European Commission, DG MARE

Studies for carrying out the Common Fisheries Policy:
Lot 3 Socio-economic dimensions in EU fisheries

Italy: Palermo case study report

August 2013
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**COGEPA** Consortium of management of artisanal fisheries
1. Methods

1.1 Secondary data sources

Secondary data used in this report are mainly fisheries data collected by IREPA which have been extrapolated to estimate the local level. IREPA database consists of annual landings data by species and fleet stratum as well as annual cost data by fleet stratum. The level of geographical aggregation of these data (fleet stratum) is the northern coast of Sicily, while the “technical” aggregation level consists of the predominant fishing gear (as for DCF) and length class.

For each fleet stratum, data per unit of LOA (landings, revenues and added value) or per vessel (number of employees) have been estimated. The values for the fleet segments of Palermo have been calculated by multiplying the unitary data by the total LOA or number of vessels of that fleet segment. The level of reliability of this data is not calculated, however, data collected by IREPA has an acceptable level of reliability at GSA level (as this is the geographical level requested by DCF). At a higher level of detail, such as the local community analysed, data cannot be considered as reliable and requires confirmation by local stakeholders. Data on annual number of vessels, gross tonnage, LOA and engine power have been collected through the Italian fishing fleet register and scaled up by IREPA.

Outside the fisheries sector, data on the number of firms (active) have been collected through the Provincia di Palermo, which is based on data from the local Chambers of Commerce. These data have been further extrapolated to assure homogeneity across the period. Unfortunately, data for 2006 are missing.

Additional information on the main features and key issues in the area has been obtained through the local management plan for the management unit “Palermo west and Ustica isle” prepared by the COGEPAP “Castellamare del Golfo e Palermo Ovest” in collaboration with Mazara del Vallo, Operative Unit of IAMC CNR. This information has been discussed and revised with local stakeholders during the focus groups.

1.2 Interviews with focus groups

A meeting with local stakeholders was held at the headquarters of Legacoop Pesca Sicilia in Palermo on 10th June 2013 at 15:30. The group of people invited to the meeting were selected in an attempt to include representatives of all fleet segments (vessels owners), who were also representative of the different fishing cooperatives operating in Palermo and representatives of fishers employed on vessels with the area of Palermo as base port.

Unfortunately the meeting was attended by only 4 people. Although other people were invited, some of them could not participate because they were involved in fishing activities at the time while others were simply not interested in attending. Given the low number of participants at the meeting, additional interviews were carried out subsequently through meetings with individual stakeholders and fishers at their place of work.
Notwithstanding the limited number of participants, the meeting was very useful in providing information about the local fisheries, the evolution of the economy in Palermo and the problems experienced at the local level. Furthermore, the participants were also involved in the definition, planning and monitoring of the local management plans within the activities of the local COGEPa (artisanal fisheries management consortium). The COGEPa “Castellamare del Golfo e Palermo Ovest” in collaboration with scientific research institutes has carried out an analysis from an environmental and economic perspective of the area west of Palermo (including the municipality of Palermo).

1.3 Questionnaires
The sample of people interviewed for both the vessels owner group and those employed on vessels was larger than the number of people involved in the focus group. However, problems with interviewing fishers other than the owner or skipper (self-employed) employed on local vessels were encountered as a consequence of the extremely low number of this category.

A total of 24 questionnaires were submitted to the local fishermen. 12 questionnaires were compiled for vessels owners (7 for polyvalent lower than 6m and 5 for polyvalent over 6m) and 12 questionnaires were compiled for crew members (7 for polyvalent lower than 6m and 5 for polyvalent over 6m). Most of the tables reported below are based on questionnaires submitted to vessels owners, while the other questionnaires are used to complete the information and the qualitative description of the local social context.

2. Settings
2.1 Description of case study sites
Palermo is a single local administrative unit at level 2 (LAU2) located in the province of Palermo (NUTS3: ITG12) in Sicily (NUTS2: ITG1). Palermo is the capital of both the Province of Palermo and the autonomous region of Sicily. Sicily is an Italian region and forms the largest island in the Mediterranean Sea. The area of Palermo consists of 158.88 km², at latitude 38° 7’ 0” N and longitude 13° 21’ 43” E. With a population of 655,875, this results in a population density of 4,128 people per km². The closest administrative centre is the Municipality of Palermo (Comune di Palermo).
Palermo has a temperate climate with warm and dry summers and cool and rainy winters (Mediterranean climate). Spring and autumn temperatures are mild and pleasant while the summer is dry and hot, but frequently ventilated due to the presence of sea breezes. The sirocco, the African wind, occasionally raises the maximum temperature above 42°C, but with humidity levels it may drop below 15%.

The average temperature of the coldest month, January, falls between 9°C (minimum) and 14°C (maximum), while that of the warmest month, August, is between 22°C and 30°C. The average rainfall is about 741 mm per year. The wettest period occurs from October to February with a monthly average of about 100 mm, while the driest month is July (6 mm). The average day length is 12 hours and 13 minutes with a maximum in June (14 hours and 47 minutes) and a minimum in December (9 hours and 36 minutes).

Remains indicating the presence of humans dating back to prehistoric times have been found in the area of Palermo and the surrounding mountains. Palermo was founded in the eighth century BC by the Phoenicians and given the name Zyz (flower). Since 480 BC there have been traces of the Carthaginians and in 254 BC the Romans managed to take it from the Carthaginians. The city became a Roman conquest with the name of Panormus. Under the government of Rome, Palermo continued to play the role of a strategic port in the Mediterranean, experiencing a period of wellness and peace for several centuries.

After the fall of the Roman Empire, Sicily was devastated by the Vandals, which lasted until 535. Palermo was liberated by the Byzantines, who held Palermo for three centuries. After the conquest of
the city, they began work to restore the imperial unity which was lost with the barbarian invasions and dominated the entire island which became a province of the Eastern Empire.

In the ninth century, Muslims from North Africa invaded Sicily. The conquest began in 827 and Palermo was taken by the Saracens in 831. The Muslims moved the capital of Sicily in Palermo. The city was endowed with all the bureaucratic structures functional to the various services belonging to a capital city. The Muslim power, however, was eroded by internal struggles that allowed foreigners to attack the city. In 1071, after four years of siege, Ruggero d’Altavilla, the first Norman Count, conquered Palermo. In a short time the Normans came into possession of the city and the rest of the island. Palermo remained the capital of the Great Count of Sicily first and later of the Kingdom of Sicily. The city reached its zenith under the governor of Roger II. After the Norman kingdom of Sicily, Palermo took turns on the throne of other royal houses: the Swains (1194-1266) and the House of Anjou (1270-1282), who moved the capital from Palermo to Naples.

In 1282, the people of Palermo started the War of the Vespers against the French, which ended with the adoption of the flag of Sicily. After the revolt of the Vespers, Palermo became capital of the kingdom founded by the cadet branch of the Aragonese. In the fifteenth century, Palermo lost its independence to become a Spanish viceroy. Two centuries of domination by the Spanish dynasties in Palermo ended in 1713 with the Treaty of Utrecht, which marked the end of the War of the Spanish Succession. In 1734 the city came under the governor of the Bourbons, who kept separated the Kingdom of Sicily and the Kingdom of Naples. In 1816, both kingdoms were united in the Kingdom of the Two Sicilies. Palermo lost its capital status, becoming the second administrative centre after Naples and this caused several revolts by separatists in the island.

In 1860 Giuseppe Garibaldi landed in Marsala. In the name of unification of Italy, Palermo rose up on May 27, when Garibaldi entered the city from the door Termini. On 5 November 1860, Palermo voted the annexation to the Kingdom of Italy and then followed the story of the country. During the first two decades of the twentieth century, Palermo was peaceful. Palermo was not affected by the First World War, but suffered considerable destruction by bombing during the Second World War until it became occupied by US troops in July 1943.

The twentieth century was also characterized by the development of the phenomenon of the mafia. In the fight against “Cosa Nostra”, among others, the cop Boris Giuliano, the prefect of Palermo General Carlo Alberto Dalla Chiesa, the President of the Sicilian Region Pier Santi Mattarella, the magistrates Giovanni Falcone and Paolo Borsellino, Gaetano Costa and Rocco Chinnici, the priest of the Palermo neighbourhood of Brancaccio, Don Pino Puglisi and the journalist Peppino Impastato were killed.

2.2 Demographics

As shown in Figure 2, the population of Palermo has decreased from 686,000 in 2002 to 656,000 in 2011. This decline, in contrast to the increasing trend registered for the rest of Sicily and Italy, is typical of many Italian metropolitan cities. This is due to the phenomenon of suburbanization of the bigger cities, where working opportunities have attracted many people in the past. The problems associated
with the high population density and the insufficient logistical infrastructures drive workers out into neighboring areas where they need to travel daily to get to their workplaces. Confirmation that this phenomenon is occurring is evidenced by the strong increases in population recorded in places nearby Palermo like Isola delle Femmine and Santa Flavia.

![Figure 2. Trends in population of Palermo over the period 2002-2011](image)
Source: Italian National Statistical Institute (ISTAT).

The age structure of Palermo population is that typical of developed countries with an older population on average due to long life expectancy, a low death rate and a low birth rate. The age structure of the population of Palermo is very similar to those calculated for the rest of Sicily and Italy. The only differences are in the first and last age classes, which show that Palermo population is slightly younger that the Sicilian one, and the latter is slightly younger than the Italian one.

Over the last 10 years, as for Sicily and Italy, the population of Palermo has become older. The decrease in the population reported above has been concentrated in the younger age classes, 0-18 and 19-40, which have decreased by 13% in the period under analysis, while people in the older age classes have increased.

![Figure 3. Age structure of the population of Palermo over the period 2002-2011](image)
Source: Italian National Statistical Institute (ISTAT).
Almost 97% of the population are Italian, while just 0.5% are from other EU countries and 2.6% are from non-EU countries. The population composition is similar to the Sicilian one, where 97% are Italian, 1% from other EU nations and almost 2% from non-EU countries. In contrast, prevalence of non-EU citizens is higher at the Italian level (around 5%), while people from other EU countries represent 2% of the total population. The most dominant non-Italian communities are those from Sri Lanka, Bangladesh and Romania.

Figure 4. Origin of the population of Palermo for the year 2011
Source: Italian National Statistical Institute (ISTAT).

Figure 5 shows that the number of emigrants has been always higher than that of immigrants. Only in the last year of data (2010) the two groups appear almost equivalent. As reported above, the migration trends represent the main reason for the decline in the local population.

Figure 5. Trends in migration in and out of Palermo over the period 2002-2010
Source: Italian National Statistical Institute (ISTAT).

As data on life expectancy at birth is not available at municipality level, Figure 6 shows the data for the entire province of Palermo. These data, which are almost identical to the data registered for Sicily, show a life expectancy slightly lower than that estimated for Italy as a whole.
2.3 Employment opportunities/sector overview

Palermo, like other big cities, has a diverse economic structure. A significant number of different economic activities are present in the area. However, Palermo is characterized by the predominance of the tertiary sector with a high incidence of workers in services and a low proportion in productive industrial activities. In particular, the strong presence of government offices of the Sicilian region, municipal and provincial offices, as well as regional offices of public institutions, such as the Bank of Italy, which employs people directly as well as through the satellite activities which employ as substantial proportion of the total employees. The main industrial area is the port of Palermo, with the presence of the shipyards owned by Fincantieri, which also contribute to the local economy through satellite activities. Other industrial areas in the city are located in the district of Brancaccio, where there are many medium-sized industrial activities, in the North Industrial Zone, although this area is largely occupied by service companies, and in the area of Partanna. Although the area is predominantly urbanized, there are still large areas utilised for agriculture and the cultivation of fruit. The fishing sector is very marginal in the overall economy of the city. Tourism is one of the few sectors showing a positive dynamic trend. Indeed, there has been a substantial increase in the number of beds in four and five star hotels and an exponential growth in cruise tourism has been registered in recent years. The commercial sector is detail-oriented and represented by small and medium size companies, with a small presence of large-scale retail enterprises.

Local stakeholders stated that the main problem in the local economy is unemployment and job insecurity. The president of Legapesca Sicilia (one of the main fishing cooperative associations in Italy) described the factors that have determined the current situation of unemployment in Palermo. Since the end of 1970s, the problem of unemployment has been faced by a cronyism political approach directed to maintain or reinforce the political power system. This has resulted in a large increase in the number of people working directly or indirectly for the public sector. A number of private companies with mixed private-public capital and managed by public administrators were established, as well as other
private companies generally under a not-for-profit umbrella, to provide services to the public sector. These companies - generally involved in education, guard services, paramedical work, etc. – have usually employed workers in temporary positions. This has reduced the financial resources for productive investments and altered the labour market, damaging the potential for local, long-term economic development.

This system, which is based on the financial transfers from the central administration to the local ones, has shown all its inconsistencies when these financial transfers have been reduced as a consequence of the 2008 economic crisis. The critical financial situation of the country, which has resulted in greater control of the Italian government over budgetary policy and public expenditure, is significantly affecting the local economy of Palermo.

Local stakeholders estimated that 20% of the local economy are dependent on public financial transfers which is negatively affecting other sectors such as commerce.

Based on the ISTAT census in 2001, more than 70,000 people, accounting for 42% of total employees, were employed in the public sector or public services. These are reported in Table 1 as Public Administration, education, welfare services and other public services. Other relevant items in the same table are related to other private sectors, which accounted for almost 12% of the total employees, and commerce, which employed more than 17% of the total workforce. Fisheries and related sectors represented just 0.1% of total employees with only 194 people involved in these activities. Unfortunately, the only official statistic on the prevalence of economic sectors at municipality level is provided through the census carried out by ISTAT each ten years. The last census was carried out in 2011, but data are still not available. However, regarding fisheries, in 2011 a total of 176 fishermen were estimated to be employed based on IREPA statistics and the number of vessels registered in the local maritime districts. Local stakeholders have confirmed a decreasing trend in both the number of vessels and employees in the fisheries sector.

More recent data provided by the Chambers of Commerce and extrapolated by the statistical office of the Province of Palermo on the number of active firms by economic sector are reported in Figure 7. These data show an increasing trend in the number of firms involved in the tertiary sector, both public and private, and a strong increase in the number of hotels and restaurants. In contrast, agriculture and manufacturing sectors show a decreasing trend. This confirms the trend of Palermo becoming more dominated by the tertiary sector and the increasing prominence of tourism.

<table>
<thead>
<tr>
<th>Economic sector</th>
<th>Employees 2001</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and related sectors</td>
<td>708</td>
<td>0.4%</td>
</tr>
<tr>
<td>Fishery and related sectors</td>
<td>194</td>
<td>0.1%</td>
</tr>
<tr>
<td>Mineral extraction</td>
<td>113</td>
<td>0.1%</td>
</tr>
<tr>
<td>Manufacture sector</td>
<td>11,690</td>
<td>6.7%</td>
</tr>
<tr>
<td>Production and distribution of energy, gas and water</td>
<td>2,803</td>
<td>1.6%</td>
</tr>
<tr>
<td>Sector</td>
<td>Number</td>
<td>Percentage</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>--------</td>
<td>------------</td>
</tr>
<tr>
<td>Building sector</td>
<td>7,972</td>
<td>4.6%</td>
</tr>
<tr>
<td>Commerce</td>
<td>30,069</td>
<td>17.2%</td>
</tr>
<tr>
<td>Hotel and restaurant</td>
<td>5,503</td>
<td>3.2%</td>
</tr>
<tr>
<td>Transport</td>
<td>14,863</td>
<td>8.5%</td>
</tr>
<tr>
<td>Financial services</td>
<td>6,261</td>
<td>3.6%</td>
</tr>
<tr>
<td>Other private services</td>
<td>20,781</td>
<td>11.9%</td>
</tr>
<tr>
<td>Public Administration</td>
<td>21,139</td>
<td>12.1%</td>
</tr>
<tr>
<td>Education</td>
<td>23,554</td>
<td>13.5%</td>
</tr>
<tr>
<td>Welfare services</td>
<td>19,808</td>
<td>11.4%</td>
</tr>
<tr>
<td>Other public services</td>
<td>9,032</td>
<td>5.2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>174,490</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: Italian National Statistical Institute (ISTAT)

![Figure 7. Number of firms operating in Palermo by economic activity over 2005-2011](image)

Source: Elaborations on Chamber of Commerce data

### 2.4 Fisheries

Fishing in Palermo, as in the majority of Italian coastal areas, are predominantly artisanal. This is evidenced by the extreme polyvalence of fishing activities and the multi-species landings composition, which reflects the high biological diversity of fish populations. Indeed, almost all vessels use a multitude
of fishing systems and gears and switch from one to another seasonally, adapting fishing strategies to
the features of the target species.

The fishing activities target demersal species using static gears (trammel net, gill net) and large pelagic
species such as swordfish using longliners. In 2011, 120 vessels were registered in the maritime district
offices of Palermo and Mondello. Based on the DCF fleet segmentation criteria (LOA and predominant
fishing gear), these are classified as reported in Table 2.

Table 2. Palermo fleet segments and fleet categories

<table>
<thead>
<tr>
<th>Maritime district</th>
<th>DCF fleet segment</th>
<th>Number</th>
<th>Fleet category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palermo</td>
<td>DTS VL1218</td>
<td>1</td>
<td>excluded</td>
</tr>
<tr>
<td>Palermo</td>
<td>DTS VL1824</td>
<td>1</td>
<td>excluded</td>
</tr>
<tr>
<td>Palermo</td>
<td>PGP VL0006</td>
<td>48</td>
<td>Polyvalent VL0006</td>
</tr>
<tr>
<td>Mondello</td>
<td>PGP VL0006</td>
<td>26</td>
<td>Polyvalent VL0006</td>
</tr>
<tr>
<td>Palermo</td>
<td>PGP VL0612</td>
<td>11</td>
<td>Polyvalent VL0618</td>
</tr>
<tr>
<td>Mondello</td>
<td>PGP VL0612</td>
<td>30</td>
<td>Polyvalent VL0618</td>
</tr>
<tr>
<td>Mondello</td>
<td>PGP VL1218</td>
<td>1</td>
<td>Polyvalent VL0618</td>
</tr>
<tr>
<td>Mondello</td>
<td>PMP VL0612</td>
<td>1</td>
<td>Polyvalent VL0618</td>
</tr>
<tr>
<td>Mondello</td>
<td>PMP VL1218</td>
<td>1</td>
<td>Polyvalent VL0618</td>
</tr>
</tbody>
</table>

The table above reports the maritime district, the number of vessels, the main fishing gear and the fleet
category selected for reporting in this study. The two vessels classified as demersal trawlers (DTS)
have been excluded from the analysis due to their limited effect on the local fishing community and for
confidentiality reasons. Each of the remaining fleet segments have been analysed with respect to their
landings composition. Significant differences arose between polyvalent vessels above and below 6 m in
length. As a consequence, two fleet categories have been defined, “Polyvalent VL0006” and
“Polyvalent VL0618”. The combination of 4 DCF fleet segments into the fleet category “Polyvalent
VL0618” is justified by similarities in fishing gears used and main species landed. No significant
difference between vessels classified as PGP (vessels using polyvalent passive gears only) and PMP
(vessels using active and passive gears) have been identified in terms of landings composition.
Furthermore, even though vessels belong to different length classes, their LOA is not very dissimilar.

Table 3 shows the number of new constructions in Palermo in the period 2006-2011. Data are based
on the construction year of the vessels belonging to the Italian fleet at 31/12/2011 as provided by the
Italian managing authorities and included in the IREPA database. During this period, two new vessels
entered the local fleet: one polyvalent vessel between 6 and 12 m (PGP VL0612) and one polyvalent
vessel between 12 and 18 m (PGP VL1218). No public funds were received for the new constructions.

Table 3. New vessels entering the fleet of Palermo
The final list of fleet segments analysed in this report are: Polyvalent VL0006 consisting of 74 vessels and Polyvalent VL0618 consisting of 44 vessels. These vessels use both active and passive gears, but neither one is dominant. As a consequence, the landings composition is characterized by the presence of both demersal and pelagic species. The polyvalent vessels over 6m fish also large pelagic species, like swordfish.

The number of vessels reported above and in other parts of this report are related to the vessels registered in the maritime district of Palermo and Mondello. However, some of these vessels are not based in the area of Palermo municipality, but in ports of other Sicilian municipalities. The total number of vessels based in this area has been estimated at around 95 units (55 under 6m and 40 over 6m) by local stakeholders and fishermen.

In 2011, the fleet registered in Palermo maritime districts landed around 300 tonnes, equivalent to almost EUR 2.5 million in value, a decline in volume of almost 50% and a similar reduction in value when compared with 2006 production. Even though prices for demersal species decreased, the value of pelagic species increased, resulting in a stable trend in the overall average value of the local production. In addition to the decline in landings, the profitability of local fisheries was also affected by the increase in fuel price which began in 2008.

Polyvalent vessels over 6 m produce around 55 % of the total landings, while vessels lower than 6 m account for almost 40 % and the remaining production is landed by bottom trawlers. In terms of revenues, the highest contribution to local production is provided by Polyvalent VL0618 which account for half of the total production, while polyvalent vessels lower than 6 m represent around 40 %. The remaining quota is caught by the two bottom trawlers excluded from the analysis.

Most of the vessels of Palermo are active in the GSA 10 and within the 12 nautical miles. Just a few vessels using drifting longlines fish also outside the 12nm in some periods of the year. Generally, trip length is 1 day for both fleet segments.

<table>
<thead>
<tr>
<th>Segment (length class)</th>
<th>Number of vessels</th>
<th>Main gears used</th>
<th>Number of crew (average)</th>
<th>Main species fished (list at least 3 and up to 5 for all fleet types)</th>
<th>Main fishing locations (ICES areas)</th>
<th>Trip length (average days)</th>
</tr>
</thead>
</table>

Table 4. Fleet segments in Palermo
<table>
<thead>
<tr>
<th>Polyvalent</th>
<th>Passive and active gears: trammel net, gill net, hooks, etc.</th>
<th>Squids, Common octopus, Greater amberjack, European hake, Common cuttlefish</th>
<th>GSA 10</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>VL0006</td>
<td>74</td>
<td>1.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VL0618</td>
<td>44</td>
<td>1.9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As reported above, the area is characterised by a great variety of stocks. Statistical data on landings and prices are collected for more than 60 species, however, the most important five species in terms of landings value are squids, swordfish, European hake, common octopus and greater amberjack, which account for around 45% of total revenues. Unfortunately, biological data for these stocks are very limited.

Recent assessments of the Mediterranean stock of swordfish (*Xiphias gladius*) carried out by ICCAT, mainly on Spanish, Greek and Italian data, indicate that the current rate and level of exploitation are not sustainable in either the short or long term. Furthermore, the same assessments show a high presence in the capture of younger individuals which have never reproduced (about 50-70% of the total catch) and a very small number of large individuals.

Survey indices for European hake (*Merluccius merluccius*) provided through the programmes GRUND (Italian National Group for Demersal Resource Evaluation) and MEDITS (International bottom trawl survey in the Mediterranean) indicate a variable pattern of abundance and biomass with no clear trend. As reported in STECF-12-03, “EWG 11-20 proposes $F \leq 0.2$ as limit management reference point (basis $F_{0.1}$ as a proxy of $F_{MSY}$) consistent with high long term yields. Given the results of the present analysis, the stock appeared to be subject to overfishing in 2006-2010, as the estimate of fishing mortality was 0.63 in 2010. Regardless of the growth pattern a considerable reduction is necessary to approach the $F_{MSY}$ reference point (Factor; ~65-70% of the current $F$ value, depending on the year). However, considering the high productivity in terms of incoming year classes, this stock has the potential to recover fast if $F$ is reduced towards $F_{MSY}$”. The reduction in fishing mortality proposed by the EWG 11-20 is related to the entire fleet operating in GSA 10 fishing areas. These means that these reductions are not expected necessarily by the fleet of Isola delle Femmine or the fleets registered in the province of Palermo, which represent just a part of the total fleet operating in GSA 10. More details on stock assessments for these stocks can be found in the “Report of the Scientific, Technical and Economic Committee for Fisheries on Assessment of Mediterranean Sea stocks (STECF-12-03)".

Within the territory of the Palermo municipality there are a number of fishing ports and landing points. The main fishing ports are Mondello, Arenella, La Cala and Bandita. The following description is extracted from the documentation by the COGEPAC“Castellamare del Golfo e Palermo Ovest” for the definition of the local management plan.
Mondello is an ancient fishing village built around the ancient fixed tuna-fishing net. The fleet operating in this port consists of 20 vessels with official registration numbers and an unknown number of vessels with similar characteristics, but are not registered. The bay of Mondello, a popular seaside resort in the North West part of Palermo, contains a short quay on the west side and a concrete jetty nearby, where fishing boats can moor. It is relatively safe being well protected from the prevailing winds of the north-west and south-west, while it can be dangerous during episodes of levanter and gregale. In summer, several floating docks for recreational boating are installed. Mooring services are completely missing, except for a crane for hauling and launching boats. The local fishing cooperative has a large warehouse for fishing tools on the dock. Fishers have adapted to the development of the area for tourism and are involved in specific activities designed to meet the demands of the increasing number of tourists. The main activities are directed to contribute to the satisfaction of the needs of the many restaurants and retailers of seafood of the township. Therefore, urchins, octopus, squid and prized fish represent the main source of income of these vessels. Furthermore, local fishermen are also involved in real tourist services such as visits to the nearby Marine Protected Area of Capo Gallo.

The port of Arenella hosts one of the largest fleets in Palermo, consisting of about 30 boats. The port, not yet complete, consists of a breakwater facing south with three basins. The incomplete status of the port is a major limiting factor in the event of heavy storms from the south-east, which often cause severe damage to structures and vessels. A safety intervention is in progress for the port by extending the existing breakwater and the construction of a new pier. The seaside village of Arenella has arisen around the structures of the ancient fixed tuna-fishing net. Among the fishing gears used alternately during the year by the thirty boats of the local fleet there are seines for anchovy, small-scale driftnets (ferrettara) for pelagic, longlines for swordfish and tuna, trammel nets and lines. Local landings are sold to wholesalers, informal small traders and the fish market. Services like distributors of fuel, electricity and water are completely absent.

The basin of La Cala corresponds to the ancient port of Palermo, located at the confluence of the rivers Kemonia and Cannizzaro, which have been transformed into urban waste waters. It is the most sheltered harbour among those along the coast of Palermo, being incorporated within the structures of the commercial port of Palermo. La Cala is largely used as a mooring for pleasure craft, with many floating docks managed by the yacht clubs of Palermo. The space for fishing boats is currently limited to the inner part of La Cala. The local fleet consists mostly of small boats (around twenty), as well as tens of pseudo-amateurs boats fishing with nets and lines in the waters off the port. There are also some boats of medium tonnage, which operate mainly as purse seiners. While La Cala is adjacent to the Palermo fish market, there is no effective relation between these structures. Fish managed at the Palermo fish market is coming largely from outside the area of Palermo, like Sciacca, Mazara, Porticello and non-Italian locations. The whole area of La Cala is currently interested in an important clean-up action and renovation of the docks.

The small port of Bandita, located in the area of Acqua dei Corsari in the south-eastern border of the city of Palermo, has been partially repaired by 2 concrete moles, but it is not safe for boats with the north, north-west and gregale winds. Therefore, fishers are often forced to beach their boats or even
move them to La Cala, resulting in a restriction of operations. The local fleet consists of about 15 boats with official registration numbers and an unknown number of vessels with similar characteristics, but are not registered. The fleet operates exclusively in the small coastal fishing with a prevalence of gill nets, trammel nets, monofilament, catching mullet, hake, squid and other fishes depending on the season. No service is available.

### 2.4.1 Fleet segment 1: Polyvalent VL0006

The fleet segment Polyvalent VL0006 consists of vessels with a length over all lower than 6m, with 1 GT and 4 kW on average. Given the small size of these vessels, crew generally consists of a single fisherman. As he is generally the vessel owner, the skipper and the crew, his employee-type is here defined as self-employed. These vessels use both active and passive fishing gears, like trammel nets, gillnets, hooks. The main target species are squids, common octopus, greater amberjack, European hake and common cuttlefish. A declining trend in the volume and value of landings, with fluctuations, has been recorded over the last six years. The number of vessels is also declining. The reduction in revenues and the increase in operating costs (fuel costs in particular) have resulted in a decline in the profitability of these vessels.

**Fleet segment as a whole**

As reported above, vessels in this fleet segment are generally managed by a single fisher who owns a single vessel and brings together the roles of manager, skipper and crew. Of 7 questionnaires submitted to vessels owners in this fleet segment, a single crew member other than the owner was found in only two cases. Local fishermen stated that crew members generally come from the family of the owner, however, of the three crew members other than the vessel owner registered through questionnaires, two were no relation of the owner (one was the vessel owner's brother). Statistical sources (IREPA database) show that the average number of employees is around 1.3 and has not changed over time, while the total number of employees has decreased following the declining trend in the number of vessels.

The stakeholder focus group stated that women do not have any direct role in fishing activities, however, in some cases, given the long absence of fishermen from the mainland, their wives carry out an administrative role on behalf of the husbands. Furthermore, the absence of fishermen from the mainland leaves the spouses or partners to play a central role in family decisions and child care. The decision-making processes related to fishing activities are totally managed by the vessel owner. Other family members, like spouses or partners, are not involved in these decisions, which are based on external factors such as the seasonality of fishing activities.

Extrapolation of data from IREPA show a total of 74 vessels for this fleet segment (2011 data), which employ 93 people. Table 5 shows that questionnaires submitted to vessels owners have registered a single person employed in 5 cases and two people in the other two cases. All employees are male and of local origin. They are distributed in all age classes with the exception of the class lower than 18 and a prevalence in the class 40-65 (see Table 5 and Figure 3).

<p>| Table 5: Demographics by employee type. Polyvalent VL0006 (n=7) |
|-----------------|-----|-----|</p>
<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>employee type</td>
<td>number of employees</td>
<td>male</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------</td>
<td>------</td>
</tr>
<tr>
<td>Managerial</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>administrator</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Self-employed</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>crew</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

n: number of questionnaires.
Source: Consultants calculations based on the questionnaires.

Figure 8. Demographics of business within the Polyvalent VL0006 (n=7)
Source: Consultants calculations based on the questionnaires.

The questionnaires submitted to fishers show that their families consist of 4 people on average. Almost all people interviewed are married and have more than one son (or daughter). No member of the family is involved in the fisheries sector. Wives are housewives, while daughters and sons can be students, unemployed or employed in sectors other than fisheries. Table 6 shows the number of employees registered through questionnaires divided into family and non-family members. Of 9 people employed on 7 vessels, 2 of were not related to the vessel owner. In a single case, the vessel owner was not employed on the vessel and the vessel was managed by a different person, however, the family employees are the vessel owners. As reported above, no other family members are generally involved in the fisheries sector.
Table 6. Level of family involvement in business. Polyvalent VL0006 (n=7)

<table>
<thead>
<tr>
<th></th>
<th>Number in management roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family employees</td>
<td>7</td>
</tr>
<tr>
<td>Non-family employees</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
</tr>
</tbody>
</table>

n: number of questionnaires.
Source: Consultants calculations based on the questionnaires.

Estimates based on data provided by IREPA show a total GVA for the fleet segment equal to EUR 580,000 in 2011. This is equivalent to a GVA per vessel of almost EUR 8,000 per year. From 2006 to 2011, GVA per vessel decline of almost 50%. However, 2010 was the most critical year and in 2011 a slightly increase was recorded. This negative performance is mainly due to the decline in total revenues.

Table 7. Trend in gross value added for Polyvalent VL0006

<table>
<thead>
<tr>
<th>Variable (EUR)</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>GVA</td>
<td>1437,231</td>
<td>1,108,097</td>
<td>509,906</td>
<td>90,5346</td>
<td>330,160</td>
<td>580,637</td>
</tr>
<tr>
<td>GVA/vessel</td>
<td>14,817</td>
<td>12,451</td>
<td>6,143</td>
<td>11,460</td>
<td>4,344</td>
<td>7,846</td>
</tr>
</tbody>
</table>

Source: Elaborations on IREPA data

Landings of this fleet segment are mainly composed of demersal species, which represent almost 85% of the total. Squids and common octopus represent more than 30% of total landings and the remaining landings are mainly composed of pelagic species, where greater amberjack represents the most important species. From 2006 to 2011, total landings volume has declined by 50% and landings of demersal and pelagic species have declined by 47% and 67% respectively.

Figure 9 Trends in landings volume for Polyvalent VL0006
Source: Elaborations on IREPA data
In terms of landings value, demersal species represent 85% of total revenues. Squids and common octopus represent around 35% of total revenues for this fleet segment. The remaining 15% of revenues is mainly from pelagic species, where greater amberjack represents the most important species (around 10% of total revenues). From 2006 to 2011, the reduction in landings volume has caused a reduction in revenues estimated at almost 50%. This reduction is mainly due to demersal species, which have also undergone a decrease in price. In contrast, the reduction in landings for pelagic species has been partially counterbalanced by an increase in the market price.

![Figure 10 Trends in landings value for Polyvalent VL0006](image)

Source: Elaborations on IREPA data

Figure 11 shows the trends in prices for the main species (or groups of species) landed by vessels classified as polyvalent shorter than 6 m. Marine fishes nei (this group includes all fishes not classified elsewhere) and squids represent the main target species in terms of revenues accounting for more than 45% of the total. Both species have seen a reduction in price of 18% over the period analysed. The price of common octopus, which represents 13% of total landings value, has shown a stable trend. The other two main species, greater amberjack and European hake have increased in price by 16% and 23% respectively.
The number of vessels shows a decreasing trend, as well as in gross tonnage and engine power. A reduction of 23 units from 97 in 2006 to 74 in 2011 was recorded. Local stakeholders said that some of these vessels have probably shifted from legal to illegal fishing.
Remuneration type is based on a share-contract system where the difference between revenues and operating costs is divided into two parts, one directed to remunerate the crew and another the ship owner. This type of contract dominates in the Mediterranean fishing sector. Although a minimum salary has been established by the Italian laws, this is used only for calculating and paying the social security contributions.

Table 8. Remuneration type by vessel. Polyvalent VL0006 (n=7)

<table>
<thead>
<tr>
<th>Remuneration type</th>
<th>no. people</th>
</tr>
</thead>
<tbody>
<tr>
<td>piece</td>
<td>0</td>
</tr>
<tr>
<td>share</td>
<td>9</td>
</tr>
<tr>
<td>wage</td>
<td>0</td>
</tr>
</tbody>
</table>

n= number of questionnaires.
Source: Consultants calculations based on the questionnaires.

As reported above, there is a negative trend in the economic performance of the fleet segment. The reduction in revenues and the increase in fuel costs have caused a significant decline in the gross value added. The stakeholders interviewed have identified the European and international regulations as the main factors driving this situation. These regulations have limited the potential for larger vessels
to fish tuna and swordfish (the most important target species of larger vessels in the past) forcing them to compete for the same species as smaller vessels. This has increased the fishing effort on these species and reduced their biomass. Furthermore, it is thought that restrictions imposed on the large pelagic fisheries are also creating problems for small pelagic stocks as a consequence of the increased predation by recovering tuna populations.

**Employees within segment**

For all employee-types, pension and family allowances are the only benefits provided by the business. Family allowances are assigned given the low level of income of the family. All fishermen employed in this fleet segment stated they had an annual income below EUR 10,000. The household income can be higher than this due to alternative employment which is carried out during the summer or the salaries of other household members (when employed in sectors other than the fishery).

<table>
<thead>
<tr>
<th>Table 9. Salary band by employee type (EUR). Polyvalent VL0006 (n=7)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employee type</strong></td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>Managerial</td>
</tr>
<tr>
<td>Administrator</td>
</tr>
<tr>
<td>Self-employed</td>
</tr>
<tr>
<td>Crew</td>
</tr>
</tbody>
</table>

n= number of questionnaires.
Source: Consultants calculations based on the questionnaires.

Entering the fleet segment does not require any specific attribute other than to be male, in good health and previous experience in fisheries. Fishers interviewed did not declare any specific qualifications. They generally hold a seaman certificate (libretto di navigazione), but this registration does not require any specific attribute or skill. Fishers could obtain other qualifications based on their experience or attending specific training courses, however, as they are generally self-employed, they do not need additional qualifications to work.

Most of the fishermen interviewed have completed secondary education (Figure 15). For all respondents, fishing was their first form of employment. They were moderately satisfied with their jobs having not looked for a different job in the past and they were not interested in changing job in the future. Although only one person said he was involved in (two) other jobs outside the fishing sector, local stakeholders stated that this is quite common. In particular, they stated that around half of the fishers based in Mondello port actively fish from November to April, while in the summer they are involved in other activities within tourism, such as waiting in restaurants or lifeguards. Other fishers based in Palermo ports are also labourers, bricklayer or have a pension because they are retired from a previous job. As such, it is not surprising that they are not looking for alternative jobs.
In the past, the level of inter-generational transfer of fishing skills was high within the family. The transfer of skills was carried out by the direct involvement of sons in the fishing activities from a young age. Questionnaires indicated that the fathers of all the fishers interviewed were fishermen. In contrast, even though some fishers’ sons are also fishers, the younger generation are generally not interested in the fishing sector are usually employed in other sectors.

Fishers’ perception of their own wealth is good. Although the profitability of the local fishing sector is declining, for the majority this activity represents a means of supplementing their income rather than being their primary source of income. As a consequence, their economic condition depends only partially on the fishing sector.

In response to the negative economic performance of the fleet segment, fisher behaviour has remained fairly static. As the majority have alternative sources of income, they continue to fish both because this represents a traditional activity for them and to diversify their income sources. Local fishers reported that they earn around EUR 30 per day representing a combination of fisheries-related income with the low salary they receive in other sectors. The perception is that each fisher works for himself and is not really interested in participating in organizations or institutions which can support the local fishing sector. This also explains the low number of participants attending the meeting organised for this study.
2.4.2 Fleet segment 2: Polyvalent VL0618

The fleet segment Polyvalent VL0618 consists of vessels with an overall length greater than 6 m, with 2 GT and 25 kW on average. Employees generally consist of one or two fishermen, so we prefer to use the definition of self-employed instead of skipper. Therefore, two employment types are defined for this fleet segment: self-employed and crew. These vessels use both active and passive fishing gears, like bottom longlines, trammel nets, gillnets, hooks and trawls. The main target species are swordfish, common dolphinfish, European hake, squids and albacore.

Compared with 2006, landings in volume and value have significantly declined, while the number of vessels classified as polyvalent over 6 m is approximately the same. The reduction in revenues and the increase in operating costs (fuel costs in particular) have caused a decline in the profitability of these vessels from 2006 to 2008. This year was been the most critical for the fleet segment as a consequence of the strong increase in fuel price. The subsequent period, even with higher values compared to 2008, shows a declining trend in revenues and added value.

Fleet segment as a whole

As reported above, vessels in this fleet segment are generally managed by 1-2 fisherman. The skipper (self-employed) is usually also the vessel owner, who generally owns a single vessel. Given the low number of employees per vessel, this number cannot change over time. Of 5 questionnaires submitted to vessels owners in this fleet segment, only one crew member other than the owner was recorded; he was not related to the vessel owner. However, local fishers stated that crew members are generally selected from within the family. Between 2006 and 2009 the average number of employees declined to 1.6, but this increased thereafter. Estimates based on IREPA data suggest the average number of employees per vessel is 1.9, however, based on the questionnaires and the relatively smaller size of these vessels compared with other vessels in the same length class in other areas of the North of Sicily, this seems to be and overestimate.

Regarding the role of women, the stakeholder focus group stated that women do not have any direct role in fishing activities. However, in some cases, given the long absence of fishermen from the mainland, their wives carry out an administrative role on behalf of the husbands. Furthermore, the absence of fishers from the mainland gives their partners or spouses a central role in family decisions and child care. Decision-making processes related to fishing activities are totally managed by the vessel owners, who are generally the only crew member. Other family members, like spouses or partners, are not involved in these decisions, which are guided by the seasonality of fishing activities.

Estimates based on IREPA data indicate a total of 44 vessels in this fleet segment (2011 data), employing 83 people. All employees are male and of local origin. Employees are equally distributed among age classes 18-40, 40-65 and over 65 (see Table 10 and Figure 16).

Table 10. Demographics by employee type. Polyvalent VL0618 (n=5)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>employee number of</td>
<td>male</td>
<td>female</td>
</tr>
</tbody>
</table>

22
The questionnaires submitted to fishermen show that their families consist of 3-4 people on average. Almost all people interviewed are married and have two or three sons (or daughters). No family members are involved in the fisheries sector. Wives are housewives, while daughters and sons can be students, unemployed or employed in sectors other than fisheries.

Table 11 shows the number of employees registered through questionnaires divided into family and non-family members. The family employees coincide with the vessel owners, who are generally also the only crew member. The only crew member other than the vessel owner was not related to him. As reported above, there is no participation of family members in fishing activities.

Table 11. Level of family involvement in business. Polyvalent VL0618 (n=5)
<table>
<thead>
<tr>
<th>number in management roles</th>
<th>number</th>
</tr>
</thead>
<tbody>
<tr>
<td>family employees</td>
<td>5</td>
</tr>
<tr>
<td>non-family employees</td>
<td>1</td>
</tr>
<tr>
<td>total</td>
<td>6</td>
</tr>
</tbody>
</table>

n: number of questionnaires.
Source: Consultants calculations based on the questionnaires.

Estimates based on data provided by IREPA show a total GVA for the fleet segment of EUR 520,000 in 2011. This is equivalent to a GVA per vessel of around EUR 12,000 annually. From 2006 to 2011, GVA per vessel has declined by more than 60%, however, the sharpest decline in profitability was recorded from 2006 to 2008, which was the most critical year. In 2009, the economic performance improved and over the last two years it remained fairly constant. These fluctuations in GVA are directly correlated with those registered in total revenues.

Table 12. Trend in gross value added for Polyvalent VL0618

<table>
<thead>
<tr>
<th>Variable (EUR)</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>GVA</td>
<td>135,2676</td>
<td>1092,332</td>
<td>364,875</td>
<td>778,726</td>
<td>493,286</td>
<td>51,8266</td>
</tr>
<tr>
<td>GVA/vessel</td>
<td>32,207</td>
<td>26,008</td>
<td>9,122</td>
<td>17,698</td>
<td>11,745</td>
<td>11,779</td>
</tr>
</tbody>
</table>

Source: Estimates based on IREPA data

Landings of this fleet segment are composed of pelagic species which represent 55% of the total, and demersal species the remaining 45%. The main stocks are common dolphinfish, swordfish and albacore, which represent more than 40% of total landings. Demersal species consist of a large number of species, of which the most important are squid and European hake. From 2006 to 2011, total landings volume has reduced by 40%, however, the lowest value was recorded in 2008. In 2009 there was an increase in the production followed by a reduction over the last two years.

Figure 17 Trends in landings volume for Polyvalent VL0618
Source: Elaborations on IREPA data
Landings value of the fisheries are also equally distributed between pelagic and demersal species. The main stock is swordfish, which represents 22% of total revenues, followed by common dolphinfish representing more than 10%. The most important demersal species are European hake and squid, which represent around 10% of total revenues each. From 2006 to 2011, the reduction in landings volume results in a reduction in revenues estimated at almost 40%. The trend in revenues for both pelagic and demersal stocks in the period under analysis is very similar to that described above for landings. The reduction in landings for pelagic species has been partially counterbalanced by an increase in market price, while prices for demersal species have declined over the period analysed.

![Figure 18 Trends in landings value for Polyvalent VL0618](image)

Source: Elaborations on IREPA data

Figure 19 shows the trends in prices for the main species (or groups of species) landed by vessels classified as polyvalent larger than 6 m. Compared to 2006, the price of swordfish has increased by 10%, while common dolphinfish significantly increased, particularly over the last year. In contrast, demersal species, such as European hake and the group of Marine fishes nei (this group includes all fishes not classified elsewhere), have declined in price in the period under analysis.
The number of vessels is not changed over time. Fluctuations in Figure 20 are related to just 2 vessels. The total number of vessel increased from 42 in 2006 to 44 in 2011 and change in engine power and gross tonnage were also very limited.

An increase in the number of vessels even in a situation of declining economic performance is not surprising. The negative performance of the fisheries is common to the entire area of Northern Sicily as well as other Sicilian coastal areas. Each year some vessels move from one port to another (generally along the same coast) changing also the maritime district where these are registered. The balance between these administrative variations can determine an increase in the number of vessels even in a situation of economic crisis.

From 2008 to 2011, 11 vessels entered into this fleet segment and 7 vessels exited increasing the fleet segment by 4 units. The Fleet Register shows that 8 of the vessels entered in the fleet segment were from other ports (Termini Imerese, Porticello, Trabia, etc.) and 3 vessels are new constructions. In the same period, 4 vessels moved to other ports (Lampedusa, Sant’Agata di Militello, etc) and 3 vessels were decommissioned.

As reported above, the fleet segment “Polyvalent VL0618” consists of DCF fleet segments PGP VL0612, PGP VL1218, PMP VL0612 and PMP VL1218. However, almost all vessels are smaller than 12 m. Only one vessel larger than 12 m was registered in the period 2006-2010 and just 2 vessels in 2011.

Table 13. Trend in number of DCF fleet segments included in polyvalent VL0618
### Fishing technique LOA

<table>
<thead>
<tr>
<th>Fishing technique</th>
<th>LOA</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGP</td>
<td>VL0612</td>
<td>41</td>
<td>41</td>
<td>39</td>
<td>43</td>
<td>40</td>
<td>41</td>
</tr>
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<td>PGP</td>
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<td>1</td>
</tr>
<tr>
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<td>VL0612</td>
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<td></td>
<td>1</td>
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<td>1</td>
</tr>
<tr>
<td>PMP</td>
<td>VL1218</td>
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</tr>
<tr>
<td>polyvalent</td>
<td>VL0618</td>
<td>42</td>
<td>42</td>
<td>40</td>
<td>44</td>
<td>42</td>
<td>44</td>
</tr>
</tbody>
</table>

Source: IREPA database

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### Figure 20 Trends in number of vessels for Polyvalent VL0618
Source: Elaborations on IREPA data

### Figure 21 Trends in engine power for Polyvalent VL0618
Source: Elaborations on IREPA data
Remuneration type is based on share-contracts. The difference between revenues and operating costs is divided into two parts, one directed to remunerate the crew and another the ship owner. This type of contract is dominant in the Mediterranean fisheries sector. Even though a minimum salary is established by the Italian laws, this is used only for calculating and paying the social security contributions. While the share contract dominates, other remuneration types can exist; one fisher interviewed stated he receives a salary.

Table 14. Remuneration type by vessel. Polyvalent VL0618 (n=5)

<table>
<thead>
<tr>
<th>Remuneration type</th>
<th>no. people</th>
</tr>
</thead>
<tbody>
<tr>
<td>piece</td>
<td>0</td>
</tr>
<tr>
<td>share</td>
<td>5</td>
</tr>
<tr>
<td>wage</td>
<td>1</td>
</tr>
</tbody>
</table>

n= number of questionnaires.
Source: Consultants calculations based on the questionnaires.

As reported above, the trend in economic performance of the fleet segment has been negative over the last six years. Although it is higher than it was in 2008, the current level of GVA is much lower than the value recorded in 2006. The significant decrease in profitability from 2006 to 2011 has been mainly due to a reduction in landings value and landings volume. This is probably due to a deterioration of the status of some stocks. Stakeholders interviewed have identified European and international regulations the main drivers responsible for this situation.

**Employees within segment**

For all employee-types, pension and family allowances are the only benefits provided by the business. Family allowances are assigned given the low level of income of the family. All fishers employed in this fleet segment declared they receive an annual income below EUR 10,000. The household income can be higher due to other income streams such as summer or the salary of other member of the family (employed in sectors other than fisheries).
Table 15. Salary band by employee type (EUR). Polyvalent VL0618 (n=5)

<table>
<thead>
<tr>
<th>employee type</th>
<th>&lt;10,000</th>
<th>10,000-19,000</th>
<th>20,000-29,000</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managerial</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>administrator</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>self-employed</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>crew</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

n= number of questionnaires.
Source: Consultants calculations based on the questionnaires.

Entering the fleet segment does not require any specific attribute other than to be male, in good health and having experience in the fisheries sector. Fishermen interviewed did not declare any specific qualifications. Most hold a seaman certificate (libretto di navigazione), but this registration does not require any specific attribute or skill. Fishermen could obtain other qualifications based on their experience or attending specific training courses, however, as they are generally self-employed, they do not need additional qualifications to work.

Almost all fishermen interviewed have completed secondary education level (Figure 23). Of 6 employees in the sample, only 2 of them have a primary education level. Most of them declared that their first job was in sectors other than fisheries, like yacht skipper, labourer or clerk. They are moderately satisfied with their job having not looked for a different job in the past, although some of them would like to change job in the future. Even though only one have declared he had a second job as skipper of a yacht, local stakeholders stated that it is quite common for fishers in Palermo to have other jobs. In particular, they stated that around half of the fishermen based in Mondello port are active fishers from November to April, while in the summer they are involved in other activities within tourism, like waiting in restaurants or lifeguarding. Other fishermen based in Palermo ports are also labourers, bricklayers or have a pension as they are retirees from a previous job. Given the limited number of crew members, there is no labour mobility between fleet segments.
In the past, the level of transferability of skills in the fishing sector was high within the family. The transferability of skills was carried out by the direct involvement of sons in the fishing activities since their young age. Questionnaires show that in many cases fathers of the fishermen interviewed were fishermen. On the contrary, even though some fishermen sons are fishermen, new generations are generally not interested in the fishing sector. They are generally employed in other sectors.

The perception of their own wealth is good. Even though the profitability of the local fishing sector is declining, for most of them this activity represents a mean to diversify their salary beyond their primary source of income. As a consequence, their economic condition depends only partially on the fishing sector.

Regarding the negative economic performance of the fleet segment, fisher behaviour has been fairly static. As most of them have alternative sources of income, they continue to fish both because this represents a traditional activity for them and to integrate their income. Local fishermen declared they earn around EUR 30 per day and this represents an integration of the low salary they received in other sectors. The perception is that each fisher works for himself and is not really interested in participating in organizations or institutions, which can support the local fishing sector. This would also explain the low number of participants to the meeting organised within this study.
2.5 Summary of settings
The trend in economic performance of vessels located in the ports of Palermo is negative. Both fleet segments show a reduction in landings and revenues compared with 2006. Furthermore, the increase in fuel price which started in 2008, despite fluctuations, has increased operative costs. Estimates based on IREPA data show that 2008 was a critical year for both fleet segments, while 2010 was also very critical for smaller vessels.

Data estimated for this fleets by using IREPA database are not always representative of the real local situation. Local fishermen are not able to explain the reasons for specific falls in production and GVA, however, the negative trend in landings and revenues, especially for demersal species, is confirmed by the local stakeholders. They think that these trends are the consequence of European regulations, which do not take into account the specificities of the local fisheries communities. In particular, these regulations have limited the possibilities for larger vessels to fish tuna and swordfish (which represented important target species of larger vessels in the past) forcing them to compete for the same species as smaller vessels, mainly demersal species. This has increased the fishing effort on these species and reduced their biomass.

The negative performance of the fisheries has partially affected the fleet dimension. The number of vessels larger than 6 m is stable along time, while the smaller vessels have reduced. Some local stakeholders stated that, given the significant number of vessels involved in illegal fisheries which have an additional income through the violation of rules, it is likely that some “legal” fishers have begun to carry out illegal fishing activities. This would explain the reduction in the number of registered vessels.

Even though alternative job opportunities exist in a big city like Palermo, fishers generally declared in the questionnaires that they are not interested in changing jobs. Some stakeholders interviewed during the meeting stated that local fishermen generally also have another job, often irregular or not formally declared, and fishing activities represent a means of diversifying their salary. As a consequence, their economic condition depends only partially on the fishing sector and this would explain their willingness to continue fishing activities. Nevertheless, very few fishermen declared in the questionnaires that they had a job other than fishing.

The business structure of the local fishing sector is individual based (self-employed). Generally, the vessel is managed by a single fisherman, who owns a single vessel and brings together the roles of manager, skipper and crew. When there is more than one fisher on the same vessel, he can be a family member of the vessel owner (like a brother; younger generations are not involved in fishing activities) or a person outside the family. The sons of fishermen are generally not involved in fishing activities. All fishers are male and equally distributed among the older age classes. Among the interviewed fishers, the youngest one was 33 and the average age was 50.

In terms of the role of women, the stakeholder focus group stated that women do not have any direct role in fishing activities, however, in some cases, given the long absence of fishermen from the mainland, their wives carry out an administrative role on behalf of the husbands. Furthermore, the absence of fishermen from the mainland causes spouses or partners to play a central role in family decisions and child care.
The education level is generally low, but higher than in other fishing communities. Most of the people involved in fishing activities have completed secondary education (they studied until 16 years old). The average annual income declared in the questionnaires is less than EUR 10,000 for all people interviewed, however, the salary of the household is rarely the only income for the family. Even though wives are usually housewives, other members of the family can be employed or the same householder can have a second job outside the fishing sector.

<table>
<thead>
<tr>
<th></th>
<th>Polyvalent VL0006</th>
<th>Polyvalent VL0618</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target species status</strong></td>
<td>Decreasing</td>
<td>Unknown</td>
</tr>
<tr>
<td><strong>Fleet evolution</strong></td>
<td>Decreasing</td>
<td>Stable</td>
</tr>
<tr>
<td><strong>Business type</strong></td>
<td>Individual level</td>
<td>Individual level</td>
</tr>
<tr>
<td><strong>Demographics</strong></td>
<td>All age-classes over 18</td>
<td>All age-classes over 18</td>
</tr>
<tr>
<td><strong>Average annual income (EUR)</strong></td>
<td>&lt;10 000</td>
<td>&lt;10 000</td>
</tr>
<tr>
<td><strong>Main education level</strong></td>
<td>Secondary school</td>
<td>Secondary school</td>
</tr>
<tr>
<td><strong>Highlights</strong></td>
<td>Negative economic performance</td>
<td>Negative economic performance</td>
</tr>
<tr>
<td></td>
<td>Low interest in adaptability</td>
<td>Low interest in adaptability</td>
</tr>
<tr>
<td></td>
<td>Fishing as a secondary job</td>
<td>Fishing as a secondary job</td>
</tr>
<tr>
<td><strong>Key points</strong></td>
<td>Negative view of EU Regulations</td>
<td>Negative view of EU Regulations</td>
</tr>
<tr>
<td></td>
<td>Fishing as a second job</td>
<td>Fishing as a second job</td>
</tr>
</tbody>
</table>

3. **Linkages**

3.1 **Inter-sectoral linkages**

Even though a substantial portion of the potential fishing area is closed to fishermen through a marine protected area (MPA), this is not seen as a problem by local fishermen. This might be perceived as an opportunity, especially for fishers who are involved in organising touristic trips to the MPA of Capo Gallo-Isola delle Femmine.

In 2002, the Ministry of Environment has established the MPA of Capo Gallo-Isola delle Femmine, falling in the territory of the municipalities of Palermo and Isola delle Femmine. The MPA is divided into zones A, B and C in reference to the different levels of protection. In particular, the two areas classified as A (maximum protection) are localized in the sea area at north-west and north-east of the small isle in front of Isola delle Femmine and in the sea area on the west of Capo Gallo (see Figure 24). There are three areas classified as B, of medium protection, two of which surround the two A zones while the third
is between Punta Catena and Punta Matese. Finally, zone C, of low protection, comprises the remaining part of the sea within the perimeter of the MPA. The dimensions of these areas is 2,173 ha divided as follows:

- A zone: 77 ha;
- B zone: 242 ha;
- C zone: 1854 ha.

The objectives of the MPA of Capo Gallo-Isola delle Femmine are as follows:

- environmental protection of the marine area;
- protection and enhancement of the biological and geomorphological resources of the area;
- dissemination of the ecological and biological knowledge of the MPA marine and coastal environments;
- carrying out educational programs for the improvement of general knowledge in the field of ecology and marine biology;
- the implementation of studies and scientific research programs in the fields of ecology, marine biology and environmental protection, in order to ensure the systematic knowledge of the area;
- the promotion of a socio-economic development compatible with the relevance of naturalistic landscaping of the area, favouring traditional local activities already present.

Initially, the management of the MPA was temporarily assigned to the local Coast Guard (Capitaneria di Porto) and only in 2012 the management passed to a consortium consisting of the Province of Palermo,
the Municipality of Isola delle Femmine and the Regional Department of the Forestry Corps. In the opinion of local stakeholders interviewed, planned economic exploitation of the area has never started. Specific actions in this direction could help the fishing sector to diversify their activities and sources of income.

The MPA of Capo Gallo is an important tourist attraction, however, Palermo attracts tourists not only for its environmental heritage, but also for its history and monuments. The tourism sector represents a very important possibility of diversification for local fishermen. Some of them, especially those based in the port of Mondello, have already integrated their fishing activities with services to tourists collaborating with the local tourist structures, such as restaurants, hotels and bathhouses.

As Palermo is a big city, the area is clearly affected by various human activities that directly and indirectly impact the fishing sector. One of the main problems is related to water pollution due to the sewage of the city because the sewer and wastewater system is largely incomplete and insufficient. This problem is particularly serious in the port of La Cala, which is incorporated within the structures of the commercial port of Palermo. In the Gulf of Palermo there are also many areas where fishing is prohibited because various types of port infrastructures limit the operation and the space available for small-scale fishing.

One of the most serious problems encountered by the vessels of Palermo and other coastal areas in the North of Sicily is recreational fishing. This definition includes both amateur anglers and pseudo-sport fishermen, which carry out illegally a real professional fishing activity. Although the global phenomenon is not yet quantified, fishermen have estimated that the pleasure craft involved in the phenomenon are several hundred with various type of tonnage and engine, and equipped with specific equipment, sometimes very sophisticated. The amateur anglers generally operate a seasonal and occasional activity, concentrated mainly during summer holidays and public holidays, while the pseudo-sport fishermen operate throughout the year in an intensive way and with no compliance of regulations. They also sell the fish, presenting unfair competition for professional fishermen who cannot compete with the prices offered by the illegal fishermen. This happens in an almost total lack of control, leading professional fishermen to leave the legal activity and engage in the more profitable but illegal activities. The phenomenon is particularly prevalent in the area of Palermo because of the presence of many landing points and the difficulties encountered by the control authorities due to limited human and financial resources.

3.2 Intra-sectoral linkages

2.2.1 Between fleet segments

There are no particular conflicts between fleet segments in the area of Palermo. Even though two fleet segments have been identified in this report, all vessels are polyvalent and relatively small and the difference between vessels above and below 6 m is not really perceived by fishermen. However, the increase in the fuel price started in 2008 and the limitations to the catch of large pelagic stocks has
forced larger vessels to operate in areas closer to the coast. This has caused an increase in effort on the demersal resources, damaging the productivity of smaller vessels.

2.2.2 Between subsectors

The fisheries sector in Palermo is mainly the catching sub-sector. The selling channels are differentiated depending on the ports. For instance, fishers operating in Mondello sell their products directly to local restaurants or to tourists during the summer while the vessels based in Bandita port sell their products directly on the main road near the port without any hygiene controls. Other fishermen sell their products to informal small traders and wholesalers.

Although there is an important fish market in Palermo, local product is only occasionally sold there. The Palermo fish market is mainly supplied by products coming from large fishing fleets, like those based in Mazara, Sciacca, Porticello, and also from other countries like Tunisia and Morocco. The shipbuilding industry in Palermo is very important, but this is focused on the design and construction of merchant ships. There are no linkages with the local fishing sector, where fishers do minor repairs themselves or, if necessary, use the shipyards located in Porticello.

Based on estimates from the Chamber of Commerce database, fish processing in Palermo consists of around ten small companies with 2-3 employees each, a couple of medium-sized companies employing around 15 people each, and a large-sized company, COALMA, which employs around 120 people. There are no linkages between the local catching sub-sector and processing in Palermo as these companies generally take the raw material from other locations. COALMA has a long history based on family tradition, which the founder, Francesco Macaluso, started in 1922 with the processing of small pelagics and tuna. The current form of the company was established in 1967 and its main activity is the processing and large-scale retail trade of Bluefin and Yellowfin tuna. Local stakeholders confirmed the importance of this company especially for the past, when it employed up to 300 people, most of them women. However, in the last years, as a consequence of the economic crisis and some investment decisions, the company is undergoing a critical period with reductions in the activity and number of employees.

3.3 Summary of linkages

The linkages of the catching sectors with other economic sectors can be separated into positive and negative ones. The formers are related to the presence of the MPA of Capo Gallo-Isola delle Femmine and an increasing tourism sector. In some cases, tourism and fishing sector interact positively, however, this linkage, especially for the economic exploitation of the MPA, could be further developed. The negative linkages regard the environmental pollution due to the incomplete and insufficient sewer and wastewater urban system, and the presence of the illegal fishery.

No specific conflicts exist between the fleet segments operating in the ports of Palermo (the difference is not really perceived by local fishermen), though there may be small conflicts among individual
fishermen. Regarding the linkages between fishery sub-sectors, even though shipbuilding and fish processing are prevalent in the area, these are not connected to the local catching sub-sector.

4. Role of fishing

4.1 Fisheries as an economic activity

4.1.1 Diversification and Adaptation

As reported above, Palermo has a diversified economic structure. Nevertheless, the local economy is characterized by the predominance of the tertiary sector with a high incidence of workers in the public sector and public services and a low share in industrial activities. Recent data confirms the tendency of Palermo towards the tertiary sector, but also the increasing relevance of tourism. The development of tourism presents an important opportunity for the diversification of activities carried out by fishers. In some cases, like in the port of Mondello, these opportunities have already been exploited and many fishers are also involved in tourism-related activities. Fishers operating in other ports could also benefit from the strong linkage between tourism and fishing sector in the future due to better economic exploitation of the MPA of Capo Gallo-Isola delle Femmine, which management has passed to a public consortium in 2012.

However, local fishermen are not very dependent on the income provided by fishing activities. Most have a second job and some of them carry out fishing activities only in certain periods of the year to diversify their income. Generally, they are labourers, bricklayer, people who have retired and receive a pension, or are employed in tourist activities, like yacht skippers. Although these jobs are usually not officially declared, a form of diversification of their activity is already been achieved, however, this is carried out at individual level without organised groups.

Given the possibility of working in other sectors simultaneously, local fishers are not interested in leaving the fishing sector. They are moderately satisfied with their jobs but younger generations are not interested in the fishing sector, which is becoming less and less attractive, causing an increase in the average age of people employed. Within the catching sector, diversification can be associated with decisions regarding the target species, the fishing gears used and the exploited fishing areas. From this point of view, the presence of a high number of fishing methods in the area has allowed fishers to diversify the landings composition to face the decrease in biomass of demersal species and, in some cases, to face the increase in fuel price by changing fishing areas.

Over the last ten years, the capacity to adapt to changes and exploitation of the opportunities available has been good. Even though this capacity has not been expressed by organised groups, single fishers have been active in taking advantage of the opportunities created by the increasing tourism. The individual nature of fishing can be seen also in the lower level of solidarity they perceive in the catching sector compared with the solidarity within the entire community (questionnaires). This situation does not encourage the organization of fishermen in associations.
Among the list of social indicators proposed to local fishermen for evaluation in terms of their importance in influencing the local community well-being, “health” was ranked as most important, scoring 4.58 on average. Other important indicators were “level of education”, which scored 4.42 on average, “family, close relationships”, which scored 4.33, and “unemployment and income support rates” with an average score of 4.17. This indicator is particularly important for vessels below 6m, which fishermen have declared a score of 4.43 on average.

4.2 Future development of the community

The fishing sector in Palermo is expected to follow the current trend in the near future. Fishers think that illegal fishing will probably increase as a consequence of inefficient controls and the declining economic condition of the legal sector. An increase in fishing effort and a consequent further deterioration of the stocks is expected as a result of the illegal fishing and recreational fishing. The legal sector will probably experience a further reduction in the employment. Younger generations will be not involved in the fishing activities and the average age of local fishermen will increase.

The area has many opportunities that are still not fully exploited. The presence of the MPA of Capo Gallo and an important tourism sector represent opportunities for fishers to diversify their activity towards fishing tourism and other tourist-related activities. However, this needs better organization of the local fishing community. The introduction of a self-management system, which takes into account the local characteristics of the area, would be very useful to meet the real needs of local fishers and find solutions for diversification of the activities.

A first step in this direction has been already carried out through the establishment of the COGEPa of “Castellammare del Golfo e Palermo Ovest”. The COGEPa is a consortium aimed to manage the artisanal fisheries through the implementation of local management plans.

Table 16 shows the results of a SWOT analysis performed with the local stakeholders.
Table 16. SWOT analysis

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Threats</th>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>High level of professional experience</td>
<td>Reduction in landings (especially for demersal species)</td>
<td>Increase of illegal fishing.</td>
<td>Introduction of a self-management system.</td>
</tr>
<tr>
<td>Artisanal fisheries</td>
<td>High presence of illegal fishing</td>
<td>Increase in fishing effort and deterioration of stocks</td>
<td>Introduction of national and local management plans.</td>
</tr>
<tr>
<td>Use of a multitude of fishing gears</td>
<td>Insufficient level of control on illegal activities</td>
<td>Increase of operating costs.</td>
<td>Efficient management of the MPA Diversification of fishing activity towards fishing tourism.</td>
</tr>
<tr>
<td>High quality level of production (high value of species)</td>
<td>Insufficient management of the MPA and its exploitation from an economic point of view</td>
<td>Exit of employees from the sector</td>
<td>Establishment of Producers Organizations.</td>
</tr>
<tr>
<td>A significant number of species landed</td>
<td>Younger generations are not involved in the fishing activities</td>
<td>Reduction in salaries as a consequence of the increase in operating costs.</td>
<td>Development of training courses for fishermen to improve their skills and education level.</td>
</tr>
<tr>
<td>Presence of the MPA of Capo Gallo and an important touristic sector</td>
<td>Local product is not valued and selling channels are too diversified</td>
<td>Low participation of younger generations in the fishing sector with an average age of fishermen becoming older and older.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fishing community not organised for the exploitation of alternative activities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Consultation with local stakeholders and fishermen.

5. Summary and conclusions

Palermo, like other big cities, has a diverse economic structure. A significant number of different economic activities are present in the area. However, Palermo is characterized by the predominance of the tertiary sector with a high incidence of workers in services and a low proportion in industrial activities. In particular, the large presence of government offices of the Sicilian region, municipal and provincial offices, as well as regional offices of public institutions, providing direct employment and through satellite activities represents an important percentage of the total employees. The fishing sector is very marginal in the whole economy of the city representing just 0.1% of total employees. Tourism is a sector showing a positive dynamic trend and the commercial sector is detail-oriented and represented by small and medium size companies, with a small presence of large-scale retail enterprises.

Fishing in Palermo area is predominantly artisanal as evidenced by the extreme polyvalence of fishing activities and the multi-species landings composition of all vessels active in the area, which use a multitude of fishing systems and gears and switch from one to another in the different periods of the year, adapting fishing strategies to the features and seasonality of the target species. Fishing activities are mainly aimed at catching demersal species through static gears (trammel net, gill net) and large pelagic species such as swordfish through longliners.

Local fleet can be split into two fleet segments: Polyvalent VL0006 and Polyvalent VL0618. There are also two vessels classified as demersal trawlers, which have been excluded from the analysis for its limited effect on the local fishing community and for confidentiality reasons. Vessels registered in the
The business structure in the local fishing sector is individual based (self-employed). Generally, the vessel is managed by a single fisherman, who owns a single vessel and brings together the roles of manager, skipper and crew. The decision-making processes related to the fishing activities is totally managed by the skipper, who coincides generally with the vessel owner. Family members involved in the fishing activities can be the brothers of the vessel owner. The sons of fishermen are generally not involved in fishing activities. All fishermen are male and equally distributed among the older age classes. Among the interviewed fishermen, the youngest one was 33 and the average age was 50. Women do not have any direct role in fishing activities, however, in some cases, given the long absence of fishermen from the mainland, their wives carry out an administrative role on behalf of the husbands. Furthermore, the absence of fishermen from the mainland causes them to play a central role in family decisions and child care.

The education level is generally low, but higher than in other fishing communities. Most of the people involved in fishing activities have a secondary education level (they studied until 16 years old). The average annual income from fishing is less than EUR 10,000 per year, however, the salary of the household is rarely the only income the family receive. Wives are usually housewives, but other members of the family can be employed or the same householder might have a second job outside the fishing sector.

The economic performance of vessels located in the ports of Palermo is negative. Both fleet segments show a reduction in landings and revenues compared with 2006. Furthermore, the increase in fuel price has increased operative costs. Data show that 2008 was a critical year for both fleet segments, while 2010 was also very critical for smaller vessels. Local fishermen think that these negative trends are the consequence of EU regulations, which do not take into account the specificities of the local fishing communities. These regulations have limited the possibilities for larger vessels to fish tuna and swordfish (which represented the most important target species of larger vessels in the past) forcing them to compete for the same species of smaller vessels, mainly demersal species. This has increased the fishing effort on these species and reduced stock biomass.

The negative performance of the fisheries has partially affected the fleet dimension. The number of vessels larger than 6 m is stable along time, while the smaller vessels have declined. Given the
significant number of vessels involved in illegal fisheries it is likely that some fishermen decided to exit the registered fleet and continue fishing illegally instead.

Even though alternative job opportunities exist in a big city like Palermo, fishers are generally not interested in changing jobs. However, most of them already have another job, sometimes irregular or informal, and fishing activity represents a means of diversifying their salary. As a consequence, their economic condition depends only partially on the fishing sector and this would explain their willing to continue the fishing activity. Although the jobs outside the fishing sector are usually unofficial, a form of diversification of their activity has already been achieved. Given the possibility of working simultaneously in other sectors local fishermen are not interested in leaving the fishing sector, even with the declining profitability. They are moderately satisfied with their jobs, however, younger generations are not interested in the fishing sector as it becomes less attractive resulting in an ageing population of those still employed.

The development of the tourism sector is important for the diversification of activities carried out by fishers. In some cases, like in the port of Mondello, this opportunity has already been exploited and many fishermen are also involved in touristic activities. Fishermen operating in other ports could benefit of the strong linkage between tourism and fishing sector in the future also thanks to a better economic exploitation of the MPA of Capo Gallo-Isola delle Femmine, which management has recently passed to a public consortium. In the last ten years, the capacity of adaptation to changes and exploitation of the opportunities has been good. Even though this capacity has not been expressed by organised groups, single fishermen have been active in taking advantage of the opportunities created by the increasing touristic demand. The individualism of local fishermen can be considered as a feature of the local community. This does not encourage the organization of fishermen in associations.

One of the main problems for the local fishing community is the presence of a substantial number of illegal fishers hidden under the definition of recreational fishing, who are in competition with legal fishermen for both the exploitation of the marine resources and the sale of the product. The increase in regulations and controls in the fishing activities from one side and the absence of controls of illegal fishing are driving professional fishermen to leave their job and fish illegally instead.

No specific conflicts exist between the fleet segments operating in the ports of Palermo (the difference is not really perceived by local fishermen), but conflicts might be present among individual fishers. Although shipbuilding and fish processing are prevalent in the area, they are not connected to the local catching sub-sector.