



2nd International Symposium "NEW METROPOLITAN PERSPECTIVES" - Strategic planning, spatial planning, economic programs and decision support tools, through the implementation of Horizon/Europe2020. ISTH2020, Reggio Calabria (Italy), 18-20 May 2016

## Integrated Local Development in Coastal Areas: the Case of the “Stretto” Coast FLAG in Southern Italy

Claudio Marcianò<sup>a,\*</sup>, Giuseppa Romeo<sup>a</sup>

<sup>a</sup> Agraria Department, Mediterranean University of Reggio Calabria, Località Feo di Vito, 89124 Reggio Calabria, Italy

---

### Abstract

The importance of fisheries and their central role in creating strong relationships with the territories of some coastal communities has generated a revision process of the Common Fisheries Policy (CFP). With the EC Regulation 1198/2006, a specific axis in the European Fisheries Fund (EFF) has been inserted and, in particular, Article 45 of the EFF describes the promotion of local development through participatory processes, in order to understand better the real needs of an area. The Fishery Local Action Groups (FLAGs) have been introduced as governance systems involving a greater plurality of local actors for the realization of local development plans (LDPs) based on the valorization and diversification of the activities around the fisheries. The present study provides an analysis of the local development process experienced by the “Stretto” Coast FLAG in South Italy. The planning phase has been carried out through an integrated methodology that has facilitated the elaboration of a development strategy built on the basis of local knowledge and shared by the different partnership members. To this purpose, a decision-aid model was used in order to elicit and aggregate, the individual preferences related to priority measures and interventions to be included in the LDP. Later, the paper analyzes the implementation phase which was characterized by various delays and remodulations, that hindered the realization of several interventions initially planned in the LDP.

© 2016 Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of the organizing committee of ISTH2020

**Keywords:** Integrated local development; fisheries governance; decision-aid model; AHP

---

\* Corresponding author. Tel.: +39-0965-169-4254; fax: +39-0965-1694550.

E-mail address: [claudio.marciano@unirc.it](mailto:claudio.marciano@unirc.it)

## 1. Introduction

In the programme 2007-2013 of the UE's Common Fisheries Policy (CFP), Fisheries Local Action Group (FLAGs) have been activated in order to integrate the dimensions of territorial and local development and bottom-up approaches experienced in the Leader programme. In this way, a greater involvement of local actors in the decision making process of defining local development plans (LDPs) was fostered within a more complex and inclusive governance system represented by the socio-economic partnership of the FLAGs. To this purpose, the FLAGs represent the instrument of territorial governance for fishery development, since they involve a greater plurality of local actors coming from public, private and non-profit sphere. As an expression of partnership and, therefore, of collective policy, the FLAGs are deputed to favor and manage the network of different stakeholders, and play a central role for the sustainable development of the fisheries areas in economic, environmental and social terms.

As participation and co-management can ensure a greater effectiveness of the strategies outlined in the context of fisheries governance, they become essential ingredients for the development of fishery communities. According to Symes (2006), in order to achieve an effective system of co-management a wide knowledge base, a proper representation of stakeholders and the involvement of civil society are necessary. Participation plays a major role in the effectiveness of co-management it is important to make greater use of participation (Gray, 2005), as this can increase the level of involvement of both the stakeholders and the local communities in the formulation of development process, and ensure that each of them play an active role within the decision making process. Participation processes allow stakeholders to acquire and to experience their learning capacity in identifying development interventions that fit the effective needs of the territory (Romeo & Marcianò, 2014) and integrate such key elements as territory, partnership and strategy (Budzich-Tabor, 2014).

The inclusion of a high diversity of stakeholders can lead to the definition of development strategies taking into account a wide variety of perspectives, thus enhancing the legitimacy and effectiveness of the decision-making process. However, decision making processes with multiple actors are rather complex; conflicts may arise for different viewpoints, interests or controversies that may occur between actors of different groups (Jentoft & Chuenpagdee, 2009). In the planning phase, these critical issues can slow down the activities and, in case of conflict escalation, they can cause governance failure.

This study analyzes the integrated local development process of the "Stretto" Coast Flag, in Southern Italy. In particular, the planning phase deals with a methodology simplifying the elaboration of a development strategy built on the basis of local knowledge and shared by the different partnership members. In such a context, a decision-aid model based on a multicriteria method was used to support a decision-making process characterized by multiple decision makers and multiple goals (De Montis & Nijkamp, 2006). The decision-aid model is based on the Analytic Hierarchy Process and a convergence process, implemented to quantify individual and collective preferences related to priority measures and interventions to be included in the LDP. Moreover, with respect to a previous study conducted by Marcianò, Romeo, & Cozzupoli (2015), this study analyzes the implementation phase of the Local Development Plan, highlighting the causes of delay and financial modifications that hindered the realization of several interventions originally planned in the LDP. The paper is organized as follows: the next paragraph focuses on the methodological phases of the integrated planning model; the third and fourth ones deal respectively with the results of the planning and implementation phases, while the last paragraph summarizes the discussions.

## 2. The Planning Phase

### 2.1. The Integrated Planning Methodology

The planning phase of the LDP was carried out, by following a methodological approach that can be summarized in three phases: territorial analysis, animation and concertation (Calabrò, De Luca, Gulisano & Marcianò, 2005; Marcianò 2012; Marcianò, Romeo, & Cozzupoli, 2015). These phases are represented in Figure 1.a where actors appear in the first column and activities and results related to each phase in the others.

The first step includes a territorial diagnosis through a knowledge process aimed at pointing out the useful information that can support the definition of a proper development strategy. The phases of the territorial analysis can be distinguished into *general*, *specific* and *finalized* ones, the contents of which depend on the objectives of the

integrated plan. In particular, for this LDP, the *general* analysis included environmental information relating to the examined territory, to its activities and anthropic phenomena. The *specific* analysis explored the territory in order to allow a more detailed knowledge of socio-economic aspects. This analysis highlighted aspects dealing with population density, demographic trends, education level, employment and unemployment status, the agricultural and non-agricultural sectors, in particular tourism, and other experiences of local development carried out in the area. The *finalized* analysis was addressed to the study of the fishery sector, collecting and organizing information on technical and economic aspects on the basis of official data as well as through structured and semi-structured interviews to operators, experts, etc. These activities were synthesized in the SWOT analysis, in order to define the strengths and weaknesses, the opportunities and threats of the selected area (Marciànò, Romeo, & Cozzupoli, 2015).

Contemporaneously, the experts started the activities of territorial animation, through the organization of public meetings addressed to the spread of the contents and opportunities related to the development plan. In this phase, both activities of listening to the territory, in order to detect the requirements and the needs of operators, and activities in search of suitable stakeholders to be involved in the partnership were carried out. This phase was carried out along with the activities of territorial analysis, in order to involve, motivate and stimulate the participation of local actors. Indeed, for the formulation of the development plan, it was necessary to establish a formal socio-economic partnership, which is the governance system responsible of the entire development process, composed by the representatives of local public and private interests.

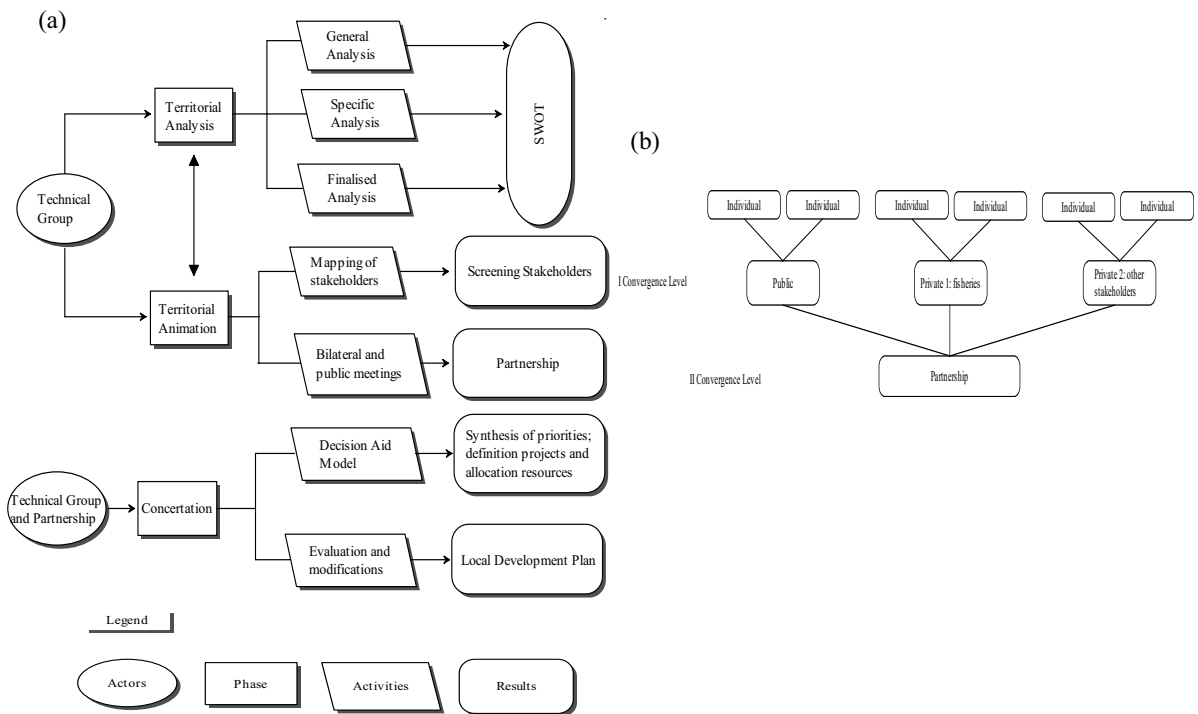


Fig. 1. (a) The planning methodology outlined for the elaboration of LPD; (b) The phased convergence process

The decisional problem tackled in the concertation phase, the final stage of the planning process, was the definition of a development strategy shared by the various members of the Partnership, with the allocation of the available financial resources, originally of three millions Euros (public/private) to be parceled out among the several measures and interventions of the LDP. To this purpose, it was used a decision-aid model adopted in several experiences of integrated local development. The methodology starts from the decomposition of the decisional problem into levels (measures) and sub-levels (interventions), the relative importance of which is evaluated by

eliciting the preferences of the Partnership members gathered through a questionnaire and by processing the obtained data through the Analytic Hierarchy Process (AHP) (Saaty, 1988). The AHP produces an allocation of the financial resources for each interviewed member. In order to ensure an allocation of resources which expresses the preferences of the whole Partnership, a phased convergence process has been carried out (fig. 1b), grouping the several members into three categories: Public Institutions, Fisheries actors, and Other Stakeholders, and evaluating the will of the decisional actors to reach a group solution on:

- a category basis, by gathering the preferences of each interviewed member into each category, through the average of the individual data, thus obtaining the priorities for Public Institutions, Fisheries actors and Other Stakeholders (first convergence level);
- a partnership basis. This level of convergence has been realized, by proposing a further questionnaire, in which each interviewed actor has been asked to express his own opinion on the weight each category should assume in the final group decision. This last questionnaire has provided the weights of each category. Through them, the preferences for the financial allocation by each category, resulting from the first level of convergence, have been gathered towards one solution which was presented and discussed in assembly for final modifications.

## 2.2. Results

The planning methodology was applied for the definition of the LDP of the “Stretto” Coast FLAG in Calabria, South Italy (Marcianò, Romeo, & Cozzupoli, 2015). The FLAG operates on the Tyrrhenian coast of the district of Reggio Calabria and includes seven municipalities covering an area of 198.9 Km<sup>2</sup> with a resident population of 74,950 inhabitants in 2010 and with a population density of 376.7 inhabitants per Km<sup>2</sup>. The *specific* analysis highlights a demographic structure characterized by a high degree of aged people and of children whose livelihood depends on the active part of population. The labor market highlights the importance of the tertiary sector which absorbs almost 70% of the workforce, followed by the industry sector (19%) and agriculture (11%). The fish sector absorbs only 0.94% of the total employment of the area. The aspects related to tourism have showed a significant offer of non-hotel structures equal to 59.3% of the total. The analysis of tourism demand disaggregated for sectors, hotel and non-hotel ones, in 2008, highlights that hotel industry captures almost all the tourists rather than the non-hotel one both in terms of arrivals (94.7%) and attendance (84.9%). The *finalized* analysis, based on the official data of the local marine offices, focused on the structural characterization of the fishing fleet of the FLAG area by pointing out the number of boats, the hull dimensions (GT), the motor power (Kw), the age of boats and the adopted fishing system. The results show a fishing fleet composed by 140 vessels of which 43.6% is recorded in the marine office of Bagnara Calabria.

The animation phase started with a first screening of the subjects to be involved in the partnership, initially by identifying the representatives of the different categories of the local actors potentially interested in the plan. Through a series of bilateral and public meetings it was possible to spread the contents and the opportunities offered by the axis IV of the EFF, allowing 77 local actors to join the initiative and to constitute the Partnership. The Partnership is characterized by a wide variety of subjects related to public authorities; entrepreneurs in the fisheries sector; municipalities and their associations; professional organizations; trade unions; regional and local organizations for category; local firms; voluntary and non-profit sector.

In the concertation phase, the application of the decision-aid model described in the previous paragraph allowed to decompose the decisional problem into a decisional tree of three levels: general objective, measures and interventions. The decisional problem and the resource allocation was limited to the first three Measures of the Axis IV FEP, corresponding to the first 3 objectives of the LDP: 1) Prosperity and added value (Measure 4.1. Products and services); 2) Employment and quality of life (Measure 4.2. Quality of life/Diversification); 3) Quality and Environment (Measure 4.3. Enhancement and coastal area management). For the other three measures the maximum percentage of expenditure allowed was applied (respectively 10% for Cooperation, 15% for Local Development Strategy and 10% for FLAG management).

Table 1 shows the results of the process that led to the final allocation of financial resources. The first 3 columns show the results of the phase of comparative judgments realized by determining the relative importance of the elements belonging to the decisional tree. The comparative judgments have been conducted through questionnaires based on pairwise comparisons between the measures of the first level and further questionnaires on pairwise

comparisons between the interventions of the second level, which can be realized within each single measure. The questionnaires have been presented to a sample of 10 actors belonging to the different categories of the Partnership. The synthesis of priorities has provided the allocation of resources of each interviewee.

Then, the process of convergence was applied, by proposing a further series of questions, in which each actor has expressed his own opinion on which weight each category should assume in the final group decision. This last questionnaire has provided the weights of each category that were used to gather the category preferences towards one solution representative for the Partnership as a whole. From the figure 2 it can be observed that the category of fishermen has the highest weight in the decisional process (41.91%). The results of the aggregation level of the different categories of the Partnership, which represent the first level of convergence, are expressed in percentage terms in the first three columns of Table 1. The result of the second level of convergence is shown in the "weighted average". Similarly, the synthesis of priority was carried out at the level of interventions.

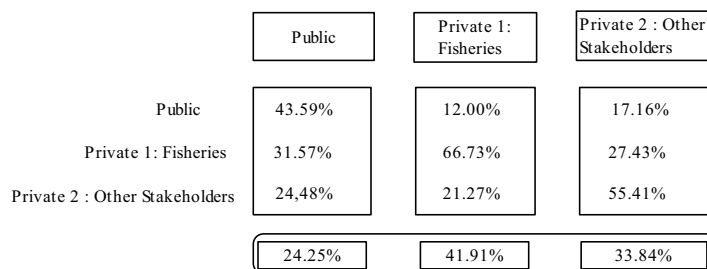


Fig.2. Weights of actors

Table 1. Results of the decision-aid model and final allocation of financial resources

	Public	Private 1: Fisheries	Private 2: Other Stakeholders	Weighted average	Final Allocation
<b>Measures 4.1 Products and services</b>	<b>35.82%</b>	<b>63.52%</b>	<b>34.07%</b>	<b>46.84%</b>	<b>43.46% € 565,000</b>
4.1.1 Commercialization	22.02%	41.93%	21.82%	30.30%	22.69% € 128,200
4.1.2 Inter and intra-sectoral integrated actions for innovation process and product	14.68%	19.07%	22.45%	19.15%	28.37% € 160,300
4.1.3 Development of organizational forms of a collective nature	20.58%	8.52%	14.46%	13.46%	24.78% € 140,000
4.1.4 Qualification of product and territory	25.78%	24.36%	19.20%	22.96%	14.50% € 81,900
4.1.5 Illustrative and promotional material	16.94%	6.11%	22.07%	14.14%	9.66% € 54,600
<b>Measures 4.2 Quality of life/Diversification</b>	<b>31.30%</b>	<b>23.24%</b>	<b>24.15%</b>	<b>25.25%</b>	<b>24.73% € 321,500</b>
4.2.1 Salvaging and adjusting facilities for the development of recreational activities	16.02%	20.37%	11.88%	16.44%	23.17% € 74,500
4.2.2 Adaptation vessels for fishing tourism	15.86%	20.02%	13.20%	16.70%	18.04% € 58,000
4.2.3 Acquisition of expertise for the development of ecotourism	12.73%	6.80%	16.84%	11.64%	16.49% € 53,000
4.2.4 Realization of staging points, teaching tools and refreshment	11.98%	21.72%	14.51%	16.92%	0.00% € -
4.2.5 Services for the design, implementation and promotion of joint offer	14.59%	12.33%	14.84%	13.73%	14.93% € 48,000
4.2.6 Networking and promotion of various types of offer developed	15.06%	11.99%	13.30%	13.18%	27.37% € 88,000
4.2.7 Illustrative and promotional material	13.75%	6.75%	15.44%	11.39%	0.00% € -
<b>Measures 4.3 Enhancement and coastal area management</b>	<b>32.88%</b>	<b>13.24%</b>	<b>41.79%</b>	<b>27.66%</b>	<b>31.81% € 413,500</b>
4.3.1 Qualification of the cultural and environmental heritage	19.58%	12.19%	27.36%	19.12%	33.75% € 139,575
4.3.2 Improvement of the integrated use of coastal	15.45%	20.10%	10.98%	15.89%	16.66% € 68,900
4.3.3 Recovery of the production potential of the fisheries sector	19.23%	28.09%	10.02%	19.83%	0.00% € -
4.3.4 Support environmental protection	22.16%	18.36%	26.56%	22.05%	20.42% € 84,450
4.3.5 Creation and upgrading of spaces for sports and free time	13.49%	11.84%	10.59%	11.82%	20.83% € 86,125
4.3.6 Illustrative and promotional material	10.09%	9.42%	14.48%	11.30%	8.33% € 34,450
<b>Measures 4.4 Promote inter-regional, national and transnational cooperation</b>				10.00%	10.00% € 200,000
<b>Measures 4.5 Training, technical assistance and dissemination</b>				15.00%	15.00% € 300,000
<b>Measures 4.6 Contribution to the operating expenses of the Flag</b>				10.00%	10.00% € 200,000

In the subsequent phases, several changes have been proposed and debated during the assembly by partnership members and following them, the technical group has elaborated the final financing plan, showed in the last two columns of Table 1, where some significant changes have been made at the level of interventions. Within measure 4.1, an important intervention is the 4.1.2. related to the increase of knowledge about the fishing sector of the FLAG area. A greater importance has been also attributed to the intervention 4.1.3 to which at the beginning the lowest priority was assigned. Regarding Measure 4.2, it is observed that the most important intervention from a strategic point of view appears to be the 4.2.6 "Networking and promotion" in order to promote an integrated tourism development based on the enhancement of the environmental and cultural resources of the area. This intervention

aims to create a network of operators to combine recreational, cultural and touristic activities, able to empower the touristic system in the FLAG area. The interventions 4.2.4 and 4.2.7 did not receive financial resources in the final allocation. Within Measure 4.3, there was a clear dominance of Intervention 4.3.1 "Qualification of cultural and environmental heritage", which foresees the qualification of spaces in fishing villages. Finally, the final document of the LDP was elaborated and sent to "Regione Calabria" responsible of the final evaluation and ranking of all the LDPs received by the different territories.

### 3. The implementation phase

The implementation phase was strongly affected by the delays that occurred, at the national and regional levels, in the process of realization of EFF Axis IV, which started in March 2007 with the enactment of Reg. (EC) No 498/2007. The phases of the National Strategic Plan adoption, of the Operational Programme and of the Regional Agreement for the allocation of funds, lasted 18 months (until September 2008). Later, a period of 27 months was necessary for the revisions of the National Operational Program and for the approval of Reg. EC 1249/2010 amending the above-mentioned regulations (December 2010).

At the regional level, a delay occurred in the phase of selection of FLAGs; indeed, this selection took 16 months instead of the expected 5 months (from February 2011 to June 2012). In particular, the phase of pre-selection of FLAGs lasted 7 months instead of 3, and other 7 months were used for the approval of the temporary ranking compared to the expected 60 days; other 2 months were necessary for the publication of the final ranking. Further delays occurred in the phase of public announcements by the FLAGs, which only started in September 2013, after 14 months from the decrees of funding, which were signed in July 2012. Furthermore, at the regional level, two financial remodeling of the FLAGs were realized, in order to cope with an automatic decommitment within the regional EFF; and this led to the reduction of 50% of the public financial resources for the FLAGs.

In the "Stretto" Coast Flag these delays and reductions affected substantially the implementation of the LDP. In particular, the research activities, planned in the intervention 4.1.2 (see table 1) were realized in 10 months instead of the 24 months originally planned in the LDP. The same reduction occurred in the implementation of the intervention 4.3.4 related to the construction of a Web-GIS platform. The interventions 4.1.1 about integrated commercialization were also implemented in less time, and also they were partially implemented (only three areas rather than five). The reduction of funds has led to the elimination of an important action related to the development of a consortium or association (4.1.3). Regarding Measure 4.2., the intervention aiming at the creation of itti-tourism activities (4.2.1) registered a high level of implementation (four structures rather than five); on the contrary, intervention 4.2.2, about the adaption of vessels for fishing tourism, was partly implemented (two fishing boats rather than four). Moreover, the reduction of financial resources caused the elimination of the interventions concerning ecotourism (4.2.3), the creation of a Service Center (4.2.5) and the realization of the network for the joint promotion of recreational, cultural and touristic activities. Regarding Measure 4.3, the intervention related to the Eco-museum (4.3.2) was not implemented, while the actions planned for the development of the fishing villages (4.3.1) were strongly limited. Also Intervention 4.3.5 was partly carried out, with the realization of two sport centers rather than the four previously planned.

### 4. Discussion

The programme 2007-2013 marks an important revision process of UE's Common Fisheries Policy (CFP), with the inclusion of a specific priority axis in the European Fisheries Fund (EFF) Regulation 1198/2006 (EC, 2006). Through the application of the 'area-based' approach, Axis 4 provides for a wide range of actions, to be organized by Fishery Local Action Groups, responsible of the formulation of local strategies for the sustainable development of fisheries areas (Budzich-Tabor, 2014). This methodological approach has allowed the group of experts of the "Stretto" Coast FLAG to tackle efficaciously the complexity of the decisional problem. The Local Development Plan derives from a series of analyses and from a complex interactive process between experts and the other decision makers of the Partnership. The decision-aid model used in the concertation phase favored the elicitation of the preferences expressed by the different decisional actors about priorities allocation. Moreover, the phased convergence process has revealed itself well suited for effective participation and conflict resolution. It is important

to underline that the synthesis of priorities has been carried out through a method that is rather different from the vote of majority, whose final choice generally excludes the preference of the minority group. Through the used method, the priorities expressed by the Partnership members have been arranged, allowing a classification of all alternatives made with the contribution of all the Partnership members who have been interviewed and involved in the decisional process. On the whole, the obtained results show that the LDP is not the product of a mere technical exercise but of negotiation and shared choices. The effectiveness of the process is not only understood as the degree of the attainment of the prefixed objectives, but also as the attainment of an adequate integration level in the governance system. The transparency of the decisional process directly affects the degree of confidence of the Partnership in the technicians of the FLAG. Moreover, it increases the involvement of the various partners in the process of territorial development, obtaining a deepening and a reinforcement of the synergies and relationships present in the local governance system.

However, the implementation of the LDP was hindered by several delays, registered at the national and regional levels. Indeed, these delays affected the efficacy of the activities of the FLAGs in Calabria, and further efforts should be done in order to reduce and simplify bureaucratic procedure, both at the national and regional levels, and to extend consistently the time of implementation of the LDPs. Another aspect that strongly affected the efficacy of the FLAGs was the consistent reduction of available financial resources that occurred at the regional level in Calabria during the implementation process.

## References

- Budzich-Tabor, U. (2014). Area-based local development—a new opportunity for European fisheries areas. In J. Urquhart, T. Acott, D. Symes & M. Zhao (Eds.), *Social Issues in Sustainable Fisheries Management. MARE Publication Series 9* (pp.183-197). Dordrecht: Springer.
- Calabrò, T., A.I. De Luca, G. Gulisano, and C. Marciànò. (2005). The Rural Governance System in Leader Plus: the Application of an Integrated Planning Methodology in Calabria (South Italy). *New Medit*, 3, 38-46.
- De Montis, A., & Nijkamp, P. (2006). Tourism and the Political Agenda: Towards an Integrated web-based Multicriteria Framework for Conflict Resolution. In M. Giaoutzi & P. Nijkamp (Eds.), *Tourism and Regional Development* (pp.177-200). England: Ashgate Publishing.
- EC. (2006). “Council Regulation No. 1198/2006 of 27 July 2006 on the European Fisheries Fund.” Official Journal of the European Union L, 223, 1, 15.8.2006, pp. 1– 44.
- Gray, T.S. (ed.) (2005). *Participation in Fisheries Governance*. Dordrecht, Netherlands: Springer
- Jentoft, S., & Chuenpagdee R. (2009). Fisheries and coastal governance as a wicked problem. *Marine Policy*, 33, 553-560.
- Marciànò C. (ed.) (2012). *Participatory Rural Development Experiences in Calabria*. Reggio Calabria: Centro Stampa di Ateneo.
- Marciànò, C., Romeo, G., Cozzupoli F. (2015). An Integrated Methodological Framework for the Definition of Local Development Strategies for Fisheries Local Action Groups: an application to the Stretto Coast FLAG in South Italy, Proceedings of the XXII Conference of the European Association of Fisheries Economists, Salerno, Italy.
- Romeo, G., & Marciànò, C. (2014) Performance Evaluation of Rural Governance Using an Integrated AHP-VIKOR Methodology. In C. Zopounidis, N. Kalogeras, K. Mattas, G. van Dijk & G. Baourakis (Eds.), *Agricultural Cooperative Management and Policy* (pp.109-134). Switzerland: Springer International Publishing.
- Saaty, T.L. (1988). *Mathematical Methods of Operations Research*. New York: Dover Publications.
- Symes, D. (2006). Fisheries governance: A coming of age for fisheries social science?. *Fisheries Research*, 81, 113-117.