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Relational capital within the Fishing communities

The case of the Stretto Coast FLAG area in Southern Italy

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1 Area and Actors

The Stretto Coast FLAG involves actors from the municipalities of:

Bagnara Calabra, Gioia Tauro, Palmi, San Ferdinando, Scilla, Seminara, Cannitello (of Villa San Giovanni) in the province of Reggio Calabria.

The study area includes the ports of:

Gioia Tauro, Bagnara Calabra, Palmi, Scilla, Cannitello (of Villa San Giovanni)

(in the photo on the right: Vincenzo, working on his net)

2 Sample, survey design and questionnaire

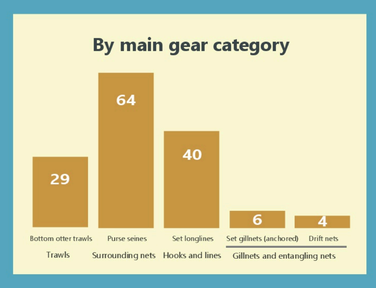
143 fishing vessels are officially recorded in the EU fleet register for the study area. The selection of fishermen to interview was based on a preliminary survey of the area, trying to identify those who were more willing to collaborate in the research. Of the potential 143, 15 were excluded because the registered boats were not found in the ports of the area, either because they had been withdrawn from activity, or because they were operating in other areas. The effective size of our study population is therefore of 128 vessels. The holders or skippers of 54 of them were contacted. Of these, 26 declared full availability for the interview, 11 some availability and 17 refused to grant any interview.

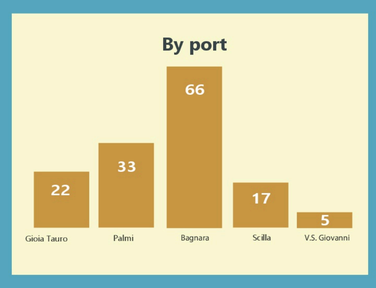
	Set longlines	Set gillnets (anchored)	Purse seines	Drift nets	Bottom otter trawls	Total	**Sample**	Coverage
Gioia Tauro	9		2		11	22	**4**	18,2%
Bagnara	17	1	29	1	18	66	**10**	15,2%
Scilla	10	3	25	2		33	**7**	21,2%
Palmi	3	1	5	1		17	**4**	23,5%
Villa San Giovanni	1	1	3			5	**1**	20,0%
Total	**40**	**6**	**64**	**4**	**29**	**143**	**26**	**18,8%**

In the end, skippers of 26 vessels, covering all five ports, have been interviewed.
Each of them reported on:
a) the characteristic of their own fishing enterprise;
b) their relationship with their colleagues, in particular with respect to acquaintance, information sharing and level of trust.

Two networks have been explored:
- a 26 by 26 one-mode network of potentially recirprocal ties among the interviewed,
- a 25 x 103 two-mode network, of directed links from interviewed towards all others.

Distribution of vessels in the study area





3 Analytic methods

One of the key results of Social Network Analysis (SNA) is the identification of the most relevant actors within a group or community, those who occupy strategic positions. The "degree" of a node in a network is defined as the number of links it has. (Wasserman and Faust, 1994).

When links are directional, both the "outdegree" and "indegree" of a node can be defined as the number of links respectively originating from or reaching a node.
In the context of a one-mode network of "acquaintances", where a directional link from A to B is defined when A declares to be acquainted with B, we compute an index of "popularity" for any node in the network as the ratio between the indegree and the outdegree of the node. A high value of the index identifies an actor who is "popular" in the sense that (s)he is known by more people in the group than those (s)he knows directly.
The "betweenness" of a node is a measure of the possible "structural advantage" possessed by an actor in a social network for occupying an intermediate position between two or more other subjects. Such a position might confer power to the holder, to the extent that it gives control on information flows (Hanneman and Riddle, 2005). Because of the non-random selection of the sample of respondents in this analysis, special attention has been devoted to the assessment of the reliability of the responses they give, in order to be confident on the possibility to extend the conclusions to the entire area of investigation.
Through appropriately defined indices, we measure the extent of reciprocity between the statements regarding the reciprocal acquanitance of any pair of actors in the one-mode network, and degree of consistency between levels of trust expressed from one towards the other member of the pair.

4 Results

Pretty much everybody knows everybody

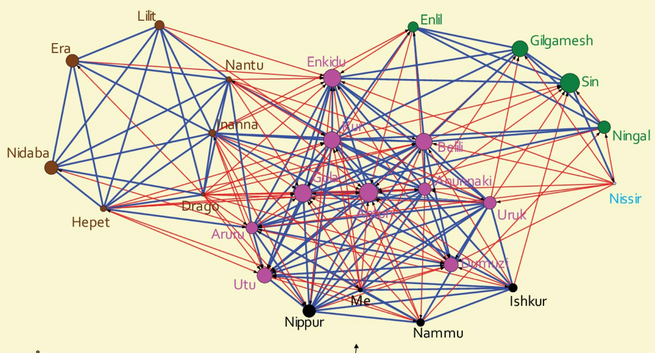


Figure 1
One-mode network based on relationships of acquaintances.
Blue links are reciprocal.
Node size is based on the index of "popularity". Node and name color indicates the port.

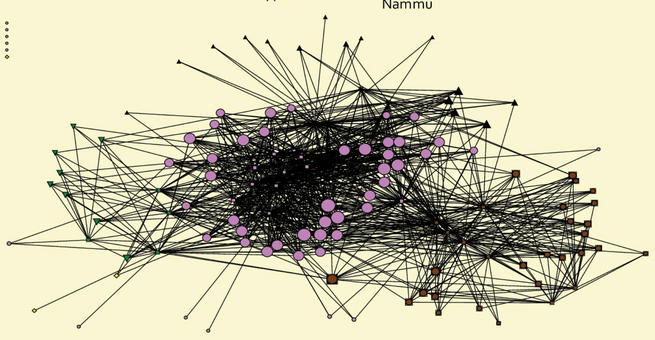


Figure 2
Two-mode network based on relationships of acquaintances.
Node size is based on the degree.
Node color indicates the port.

Positive trust dominates

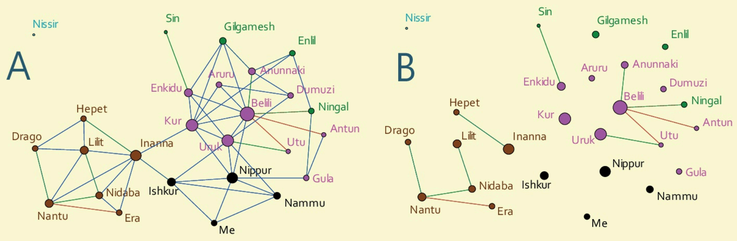


Figure 3
One-mode networks of trust.
Only coherent links are represented; blue lines indicate positive, green lines neutral and red lines negative trust.
Node size is based on degree.
Node and name colors indicate the port

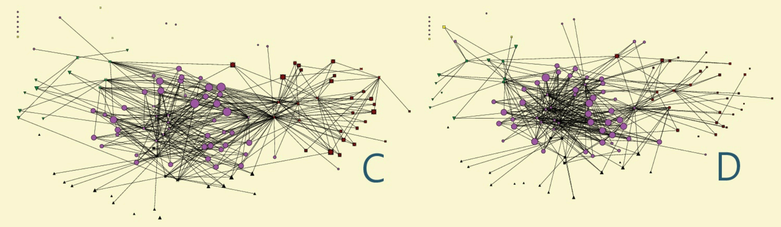


Figure 4
Two-mode networks based on trust.
Network C refers to positive trust ("high" and "medium-high") while network D refers to negative trust ("low" and "very low").
Node size is based on betweeness.
Node color indicates the port.

Yet, exchange of professional information is scarce

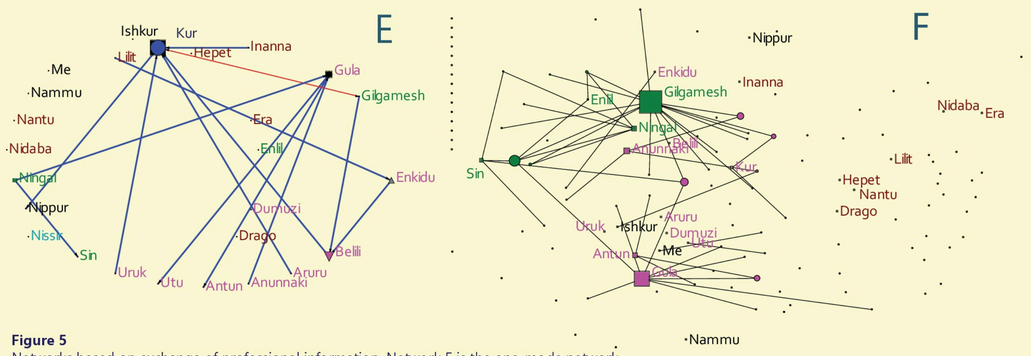


Figure 5
Networks based on exchange of professional information. Network E is the one-mode network among the 26 interviewed, while network F is the two-mode network based on statements regarding the flow of information from the interviewed to the others. Node size is based on betweenness. Node and name color indicates the port.

Port	Popularity index	Reciprocity degree
Bagnara	1.43	85/90 = 0.944
Palmi	0.72	19/20 = 0.95
Gioia Tauro	0.72	6/6 = 1.0
Scilla	1.41	5/6 = 0.83

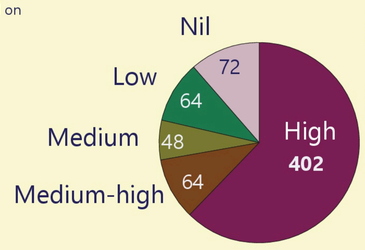


Figure 6
Number of pairs by degree of consistency in the one-mode trust network

5 Concluding remarks

1. The analysis of the network of "trust" shows robust human relationships among fisherfolk in the area. However, such strong links are not conducive to exchange of management information, which form a rather disconnected network, with only few actors actively engaged. This limits the possibility that the information on important elements, such as new funding opportunities and other support programs, may circulate effectively.

2. It has been reported that information on such opportunities have typically reached the area quite late, if at all. Fisherfolk feel they are not deemed the main actors in the definition of local development plans and programs, which should be explicitly customised to their needs.

3. There is certainly a problem, though it is not clear how much are the institutional settings to blame for not permitting an adequate information flow, and how much the problem rests instead with the individual actors who, despite reporting the fact that they trust each other personally, may have a fundamental lack of trust in the institutions, as revealed by their limited participation to initiatives organized by the FLAG, which would be the main occasions for the exchange of professional information.

4. Innovations are needed to build on what appears to be a relatively strong foundation in terms of social ties, to tackle the most urgent needs and to find answer to questions such as: What will happen to the traditional swordfish hunting in the Stretto?

A note on swordfish hunting

The Stretto Coast FLAG area is renown for the typical swordfish "hunting", done with the "passerella" or "feluca", a traditional boat driven by a crew that includes a steersman a spotter and a harpooneer.
The steersman and the spotter work standing on top of the "antenna", a tower up to 15 to 25 m tall.
The harpooneer acts by walking at the end of the "passerella", a long suspended bridge extending from the bow of the boat, from where he harpoons his prey, usually with a single stroke.
In addition to swordfish preys may include billed spearfish.

According to the people we interviewed, swordfish hunting with the "passerella" is no longer as profitable as it used to be. The only five surviving felucas (from more than 20 existing in the area up to 10 years ago) continue to operate, despite the high costs and low returns, mainly because this activity represents a strong element of fishermen's social identity in this area.

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