunities of employment that it can create. It uses small-scale vessels with overall length under 12 meters (Afonso-Dias et al., 2007:1), which currently means 90% of the national professional fishing fleet. Similarly to the artisanal fishermen, these vessels have high mean age, which aggravates the security conditions, once they usually operate in more coastal area, up to 6 miles. The small-scale fishing communities where this activity is practiced exist throughout the extensive Portuguese coast, 942 km on the mainland, and more two broad archipelagic zones. Artisanal fishermen have here a unique and important role to play in defining management strategies for these areas. As said an academic interviewed: “it’s with them that we learn because they live on the sea”.

Small-scale fisheries employs more than 90% of the world’s 35 million capture fishers and livelihoods of about 357 million people are directly affected by small-scale fisheries (FAO, 2012:91). In Portugal, precise quantification of the number of artisanal fishermen is difficult due to their mobility between different fishing segments. Overall, there is 48% loss of fishermen registered in the period 1986-2007 (Pinho, 1998:37-41; Viegas, 2012:41). Women are not always recognized by men as fishery workers, although there are fisherwomen, women shipowners and women that prepare the fishing gears.

The present economic crisis has only accentuated some chronic difficulties of the small-scale fishing communities, particularly their isolation, the fishery scarcity and the lack in renovation of professionals in the sector, due being considered a discredited profession. The artisanal fishermen in active still face the traditional difficulty of integration in alternatives activities to the fishing. This circumstance is being further exacerbated by increasing urban pressure that threatens to mischaracterize their typical communities, which have a vast immaterial heritage, both historical and cultural, increasingly threatened by powerful pressures from diverse origins, and that require urgent actions aiming its preservation (Viegas&Tetim, 2012:2). The prospective analysis scenarios constructed for these small-scale fishing communities, based on the principle: “what we’ll have tomorrow depends on the choices of today” (Moniz, 2000: 158), are not very encouraging. Urgent actions are needed in order to provide the fishermen with all conditions which allow them to make the right choices in shaping their future, once the small-scale fishing is an identity that should not be ignored. Above all, is required a deep cultural change to safeguard the most valuable resources in the fisheries sector: the human resources (Jentoft, 1997:91; Moniz, 2000:166).

The implementation of coastal management plans is always very problematic because it involves distinct and often antagonistic interests. That’s why becomes increasingly consensual the need for another attitude that allows a holistic, integrated and sustainable approach, promoting greater participation of key stakeholders in the process. The fishing management model should be transformed and become integrated and sustainable, safeguarding also environmental, social and cultural aspects, and not only the economic one.

On the perspective of an integrated and sustainable development plan for coastal areas that include small-scale fishing communities, was done a characterization of profiles of artisanal fishermen, central actors in these communities. Also was done the assessment of the nature and extent of the vulnerabilities and of the capacities evidenced by the artisanal fishermen, aiming the application of a new analytical methodology which could allow the definition of strategic recommendations, as well as strategies to support decision-making on coastal management. The matrix of the SWOT analysis - acronym for Strengths, Weaknesses, Threats and Opportunities - is considered an essential tool in organizing plans and in defining strategies for decision-making. It’s a prospective and strategic analysis based on the maximum attributed to Sun Tzu (500 B.C.), considered one of the greatest military strategists of all time: “the thought precedes action, strategy is the intelligence in action”. The application of this kind of analysis provides privileged information, one pillar of the strategic thinking: “concentrate in the Strengths, recognize the Weaknesses, catching the Opportunities and protecting themselves from Threats”. This privileged and classified information is considered essential for planning political strategies, in this case, integrated and sustainable coastal

management plans. With this purpose, were used the contributions obtained in semi-structured interviews, directed to a Panel of Privileged Informants, integrating fishermen and other stakeholders related to small-scale fisheries and with the fishing communities under study. All the information of the Privileged Informants Panel suffered a diverse analytical treatment, with emphasis on strategic SWOT analysis, made to categories obtained from the qualitative content analysis. This knowledge allowed the establishment of Strategic Recommendations and Strategy Supporting the Political Decision-making, in the sense of an integrated and sustainable coastal management, and also an inclusive development of the littoral zones.

The implementation of the proposed strategies in this study can promote the preservation of a millennial activity - the small-scale fishing - which has been practiced by artisanal fishermen from immemorial time, living in their small-scale fishing communities, resilient and very traditional, which exist throughout the Portuguese coastline. As pointed out a privileged informant: “is required courage and humanism in public policy for stimulating the fishing communities to take part in the challenges of its modernity. The artisanal fishermen would like to pass on to their children, a dignified profession and a standard of living compatible with the timeliness, without the need to resort to emigration on the long-distance fishing fleet, which weakens them at all levels”.

2. Material and methods

The sampling covered, on the Portuguese mainland, the fishing communities of Vila Praia de Âncora, Praia de Angeiras, Valbom - Rio Douro, Praia da Aguda and Peniche. In the Autonomous Region of Azores, the contributions collected allow an overview of fishing in the archipelago, whose geographical location, on the Mid-Atlantic Ridge Crest, provides privileged conditions in the marine resources exploration, as well as in all the activities related with the sea.

The constitution of a Privileged Informants Panel, hereinafter referred as Panel, has included artisanal fishermen, but also personalities related to the small-scale fisheries and others fisheries segments or associated activities. The interviews addressed to the Panel allowed the collection, recording and analytical treatment of privileged information, which are essential to the characterization of the artisanal fishermen, inserted in their small-scale fishing communities. It was required the use of different methods and techniques, that are highlighted: i) Participant Observation (Costa, 2001:137); ii) Interview (Costa, 2001:132); iii) Qualitative Content Analysis (Vala, 2001:104); iv) Method of the Actors Strategy (Perestrelo, 2000); v) Strategic SWOT Analysis (Lindon et al., 2011:451). The interviews were semi-structured, avoiding the conditioning of respondents and safeguarding their identity. Then were transcribed and subjected to qualitative content analysis in order to classify the information into categories and subcategories, according to the study objectives.

The strategic and prospective SWOT analysis - acronym for Strengths, Weaknesses, Opportunities and Threats - commonly used in business strategic planning, in this work was applied to the classified information, in order to characterize, in an integrated manner, the profile of artisanal fishermen, both in an internal point of view - Strengths and Weaknesses - as in an external point of view - Opportunities and Threats. After that, it was experimented a quantitative exercise applied to the various categories, originated by the application of the SWOT analysis, in order to obtain a graphical representation of the perceptual findings. The results obtained for the categories “Artisanal Fisherman” and “Associativism”, allowed the definition of the guidelines to establish Strategic Recommendations and a listing of Strategies, which help to achieve political aims, namely, governmental plans to an integrated and sustainable coastal management.

3. Results and discussion

The heterogeneous composition of the Panel allowed the collection of diversified information from 58 respondents. As Table 1 shows, the interviewees were exercising 30 different professional occupations, which stand out 18 artisanal fishermen, 2 were polyvalent segment's fishermen, and 3 were fish saleswomen.

About 40% interviewees had higher education degree, in 12 different domains, which are detailed in Table 2. The remaining respondents had school formation corresponding to the Primary and Secondary levels, in some cases frequented without success, which are related to the fisheries professionals.

Table 1. Professional Activity of the Panel Interviewees (n = number of interviewees)

1	Aquaculture company - director (Galicia)	1	Fisheries State Secretary - adviser
1	Architect	1	Harbor (commercial & fishing) - president
15	Artisanal fisherman	1	Local development association - president
2	Artisanal fisherman/ Fishermen Association - President	1	National canned fish association - director
1	Artisanal fisherman/Public worker	1	National humanitarian association - president
1	Businessman/Public institute - administrator (retired)	1	Non-Governmental Organization - director
1	Directorate General Fisheries & Aquaculture - director	2	Parish council - president
1	European Community Maritime Agency - director	1	Politician/Fish auction - president (retired)
1	Fish auction - director (Docapesca)	2	Polivalent fishery fisherman
3	Fish saleswoman	2	Professional fishing union - president
1	Fishermen confraternity (Galicia) - director	2	Public institute (Galicia) - director
1	Fisheries cultural project - coordinator	2	Small-scale fishing researchers (IPMA)
1	Fisheries development project (Galicia) - coordinator	1	Specialist technician in fishing gears (IPMA)
1	Fisheries professional formation (Forpescas) -director	1	Town-hall - vice-president
1	Fisheries professional formation (Forpescas) - teacher	7	University professor (1 USA)

Table 2. Academic Qualifications of the Panel Interviewees (n = number of interviewees)

1	Agronomy	1	Psychology
2	Anthropology	1	Social Assistant
1	Architecture	2	Sociology (Phd)
8	Biology (1 master degree; 2 Phd)	1	Zootechnical Engineering
2	Civil Engineering (1 Phd)	4	Secondary level
1	Economy	6	Secondary level (incomplete)
2	Law degree	17	Primary level / Secondary level
1	Marketing Management (Phd)	8	Primary level

Applying the qualitative content analysis to the Panel interviews, followed by the strategic and prospective SWOT analysis, it was obtained relevant results to “Artisanal Fisherman” and “Associativism”, the categories more related with the objectives of the present study. These findings are following described, in a concise manner.

3.1. SWOT Analysis applied to “Artisanal Fisherman” category

For a better understanding of the actual situation experimented by the artisanal fishermen in the fishing communities under study, was used the SWOT analysis to the category "Artisanal fisherman", what allowed to trace their profile, particularly in relation to Strengths, Weaknesses, Opportunities and Threats, that are synthetically described on next. Based on these findings, is also presented an exercise of its graphical representation.

Strengths

As they like to emphasize, the "addiction of being in sea" because "the artisanal fisherman is born and lives on the sea", can justify his professional resilience and his courage. Almost all artisanal fishermen are self-taught, with a refined “local ecological knowledge” and a cultural force strangely important. Due to their nature bold and

enterprising, are realistic and dreamy, with a keen feeling of life enjoyment. Although being open to changes and new knowledges, they continue the inter-generational dialogue, because the more experienced artisanal fisherman feels obliged to help the younger one. They preserve traditional values such as family, family tradition in fishing and the solidarity spirit. And they prefer working in uncertainty of survival than having a normative relationship with the work, expressing great solidarity when are at sea. Also they show a strong pragmatism, which means they are ready to cooperate only in projects suggesting a practical application. Sometimes are forced to emigrate to work in the Great Fishery; when they return, they manifest a greater resourcefulness on bureaucratic issues, and a financial capacity to invest, especially, in the small-scale fishing. Often the artisanal fisherman expresses environmental concerns, even about the marine resources preservation, considering himself "the safeguarding of stocks", once the sea only lets operating the small-scale fishing during a part of the year.

Weaknesses

The profession of fisherman has no longer been dignified, especially when is practiced in the small-scale fishing. This generates distrust, a great difficulty on conveying their "local ecological knowledge" to the outsiders and, thereby, some difficulty on participate in the political decisions that directly affect them, as the case of the fishing ports. Furthermore, the activity is dependent on a boat, fuel, fishing gears and a crew, which currently involves a high financial investment. Although the artisanal fisherman being able to work 12-14 hours straight, often getting only a tiny income by fishing, the lack of basic training levels prevents his direct reinstatement, even in professions closely related to fishing. On land, sometimes he feeds rivalries with peers, especially of the political-partisan nature, which undermine his aspirations, or can hide joint efforts, including the creation of complements or alternatives to the fishing activities. Also, the low education hinders understanding of the fishing rules imposed by government and bureaucracy in general, expressing distrust and ignorance about the official departments. Simultaneously, he manifests a high resistance to ask for help, mostly when he lives entirely on income that the small-scale fishing generates on the day-to-day.

Opportunities

The solidarity that artisanal fisherman shows when is on the fishing labor should be guided by the fisheries administration to dignify the profession of fisherman, recognizing its social, cultural and economic functions. In his heart, he wants his profession to their children, but a dignified profession; because he wants to live with higher quality and governmental policies should support this possibility. On the level of training, the curiosity for learning in relation to life, manifested whenever he verifies usefulness due to its pragmatic attitudes, is a guarantee of success for well-structured programs, which must integrate "local ecological knowledge", because "the beach", for the fisherman, is a "learning laboratory" par excellence. Their high spirit of initiative can generates phenomena of global expression, as happened with the pioneering use of engines off-board in small-scale vessels, in the fishing community of Praia de Angeiras (Viegas & Martinho, 2008). This initiative capacity should be applied in innovative actions in the field of marketing, through the valorization and the certification of fishing products, reducing dependence on external buyers and ensuring the outflow of the small-scale fishing products. Also the concept of "Fisheries-tourism" can be developed for the fisheries professionals with specific training, using their fishing gears and traditional boats, similarly as is already practice in the Azores archipel. Taking account that artisanal fishermen's families usually are broader than the national average, they record high levels of youth unemployment, which led them now to a redesigning of their participation at the sea work. Within the family, there's yet an element with an indispensable role - the woman - who holds a productive force and persistence that small-scale fishery must recognize and valorize, in order to implement a true integrated and sustainable development.

Threats

The connection that the artisanal fisherman has with death gives him an individualistic character, it's almost a natural matter, and this leads him to feel excluded from the rest of the society. He also recognizes that their profession isn't yet dignified: he works at sea and ashore, he still has difficulty dealing with standardization (schedules, rules), staying on the sidelines of the work's normativity. He isn't generally very much disciplined, mainly because he has low levels of education, and he thinks that needs no more qualifications, which results in a

self-discredit very dangerous. Although there a network of vocational training fishing centers spread across the coastline, the formation isn't pragmatic enough and, therefore, isn't appealing, and gives no guaranties to students to go on working in fishing. The elevated age of in active fisherman prevents his exit from fishing, now-a-days aggravated by the lack of an alternative, and because some of them don't want their children go exercising the same profession. The children also don't want to work on small-scale fishing because they know what fathers has passed or yet pass, especially the deprivation on health when they embark, and so they opt for less risky professions. As a direct consequence of this, is the small investment that the artisanal fisherman does in small-scale fisheries, and targeting only the immediate profit: he doesn't invest in the same way as a young would invest. Even the occupation that he makes in the territory is poor, perennial, tailored to the needs and incomes, which provides no stimulant surroundings. In the large periods of inactivity which small-scale fishing sometimes faces, is ever-present the threat of hunger, especially for the fisherman who is not owner. In these moments he feels helpless and abandoned by the government, although he claims to be too much guarded by fisheries inspection, because often happened being intercepted on consecutive days. They miss opportunities to improve the marketing of their catch because they are conditioned to Docapesca's opening timetables. Docapesca is a company of the governmental sector that is responsible for the provision of public services in the first fish sale in lotas, which doesn't protect the artisanal fisherman of the illegal fishing's sale which is practiced before the lota opening. But they still have a certain reluctance to turn fishing professional associations into business structures. Also noteworthy is a threat that gradually is being remedied but which still endures: the lack of communication between the fishing researchers and the fishermen. The result is the usual contradiction between scientific advices, aiming an orientation/profitability of fishing, and the fishermen's opinions, empirical, based only on what they can see.

Graphical representation

A visual notion of the artisanal fishermen situation in the small-scale fishing communities under study is found in Figure 1, using the graphical representation of the SWOT analysis, applied to the “Artisanal Fisherman” category.

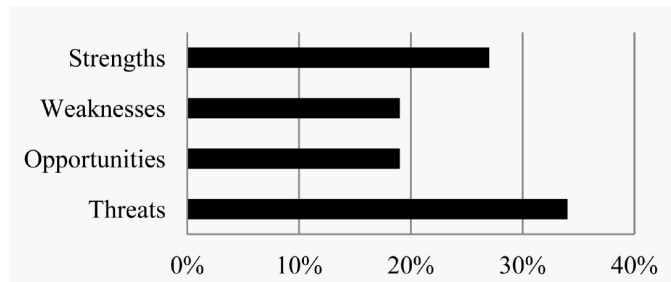


Fig. 1. Graphical representation (%) of SWOT analysis applied to the "Artisanal Fisherman" category.

The findings are preoccupying and shown that the small-scale fisheries is going through a difficult period, once artisanal fishermen, being its pillar, show a predominance of Threats upon the Strengths, and the Opportunities on the same level of the Weaknesses.

3.2. SWOT Analysis applied to the “Associativism” category

After summarized the artisanal fishermen profile, was relevant analyzing the organizational capacity of these professionals, revealed and recorded during the field research. This goal were attempted through the SWOT analysis applied to the “Associativism” category, resulting from the qualitative content analysis to the Panel interviews, which is briefly hereafter discribed as Strengths, Weaknesses, Opportunities and Threats. The findings have also enabled an essay of its graphical representation.

Strengths

In all the small-scale fishing communities studied in this work there are fishing associations and some associations are very successful cases of cooperative experiences. With some surprise, it can be noted that the Autonomous Region of Azores has an original fishing associative movement which is very dynamic. No other Portuguese region has an interconnected network of small-scale fishing associations which can be equivalent to which exists in Azores. All nine islands which form the archipelago have an association, from Santa Maria, the more Eastern island, until Corvo, the more Western island. This island has only 10 fishermen, and its association, Pescadores do Barco de Leste, was the last to be constituted in Açores. Then, there's a Federation of Fishing Associations, whose direction includes the presidents of each association. This interconnection promotes the institutional relations and thus, a better fisheries management.

Weaknesses

The low education level, the lack of ambitious professionals and the deficient information of the artisanal fishermen originate, in some cases, weak leaders that compromise the action of the Fishing Associations. Another serious weakness is the difficulty in forming a consciousness associative autonomous, free and independent.

Opportunities

The existence of small-scale fishing associations, producers organizations, or even delegations, in all fishing communities, creates diverse opportunities yet poorly exploited, as the participation in the disclosure of fishing activities, training professional centers, the possibility to take part in the fish sale or even the fish valorization still on board. Another possibility is the participation of the associations on the recovering of the "Casas dos Pescadores", ancient houses which belonged to the fishermen and that are currently abandoned. In addition to strengthening the associativist spirit, could allow the creation of interpretation centers and environmental education, or even an infrastructure for a collective memory museum. It also could be geared for touristic activities or stimulate other maritime practices, such as marine observation tourism or observation diving.

Threats

In some cases, the small-scale fishing associations have merely a corporative representation function, which can mean some kind of barrier to the development due to its static attitude, evidencing little sensitization to the sustainable development issues. The absence of strategic goals and of specific preparation, can explain the losses of funding opportunities, because often the most dynamic leaders and entrepreneurs are put away due to the envy of the others members. Especially on the mainland, the absence of a Federation of Associations and Producers Organizations, is a major threat to the real possibilities of associativism, because allows Docapesca maintaining the monopoly in the first fish marketing, without satisfying all the producer's needs.

Graphical representation

The graphical representation on the Figure 2 shows the SWOT analysis applied to the "Associativism" category, which helps the understanding of some contradictions found.

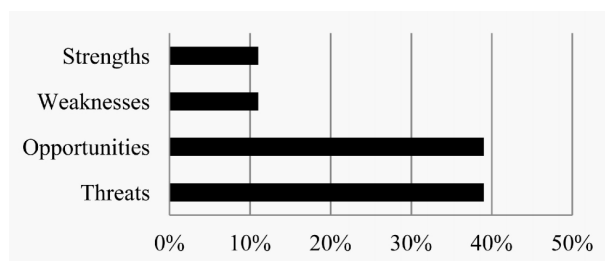


Fig. 2. Graphical representation (%) of SWOT analysis applied to the "Associativism" category.

Stands out the balance checked among the factors of internal analysis - Strengths and Weaknesses - as well as between the factors of external analysis - Opportunities and Threats.

3.3. Strategic Recommendations and Strategy Supporting the Political Decision-making

The SWOT analysis applied to cataloged privileged information, made possible the establishment of Strategic Recommendations, summarized in Table 3.

Table 3. Strategic Recommendations proceeding from SWOT Analysis Application

Public information programs on professional fishing and recreational fishing
Media programme to divulge the history and the tradition of Portuguese Fishing
Dignify the profession of Fisherman
Preparation of the policy-makers for the information treatment from the artisanal fishermen
Governmental administration should help the small-scale fishing associations to capture financial supports
Management of development projects should be locally made
Wide dissemination of projects results by professional associations (eg MARHE Project, launched in 1994)
Vocational fishing training centres should cover whole national territory
Implementation, at national level, of a biological closed season for all commercial fishes species
Studying the recreational and sport fishing because, from the point of view of ecosystems, all cause impacts
Encourage tourism activities linked to the modus vivendi of the small-scale fishing communities
Information and formation about maritime safety to the artisanal fishermen
Development of social technologies that combine traditional knowledge with technical knowledge
Refuse incentives to the activity conversion which not safeguard the preservation of the small-scale fishing
Specialization upstream/downstream of the fisheries (construction/naval repair, commercialization and catering)
Take advantage of the high biodiversity of the catches, to diversify fish consumption and avoid discards
Creation of gastronomic confraternities of the most emblematic marine species of the region
Intervention of Municipalities in public space of fishing communities, to induce attention to particular spaces
Municipalities should realize and disseminate the importance of small-scale fishing communities for the city
Improving fiscalization of all kind of fisheries because it has irregular and deficient action
Fisheries Policy with clearly defined measures to avoid misunderstandings, even of those who must implement
Fisheries fines with detailed information about justification of their application

Also has provided the elements for the organization of Strategy Supporting Political Decision-making on Integrated and Sustainable Coastal Management, summarized in the Table 4.

The inclusion of these Recommendations and Strategies means the possibility of having Integrated and Sustainable Coastal Management Plans, which contemplate artisanal fishermen's contributions and others actors, in the perspective of an inclusive development of the coastal zones.

4. Discussion

This work was supported by a dialogal methodology, the interview, which propitiated the investigation of some particular situations that hardly other method could achieve. It proved to be a simple and very useful method to achieve the objectives of this study. In a sense, it helped to break the usual isolation of the artisanal fishermen and of their small-scale fishing communities. The Panel interviews revealed a considerable variety of sensitivities, very cleared regarding the performance of the artisanal fishermen in the fishing communities under study. Although this wide range of views, on the whole, the responses can be considered convergent, in a perspective of optimistic scenario - renewed system (Moniz, 2000:163). Almost all respondents suggested sustainability strategies to the small-scale fishing communities, only two of them predicted catastrophic scenarios. In particular, the artisanal fishermen took the opportunity, given by the interview, to show a strong desire to overcome the constraints and threats that daily feel, in an intense and genuine form. They always showed great availability to dialogue, as soon as

they began to feel the possibility to be heard, even when they manifested in a hurry, on the early approach. The hesitation that some revealed about the future can be due to a deep-rooted characteristic of the sea worker: “is always the uncertainty, the fisherman can never trace plans for the future, what makes him live prodigally every day” (Soeiro&Lourido, 1999:72).

Table 4. Strategy Supporting Political Decision-making_Integrated Sustainable Coastal Management

Creation of broad partnerships involving i) fisheries' public administration, ii) fisheries researchers and iii) organizations based on artisanal fishermen's communities. This can allow, in real time, test and improve Management Plans.
The fisheries management plans in the small scale fishing communities must be integrated and sustainable, a balanced platform between the components: biological, environmental, socioeconomic and cultural.
Annual Meeting of the Small-scale Fishing, with the participation of the different actors, at national level, on a perspective of small-scale fisheries row.
Formation of Agent of Development to ensure dialogue between all small-scale fishing actors, and also guide the artisanal fishermen and their communities, in development projects.
Construction of updated databases on the statistical component of fishing, including the human resources management, with free access to researchers.
Stimulate participation's routines of artisanal fishermen in scientific research projects, whose results should be widely publicized in public newsletters (monthly/quarterly).

The proposed strategy for the category “Artisanal Fisherman” will be focused on the transformation of Opportunities into Strengths to protect the artisanal fishermen of Threats, as well as reduce or eliminate Weaknesses, facing Threats with enough determination to turn some of them into Opportunities. Thus, the scenario may be optimistic and fishermen may be more confident in their future.

Meanwhile, the Associativism should be a determining factor for the successful participation of artisanal fishermen in the sustainable management of marine bio-resources, in the context of small-scale fishing communities and, consequently, in the integrated and sustainable management of the coastal zone. The SWOT analysis of this category reveals the Threats abreast of Opportunities, when the detected Weaknesses may be considered very difficult to overcome. The findings can be interpreted as contrary to the results obtained in the small-scale fishing communities of the central Amazon (Brasil). Tiago Jacaúna has found there, social groups with a participatory political culture that promote understanding in managing the use of fishing resources, and act communicatively. They organize themselves through social capital and political culture, suggesting a “new” interpretation of “commons”, divergent from the proposed by Hardin (Jacaúna, 2009:15; 17).

The strategy for the category “Associativism” must have, as main target, the Opportunities, turning them into Strengths. It is fundamental combating the characteristic individualism of the portuguese artisanal fishermen, which prevents them from enjoying the benefits of associativism to overcome the Threats which faces the small-scale fishing. Surpassed the individualism, another factor very determinant are the human relationships which must be harmonious, combining efforts and giving success to the strategy: “the one whose ranks are tied in a single purpose, will be victorious” (Sun Tzu, 1998:64).

According to Bicho&Baptista (2006) the strategic orientation tends to get the greatest possible benefit of the Strengths and minimize Weaknesses. They suggest the choice of strategies that lead to the maximization of Opportunities, built on the Strengths, and to minimize the Threats, as well as reduce the effects of Weaknesses. Applying these recommendations to the category “Artisanal Fisherman”, the strategy should be minimizing the effects of Threats to ensure success. Regarding the level of Threats, there reasons for great concern in both categories, but in the category “Associativism”, where equalizes Opportunities, suggests a strategy that promotes the Opportunities development and that could guarantee positive scenarios. According yet to these authors, the SWOT analysis should be, as far as possible, dynamic and permanent. Besides the current analysis situation, it is important to compare it with the situation in the past, its evolution, the expected situation and future developments. The strategic vision consists to correctly evaluate the Threats as hidden Opportunities. Finally, there must be financial resources, material and human, to perform the necessary changes and to react always quickly (Bicho&Baptista, 2006:15-17).

The important contribution that artisanal fishermen can provide to the model definition of coastal management is evident in the “Management of Commons - Polycentric Management of Complex Economic Systems”, a concept

developed by Elinor Ostrom (Ostrom, 2010), Nobel Prize for Economics in 2009, which is based on case studies of fisheries management in fishing communities around the world (Viegas, 2012:181). A similar proposal can be found in the research of Antonio Allut, named “Terminologic System of Representation Knowledge”, based on the systematization of knowledge that the fishermen of Galicia (Spain) acquire about environment: “a type of knowledge, fertile and rich in hues, that can be valuable and effective to other larger cultural communities, such as the scientific, inasmuch as that is connected with the institutions where the fishing policies are drawn” (Allut, 1999:74; Viegas, 2012:173).

5. Conclusions

The dialogue with artisanal fishermen in the fishing communities sampled, covering various conjunctures, revealed the first conclusion: the urgent need to break the segregation of small-scale fishing communities, returning the protagonism to the artisanal fishermen in their territory and respecting their legitimate aspirations for a better future. However, the fragility and chronic dependence that is found in the most fishing communities suggests that artisanal fishermen must be helped by technicians of the Governmental Administration of Fisheries, who may be called “Development Agent” (Viegas, 2007:1496) or, more properly, “Agent for Sustainable Development” (Viegas, 2012:177).

It is considered that the strategic and prospective SWOT analysis could be used with good results by the Fisheries Administration in the coastal management plans. For its matrix is required the gathering of information from reliable basis and complying with a sampling plan that addresses all actors of the territory, by means of interviews or inquiries, in a similar process to what was developed in this study. It could serve to update the present proposals summarized on the Table 3 - Strategic Recommendations, proceeding from SWOT Analysis' Application, and on the Table 4 - Strategy Supporting Political Decision-making on Integrated and Sustainable Coastal Management. As these analyses portray a dynamic and complex reality must be constantly monitored, because lose the actuality as soon as are completed.

Paulo Santos underlines that the success of the sustainable development strategy, advocated also by the European Union, will depend, in a large extent, of the decisions, actions and influence of the public in general (Santos, 2004:90). Also the power of collective action, meanwhile triggered mostly by NGOs, can be decisive in favor of the sustainable small-scale fisheries, through civic movements that multiply and take innovative forms of modernity.

The sustainable use of the seas needs an integrated vision of humans and nature, one objective of this research. The implementation of some actions proposed implies a structural change in the attitude towards the concept of education, and a political practice closer to the citizen, in this case, the artisanal fishermen. They proved to be available to contribute with their wide knowledge for the local integrated and sustainable development plans. A prospective optimistic scenario for small-scale fisheries, and consequently, for artisanal fishermen, depends on the ongoing review of the Common Fisheries Policy, if it aims new guarantees for this segment of the fisheries.

However, it is believed that its high representativeness and cultural tradition, which are its characteristic, are sufficient reasons for small-scale fisheries mobilize the necessary synergies and itself develop sustainably. To make it happen is necessary the strengthening of associativism at a national level, and specially, at the european level. It's surprising and regrettable, the absence of any european organization of artisanal fishermen, or even of small-scale fishing, which could encourage and protect the interests of artisanal fishermen and of the small-scale fishing communities.

Finally, it is awaited with great expectations the publication of a document structuring for small-scale fishing - FAO's International Guidelines on Securing Sustainable Small-scale Fisheries - which will complement the Code of Conduct for Responsible Fisheries (FAO, 1995).

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