

European Commission

Fish / 2006 / 09

Assessment of the status, development and diversification of fisheries-dependent communities

Killybegs Case study report

July 2010



Acronyms

| | |
|--------|---|
| ACFA | Advisory Committee on Fisheries and Aquaculture |
| BIM | Bord Iascaigh Mhara |
| BIP | Border Inspection Post |
| CFP | Common Fisheries Policy |
| DAFF | Department of Agriculture Fisheries and Food |
| DED | District Electoral Division |
| EAPO | European Association of Producer Organisations |
| EU | European Union |
| FTE | Full Time Equivalent |
| GT | Gross Tons |
| IUU | Illegal Unreported and Unregulated (fishing) |
| KFO | Killybegs Fishermen's Organisation |
| kW0 | Kilo Watts |
| LYIT | Letterkenny Institute of Technology |
| LRAC | Long Distance Regional Advisory Council |
| NWWRAC | North Western Waters Regional Advisory Council |
| PRAC | Pelagic Regional Advisory Council |
| RSW | Refrigerated Sea Water |
| SFPA | Sea Fisheries Protection Authority |
| TAC | Total Allowable Catch |
| TVN | Total Volatile Nitrogen |

This report has been prepared through a joint collaboration between Graeme Macfadyen (Poseidon Aquatic Resource Management Limited Ltd), Michael Keatinge (BIM), Sean O Donoghue (Killybegs Fishermen's Organisation (KFO)), and Art Kavanagh (consultant to the KFO), with the active support of community stakeholders. The authors acknowledge the important role played by local stakeholders in providing both the quantitative data and the qualitative information presented in this report. This support has been critical in generating primary data not previously available for the Killybegs area.

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1. Introduction

1.1 General description

Killybegs, located in County Donegal in the north-west of Ireland, has been acknowledged as Ireland's premier fishing harbour for many years. The most recent figures (2009), suggest that Killybegs accounted for more than 100,000 tonnes, and around 45% of the total fish landed by Irish vessels at Irish Ports. While most landings are made by local vessels, there are also some foreign landings made at the port. The fishing sub-sector activity is strongly based on that of the pelagic segment, and of the 23 vessels with full Refrigerated Sea Water (RSW) licences in Ireland 19 are based in Killybegs. There is a considerable concentration of pelagic processing factories within the area, based primarily on landings from local vessels, but with factories also taking some product from visiting vessels. The harbour used to be the home of a considerable whitefish fleet, but this fleet has declined over the past 20 years due to the sale of tonnage/licences and decommissioning, brought about largely by declining whitefish and deepwater fishery quotas. So while there continues to be a nucleus of modern whitefish vessels, and some shellfish activity, the cornerstone of the catching sub-sector in Killybegs is the pelagic catching segment and related processing activity. As befits such a major fishing harbour, there is also much economic activity in the community based around ancillary services supporting the fishing industry e.g. stevedoring, electronics, hydraulics, boat and net manufacture, repair facilities and large warehousing.

While some people have been forced to leave the industry and related services, primarily due to declines in whitefish quotas but also due to pressures on the pelagic segment, fishing remains the main contributor to the local economy and driver of local prosperity. There are few alternative employment activities in the immediate or surrounding areas, and tourism is relatively undeveloped. The emergence of Killybegs as the main support area for the offshore oil and gas exploration activity off the West Coast has however provided some relief to the unemployment in the area, but unemployment levels remain high compared to national figures.

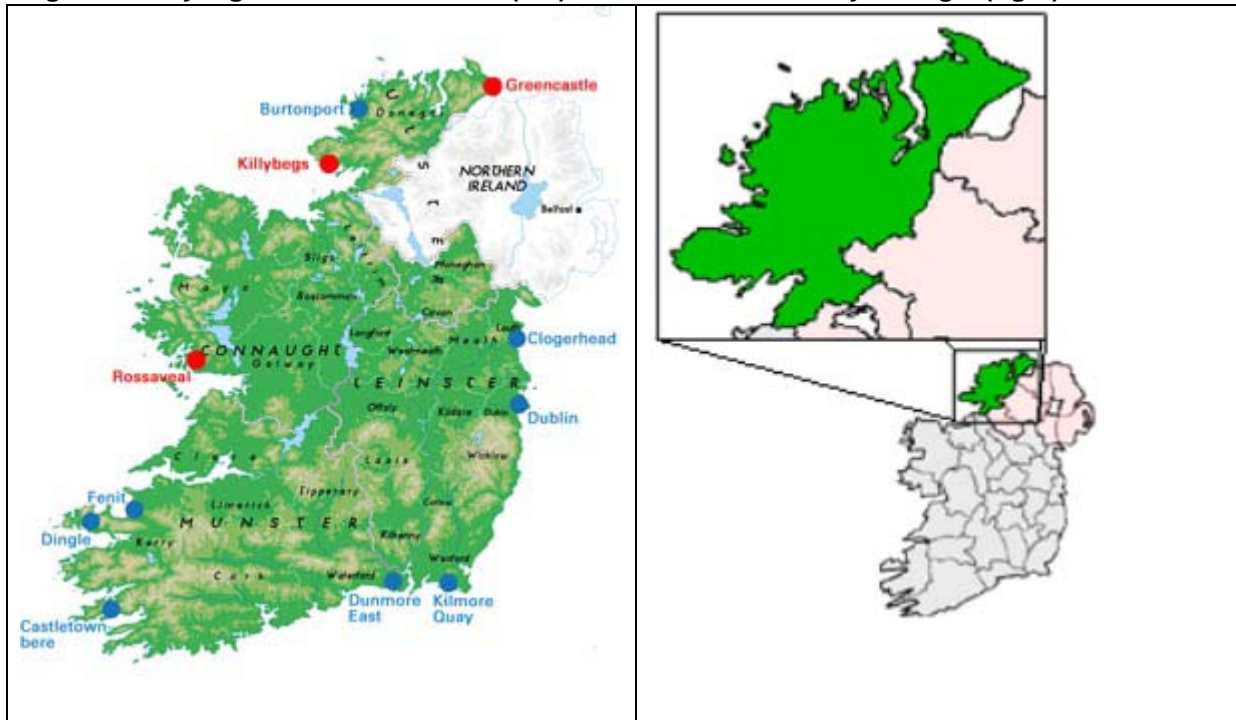
In summary, Killybegs can be described as an area very highly dependent on the fisheries sector in general, and particularly on both the activities of large-scale pelagic vessels and related pelagic processing activities.

1.2 Location

Killybegs, with geographical coordinates of 54.38 N and 08.26 W, is located in County Donegal, which occupies the most north westerly part of Ireland bordering the Atlantic. Its proximity to Northern Ireland and its status as one of the Counties of Ulster not part of Northern Ireland gives it a certain aura of independence embodied in the catchphrase used in advertising its tourism sector- "Up here it's different". Killybegs occupies the entrance to the scenic area of Glencolmcille, Kilcar and Carrick, which includes the spectacular Slieve League/Sliabh Liag Sea Cliffs which rise 600 m above the Atlantic Ocean.

The Killybegs District Electoral Division (DED) has a population of around 2,250, while the surrounding four DEDs, from which much fisheries-sector employment is also drawn, accounts for an additional 1,700 people. These five DEDs cover an area of around 30 km². The Killybegs DED on its own covers an area of 6 km².

Figure 1: Killybegs' location in Ireland (left) and location of County Donegal (right)



1.3 Key geographical characteristics of the community

Killybegs fishing harbour provides the largest deepwater berthing facilities on the West Coast of Ireland, with Donegal bay providing a natural harbour. The continental drop-off lies around 100km from the harbour, and the seabed off the coast has a mix of sandy and rocky characteristics. The area surrounding Killybegs is very rural in nature, and the coastline has many small rocky bays and inlets. Killybegs lies around 60km from the main town (Letterkenny) in County Donegal.

Killybegs in Irish is 'Na Cealla Beaga' which means little cells due to its association with an early monastic settlement. The area around the deep fjord-like inlet of Killybegs has been inhabited since prehistoric times, and there is evidence of as many as twenty ring forts, most of them near the shore. In 1588 Killybegs was the port of call for the remains of the Spanish Armada which struggled into the harbour.

Killybegs existence as a fishing port is not recent. When the O'Donnell chieftains were known as the "*best lord(s) of fish in Ireland*" in the sixteenth century, Killybegs was the chief port of Tír Chonaill. Fishing provided much employment in the past and is still a chief source employment. Another major employer in Killybegs in the past was Donegal Carpets. At its peak the hand knotted carpet factory employed as many as 80 workers, and carpets were made for Buckingham Palace, the White House, Aras an Uachtarain, and many other prestigious buildings around the world. This activity has now ceased, and today the old carpet factory houses the Maritime & Heritage Museum.

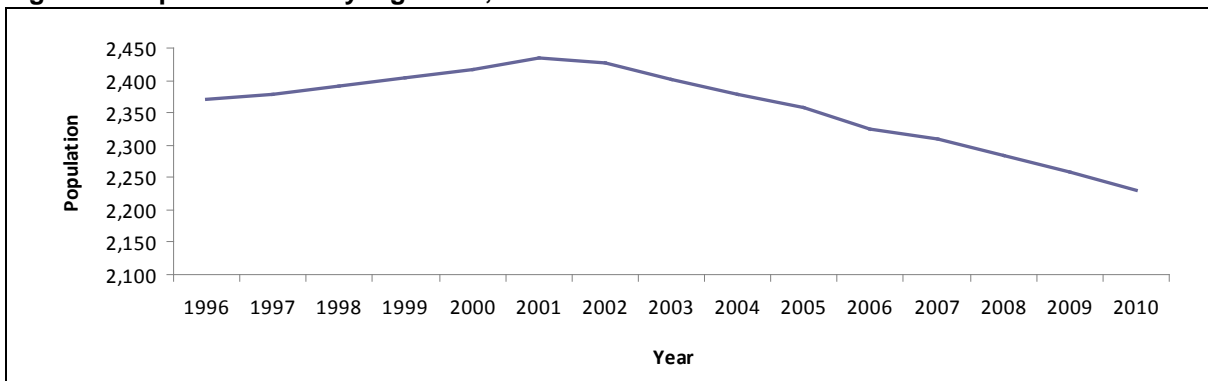
The area has a temperate climate due to the Gulf Stream, with high annual levels of rainfall, and summer daytime temperatures generally between 12-22° Celsius (with upwards of 18 daylight hours in summer months). Winter months are characterised by short days with around 8 daylight hours, and can bring snow and ice but daytime temperatures rarely remain below 0° Celsius for any length of time.

2. Demographic aspects

2.1 Population and population age structure

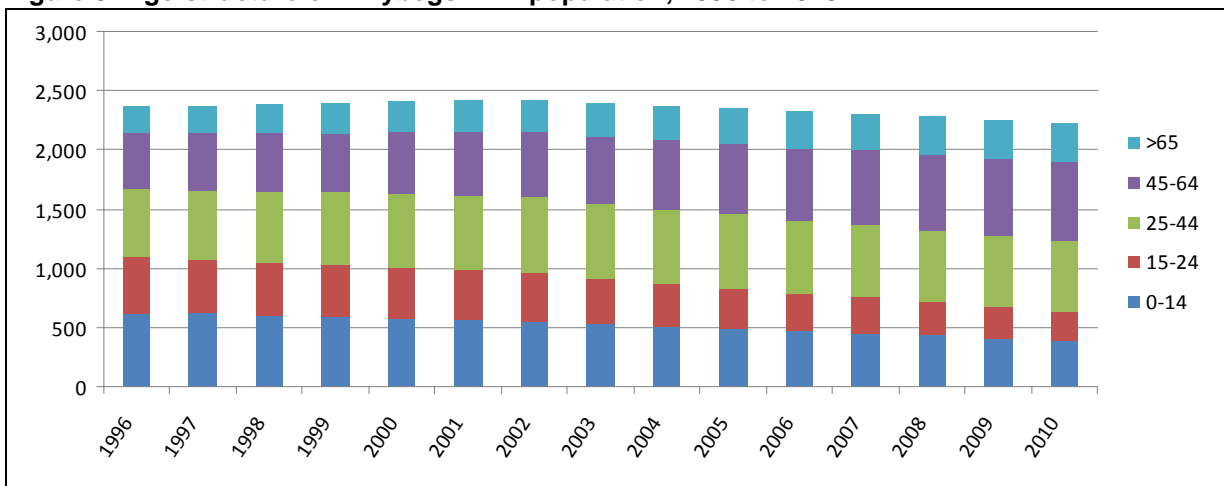
As can be seen from the following table, the population in Killybegs has been falling since 2001. This decline does not mirror the pattern in Ireland as a whole, or the population trends in the four DEDs surrounding Killybegs, both of which show slightly increasing population, and de-population in Killybegs represents a worrying trend for the community.

Figure 2: Population of Killybegs DED, 1996 to 2010



Analysis of the age structure of the Killybegs DED over recent years also provides some grounds for concern, with an increasingly old population, and a decline in younger population age groups (in both absolute and proportional terms). Ireland as a whole is also experiencing an ageing population, but not as rapidly as in Killybegs. Between 1996 and 2010, the proportion of the total population in Killybegs in the 15-24 and 25-44 age groups combined, fell from 44% to 37%, while over the same period there was an increase of 44% in the number of people over 65 years of age living in the area.

Figure 3: Age-structure of Killybegs DED population, 1996 to 2010



2.2 Ethnicity and migration

Killybegs community remains strongly Irish in terms of ethnicity, and more so than many other areas of the country. There has been some temporary in-migration of foreign labour in recent years, particularly from Poland and Latvia, mirroring patterns in Ireland as a whole, but such in-migration is very limited. Foreign workers are employed in the service sector in the community (e.g. hotels), and also to some extent on whitefish and shellfish vessels, but not on any pelagic vessels or in processing factories.

For Irish citizens from Killybegs, there is a high degree of in/out migration from the community to other areas of the country, particularly to Dublin. Most notably there was much out migration, and people spending the working week away, to Dublin between 2000 and 2008. Perceptions are that many people have returned to the community in the last couple of years. This perception is not borne out by the data on population shown above, and may be explained by the fact that the population figures are based on census data in 1996, 2002, and 2006, while figures for more recent years (2007-2010) seem to be based on straight line predictions. Expectations therefore are that the population data shown above may be a slight underestimation for 2009 and 2010.

3. Economic aspects

The level of economic activity in Killybegs, or rather the lack of any significant non-fishing-related activity, is strongly related to its geographical location and its remoteness. County Donegal has historically been poorly served by transport infrastructure, although the road network has been considerably improved over the past 10 years. Tourism activity is far less developed than in many other areas of the country, and the remoteness of the location has not been conducive to any significant levels of inward investment in manufacturing industry. Carpet-making, historically of some importance has now ceased all-together, and given reductions in the whitefish fleet in particular, the economic well-being of the community has been declining. However, the levels of economic decline should not be over-stated. The pelagic segment continues to generate very significant levels of economic activity, and while this segment is certainly under financial pressure, the anecdotal/qualitative impression gained from spending time in the community is that it remains vibrant – for example while there are some vacant retail properties, the village remains well-kept, there are many new vehicles on the streets, and one does not feel the crippling economic malaise that can be felt in some other fishing communities in serious decline.

However, there has been little diversification in the community into other fishing activities or non-fishing related activities as some segments of the fishing industry have declined, and the economic well-being of the town remains very strongly dependent on pelagic fishing.

What little diversification there is, remains strongly maritime-based. There is for example now a substantial business being built in Killybegs around the service of the offshore oil and gas exploration sectors with one particular operator acting as the main transport contractor for the main offshore development companies. There is also a significant business in Killybegs in the management and support of visiting vessels which in 2009 were as follows:

Table 1: Visiting vessel numbers at Killybegs, 2009

| Type of vessel | Number of vessel visits |
|---------------------------|--|
| Cruise liners | 10 |
| General cargo vessels | 20 (including fish) |
| Offshore support vessels | 140 (In excess of 200 in 2008 and likely to exceed that in 2010) |
| Non-Irish fishing vessels | 420 (including fish meal vessels) |

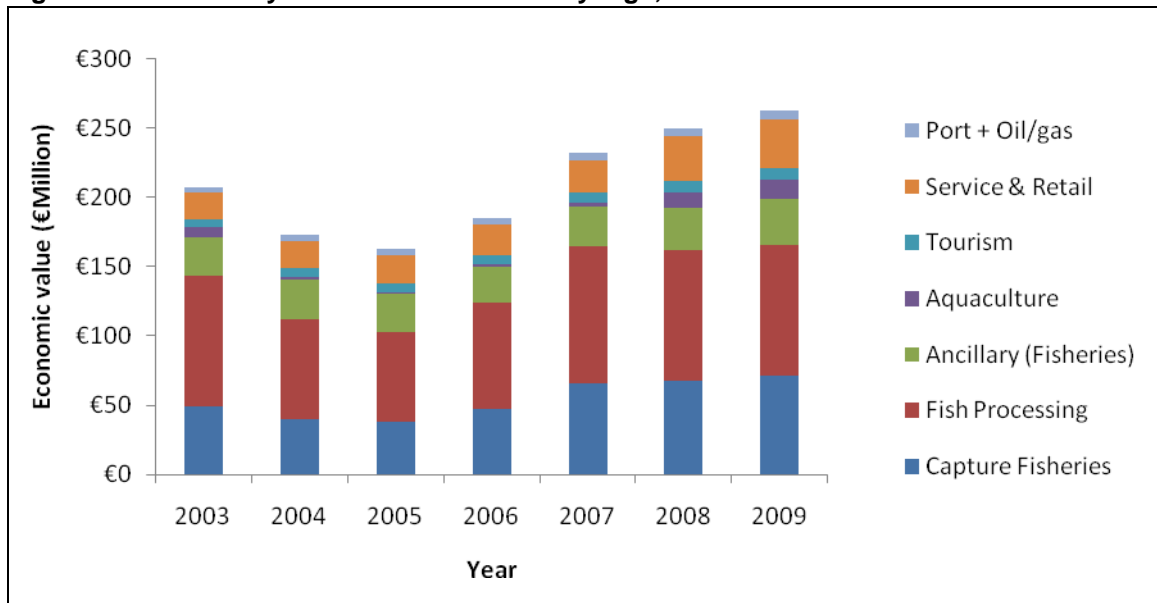
Source: community consultations

3.1 Importance of economic activities

Killybegs did not participate in the construction-driven aspects of the “Celtic Tiger” boom years in Ireland, and the frenzied building of houses that took place elsewhere did not feature in the town. Figure 4 shows how strongly dependent Killybegs is on the fisheries sector. Total turnover in the area is around Euro 250 million in 2009, with the fisheries sector accounting for 82% of the total. Declines over the 2003 to 2005 period are reflective of declines in the fisheries sector.

The Irish Offshore Operators Association estimate that offshore support activity accounted for 214 offshore vessel movements in Killybegs in 2007 with 617 additional flight movements through Donegal’s Carrickfinn Airport. This activity contributes significantly to the local economy and generated €3 million in 2007. This contribution is now estimated at between €5 and €6 million. Movements declined to 140 in 2009 but will exceed 200 in 2010 with the announcement by Shell of an exploratory well on the Corrib North Block. This additional maritime-related activity accounts for just over 2% of total turnover in the area.

Figure 4: Turnover by different sectors in Killybegs, 2003 to 2009



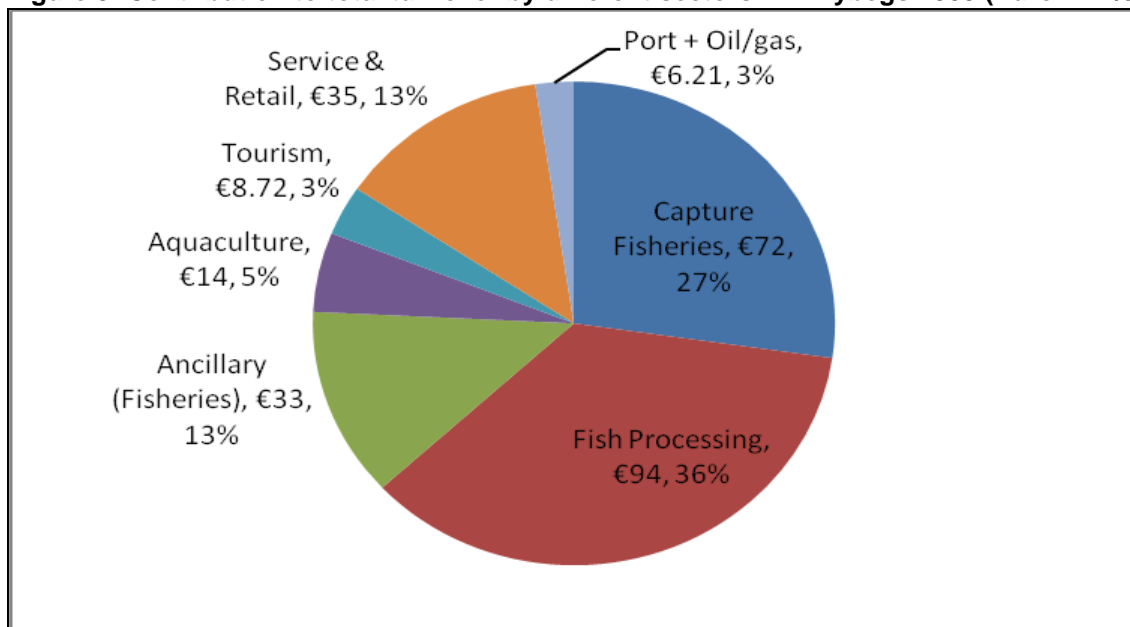
Source: Capture fisheries and aquaculture official statistics, other sub-sectors estimated based on fieldwork and community consultations.

Notes:

1/ Additional breakdown of fishing sub-sectors provided later in this report. Turnover for ancillary sub-sector groups of businesses divided between fishing sector and port & oil/gas support sector, depending on nature of business (see later text for full explanation)

2/ Tourism sector turnover calculated based on field work and interviews and includes the following sub-sectors: hotels, inns/self-catering, function providers, B&B providers, restaurants, pubs, and other retail, with a proportion of each of these business groupings allocated to tourism and a proportion to services & retail.

Figure 5: Contribution to total turnover by different sectors in Killybegs 2009 (Euro mn %)



Within the fisheries sector, economic activity is very seasonal, given the timing and location of pelagic fish movements, the large size of pelagic vessels, and the quota limitations in place. These factors conspire to mean that pelagic activity is strongly concentrated in a few months of the year, with vessels tied up and inactive for remaining months. These months are used to complete necessary vessel repairs/maintenance.

While some factories are able to source raw material product from elsewhere and/or from visiting vessels, the seasonality of local pelagic landings is largely reflected in a strongly seasonal level of activity in the processing sub-sector, which matches local landings.

What little tourism activity there is in the area is also strongly seasonal, and concentrated in the summer months. This activity mainly takes the form of visitors staying in bed and breakfasts or holiday rentals, or one of the three hotels in the area. There is also some small amount of marine-related tourism – there are 3 boats offering sea angling trips and the average days at sea per year has reduced from 150 to 120 in recent years. There are also periodic visits by cruise ships during the summer months. In 2009 there were 6,385 passengers who disembarked through the port, and all passengers visit the Sliabh Liag cliffs. The Maritime and Heritage centre also attracts visitors, and in 2009, there were 2,220 people who visited. Other tourism activities are supported by the Killybegs Information Centre (<http://www.killybegs.ie/>).

For a town not often described as a popular tourist destination, Killybegs is well served with tourism facilities. There are: 3 Hotels (2 with leisure centres) providing 85 Rooms; 2 Inns providing 30 rooms; 3 Venues suitable for large functions; 20 Bed and Breakfast providers providing 80 Rooms. Overall the Town has accommodation sufficient to provide for special event weekends (e.g. The Cycle Race¹, Fish Ireland Expo). There are no formal figures to describe the annual income from tourism in the town but there has been significant investment in the tourism sector over the past 15 years with 3 new hotels built and a major renewal of a nearby holiday complex. There is an active Tourism/Cruise Committee in the town which operates the information centre.

The new port has been the main land base for much of the offshore exploration activity carried out off the West Coast of Ireland in recent years. The overall layout of the port of Killybegs and the fact that it comprises four functional piers allows for fishing and commercial activity to operate in tandem without either seriously interfering with the other. The full potential of the current harbour infrastructure is not however being fully utilised. Two recent government-sponsored reports² have both suggested the appointment of an overall Business Development Manager to fully exploit the potential of the Port.

A recent survey by the local Chamber of Commerce suggests that there are 15 empty retail spaces and 60 empty office and storage spaces available for occupation in Killybegs³. All of the vacant retail spaces have previously been occupied but were forced to close because of a lack of activity.

The following table shows the main periods of economic activity for different economic sectors.

¹ Killybegs hosts a major multi-day cycling race each year. In 2010 this generated a spend of around Euro 140 for each of the 600 people who stayed in Killybegs for 2 nights.

² Killybegs Fishery Harbour Centre Marketing Strategy 2007./ Business Plans for Development of the Fishery Harbour Centres 2009

³ Data on the proportion of the total spaces that these empty and 'to let' spaces represent is not available

Table 2: Seasonality of different economic activities

| Sector | Main period of activity |
|--|--|
| Pelagic catching segment | Mackerel – October to March Herring – October to March Horse mackerel – September to March Boar fish – September to April Blue whiting – February |
| Demersal catching segment (selected species) | Haddock :- Year Round Hake:- Year Round Monk:- Year Round Megrin :- Year Round Sole:- April to December Saithe :- Year Round Nephrops :- April to June |
| Shellfish catching segment | Crab/lobster :- Year Round |
| Pelagic processing | Follows pelagic catching sub-sector activity |
| Ancillary | Vessel supplies corresponding with catching activity Vessel repairs and maintenance and investments in non-catching months |
| Retail | Year round |
| Aquaculture | Year round operations, harvesting in Season related to Species. |
| Service sector | Year round |
| Tourism | May to September |
| Offshore oil and gas | Year round |

Source: community consultations

3.2 Employment and unemployment

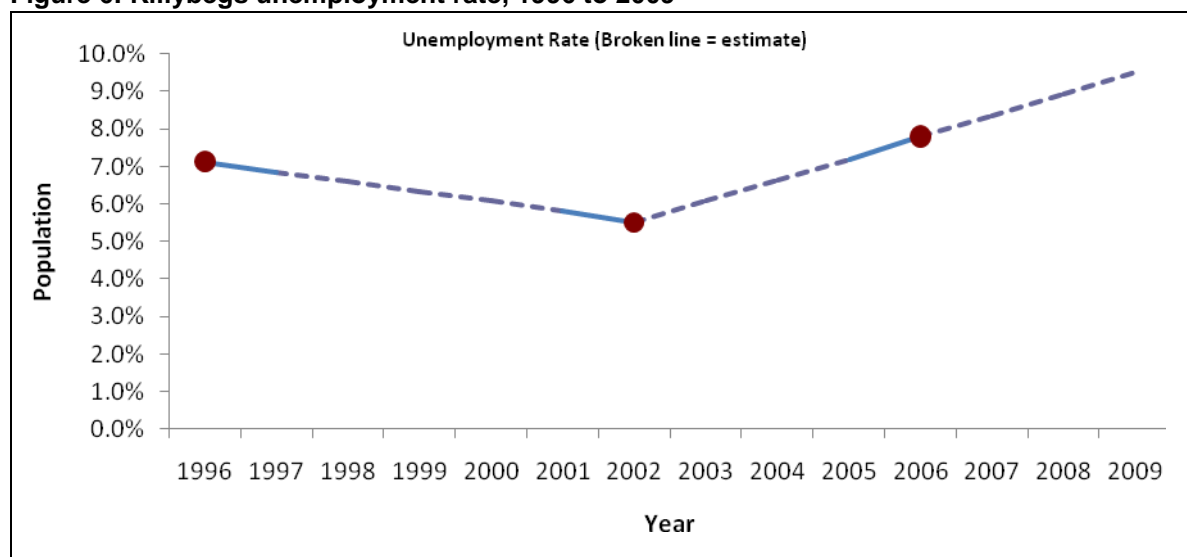
For the area as a whole, employment and unemployment numbers are shown in Table 3 and Figure 6 below, and demonstrate that employment increased between 1996 and 2002 and then declined again by 2006. These trends and the ratio of employed to unemployed which is higher than the national average, show that Killybegs is area facing significant challenges. In addition, it is noteworthy that much employment is very seasonal and part time in nature. This applies not just to the limited tourism sector jobs, but also to the fisheries sector, with employment very dependent on the monthly pattern of fish landings shown above. To some extent individuals can mix and match part-time and seasonal employment in different sectors, but it is also likely that many people spend some months of each year not working.

Table 3: Employment and unemployment in Killybegs

| Year | 1996 | 2002 | 2006 |
|--|-------|-------|-------|
| Total population | 2,370 | 2,428 | 2,325 |
| Age >15 | 1,739 | 1,870 | 1,848 |
| At work and job seekers | 894 | 1,061 | 1,052 |
| Students, home duties, retired, unable to work | 845 | 809 | 796 |
| Of which at Work | 757 | 949 | 896 |
| Unemployed | 124 | 103 | 144 |
| Unemployment ratio | 7.1% | 5.5% | 7.8% |

Source: national census. Slight discrepancies between total employed figures in this table and the figure below are explained by different data sources (national census for total employment figures based on DED and place of residence, and community consultations for sub-sector employment in 2009 based on employment in Killybegs. Higher employment numbers estimated during consultations suggest that there are considerable levels of movement each day by people living outside the Killybegs DED to work in Killybegs

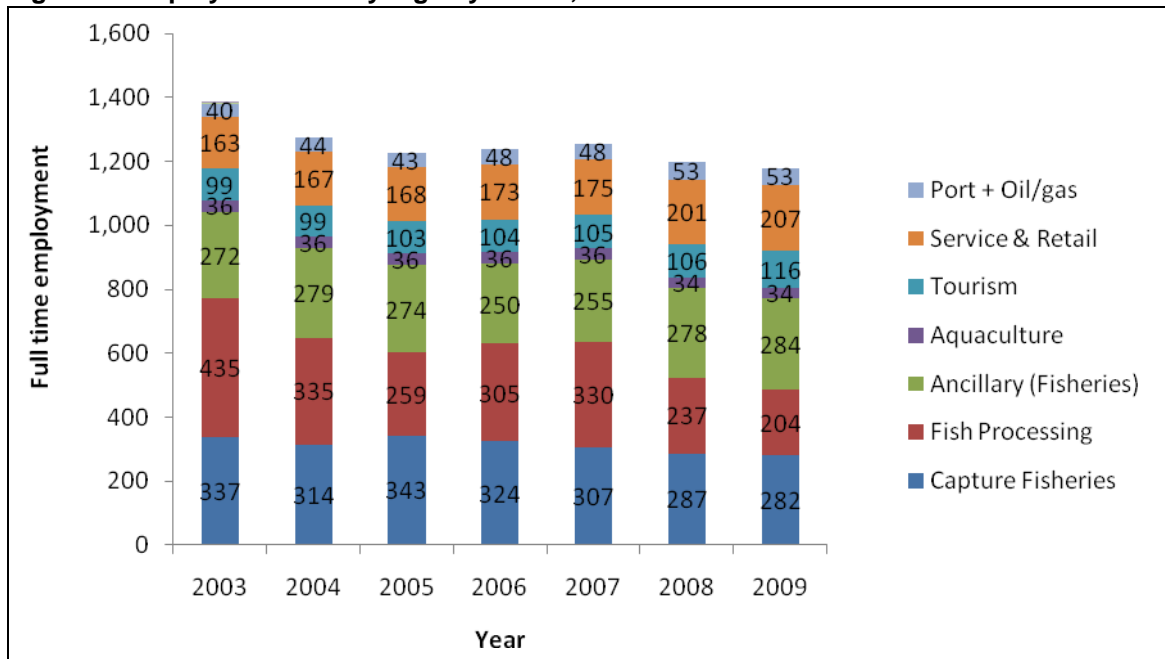
Figure 6: Killybegs unemployment rate, 1996 to 2009



Source: national census and estimations

A more detailed breakdown of employment trends by sector in Killybegs, shows both the very strong dependency on the fishing sector, and also notable declines in catching (whitefish and to some extent pelagic sub-sectors), processing and ancillary sub-sector employment. A survey by local hauliers suggests for example that a fleet of 102 refrigerated lorries was employed by the local factories transporting fish in 1999, with each lorry generating around 2 jobs. This fleet now numbers 32 lorries. There has been a decrease in employment in the fish processing sub-sector, and a greater share of employment being part-time. In April 2010 there were 148 workers in Killybegs on a 3 day week. At the time of writing the main processing factories are closed for the off-season apart from maintenance/caretaker staff.

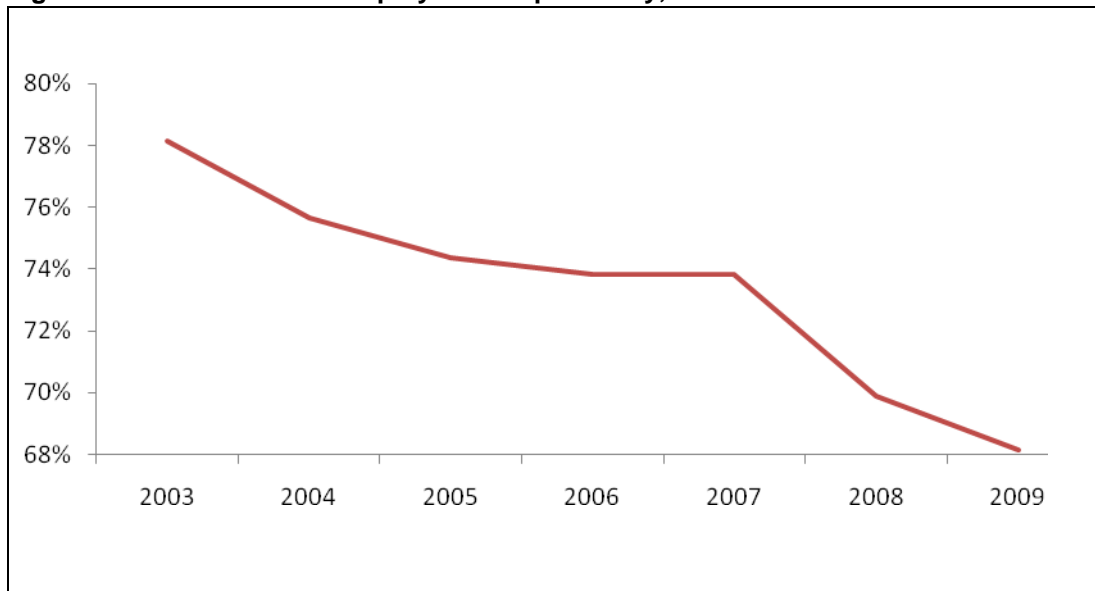
Figure 7: Employment in Killybegs by sector, 2010



Source: estimations based on fieldwork and community surveys

From the above, it is clear that Killybegs is very dependent on fisheries in terms of employment. Figure 8 shows that the combined fishery sub-sectors account for 68% of total employment in the area. Management of offshore support and vessel support management is the next most important sub-sector, and currently accounts for an additional 5% of jobs. Fisheries sector employment dependency has declined slightly in recent years with declines in fishing sector employment, coupled with increases in employment in tourism and offshore and vessel support management.

Figure 8: Fisheries sector employment dependency, 2003 to 2009



Source: estimations based on fieldwork and community surveys

3.3 Infrastructure

The extent to which non-fisheries sector infrastructure is available can significantly enable or constrain particular development and diversification opportunities in any community. In Killybegs, non-fisheries sector infrastructure is not well developed.

The road network has been improved in the past 10 years and a further major improvement of the N56 (Main Road from Donegal to Killybegs) is pending. However there have been delays in completing this work due to a lack of funding, which in turn has caused problems in transporting heavy or long loads such as wind generator towers and blades from the new Port. The connector routes to the rest of the Country are satisfactory. However there are no motorways passing through Killybegs, and the nearest motorway (N4) is 120 Km from the town.

An urgent project due for completion is the development of a new sewage system. This has faced delays due to funding uncertainties, but a contract was signed in May. Projected costs of € 16 million being provided through Central Government.

Water and electricity supply are both adequate, but charges imposed by the County Council are reported to be high, and contribute significantly to processing sub-sector costs

Broadband services are available but are reported to be not up to speed or to the standard available in many other countries. The current broadband strength of 7 Mb is scheduled to increase to 20 Mb in September 2010 (Per Local Computer Provider CCS)

A number of airports service the area, but none are near to Killybegs. Donegal airport at Carrickfinn is 1 hour by road and provides daily flights to Dublin, Glasgow. Sligo Airport is 1.5 hours by road and provides daily flights to Dublin. Derry Airport is 2 hours by road and provides daily flights to the UK, Glasgow, and Dublin and holiday charters in the summer season.

There is no rail network to Killybegs.

With regards to education and health sector infrastructure, there is a Community Hospital with day and residential care facilities and in-house X-Ray unit, three national schools providing for as maximum of 329 places up between the ages of 4 and 12 years, one secondary school providing for a maximum of 310 places in the final year when students are 17/18 years old, and one third-level college which is part of the Letterkenny Institute of Technology (<http://www.lyit.ie/>), and which is strongly focussed on catering .

None of the schools are operating a maximum capacity, and while the catering college used to cater for around 500 students a year, demand for places has fallen and last year's intake to the college was around 100.

3.4 Local development plans

A Killybegs Local Development Plan 2008-2014⁴ has been prepared at County Council Level and highlights the following as priority sectors within the lifespan of the Plan:

1. Safeguard and enhance the role of Killybegs as a centre of fleet activity, processing, and ancillary services and to promote the diversification of such locations into new areas of Marine related economic activity.

⁴ Killybegs Local Area Plan 2008-2014

2. Promote the development of a strong and prosperous fishing industry and associated land use activities capable of adapting to changing markets and supporting the communities that depend thereon.
3. Facilitate the development of a Fisherman's Warf along the Old Pier with shops and Restaurants that promote a strong Maritime ethos.
4. Facilitate the development of a Marina, Boat Station and ancillary infrastructure for sea angling within the inner Harbour area

The economic strategy is thus strongly focussed on the fishing sector. In addition the Local Development Plan focuses on quality of life issues, infrastructural issues, improvements in local amenities, development of opportunity sites and promotion of economic diversification.

Since the Plan was published a number of projects have commenced, and include:

1. A new area has been made available on the Shore Road where a new Information Centre has been located.
2. The Main Street Area has been repaved and semi-pedestrianised.
3. The contract for the new Town Sewage scheme costing € 16 million has been signed.
4. Work has commenced on the building of a road joining the Shore Road to the Kilcar Road, by-passing the Main Street and Roshine/Fintra roads.
5. Funding has been sourced for a Community Playground.
6. Planning Permission has been granted for the construction of a New Marina on the Shore Road
7. Planning Permission has been granted for a large Fishmeal Processing Facility on the New Pier.

Of note is that there is a duality of planning responsibilities for Killybegs – the Department of Agriculture Fisheries and Food owns and manages the Killybegs National Fishery Harbour Centre, while the Co. Council has responsibility for the town area planning. In neither case is the community reported to be very involved in informing and shaping the plans for development.

The Formal Killybegs Local Area Plan 2007-2013 was prepared by Donegal County Council in 2007 in accordance with Sections 18-20 of the Planning and Development Acts 2000-2006 and designed to be funded within the National Development Plan 2007-2013.

4. Fisheries and aquaculture sub-sector

The fisheries sector in Killybegs had a landed value of around Euro 180 million 2009. Landed volumes in the catching sub-sector are in the order of 100,000 tonnes in the pelagic segment, 5,000 tonnes in the whitefish segment, and a half of one tonne in the shellfish segment. Aquaculture production (nearby Killybegs but not within the area of study) was just 0.3 tonnes in 2009, down from 3.3 tonnes in 2008.

The data in this section of the report suggest that multiplier effects within the sector are as shown in the following table.

Table 4: Multiplier impacts in the fishing sector

| | Turnover multiplier | Employment multiplier |
|--|---------------------|-----------------------|
| Catching sub-sector to processing sub-sector | 1.31 | 0.72 |
| Catching sub-sector to ancillary sub-sector | 0.46 | 1.01 |
| Catching sub-sector to combined processing and ancillary sub-sectors | 1.77 | 1.73 |

4.1 Details of the local fishing fleets

As shown in Table 5 below, the local fishing fleet is strongly dominated by pelagic vessels, with more than half of the fleet comprising such vessels. The domination is all the more marked given the large size of these vessels (>40m) compared to the polyvalent/whitefish vessels in the fleet. The pelagic segment also dominates the fleet in terms of employment. The pelagic fleet concentrates on six main species – mackerel, horse mackerel, herring, blue whiting, boarfish and sprat. For the polyvalent fleet, a large number of species are targeted, with haddock and monkfish being the most important in value terms.

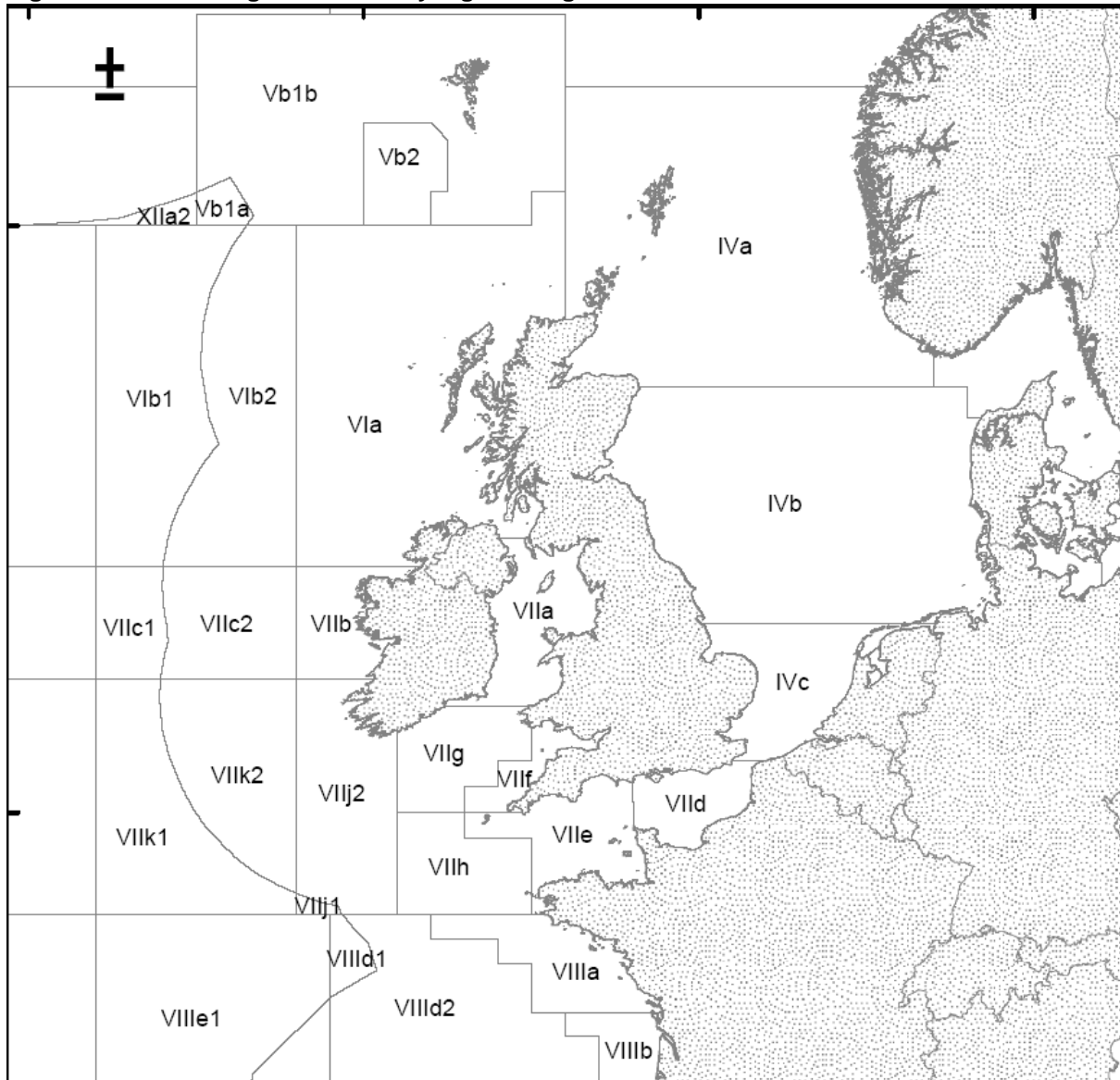
Table 5: Fleet segments, 2010

| Segment (length class) | Number of vessels | Main gears used | Number of crew (average FTE per vessel) | Number of crew (Total FTE per segment) | Main species | | Main fishing locations (ICES areas) | | Trip length (average days) |
|--------------------------|-------------------|-----------------|---|--|--------------|----------------|-------------------------------------|---------|----------------------------|
| | | | | | | | | | |
| Polyvalent LOA < 12 | 7 | FPO | 1.4 | 9 | Crab | Nephrops | Via | --- | 1 |
| Polyvalent 12 ≤ LOA < 18 | 7 | OTB/FPO | 3.1 | 21 | Monk Megrin | Haddock | Via | VIIb | 4 |
| Polyvalent 18 ≤ LOA < 24 | 3 | OTB/OTM | 5.2 | 15 | Crab | Haddock | VI | VII | 6 |
| Polyvalent LOA > 24 m | 1 | PS | 6.6 | 6 | Haddock | Monk | Via Vib | VII | 8 |
| Pelagic – RSW | 20 | OTM | 11.0 | 220 | Mackerel | Horse Mackerel | VI VII | Iva Iia | 5 |
| Total | 38 | | | 271 | | | | | |

Source: BIM

Fishing vessel activity is strongly concentrated in areas VI, VII, Iva, and Ila for the pelagic segment, while the whitefish fleet targets catches in Via and b, and area VII.

Figure 9: Main fishing areas for Killybegs fishing fleet



Source: ICES

Trends in fleet segment numbers, segment power and segment tonnage show a pattern of declines in larger pelagic and whitefish/polyvalent vessels, and increases (small in absolute terms and in terms of the overall fleet, but significant in percentage terms changes within particular fleet segments) for smaller vessels. The pelagic segment accounts for 92% of vessel power (kW) and 94% of vessel tonnage (GT).

Figure 10: Killybegs fleet segment numbers, 2003 to 2010

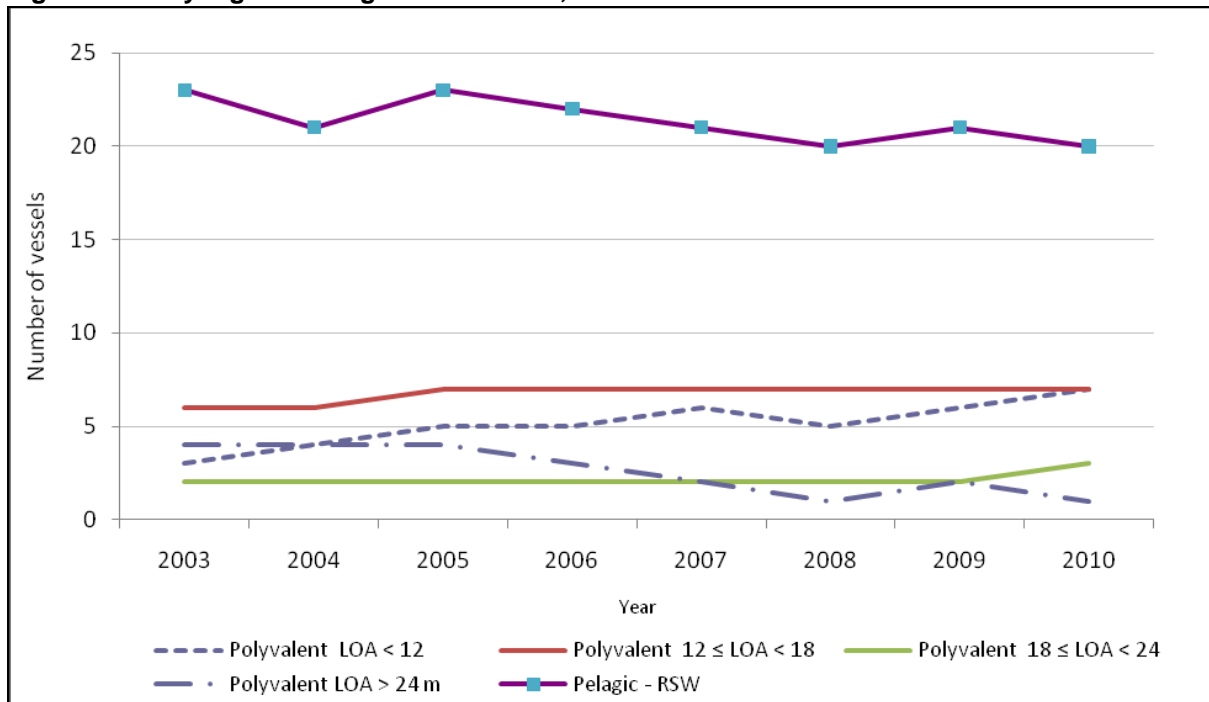


Figure 11: Killybegs trends in fleet segment power (kW), 2003 to 2010

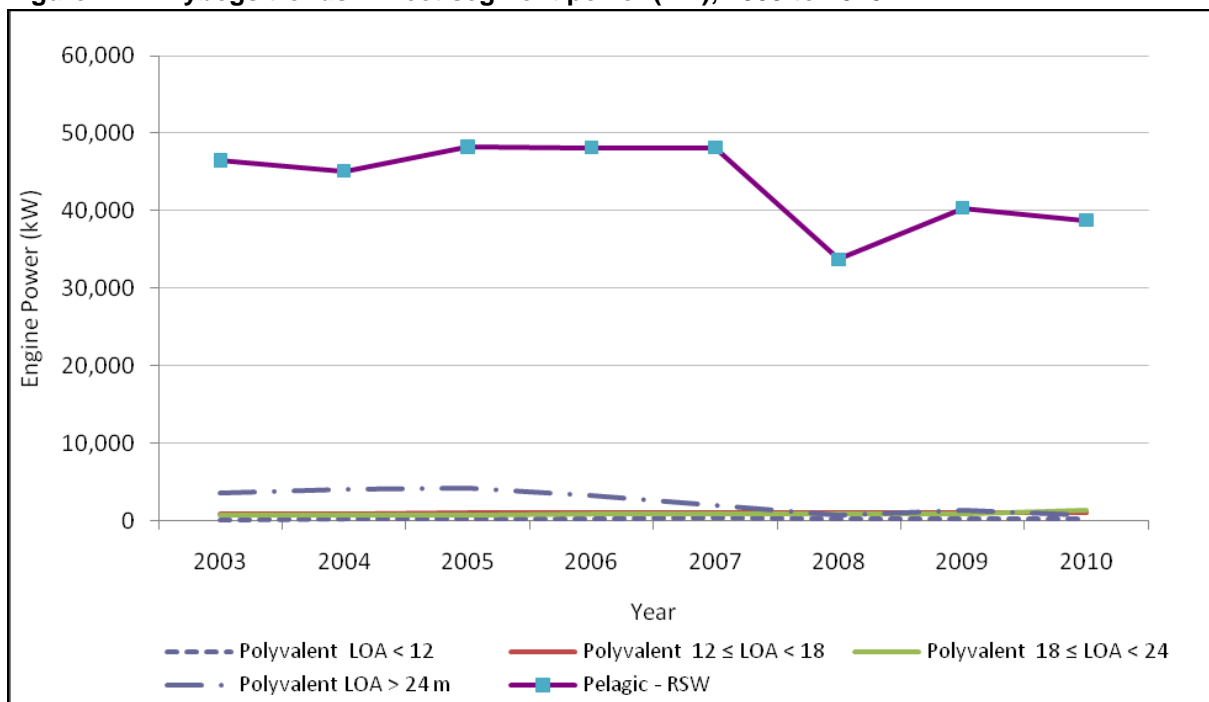


Figure 12: Killybegs trends in fleet segment tonnage, 2003 to 2010

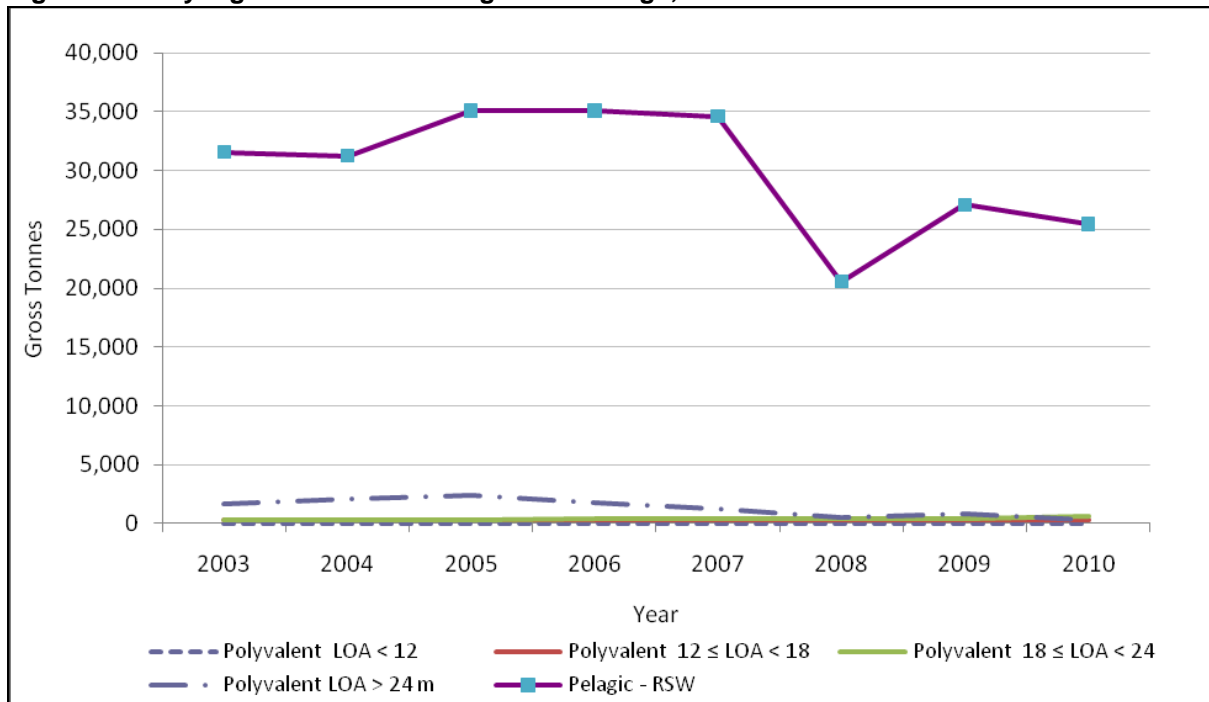
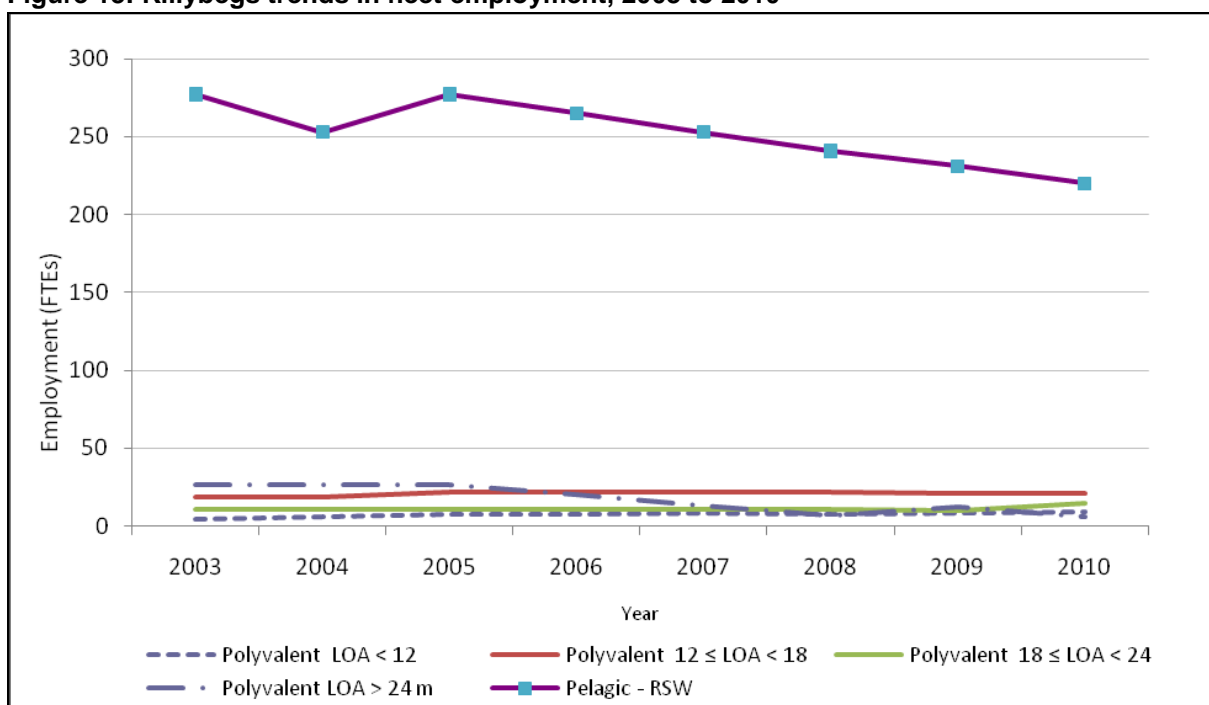


Figure 13: Killybegs trends in fleet employment, 2003 to 2010



Crew berths on pelagic vessels are highly sought after given relatively high wages on these vessels compared to polyvalent vessels, and berths are filled by local people from Killybegs. Crew on whitefish vessels are harder for owners to find, and there has been a strong trend in recent years towards ageing local crew and the use of Eastern European labour.

4.2 Fish stock status

The fleet exploits a wide variety of different species and stocks, as shown below. In very general terms, the status of stocks is healthier for the pelagic stocks than for the whitefish species. All of the main stocks being exploited are under quota management.

Table 6: Stocks exploited by Killybegs fleet and their status

| Stock | Management Area | Management responsibility | Stock status relative to MSY (above, near, below, unknown) | Main management regulations affecting the stock |
|----------------|--|---------------------------|--|---|
| Mackerel | VI, VII, VIIIa, VIIIb, VIIIc and VIIIe; EC Vb; nonEC Iia; Int Wat XII and XIV | EU + N + F | The stock is at full reproductive capacity but is harvested with increased risk. | Quota |
| Horse mackerel | EC Iia, Iva, VI, VIIa-c, VIIe-k, VIIIa,b,d,e Int Waters of Vb, XII, XIV | EU | Full reproductive capacity | Quota |
| Horse mackerel | Ivb, Ivc, VIIIc | EU | State of stock is unknown | Quota |
| Herring | EC, Norwegian and international waters of I and II | EU + N + F + I + R | Full reproductive capacity and harvested sustainably | Quota |
| Herring | Vb and Vib; EC waters of ViaN (1) | EU | Exploited close to Fmsy. | Quota |
| Blue whiting | EC Int Wat I, II, III, IV, V, VI, VII, VIIIa, VIIIb, VIIIc, VIIIe, XII and XIV | EU + N + F + I | Full reproductive capacity and harvested sustainably | Quota |
| Albacore | Atlantic Ocean N of 5N | ICCAT/EU | F is well above FMSY and Biomass is below BMSY | Quota & Vessel limit |
| Cod | Via Vb | EU | The stock is suffering impaired recruitment. SSB is very low. | Quota, long-term plan |
| Haddock | EC waters of Vb and Via | EU | Risk of reduced reproductive capacity | Quota |
| Haddock | EC waters of Vib; international waters of XII and XIV | EU | Stock is harvested sustainably | Quota |
| Whiting | VI; EC waters of Vb; international waters of XII and XIV | EU | SSB is at the lowest observed level and F at the highest level. | Quota |
| Hake | VI and VII; EC waters of Vb; international waters of XII and XIV | EU | Full reproductive capacity & Harvested sustainably | Quota, long-term plan |
| Monkfish | VI; EC waters of Vb; international waters of XII and XIV | EU | State of stock is unknown | Quota |
| Megrim | VI; EC waters of Vb; international waters of XII and XIV | EU | State of stock is unknown | Quota |
| Plaice | VI; EC waters of Vb ; international waters of XII and XIV | EU | State of stock is unknown | Quota |
| Common sole | VI; EC waters of Vb ; international waters of XII and XIV | EU | State of stock is unknown | Quota |
| Saithe | VI; EC waters of Vb; EC and international waters of XII and XIV | EU | Full reproductive capacity & Harvested sustainably | Quota |
| Norway lobster | VI; EC waters of Vb | EU | State of the stock not known precisely | Quota |
| Crab | VI | EU | Unknown but stable | Effort Control |

Source: BIM/ICES

Notes: N = Norway, F = Faroes, I = Iceland, R = Russia

However, of considerable importance to Killybegs are the fluctuating levels of quota for the key pelagic species based on changing stock status and management advice.

Table 7: Evolution of Irish quotas for key pelagic species in main fishing areas for Killybegs vessels, 2003 to 2009

| Stock | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Mackerel | 66,300 | 63,218 | 46,149 | 47,894 | 54,369 | 49,643 | 61,890 |
| Horse mackerel (2 stocks) | 32,334 | 32,983 | 33,053 | 33,546 | 33,609 | 41,109 | 40,543 |
| Blue whiting | 17,165 | 33,544 | 75,893 | 40,677 | 32,992 | 20,745 | 8,756 |
| Herring* (3 stocks) | 17,158 | 23,617 | 24,141 | 24,535 | 23,845 | 23,358 | 21,141 |
| Total | 132,957 | 153,362 | 179,236 | 146,652 | 144,815 | 134,855 | 132,330 |
| *Herring: "I & II", "Vb, ViaN (1) (EC waters), Vib" and "ViaS, VIIbc" | | | | | | | |

Source: BIM

4.3 Fisheries infrastructure

Killybegs is the largest of the six officially designated Fisheries Harbour Centres in Ireland. It is owned and managed by the Department of Agriculture Food and Fisheries (DAFF) and provides extensive and varied berthage over its four piers. Throughout the port there are large areas of hard standing.

Figure 14: Photograph of Killybegs fishing harbour



Notes: 1. **Town Pier** (275m of quay wall) with Auction Hall (a 1,000 m². Fish auction facility with chill store/holding facilities for up to 1200 boxes of fish) 2. **Old Town Pier** (180m of quay wall). 3. **Blackrock Pier** (172m of quay wall and vessel repair facility). 4. **New Pier** which includes 450m of quay wall, offices for the Department, and a fishing vessel painting workshop. Depth (m) below MLNST: Town Pier 7.5m, Old Town Pier 5.4m, Blackrock Pier 5.4m and New Pier 12 m. (Source: Port Information pers. Comm.. Martin Connell - Acting Harbour Master)

The new pier provides shore power facilities at the water's edge. This needs modification as it is not adequate for modern pelagic vessels' electrical requirements, and most of the vessels thus currently need to run their generators to maintain power while tied to the pier for up to six months while tied up. There is no dry dock within the harbour, and no cold storage.

With regards to ancillary services, BIM manages an ice plant around 150m from the port east of the Town Pier (1) with a maximum daily output of 48 tonnes of ice and storage for 60 tonnes. An extensive range of repair and maintenance facilities for vessels, equipment and gear/nets can all be found within 1 km of the waters edge. Fuel is brought in by road tanker – the new pier has been piped to provide centralised fuel supply at the waters edge but the storage tanks have not been installed so far.

None of the processing factories are located within the harbour area, but all are close by (many within 500m of the harbour) and located throughout the town.

4.4 Details of the local catching sub-sector

Table 8, Table 9, and Figure 15 show a number of important trends and points of interest:

- Pelagic segment landings account for 95% of landed volumes and 74% of landed values at Killybegs;
- Irish landings account for 75% of the volume of landings and 74% of the value of landings;
- Pelagic landings at Killybegs represent a very high proportion of total pelagic quota, although there are considerable differences between species and years;
- Foreign landings are most important in relative terms on the whitefish segment, with Spanish and French vessels landing product in Killybegs for onward transport to the continent for sale/processing;
- In the pelagic segment, both the volume and value of landings show upward trends over the period 2003 to 2009; and
- In the demersal segment, both volumes and values of landings show a more static trend over time, but with declines in landings by local vessels.

Also important to note is that many of the vessels based in Killybegs also land product at other ports, generating economic benefits for the sector in Killybegs (e.g. for vessel owners and crew). In 2007, for example, pelagic vessels landed 33,190 tonnes of small pelagics and 24,082 tonnes of blue-whiting industrial catches at foreign ports (e.g. Scotland and Norway).

Figure 15: Volume and value of landings to Killybegs, 2003 to 2009 (tonnes)

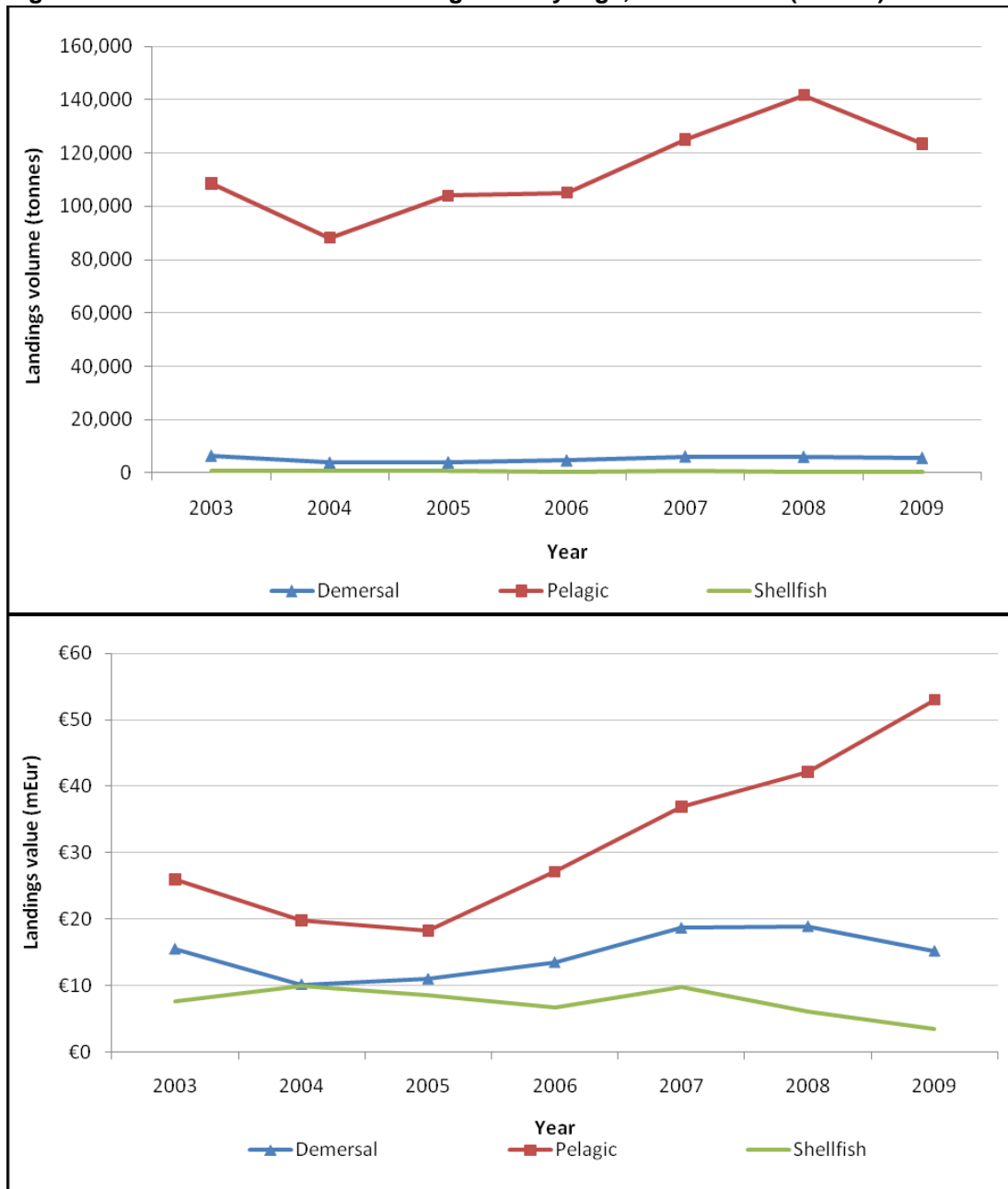


Table 8: Catching sub-sector landed volumes and values at Killybegs

| Landings to Killybegs by all vessels | | | | | | | |
|---|----------------|---------------|----------------|----------------|----------------|----------------|----------------|
| VOLUME (tonnes) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| Pelagic | 108,516 | 88,161 | 103,978 | 105,058 | 125,045 | 141,695 | 123,415 |
| Demersal | 6,387 | 3,905 | 4,001 | 4,646 | 6,122 | 5,998 | 5,605 |
| Shellfish | 652 | 703 | 601 | 554 | 690 | 484 | 383 |
| Total volume | 115,554 | 92,768 | 108,581 | 110,258 | 131,857 | 148,178 | 129,403 |
| VALUE (mEuros) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| Pelagic | €25.95 | €19.83 | €18.30 | €27.15 | €36.94 | €42.16 | €52.97 |
| Demersal | €15.53 | €10.15 | €10.99 | €13.49 | €18.71 | €18.93 | €15.21 |
| Shellfish | €7.71 | €9.96 | €8.51 | €6.70 | €9.83 | €6.14 | €3.43 |
| Total value | 49.19 | 39.94 | 37.79 | 47.34 | 65.48 | 67.23 | 71.61 |
| | 94.00 | 72.35 | 64.69 | 76.31 | 99.02 | 94.97 | 94.00 |
| | 1.91 | 1.81 | 1.71 | 1.61 | 1.51 | 1.41 | 1.31 |
| Landings to Killybegs by non-Irish registered vessels | | | | | | | |
| VOLUME (tonnes) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| Pelagic | 29,129 | 12,812 | 11,454 | 19,835 | 41,205 | 51,777 | 27,213 |
| Demersal | 3,291 | 1,918 | 1,891 | 3,179 | 4,027 | 3,901 | 4,698 |
| Shellfish | 272 | 272 | 248 | 377 | 165 | 59 | 133 |
| Total volume | 32,692 | 15,003 | 13,593 | 23,391 | 45,397 | 55,737 | 32,044 |
| VALUE (mEuros) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| Pelagic | €3.17 | €1.13 | €0.85 | €2.16 | €6.68 | €6.64 | €5.32 |
| Demersal | €8.29 | €5.30 | €5.52 | €9.61 | €12.80 | €13.45 | €12.90 |
| Shellfish | €2.02 | €3.65 | €3.24 | €3.91 | €1.49 | €0.26 | €0.43 |
| Total value | 13.48 | 10.09 | 9.61 | 15.68 | 20.98 | 20.34 | 18.65 |
| Landings to Killybegs by Irish registered vessels | | | | | | | |
| VOLUME (tonnes) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| Pelagic | 79,387 | 75,349 | 92,524 | 85,223 | 83,840 | 89,918 | 96,202 |
| Demersal | 3,096 | 1,986 | 2,110 | 1,468 | 2,095 | 2,098 | 907 |
| Shellfish | 379 | 430 | 354 | 177 | 525 | 425 | 250 |
| Total volume | 82,862 | 77,765 | 94,988 | 86,868 | 86,459 | 92,441 | 97,359 |
| VALUE (mEuros) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| Pelagic | €22.8 | €18.7 | €17.4 | €25.0 | €30.3 | €35.5 | €47.6 |
| Demersal | €7.2 | €4.8 | €5.5 | €3.9 | €5.9 | €5.5 | €2.3 |
| Shellfish | €5.7 | €6.3 | €5.3 | €2.8 | €8.3 | €5.9 | €3.0 |
| Total value | €35.7 | €29.9 | €28.2 | €31.7 | €44.5 | €46.9 | €53.0 |

Source: BIM

Table 9: Pelagic landings to Killybegs, by Irish registered vessels, broken down by species, as a % of available quota

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|----------------|------------|------------|------------|------------|------------|------------|------------|
| Mackerel | 52% | 33% | 20% | 38% | 39% | 40% | 55% |
| Horse mackerel | 62% | 61% | 65% | 67% | 76% | 75% | 83% |
| Blue whiting | 65% | 66% | 62% | 64% | 49% | 100% | 93% |
| Herring | 76% | 51% | 57% | 69% | 65% | 55% | 46% |
| Total | 60% | 49% | 52% | 58% | 58% | 67% | 73% |

Source: BIM

The more detailed breakdown for pelagic species shown below (Table 10), demonstrates how landings volumes and values for different species fluctuate greatly between years. But some general trends in the volume of landings appear to be increases or steady landings of mackerel, horse mackerel and boarfish, and declines in landings of other species. With respect to the value of pelagic landings, all species show static or increasing trends. For demersal landings, monkfish represented 39% of demersal landings by Irish vessels at Killybegs in 2009, haddock 22%, megrim 7% and sole 6%.

Table 10: Pelagic landings at Killybegs 2003 to 2009 by Irish registered vessels, broken down by species

| Volume (T) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Mackerel | 34,391 | 20,805 | 9,426 | 18,379 | 21,260 | 19,883 | 34,116 |
| Horse Mackerel | 19,903 | 20,043 | 21,454 | 22,445 | 25,512 | 30,951 | 33,653 |
| Herring | 12,972 | 12,007 | 13,809 | 16,994 | 15,480 | 12,850 | 9,760 |
| Blue Whiting | 11,073 | 21,988 | 46,870 | 26,074 | 16,240 | 21,974 | 8,115 |
| Boarfish | 111 | 406 | 47 | 829 | 4,917 | 4,012 | 10,451 |
| Sprat | 930 | 96 | 916 | 499 | 428 | 223 | 104 |
| Total | 79,387 | 75,349 | 92,524 | 85,223 | 83,840 | 89,918 | 96,202 |
| Value (Euro mn) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| Mackerel | €14.1 | €9.4 | €5.7 | €12.9 | €15.9 | €19.9 | €34.1 |
| Horse Mackerel | €4.8 | €4.8 | €5.1 | €5.4 | €7.7 | €9.3 | €8.4 |
| Herring | €2.7 | €2.6 | €3.0 | €3.7 | €3.4 | €3.2 | €2.4 |
| Blue Whiting | €1.0 | €1.9 | €3.6 | €2.8 | €2.6 | €2.5 | €1.1 |
| Boarfish | €0 | €0 | €0 | €0.8 | €6 | €6 | €1.6 |
| Sprat | €14 | €0.1 | €14 | €0.7 | €0.6 | €0.3 | €0.2 |
| Total | 22,788 | 18,759 | 17,456 | 25,033 | 30,405 | 35,569 | 47,649 |

Source: BIM

Note: Irish vessels only

There are very significant differences in prices between pelagic and demersal fish landed at Killybegs, as would be expected. Interesting are the trends which show that pelagic prices appear to have been firming over the years (and generally continued to do so over 2008-2010 during the economic crisis), whereas demersal and shellfish species show an increasing trend in prices for most species up to 2007, and then declines in the last couple of years.

Table 11: Price trends for selected key species at Killybegs, 2003 to 2009

| Species | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|-------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Mackerel | €0.41 | €0.45 | €0.60 | €0.70 | €0.75 | €1.00 | €1.00 | €0.80 |
| Horse Mackerel | €0.24 | €0.24 | €0.24 | €0.24 | €0.30 | €0.30 | €0.25 | €0.20 |
| Herring | €0.21 | €0.22 | €0.22 | €0.22 | €0.22 | €0.25 | €0.25 | €0.25 |
| Blue Whiting | €0.09 | €0.09 | €0.07 | €0.11 | €0.16 | €0.11 | €0.14 | €0.19 |
| Blue Whiting (HC) | | | | €0.12 | €0.12 | €0.12 | €0.15 | €0.25 |
| Boar Fish | | | | €0.10 | €0.12 | €0.15 | €0.15 | €0.15 |
| Sprat | €0.15 | €0.15 | €0.15 | €0.15 | €0.15 | €0.15 | €0.15 | €0.15 |
| Other Pelagic | €0.15 | €0.15 | €0.15 | €0.15 | €0.15 | €0.15 | €0.15 | €0.15 |
| Cod | €3.03 | €2.97 | €3.25 | €3.60 | €3.84 | €3.99 | €2.62 | €2.87 |

| Species | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Haddock | €1.87 | €1.94 | €2.00 | €2.05 | €2.09 | €2.00 | €1.75 | €1.76 |
| Whiting | €0.84 | €0.84 | €1.00 | €1.10 | €1.27 | €1.88 | €1.73 | €1.12 |
| Hake | €3.13 | €3.13 | €3.13 | €3.13 | €3.09 | €3.34 | €2.73 | €2.57 |
| Monk | €3.03 | €3.13 | €3.50 | €4.25 | €4.64 | €4.97 | €4.21 | €4.79 |
| Megrim | €3.15 | €3.25 | €3.75 | €4.25 | €4.61 | €4.41 | €3.18 | €3.87 |
| Plaice | €1.92 | €1.93 | €1.93 | €1.93 | €1.93 | €2.01 | €1.66 | €1.67 |
| Sole | €9.50 | €11.78 | €11.78 | €11.78 | €11.88 | €13.19 | €10.46 | €10.73 |
| Pollack | €2.62 | €2.72 | €2.80 | €2.87 | €2.87 | €3.09 | €2.16 | €2.34 |
| Saithe | €0.72 | €0.69 | €0.69 | €0.69 | €0.88 | €1.07 | €1.02 | €1.50 |
| Nephrops (Whole) | €4.27 | €4.74 | €5.27 | €5.85 | €6.50 | €6.15 | €3.61 | €4.44 |
| Nephrops (Tails) | €3.54 | €3.94 | €4.37 | €4.86 | €6.19 | €5.71 | €3.00 | €2.80 |
| Other Whitefish | €1.94 | €1.96 | €2.02 | €2.05 | €2.09 | €2.31 | €1.97 | €1.78 |
| Orange Roughy | €5.50 | €5.50 | €5.50 | €5.50 | €5.50 | €5.50 | €5.50 | €5.50 |
| Other Deepwater | €2.50 | €2.50 | €2.50 | €2.50 | €2.50 | €2.50 | €2.50 | €2.50 |
| Lobster | €15.00 | €15.00 | €15.00 | €16.00 | €16.00 | €14.00 | €12.00 | €12.00 |
| Crab | €1.25 | €1.40 | €1.50 | €1.70 | €1.60 | €1.50 | €1.10 | €1.25 |
| Other Shellfish | €1.00 | €1.00 | €1.00 | €1.00 | €1.00 | €1.00 | €1.00 | €1.00 |

Source: BIM, sales notes, and community consultation

Examination of the AER data for the Irish pelagic segment shows that net profits in recent years rose from 2003 to 2007 (with positive profits, and increases in net profit margins to around 10%), but declined in 2008 and 2009. Data for 2007 suggest total value-added from the pelagic segment in Killybegs to be in the order of Euro 20 million. Data for the whitefish and shellfish segments are not available, but community consultations suggest that performance in both of these sub-sectors is far inferior to that in the pelagic segment.

The seasonal pattern of landings for different species is provided earlier in this report in Table 2.

With respect to the marketing channels of key species landed in Killybegs in terms of the value of landings, Table 12 shows key market outlets.

Table 12: Key marketing channels for the most important species in terms of landed values at Killybegs

| Species | Main markets | Main product form |
|----------------|-------------------------------|--|
| Mackerel | Russia, Japan, Poland, France | 400/600, 300/500, 100/300g whole frozen 20kg blocks. |
| Horse mackerel | Africa, Japan | 150/250, 250/350g whole frozen 20kg blocks |
| Herring | Germany, Poland, Africa | 5-8 & 8-11 per kg fillets, delis, 20kg whole frozen blocks |
| Blue whiting | China, Africa, Russia | Un-graded 20kg whole frozen blocks |
| Haddock | UK, France | Gutted 40kg chilled boxes |
| Monk | Spain, France, UK | Gutted 40kg chilled boxes |
| Megrim | Spain, France | Gutted 40kg chilled boxes |
| Sole | Spain, France, UK | Gutted 40kg chilled boxes |
| Crab | France, Spain, Sweden | Vivier transport, fresh/frozen vac packs |

Source: community consultations

4.5 Details of the local processing sub-sector

Killybegs processors purchase, process and sell significant quantities/values of fish. As can be inferred from the landings tables above, most input product comes from local vessels, but some visiting pelagic boats also supply factories. A survey was completed during this study to generate data for the processing sub-sector on the volume of processed fish, on labour employed, and on turnover, as no data previously existed. Constant data on turnover, taken in association with the increases in landed values of pelagic catches made over the years by the catching sub-sector, imply that margins in the processing sub-sector may have declined in recent years. Certainly the fall in employment shown below has been very significant.

Table 13: Processing sub-sector companies in Killybegs – turnover and employment generation

| | 2003 | 2009 |
|--------------------------|------------------|------------------|
| Turnover | Euro 94 million | Euro 94 million |
| Workforce | 435 | 204 |
| Daily output potential | 1,515 tonnes | 1,645 tonnes |
| Maximum holding capacity | 35-38,000 tonnes | 35-39,000 tonnes |
| Local authority charges | Euro 737,000 | Euro 1,054,000 |

Source: community consultations. Note. Holding capacity has not significantly increased despite recent investments, as investments have been focussed primarily on automation and upgrades rather than increasing holding capacity.

Table 14: Pelagic processing sub-sector volumes and values, 2003 to 2009

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|------------------------|--------|--------|--------|--------|---------|---------|---------|
| VOLUME (tonnes) | 99,658 | 80,964 | 95,490 | 96,482 | 114,838 | 130,128 | 113,340 |
| VALUE €million | €94 | €72 | €65 | €76 | €99 | €95 | €94 |

Source: community consultations

While there has been extensive expenditure in the factories over the past 8 years, neither the actual daily output nor the overall holding capacity was significantly increased. Increasing both efficiency and quality were the primary objectives, and increased mechanisation was required to allow for new forms of processing less valuable species such as blue whiting for human consumption.

Fluctuating supplies of raw material has been a major difficulty for the processing factories as shifts in the migratory pattern of the main species (mackerel) has resulted in large

volumes of fish caught by the Killybegs Fleet being landed in Scotland and Norway during some years – closer to the fishing grounds. By paying attention to species which had been less popular (scad, blue whiting) the Killybegs processors have been able to maintain volumes and viability. While the Irish Quota for blue whiting has collapsed in line with the TAC, the Killybegs factories are able to attract Norwegian and Faroese vessels to land blue-whiting for human consumption due the good prices paid to vessels. In addition, some amounts of foreign landings of blue whiting are destined for the fishmeal processing facility in the town. The ability of the fishmeal plant to absorb the offal and broken fish allows the processors to engage in a certain level of processing with a regulated outlet for the absorption of the waste material from the process.

A certain number of landings by Northern Irish and UK pelagic vessels in previous years increased the volumes of mackerel available to the processors, but this has now ceased.

Information on the importance of different markets for processed products is provided in Table 12 above. Table 15 below shows the main species processed by the key companies in Killybegs, and how different companies specialise in different species.

Table 15: List of processing companies

| Company Reference Number | Mackerel | Horse Mackerel | Herring | Blue Whiting | TOTAL (tonnes) |
|--------------------------|----------|----------------|---------|--------------|----------------|
| 1 | 36% | 36% | 11% | 17% | 23,500 |
| 2 | 38% | 36% | 9% | 18% | 22,500 |
| 3 | 43% | 43% | 10% | 5% | 21,000 |
| 4 | 33% | 33% | 11% | 22% | 9,000 |
| 5 | 29% | 29% | 14% | 29% | 7,000 |
| 6 | 38% | 38% | 13% | 13% | 4,000 |
| 7 | 33% | 33% | 17% | 17% | 3,000 |

Source: community consultations

4.6 Details of the local aquaculture sub-sector

Aquaculture activity in the South West Donegal Area is situated in areas outside the immediate Killybegs area. There are three farms producing salmon and seatrout in Inver Bay (17km from Killybegs), mussels and oysters are being cultivated in McSwynes Bay at Bruckless 10 km from Killybegs, and clams in Teelin Bay (20 km from Killybegs).

Overall the cultivation of shellfish and finfish is modest in the area. Statistics for 2008 suggest total employment in the aquaculture is around 43 people (all men, with 20 fulltime and the remainder part time), and that 2008 yielded 3,343 tonnes of product valued at € 11.3 million. Production volumes of finfish rose from 2,483 tonnes in 2008 to 3,658 tonnes 2009, with shellfish production falling slightly.

Seaweed is also being successfully processed for use as specialised fertiliser at a plant in Kilcar (20 km) and the product is exported worldwide for use on golf courses, and is currently being further developed for use in vine growing and horticultural activities. There is also a small local producer of cosmetics using seaweed extracts in their products.

Detailed costs and earnings data are not available, but can be expected to have followed patterns for Ireland more generally, with severe financial pressures being faced by the industry in recent years.

Table 16: Aquaculture production in wider-Killybegs area (volume and value 2003 to 2008)

| Volume (tonnes) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|------------------------|------------------|------------------|------------------|------------------|------------------|-------------------|
| Bottom Mussel | | | | | 352 | |
| Gigas Oyster | 120 | 390 | 394 | 500 | 651 | 760 |
| Rope Mussel | 470 | 100 | 100 | 352 | | 100 |
| Salmon | 2,454 | 193 | | 189 | | 2,033 |
| Sea Reared Trout | | 72 | 164 | 126 | 309 | 450 |
| Grand Total | 3,044 | 755 | 658 | 1,167 | 1,312 | 3,343 |
| Value (Euros) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
| Bottom Mussel | | | | | 144,000 | |
| Gigas Oyster | 300,000 | 926,150 | 747,000 | 1,064,000 | 1,407,200 | 1,132,000 |
| Rope Mussel | 352,500 | 76,000 | 76,200 | 144,000 | | 60,000 |
| Salmon | 7,200,000 | 675,374 | | 756,000 | | 8,511,649 |
| Sea Reared Trout | | 230,400 | 508,400 | 444,000 | 941,789 | 1,575,000 |
| Grand Total | 7,852,500 | 1,907,924 | 1,331,600 | 2,408,000 | 2,492,989 | 11,278,649 |

Source: BIM

4.7 Details of the local ancillary sub-sector

Killybegs is served by a large ancillary sub-sector, as befitting a port of its size. The following two tables detail the type of companies in the area, employment and an estimation of turnover. Almost all labour is male, although some administrative functions are carried out by women, and almost all activity is related to locally-based vessels, although as noted, some visiting vessels are serviced by the ancillary sub-sector.

No primary data on employment or turnover were available for this sub-sector, but a survey of businesses has been conducted for this case study. This survey work generated data on both employment and the wage bill over time for different types of ancillary sub-sector companies, based on detailed consultations with all the major ancillary sub-sector businesses in the area. In seeking to move from a wage bill to turnover, we have assigned each sub-group of businesses (see below) a factor with respect to the costs of sales reflective of its type of work. For example, we argue that cargo handlers have few additional costs other than labour, whereas for net makers having to buy input materials the ratio of wages to total turnover will be very different. Thus by using a constant profit margin of 20% for all businesses, and different cost of sales and overhead estimations per ancillary sub-group, we have been able to generate an estimated turnover by sub-group of businesses within the ancillary sub-sector. This analysis is further refined to reflect the fact that not all business activity is related to the fisheries sector. Again, community consultations have been used to estimate for each sub-group of the ancillary sub-sector, what proportion of their business is fisheries specific, and what proportion relates to other port, oil and gas activities. Using the analysis we arrive at the data shown below. The change in the ratio of turnover/wage bill during the years is reflective of the fluctuating fortunes of the different sub-groups within the ancillary sub-sector over time, but on average ancillary sub-sector turnover is between three and four times the wage bill.

Table 17: Ancillary sub-sector turnover by year, 2003 to 2009 (Euro millions)

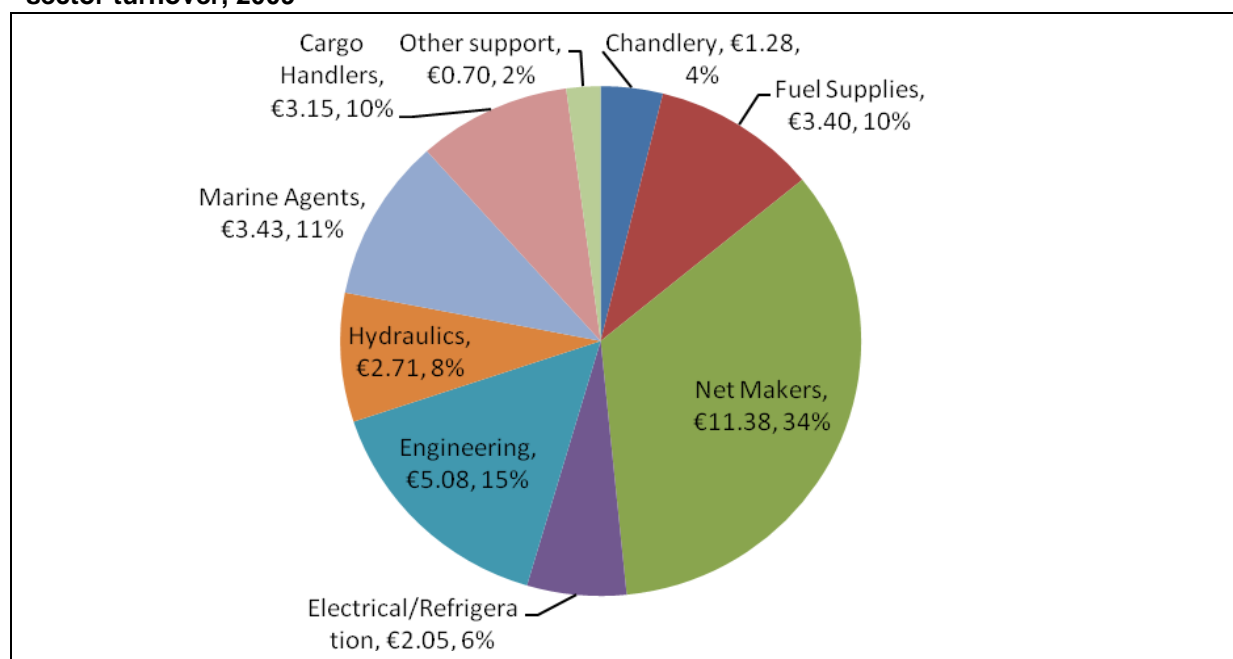
| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Turnover fisheries-related | | | | | | | |
| Chandlery | €0.91 | €0.91 | €1.09 | €1.28 | €1.28 | €1.28 | €1.28 |
| Fuel Supplies | €2.40 | €2.40 | €2.60 | €2.64 | €2.80 | €2.93 | €3.40 |
| Net Makers | €14.46 | €14.42 | €12.50 | €8.57 | €11.09 | €10.16 | €11.38 |
| Electrical/Refrigeration | €1.35 | €1.56 | €1.36 | €1.53 | €1.88 | €1.93 | €2.05 |

| | | | | | | | |
|---------------------------------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|
| Engineering | €3.95 | €3.95 | €4.28 | €4.49 | €4.40 | €4.75 | €5.08 |
| Hydraulics | €1.33 | €1.68 | €1.68 | €2.67 | €2.76 | €2.76 | €2.71 |
| Marine Agents | €0.52 | €0.61 | €0.65 | €0.96 | €0.98 | €2.69 | €3.43 |
| Cargo Handlers | €2.26 | €2.26 | €2.71 | €3.06 | €3.08 | €3.15 | €3.15 |
| Other support | €0.70 | €0.70 | €0.70 | €0.78 | €0.70 | €0.70 | €0.70 |
| Total | €7.89 | €8.50 | €7.58 | €5.99 | €8.97 | €30.35 | €33.18 |
| Turnover Non-fisheries related | | | | | | | |
| Chandlery | €0.39 | €0.39 | €0.47 | €0.55 | €0.55 | €0.55 | €0.55 |
| Fuel Supplies | €0.60 | €0.60 | €0.65 | €0.66 | €0.70 | €0.73 | €0.85 |
| Net Makers | €0.00 | €0.00 | €0.00 | €0.00 | €0.00 | €0.00 | €0.00 |
| Electrical/Refrigeration | €2.02 | €2.33 | €2.04 | €2.30 | €2.82 | €2.89 | €3.07 |
| Engineering | €0.99 | €0.99 | €1.07 | €1.12 | €1.10 | €1.19 | €1.27 |
| Hydraulics | €0.33 | €0.42 | €0.42 | €0.67 | €0.69 | €0.69 | €0.68 |
| Marine Agents | €0.03 | €0.03 | €0.03 | €0.05 | €0.05 | €0.14 | €0.18 |
| Cargo Handlers | €0.12 | €0.12 | €0.14 | €0.16 | €0.16 | €0.17 | €0.17 |
| Other support | €0.70 | €0.70 | €0.70 | €0.78 | €0.70 | €0.70 | €0.70 |
| Total | €5.18 | €5.59 | €5.53 | €6.29 | €6.77 | €7.06 | €7.46 |
| <i>Turnover/Wage bill</i> | 3.52 | 3.48 | 3.41 | 3.21 | 3.28 | 3.09 | 3.10 |

Source: community consultations and analysis

Notes: non-fisheries turnover and employment is almost exclusively in the port, oil and gas support sectors, with a small amount attributed to the services and retail sector

Figure 16: Relative contributions of different ancillary sub-sector business groups to total sub-sector turnover, 2009



Source: community consultations and analysis

Table 18: Ancillary sub-sector employment by year

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|-----------------------------------|------------|------------|------------|------------|------------|------------|------------|
| Fisheries-related | 272 | 279 | 274 | 250 | 255 | 278 | 284 |
| Service & Retail | 11 | 11 | 12 | 13 | 11 | 11 | 11 |
| Offshore oil/gas, Commercial Port | 40 | 44 | 43 | 48 | 48 | 53 | 53 |
| Total | 322 | 334 | 329 | 310 | 314 | 343 | 348 |

Source: community consultations and analysis

Notes: non-fisheries turnover and employment almost exclusively in the port, oil and gas support sectors, with a small amount attributed to the services and retail sector

5. Governance

5.1 Key local institutions

Key institutions of relevance to the fishing sector in Killybegs are as follows

Killybegs Fishermen's' Organisation. Represents the catching sub-sector at local, national and EU level. It has a high profile and reputation. It currently represents a wide range of vessels including RSW and whitefish vessels. It currently boasts 61 Members representing total landings of c € 80 million annually. Its headquarters are at Bruach na Mara-Killybegs, and it employs 4 staff on a full-time basis. It is funded by Annual Membership Fees, Levies on Catches and management and income from PO Activities.

Killybegs Fish Processors Organisation. Represents the Local (Killybegs) Processors. It represents the local Pelagic Processors (8) in an "Association" format. It is affiliated to the National Processors Organisation which has a more formal structure.

Harbour Users Development Committee. Committee made up of relevant fisheries and local government sector stakeholders, and Department of Agriculture Fisheries and Food.

BIM. Semi-State organisation with responsibility at the national level for development of the seafood sector in Ireland. Responsibility for the marketing function was recently transferred to Bord Bia. BIM has regular interaction with the catching, aquaculture and processing sub-sectors and is has been pivotal in the development of the catching sub-sector. It also manages the Government /EU sponsored Grant Schemes. The organisation is currently in the process of moving its main Headquarters from Dun Laoghaire/Dublin to Clonakilty in Co Cork.

Killybegs and District Chamber of Commerce. Formed in 2005 to represent those Businesses in the Area not represented by either the KFO or Processors Organisation. 100 members made up mainly of support/ancillary service providers. Also represents the Tourism and Retail providers. Has a full time office with administrative manager.

Udaras na Gaeltachta. Government Agency dedicated to assisting business in the peripheral Gaeltacht areas in South West Donegal close to Killybegs. Local head office in Bunbeg. Co Donegal.

Killybegs Parish Council. Locally elected voluntary Community Council dealing with local issues.

Co Donegal Enterprise Board. Development Organisation under auspices of Donegal County Council dedicated to assisting the creation of new small business operations.

Enterprise Ireland. Semi State organisation responsible for the development of larger Industry particularly with Export Focus. In regular contact with potential foreign investors. Headquarters in Dublin with fully staffed Regional Offices.

Donegal Co Co. Centre of Local Government in County Donegal, headquartered in Lifford Co Donegal, with responsibility for provision of services and management/maintenance of the road, water and sewage infrastructures. The members of the Council are elected for 5 year terms, and three members of the Council currently live in the Killybegs catchment area..

FAS. Irish Employment authority promoting job opportunities and training courses for school leavers, post graduates and professionals. In conjunction with Killybegs Chamber of

Commerce launched a Pilot Training programme aimed at training a qualified workforce in the Port.

Failte Ireland. Failte Ireland provides strategic and practical support to develop and sustain Ireland as a high-quality and competitive tourist destination, working with the tourism sector in areas including business support, enterprise development, training and education, research, marketing and regional development. Local regional office based in Sligo.

LYIT (Tourism College). Letterkenny Institute of Technology is a Third Level/Higher Education College based on a large campus in Letterkenny. The Killybegs Catering College has been absorbed into the LYIT and carries full Third Level status.

5.2 Public intervention

Table 19 below provides information on the main fisheries and non-fisheries sector public intervention over recent years. Given the scale of the fishing industry in Killybegs, and with the exception of the major port development, it can be seen that fisheries-specific public support has not been extensive.

Table 19: Public intervention in Killybegs area, 2000 to 2010

| Public investment | Source of funding | Public sector investment cost | What was the investment intended to achieve? | What were the expected outcomes | What were the actual outcomes |
|---------------------------------|--------------------------|--------------------------------------|---|--|---|
| Fisheries sector | | | | | |
| New pier | EU 21% Local Govt 79% | €55 mn | Construction of new fishing quay and harbour area | Increase in visitor landings, reduced repair and maintenance costs and congestion, improved quality of landings, improved safety | Only small increases in visitor landings. Port not fully utilised |
| Axis 1 FIFG vessel measures | FIFG | €2.24 mn (8.53 mn total investment) | Vessel modernisations | Vessel upgrades for improved safety, efficiency, etc | As expected |
| Axis 1 EFF decommissioning | EFF | €0.32 mn (€32 mn total investment) | Remove vessels | Reduced capacity | As expected |
| Axis 2 aquaculture | FIFG | €1.02 mn (€2.56 mn total investment) | Support for aquaculture development | Increased aquaculture production | Partially successful but disease problems |
| Axis 2 processing | FIFG | €2.1 mn (€2.18 total investment) | Support for processing sector | Factory improvements for increased value-added and reduced processing costs | As expected |
| Axis 3 FIFG supporting measures | FIFG | €1.83 mn (€3.93 total investment) | Promotional campaigns, etc | Improved value added | As expected |

| Public investment | Source of funding | Public sector investment cost | What was the investment intended to achieve? | What were the expected outcomes | What were the actual outcomes |
|---|---------------------|-------------------------------|--|--|-------------------------------|
| Non-fisheries sector | | | | | |
| New sewage system | National government | €16 million | Improved sewage infrastructure | Infrastructure meeting future/current needs | As expected |
| Improvements to N56 Donegal-Killybegs Road | n/a | n/a | Road upgrade | Faster and safer road travel between Killybegs and Donegal | As expected |
| Improvement to Kilcar Road – “Arctic” By Pass | n/a | n/a | Road upgrade | Faster and safer road travel, reduced congestion | As expected |

Notes: bracketed costs for fisheries sector public interventions represent the total investment cost i.e. public sector support plus private sector contributions.

6. Stakeholder analysis

Some key contacts in the Killybegs community are provided in the table below.

Table 20: Stakeholder details and contacts

| Name | Organisation |
|--|--|
| Sean O'Donoghue Ted Breslin | Killybegs Fishermen's Organisation |
| Martin Howley | KFO and MFV Atlantic Challenge |
| Isabel Shoulin | Killybegs & District Chamber of Commerce |
| Niamh Kennedy | Killybegs Community Council, and UFI |
| Sean McGuinness | Killybegs Seafoods Limited |
| Charley McAleavey | Donegal Fish Limited |
| Art Kavanagh | Consultant and ex-Killybegs Bank Manager |
| Jim Parkinson | Sinbad Marine Ltd |
| Cathal Boyle | MFV Velvet Chord |
| Eamonn Mc Hugh | MFV Antarctic |
| Kathleen Mc Guinness | Killybegs Tourism Committee |
| Martin Connell – Acting Harbour Master | Dept of Agriculture Fisheries and Food |
| Michael Keatinge – Fleet Development Manager | BIM-Dun Laoghaire |
| Dr. Michael Gallagher | BIM-Killybegs |
| Jarlath Morris | BIM Dun Laoghaire |

7. Qualitative interpretation and analysis

7.1 Key events and drivers of change

Demographic aspects

Declining population in the area has been driven by a number of factors including: declines in fishing sector employment; the economic boom years of the 'noughties' which created demand for labour in the construction industry elsewhere in the country; the desire to go elsewhere for third-level education; and a decline in seasonal farm work, which previously allowed people to work seasonally/part-time in different economic activities i.e. farming at some times of the year, fishing at other times.

The main explanation for the perception that population has been increasing or has at least stabilised in the last couple of years, is the global economic downturn and the corresponding economic crisis in Ireland, which has curtailed many of the employment opportunities previously available to people from Killybegs in other areas of the country, prompting their return to live with family members to reduce living costs.

Economic aspects (all sectors)

Perhaps the biggest challenge facing the economy in Killybegs is its very strong dependency on the fishing industry in terms of both turnover and employment as demonstrated in earlier sections of this report. The fishing sector accounts for a staggering 81% of total turnover and 68% of employment in the community. This has been brought about both by the historical strength of the fishing sector on the one hand, and by the lack of development of alternative economic activities on the other.

The historical strength of the fishing sector has been driven by the entrepreneurial ingenuity of those working in the sector and their ability and willingness to invest back into the industry (private sector investments over the last 10 years have totalled around Euro 300 mn), the location of Killybegs close to pelagic catches, a good natural harbour and its status as the premier fishing port in Ireland. All these factors have helped to generate a cluster of economic businesses with associated benefits and efficiencies. These benefits have included a sufficient catching sub-sector to allow for good support/ancillary services, and large volumes of catch which have enabled the establishment of the associated processing sub-sector. Reasons for the rising trend in the value of turnover in the sector are discussed below.

The weaknesses in other sectors have been driven by infrastructure deficiencies, the area's isolated location, and also its proximity to Northern Ireland which rather isolates it from the rest of the Republic of Ireland. Infrastructure weaknesses (air, road and rail) and the area's isolated location have not encouraged inward investment in manufacturing or light industry. With respect to tourism, proximity to Northern Ireland meant that during the north-south troubles lasting many decades, the area was often avoided by foreign and local tourists, due to the unwillingness to travel through Northern Ireland to reach County Donegal. Other drivers for the lack of tourism in recent years have been the Euro/Sterling exchange rate which has made it relatively expensive for people from Northern Ireland (which as part of the United Kingdom uses sterling) to visit the Republic of Ireland (which is part of the Euro zone). Visitor numbers in the area have also dropped in the last couple of years in line with a national decline in tourism as a result of the global financial crisis. These two factors (exchange rates and the economic climate) are given as the main reason for the decline in the activity of the sea angling vessels in Killybegs (a decline in days at sea per year for each vessels from 150 to 120), given that most charters were previously made by people from Northern Ireland. Furthermore, while marine-related leisure and tourism activities have

grown very significantly in other areas of Ireland in recent years, there is no marina in Killybegs to attract sailing and other marine-based leisure activities, with the associated economic benefits that they typically generate.

As noted earlier, the offshore oil and gas activity has also helped to support non-fishing sector employment and turnover. And the opening of a large supermarket in 2008 helps to explain a jump in retail turnover in that year.

Reasons for the decline in the yearly intake of the catering college are not completely clear, but could in part be explained by the influx of Eastern European labour to Ireland during the economic boom years, which made competition for employment in the food service sector increasingly stiff for Irish nationals, thus prompting people to seek employment in other sectors where competition with foreign labour was not such an issue and where wages are higher.

Fisheries and aquaculture aspects

Catching sub-sector

In the pelagic segment, the yearly fluctuations in landings at Killybegs presented earlier in this report are very much the result of natural variability in both the *amount* of fish available and *where* that fish can be caught. Because of the need to land fish near to the fishing grounds, local vessels may land differing proportions of their yearly catch, particularly mackerel, at Killybegs and at other ports e.g. in Norway, depending on migration patterns and their timing. Fluctuations in catches in turn drive changes in yearly landed volumes, but they also have a very significant impact on landed values, especially given changes in catch mix and differing prices for different species. Thus a big rise in landed values in 2009 compared to 2008 was largely the result of increased volumes of mackerel catch. The trend towards overall increases in landings of pelagic catches by vessels based at Killybegs has been driven by increases in mackerel, horse mackerel and boarfish, while trends in herring, blue whiting and sprat show general declines (subject to yearly fluctuations). Given the relatively high value of mackerel and horse mackerel relative to other species, this also helps to explain the trend of rising landed values over the last eight years.

In the whitefish segment, landed volumes and values in the deepwater fishery (orange roughy, black scabbard and grenadier) declined rapidly between 2003 and 2006, due to the large reductions in TACs and area closures for orange roughy. For all other species (e.g. cod, haddock, megrim, monk, etc) landed volumes by Killybegs vessels have also shown a declining trend due to reductions in Irish quota, stock status and a decrease in the number of vessels. The only species showing growth over 2002-2009 in terms of landed volumes has been saithe. With respect to landed values, these are of course driven by a combination of both volumes and prices. The declining trend in whitefish landed values is most strongly driven by the decline in landings. During the 2002-2007 period this was in part mitigated by rising average prices, but during the economic recession in 2008 and 2009 average prices decreased, further contributing to declines in landed values of demersal species. On the other hand, landings by foreign vessels (mainly Spanish and French) of whitefish to Killybegs show an increasing trend since 2003, due to proximity to the whitefish grounds off the North West, the improved landing facilities in Killybegs, and increasing operational costs (particularly fuel) which encourage foreign vessels to land close to where catches are made rather than to incur unnecessary steaming costs to other ports. These catches are not processed in Killybegs but trucked out of the area for sale on continental markets.

Quota restrictions and catch levels relative to catching efficiencies in the fleet are the main reason for vessels spending periods of the year tied up and inactive. The lack of sufficient allocation of deepwater quotas (e.g. orange roughy) resulted directly in two of the largest

whitefish vessels, which had been bought to exploit this fishery, being sold out of the area (to Faroes and Sweden). Part of the reason for the increase in the numbers of whitefish vessels under 24m has been re-investment by owners of the deepwater vessels in smaller whitefish vessels.

In general terms pressure on profitability for all fleet segments has resulted from increasing operational costs (e.g. due to fuel price rises), fluctuating quota in the pelagic segment, and for the whitefish segment quota reductions have further exacerbated difficulties. The impact on vessels in Killybegs from recent rises in fuel prices may have been particularly significant given the active, rather than passive, nature of most fishing gear e.g. use of trawls. Fuel costs typically represent around 20% of operational costs⁵ for pelagic vessels.

Both profitability and landed values are of course also strongly driven by prices for landed product. Drivers of price changes over the years in the pelagic segment are numerous, and for most pelagic species the catching sub-sector is largely a price-taker particularly for herring, with small pelagics being a commodity market, and with prices in end markets being fed back through the supply chain to the catching sub-sector. Determinants of price are therefore discussed under the processing heading below. However the overall result of increased average values for pelagic catches has been critical in the rising total landed values. In the pelagic segment, the average prices for all landings rose by almost 100% between 2004 and 2009 (Euro 248/tonne to Euro 495/tonne).

Processing sub-sector

A major driver of employment change in the processing sub-sector has been the increasing unreliability of supply coupled with the need for pelagic vessels to land close to where they catch fish. This means that at certain times of the year, locally based vessels land into other ports e.g. in Norway, depriving local processing companies of product. This fact, coupled with the economic boom years in Ireland drawing labour away from Killybegs to work in construction in other parts of the country, has conspired to result in the declines in employment noted earlier in this report. In addition there has been a significant level of mechanisation in the pelagic processing sub-sector. The decline in demersal landings by local vessels, and the increase in foreign demersal landings (which are not processed locally), has also impacted on whitefish processing even though the extent of whitefish processing has always been small compared to the pelagic processing.

Financial pressures on processing companies have also resulted from increasing costs, and are made worse by the very significant sensitivity of processing company profitability to changes in fish prices. Prices are determined by a complex combination and interaction of different factors such as:

- Overall catch volumes. For example a significant drop in North East Atlantic mackerel quota in 2008 was a principal cause for good mackerel prices that year (a rise in average prices from Euro 750/tonne in 2007 to Euro 1000/tonne in 2008). Catch volumes further afield are also important, with Japanese catches particularly important given the significance of Japan as an export market i.e. good Japanese catches typically result in lower demand and lower prices for Irish product.
- The size of the fish and time of the year they are caught, which to a great extent depend on natural variability. Far Eastern markets typically don't want fish in roe, because processed to liveweight ratios decline, and because the fat content is lower. For mackerel, prices early in the season are poor when fat on the fish is 'loose', resulting in gaping/splitting when the fish is defrosted and cut. Later in the year the

⁵ Crew costs + fuel costs + repair costs + other variable costs, as reported in AER data

fish is harder and better accepted in the Japanese market, with correspondingly higher prices. This has changed over the last two years with very good mackerel prices in January. At the same time, if fish are too small, prices can be significantly depressed. For example, the price for mackerel under 400gr might be in the order of \$800/tonne, whereas prices for 400-500gr fish may be \$1,350-2,000/tonne.

- For fish meal and fish oil production, fat, salt, protein, TVN (freshness – total volatile nitrogen), and temperature can all have an influence on price paid by the fish meal plant.
- Currency fluctuations have a major affect on market prices as most pelagics are traded in US dollars. The euro/dollar exchange rate was not favourable over last two years. This has changed over the last number of months.

The new EC IUU regulation, coupled with availability issues and working hours of the Sea Fisheries Protection Agency (SFPA) inspectors is also reported to be having an impact on the ability of processing companies to attract visitor landings, for example from Scottish pelagic vessels. Major difficulties are reported to have arisen with the weighing of pelagic species over the weigh bridge in the port rather than in the processing plant, due to weighing water as fish, the time factor involved and the reduction in quality. There is strong anecdotal evidence that the decline in visitor landings is due to what is perceived as a more difficult control/reporting process at the port of Killybegs than in other ports⁶.

Other financial pressures are being faced by the processing sub-sector from high and rising utility charges. Processing companies use very large quantities of water, and rates imposed by the County Council typically result in yearly bills to individual companies of Euro 100,000-250,000 for water and rates. This revenue is not ring-fenced by the Council for subsequent expenditure in the area, and due to the fact that there are no private house water charges and many other industries paying for water use are closing down, there is a view among processors that the County is increasingly relying on processors in Killybegs for revenue generation to cross-subsidize other water users.

Ancillary sub-sector

The fortunes of the ancillary sub-sector are largely driven by, and follow, the fortunes of the catching sector. Thus sub-sector turnover has been steady and slightly rising in recent years. However, those businesses with a relatively high dependency on the whitefish fleet can be expected to have faced declines in related ancillary sub-sector activity in line with the decline in whitefish catches.

Aquaculture sub-sector

Development of the aquaculture sub-sector (not specifically in Killybegs but nearby) commenced many years ago, driven by developments of the sub-sector in Ireland more generally, and the presence of favourable locations for development i.e. sheltered bays with good water flow. The reason for fluctuating production rather than constant growth is not well known, but disease is likely to have been the main reason, along with jellyfish kills that have occurred during some years.

⁶ Fisheries Control Staff have increased in number from 4 in 2000 to 16 in 2010, and the introduction of the Sea Fisheries Amendment Act 2005 effectively renders even a simple breach of Fishing Regulations a criminal offence.

Governance aspects

With respect to good local sector representation and the existence of a large number of local organisations working to support not just the fisheries sector but other sectors in the community, the main driver for this has been the recognition by the fishing sector of the need for strong representation to lobby on its behalf and make its voice heard in relevant policy fora, and a willingness to pay to have a professionally run organisation such as the KFO to represent the industry both nationally and at EU/International level. The KFO is both a producer organisation recognised under Community legislation and also a representative organisation. It is the largest producer organisation in Ireland with its members accounting for 75% of the national landings by volume. Non-fishing sector organisations are largely run by members on a voluntary basis as a result of a strong sense of community. There is good synergy between all the organisations working together for the betterment of Killybegs.

7.2 Adaptation

Demographic aspects

The adaptive response to declining demographic trends has been an increase in non-Irish labour in the area. This labour has, as already noted, been concentrated in the whitefish and shellfish segments, and not on pelagic vessels. The reason for this is the lower crew wages on such vessels, and the willingness of foreign labour to work for lower earnings. But foreign labour has also been widely used in the service sector e.g. hotels, etc. Recent declines in employment opportunities outside the area for Irish nationals, and the return of people to the area, are anecdotally reported to have resulted in corresponding reductions in foreign labour in the area, although hard data are not available.

Economic aspects (all sectors)

Considerable effort is being placed on promoting tourism. There are plenty of beds and rentals available, so efforts are focussing on promotional activities to highlight the very many sights and activities that the area has to offer. A local information office has been established, with a website (www.killybegs.ie) which has over 1,500 hits per month, to make available information about the area in an attempt to attract visitors, and a Killybegs Tourism Forum⁷ has also been created made up of relevant stakeholders. In 2009, around 5,000 people passed through the information office. Funding for the maritime and heritage museum, mainly by the KFO, was also an adaptive measure aimed at increasing tourism and redressing the balance in fishing and non-fishing sector activities in the area (as well being an important way of recording the fishing sector heritage and cultural importance to the area).

A very significant improvement the road network in Ireland has taken place in recent years to address previous deficiencies in infrastructure. These developments have not been funded by the Killybegs community of course, but nevertheless have served to benefit it.

Fisheries and aquaculture aspects

When one considers the significant contraction of fishing sector activity in many other ports around both Ireland and the EU more generally, it is clear that the sector in Killybegs can be categorised as one that has shown remarkable resilience despite encountering many difficulties. Certainly there are financial pressures on the catching, processing and ancillary sub-sectors, but adaptive responses and “a never say never/die attitude” have been critical in ensuring continued viability in the case of such pressures.

⁷ Chaired by the Parish Council

Catching sub-sector

How then has the catching sub-sector responded to recent challenges and financial pressures?

An obvious response has been to reduce fleet numbers in the larger whitefish vessels. This has mainly been achieved by the vessel owners selling larger vessels and buying smaller ones without the use of grant aid. One smaller whitefish vessel was also removed through decommissioning. The numbers of vessels in the pelagic RSW segment has remained static with several vessels replaced by new or second-hand vessels. The small declines in employment in the pelagic segment have been as a result of vessels adopting a strategy of employing fewer people per vessel due to less time being spent at sea. Historically large pelagic trawlers might each have employed 12-14 crew, while this figure has now declined to an average of around 11-12. The text above (Section 7.1) noted how the imposition of deepwater quotas and the amounts allocated were not sufficient for the large whitefish vessels to continue to operate. These quotas are now generally swapped, and the owners of the large vessels adapted by down-sizing and re-investing in smaller polyvalent vessels targeting other species with around $\frac{1}{4}$ of the capacity and $\frac{1}{2}$ of the crew previously employed. This adaptive strategy helps to explain the slight increase in vessel numbers, kW and power in the under 24m segments.

Overall declines in employment in the catching sub-sector over the years were also highlighted in earlier text. The response and principal ways of adapting to these changes have been through a) early retirement, b) outmigration, and c) increases in unemployment.

With regards to rising operational costs, for example fuel, the catching sub-sector has responded through a variety of strategies in an attempt to keep costs down such as use of fuel efficient gears and attachments, downsizing of some pelagic vessels, optimising towing speeds, integrated fuel management systems, reducing time at sea, optimising catch management plans, maintaining the vessels in a good state of repair to avoid breakdowns, and bulk and advance purchase of fuel.

Vessels have also tried to combat financial pressures through efforts at increasing prices and identifying new fishing opportunities. For example there has been an increasing emphasis in recent years on catching blue whiting for human consumption (with higher prices) which had previously been used for the production of fish meal. While a certain amount of blue whiting is still used for fish meal the emergence of boarfish as an alternative base for fishmeal is also helping both the catching and the processing sub-sectors.

In the whitefish and shellfish segments, like the pelagic segment a range of similar measures and strategies have been adopted. In addition the downsizing of two larger whitefish vessels has contributed to significant fuel savings.

Efforts at improving the quality of product in recent years, and therefore prices, have included the provision of slush ice systems on board, use of tankers instead of bins for transporting pelagic species, and the publication in conjunction with BIM of detailed user-friendly quality guides for use on board vessels.

The catching sub-sector has also adapted and responded to the commodity nature of the market for pelagic species, and to a fear of losing markets, by engaging with Marine Stewardship Council (MSC) certification for mackerel. This certification was successfully obtained in August 2009 for pelagic mid-water trawls in ICES sub-areas VI, VII and VIII and Division Vb, and International waters in sub-areas XII and XIV and Division IIa. Certification has not in fact resulted in any price increases, but is thought to have ensured continued market access to historical markets, potentially with very slightly higher prices than might

have been received in other alternative markets that might have been needed in the absence of MSC certification.

Processing sub-sector

The adaptive response by the processing sub-sector to fluctuations in throughput, outmigration from the area, and increased financial pressure on the industry over the past 10 years has included a number of strategies. These include:

- The placing of a greater proportion of employment on a part-time basis, and overall reductions in employment as described earlier. Employment in the fish meal plant for example has fallen from 50 in the peak season to around 25. The response to declines in employment in the processing sub-sector over the years are similar to those for the catching sub-sector, and have been a) early retirement, b) outmigration, and c) increases in unemployment.
- Increased mechanisation in processing (both to reduce costs and deal with labour availability issues). Up to around 10 years ago the whole processing sub-sector in Killybegs was very labour intensive based on the availability of a large workforce satisfied to work on a part time basis as supplies of fish demanded. As supplies became more uncertain so did the availability of the workforce. This became more problematic with the increased availability of well paid building work in Dublin and other urban centres which reduced the available local workforce significantly. To overcome the labour difficulties, the Killybegs factories invested heavily in mechanised systems which reduced their reliance on human workers. In addition to the operational benefits there have been definite financial benefits. The factories have been able to reduce processing costs by around €25 per tonne in the mechanised system, which represents considerable savings given potentially tight margins.
- Chain of Custody certification for the MSC mackerel certification
- Increased emphasis on the quality of products. Examples include: adherence with quality guides, slush ice systems, improved blast freezing, automation and factory upgrades in design and layout. The duty of care from the net through to final processing has improved significantly. Vessels follow defined handling protocols and ensure that the correct proportions of fish to pre-chilled refrigerated seawater are used for each species onboard. Unlike most Norwegian pelagic processing plants which pump from the vessels directly to processing plants, the local plants in Killybegs are some distance from the town pier. Although this presented logistical challenges in the past, the local processors have developed a transport system using enclosed pre-chilled tankers. These tankers receive fish from the vessels at the quay-wall and chill-chain management is maintained throughout processing. In addition the significant investment in blast freezing technology has enabled significant reductions in both time temperatures cycles from -22°C in 24 hours to -30°C in 16 hours. The chill chain management from vessel through to processing coupled with effective blast freezing has significantly improved product quality and shelf-life for all pelagic species processed in Killybegs.
- Increased emphasis on adding value through new processing methods and new products. Some examples include the use of blue-whiting catches for human consumption rather than for fish meal as already noted with associated higher prices. Many of the pelagic processors in Killybegs were pioneers of added-value processes (e.g. canning, brining, filleting) in previous decades. However most of the larger scale operators' made strategic decisions to switch to the whole frozen products in the

commodity markets, based on cost-benefit analyses (e.g. soaring labour costs, low offal prices paid locally). Nonetheless innovation has always been to the fore, and in this regard, the pelagic processors in Killybegs were the first to process and market land-frozen blue whiting for human consumption. This was initiated through a BIM-run pilot project in 2004 where 5,000 t of blue whiting was processed for export. This has steadily increased year on year and in 2010 a total of 40,000t of blue whiting was processed worth an estimated Euro19.5 million.

- Development of new markets or a re-emphasis on sales between different markets. Considerable effort has been expended on the mackerel market in Russia with success now showing in 2009 and 2010. This has been helped by the 'ideal' fat content of 18-22% (spring catch) for their favourite hot smoked dish. Robust relationships have been forged for this market. Horse mackerel sales using 20t containers to Egypt have been successfully developed and is a less riskier proposition than the 2 to 4kt reefer vessels. A similar road/sea freight system is also starting to develop with Nigeria. The opening of the Chinese market for land frozen blue whiting reflects a repeat of the similar success with land frozen horse mackerel for Japan in the late '80s.

Ancillary sub-sector

As noted above, the rise of non-fisheries sector ancillary sub-sector related to the offshore oil and gas sector has been important in recent years, and provides additional opportunities for many ancillary sub-sector business types to earn additional income. Such activities represent an adaptive strategy to minimise risk of over-dependency on the fishing sector. Ancillary sub-sector businesses also ensure that they keep up to speed with various technological developments in the industry, so as to ensure that they can adequately serve the needs of the catching sub-sector.

Governance aspects

The adaptive response by the main representative fishing sector organisation (KFO) to trends and threats facing the sector has been to ensure active participation in relevant fisheries meetings and policy both nationally and at EU/International level to ensure that the concerns and voice of the industry is being heard and the issues are being addressed. In concrete terms this means frequent and regular meetings with DAFF, SFPA, and BIM within Ireland and when the Minister attends Fisheries Councils (e.g. to discuss quota and effort management measures, control issues, and sector development), engagement with the Commission and EU-level organisations on areas of EC fisheries policy and CFP reform. Examples include active participation in (i) three Regional Advisory Councils (NWWRAC, PRAC and LRAC) (ii) the Advisory Committee on Fisheries and Aquaculture (ACFA), (iii) the European Association of Producer Organisations (EAPO) and (iv) attending and making presentations to the European Parliament Fisheries Committee.

7.3 The future

In the future, the community has a vision for a sustainable and financially viable fishing sector (for its catching, processing and ancillary sub-sectors) resilient to fluctuations in catches/landings and markets, an upturn in sector activity and an increase in employment. It is also very much hoped that the adaptive measures described above for non-fishing sector activities will help to reduce the risk to the community associated with fluctuations in the fishing sector and over-reliance on it.

Discussions with the community have revealed a number of priority areas for the fisheries sector which need to be addressed, and which correspond with the community's vision of how a sustainable and viable the sector delivering increased employment can be supported.

Harbour management and development

A critical expectation for all sub-sectors is that the new pier, which is currently not delivering the expected benefits, will be utilised to its maximum potential. Having invested Euro 55 million of public money to develop the pier and harbour area, the community is very keen to ensure that some small but vital additional steps are taken to support its better use. These steps relate both to harbour management, and its development, and the hope is that EFF or other funding might be available to support such initiatives. Examples include:

- Improved harbour management with a positive and commercial approach to business. This has been identified by the community as key issue to be addressed in order to achieve the harbour's potential. The Killybegs harbour is under the control of DAFF and is linked with five other centres with revenue generated by Killybegs used to support the other centres. The separation of roles of harbour master and a business development manager is a key component in improved harbour management;
- There is an urgent need for a harbour business development manager to be appointed, to better manage and plan for future development of the harbour. Activities would include improved marketing of the harbour and local facilities, reviews of harbour charges etc.;
- Ensuring that the harbour area can provide for 24 hour landing of fish and fishery products 7 days a week;
- A border inspection post (BIP) for fishery products should be established on the pier to ensure that foreign vessels can land product for local processing;
- Construction of dry dock facility;
- The provision of a helicopter pad; and
- Provision of fuel tanks to ensure local storage of fuel with associated implications on reduced fuel costs.

Innovation Centre with business incubation units

The catching and processing sub-sectors are very well aware of the need to add more value to landed product, and to support innovation in the sector (to focus on both increasing value-added, and supporting environmental improvements). An innovation centre located in the area is seen as a high priority, and could link with both the Catering College and the Letterkenny Institute of Technology to work on issues such as functional foods e.g. use of omega 3 and other fish extracts in food products, and increasing value-added and new consumer products in pelagic, whitefish and shellfish species processing. Such an initiative would create business and employment opportunities for both fisheries specialists and non-specialists.

Price is king!

Sales prices for fish products are key to the profitability and viability of the industry in Killybegs, as they are everywhere that fishing vessels are operating in Ireland. But this is

perhaps especially so for the large RSW pelagic vessels and processing companies, where margins can be small and greatly impacted by fish prices due to very high operating costs. In addition to the proposed innovation centre which would serve to increase quality, value-added and prices, the industry would like to see EEF support in the future being available for transnational/multi-State initiatives focussing on market and price issues. This would require flexibility in Operational Programmes, and the ability to work collaboratively with countries both inside and outside the EU.

The Japanese market imposed a requirement in 2007 for a label of origin to be included on all retail fish sales. Norwegian competitors have benefitted from the activities of the Norwegian Seafood Export Council (NESC) to generate strong branding for Norwegian products in this market. Irish fish exports in the future could be supported by similar activities.

MSC mackerel certification is currently under threat, not due the practices of the Irish pelagic vessels which are entirely compliant with MSC standards, but due the irresponsible behaviour of Iceland in setting an autonomous quota of 130,000 tonnes, a 31-fold increase on their 2006 landings. In addition the Faroe Islands are threatening an autonomous quota of 100,000 tonnes and Russia an additional 40,000. These parties are not adhering to a management that exists for the sustainable exploitation of the mackerel stock. Resolving this issue is of critical importance for the pelagic catching and processing activities, and failure to do so will result in a collapse of the stock with the consequent loss of access to some markets and the resulting need to make sales to lower value markets if MSC certification is withdrawn.

Vessel viability

Concerns have been expressed about the ability of both pelagic and whitefish vessel owners to continue to invest in the fleet given current and potential future pressures. For the pelagic segment, it is reported that many vessels remain viable in part because they have long since paid off any significant loans/debts, but that investing in new vessels in the current uncertain climate poses significant challenges. This is not the first time the pelagic fleet has been faced with such uncertainty, and it has previously shown its ingenuity and entrepreneurial nature to overcome these difficulties. However, an inability to re-invest could begin to generate problems in terms of increased repair and maintenance costs, increased safety risks of working onboard vessels, and maintaining fish quality. Of course, predicting future viability is problematic, and it is hoped that CFP reform and ongoing stock rebuilding efforts will result in sustainable catches in the long-term. Increases in prices may also help to alleviate future financial difficulties given strong predicted growth in demand for fish in Ireland, in the EU, and more generally in a global context. However, future viability is also likely to be very strongly determined by future fuel prices.

Also of critical concern to the pelagic segment and future viability is the ongoing situation with regards to agreeing a quota for mackerel referred to above. This of course has a potential implication not just on MSC certification, but even more fundamentally on potential future allocations of quota to Ireland, and therefore allocations to Killybegs vessels. If negotiations between the EC and third countries result in reductions of overall quota and/or quota being divided based on the unjustified behaviour of third parties to determine track record, this could result in significant reductions in landings made by vessels based in Killybegs.

Fish meal plant viability

The fish meal plant in Killybegs is the only one in Ireland. Its viability is increasingly under threat due to declining blue-whiting tonnage. The presence of the fish meal plant provides an

opportunity for other pelagic processors to generate revenue from waste products generated when producing value-added products. If the plant were to close, fish processors would have to choose between transporting and paying for waste products to be rendered, or ceasing to add value through heading and gutting, filleting, etc. Both options would result in considerable losses of overall revenues. The continued presence of the fish meal plant in the future is therefore seen as critical. BIM is actively engaged in research on alternative uses of fish waste other than fishmeal production.

Governance

Industry representation in Killybegs is already strong. With respect to future governance improvements, two main areas are raised in relation to expectations for the future.

Firstly, as noted earlier, there is currently dual responsibility for planning in the area, with the County Council responsible for the town development plan, and the DAFF responsible for the national fisheries harbour centre. In neither case is the voice of the community particularly well heard, and greater levels of participation are therefore desired and required. Furthermore the management of Killybegs harbour and the failure to appoint a business development manager is a major impediment to realising the potential sustainable growth of Killybegs and increased employment.

Secondly, the fishing sector in Killybegs is strongly in favour of far more regionalisation in the implementation of the Common Fisheries Policy rules. There is a strong wish for more regionally specific management measures appropriate to the region, and for any management measures to be based much more strongly on regionally-specific scientific research, with greater industry participation.

7.4 The role of public intervention in the past and in the future

While outside the time-period being examined by the study, it is noteworthy that the limited funding for development of the pelagic segment provided by BIM and the government in the 1970s was a critical factor in the move to large pelagic RSW trawlers. The pelagic segment does not now receive subsidies and is still financially viable and has invested in upgrading and renewing despite various pressures. This experience demonstrates how subsidies can be effective in supporting financial viability, innovation and catalysing 'shift' changes in the sector.

Public sector support more recently to Killybegs in the form of the new pier providing one of the best deepwater harbours in the West Coast of Ireland is not generating the expected benefits due to issues of management and marketing of the port.

The whitefish decommissioning grants have supported very limited fleet reduction with one vessel decommissioned with a 73GT and 325 kW. Other axis 1 FIGF funds have been used for vessel modernisations, while funds under other FIGF axes have been used for some marketing measures and processing factory investments for value-addition. The outcomes of this support have been as expected in bringing about some benefits to the sector.

What is perhaps most noteworthy however is the significant levels of investment, mostly private-sector funded, over the last 10 years, as shown in the table below. Of an estimated combined public and private sector investment of around 365 million, the private sector has funded more than 300 million. Thus the sector has been able to invest and modernise without being strongly dependent on public sector support to do so. The principal reason appears to be strong entrepreneurial attitude of those involved in the sector, and the ability to think and plan for the long-term.

Table 21: Investment in fishing-related assets and infrastructure 2000-2010

| Item | Amount in €(public funding in brackets) |
|---------------------------|--|
| New fishing pier | 55,000,000 (55,000,000) |
| Whitefish vessels | 56,150,000 (2,240,000) |
| Pelagic vessels | 190,000,000 |
| Other vessel improvements | 50,000,000 |
| Factory investments | 12,500,000 (2,010,000) |
| Aquaculture | 2,560,000 (1,020,000) |

Source: Survey by Killybegs Chamber of Commerce, and BIM records of FIG and EFF awards

Notes:

1/ Whitefish vessel investments for the deepwater fishery that is now not being exploited and vessels have been sold out of the area.

However, with regards to the future, many of the issues discussed above in Section 7.3 may require public intervention, and would be likely to fit well with current ideas being floated about eligible items under a revised CFP and a future 'EFF-2'.

7.5 Conclusion

In conclusion, this report has demonstrated a number of clear trends and important factors with regards to the fisheries sector and the wider economy in Killybegs. The area is very strongly dependent on the fishing sector, most notably on the pelagic segment (both catching and processing) but also to some extent on whitefish and shellfish activity. This dependence is the result of both the historical strength of the fishing sector, but also the difficulties in developing other economic activities due to the location of Killybegs and its poor infrastructure connections. The fishing sector itself has faced a number of significant threats in recent years, most importantly rising production costs, and declines in whitefish quotas. This has resulted in corresponding declines in vessel numbers and capacity, mechanisation in the processing sub-sector, and some pressure on ancillary services. However, these pressures should not be overplayed. The fishing sector remains vibrant, and there is a very strong sense of entrepreneurship, ingenuity and a "never say die attitude" within the community. While efforts to develop non-fishing sector activity are underway and should be supported, the community is likely to remain highly dependent on fishing in the future. This means that a number of threats facing the fishing sector must be addressed. Responsibility for future actions is a shared one. Some actions can and must be taken by the private sector and its representation. However, government and EU-support is also required in the future to mitigate risks and ensure the continuance of a sustainable viable sector generating significant levels of value-added and employment in an area with few other economic opportunities. A bright future awaits Killybegs provided the threats are adequately addressed.