

## **1 INTRODUCTION**

This is the final report identifying opportunities for the future of the Shetland economy and considering the potential for broadening the economic base of Shetland through existing and new activities. This report was undertaken on behalf of Shetland Enterprise, Shetland Islands Council (SIC) and Highlands & Islands Enterprise (HIE).

### **1.1 PROJECT OBJECTIVES**

The objectives of the project were to:

- Review the state of the Shetland economy to determine its current reliance on fragile sectors. This will include analysing employment trends, wage levels, reviewing the structure and viability of fragile sectors and looking at the future prospects for development and growth.
- Identify diversification opportunities for local industries to broaden the economic base and reduce reliance on fragile sectors.
- Consider the potential for emerging industries to invest in Shetland to create further job opportunities.
- Develop a set of recommendations for the targeting/deployment of public sector funds to mitigate the current economic problems and assist in the development of a broader more sustainable economic base for Shetland. These recommendations should be compliant with 'Smart Successful Scotland'.

### **1.2 STUDY METHOD**

The study was undertaken through:

- Desk Research.
- Consultations.
- Workshop.

In undertaking this research the following economic, demographic and social statistical sources were used:

- General Register Office Scotland Census 2001.
- Annual Business Enquiry.
- NOMIS (ONS).
- The Committee of Scottish Clearing Banks.
- Shetland in Statistics.
- SEERAD:
  - Scottish Fish Farm Annual Production Surveys.
  - Scottish Fisheries Statistics.
  - Scottish Shellfish Farm Production Surveys.
- Shetland Islands Tourism.

In addition, the following reports were reviewed:

1. Review of the Shetland Economy, AB Associates, July 2004
2. Shetland Knitwear: The Way Forward, Stewart Miller Associates, June 2004
3. Potential Commercialisable Plants Growing in Unst, Agronomy Institute, April 2004
4. Hamnavoe Waterfront Development Association Feasibility Study, RG Jamieson Consulting Engineers, Feb 2003
5. Shetland Input-Output Study 2003/2004, Tender by Aberdeen University Business School and AB Associates, October 2004
6. Shetland Halibut Farming Workshop, North Atlantic Fisheries College, Draft Workshop Proceedings, February 1999
7. Developing a Long Term Sustainable Fishery for Shetland, The Whitefish Plan, SHOAL Shetland Oceans Alliance, March 2003
8. Assessment of the Social Economy of the Highlands and Islands, Draft Report, December 2001
9. Development of a strategic overview for the future of camping and caravanning facilities in Shetland, AB Associates, September 2004
10. Study on the impact of cultural development on Shetland, Centre for Cultural Policy Research, Draft Report, September 2004
11. Shetland Strategy for renewable energy developments, Shetland Renewable Energy Forum, January 2004
12. Proposals for the development of a renewable energy skills unit in Shetland College, AB Associates, August 2004
13. Renewable Energy Resource Assessment for Orkney and Shetland, Aquatera Ltd, July 2004
14. Towards a workforce development plan for renewable energy technologies in the Highlands and Islands, summary report, Avayl Engineering, March 2004
15. Revised business plan for Shetland Airlines, Apollo Aviation Advisory Limited, July 2001
16. Marketing of Sumburgh Airport, Key findings and business options, Anderson Lyall Management Consultants, November 2000
17. A market, operational and technical study of Shetland Air Transportation Systems, Apollo Aviation Advisory Limited, September 2000
18. Industry Review 2001: Public Document, Summary Findings, North Atlantic Fisheries College
19. North Atlantic Fisheries College Strategic Plan 2002-2005, April 2002
20. Economic and Social Impact Assessment: Petroleum Prices and Distribution in the Highlands and Islands, Halcrow Fox, March 1996
21. Local Health Plan 2002-2007, Shetland NHS Board, April 2002
22. Social and Economic Impact Assessment of Shetland Music, AB Associates, November 2003
23. Shetland Visitor Survey 2000, MacPherson Research, July 2001
24. Broadband Satellite Evaluation, Presentation to HIE, Systems Insight Ltd, March 2003
25. Appraisal of the Economic and Social Impacts of the Drawdown at RAF Saxa Vord, EKOS Ltd, September 1999
26. Knowledge , Information and Telecommunications Skills Survey, Workforce Development Plan, August 2004
27. Maureen Decommissioning Programme (specification and details of options for decommissioning of Maureen platform and associated structures)

28. An economic development strategy for Unst, Final Report, EKOS Ltd, November 2004
29. Community Confidence in the Highlands and Islands, Shetland Summary Report, System 3, January 2000
30. Financial Assistance for Business and Industry, Shetland Islands Development Department, November 2002
31. Audit of the Third Sector in Shetland, Shetland Islands Partnership, Shell STEP Report written by Nicola Stewart Watson, 2000
32. Socio-economic impact of a fixed link between Yell and Unst, EKOS Ltd, January 2001
33. Community Benefits to be derived from Renewable Energy Projects, Brian Burns Associates and Steve Westbrook, September 2002
34. Social and Economic Impact of Extending Runway 09/27 at Sumburgh Airport, AB Associates, July 2001

### 1.3 STRUCTURE OF THE REPORT

**Chapter 2** provides a review of the Shetland economy. In **Chapter 3**, we undertake an analysis of the main sectors within the Shetland economy while **Chapter 4** assesses the extent to which the Shetland economy is dependent on particular sectors and whether the economy is fragile. **Chapter 5** identifies and discusses the key opportunities for the future economic development of Shetland and **Chapter 6** presents a strategic framework for the opportunities available to Shetland.

## 2 **REVIEW OF THE SHETLAND ECONOMY**

### 2.1 **INTRODUCTION**

Chapter 2 reviews the demographic and economic structure of Shetland based on official data sources including:

- General Register Office Scotland (GROs).
- Annual Business Enquiry (ABI).
- NOMIS (ONS).
- The Committee of Scottish Clearing Bankers.

Throughout this study the following geographic definitions are used interchangeably:

- Local – Shetland.
- Regional – HIE area.
- National – Scotland.

### 2.2 **POPULATION**

#### 2.2.1 Absolute Numbers

**Table 2.1** sets out total population figures for Shetland and compares these with those for the HIE area and Scotland.

<b>TABLE 2.1: POPULATION LEVELS</b>			
<b>Year</b>	<b>Shetland</b>	<b>HIE</b>	<b>Scotland</b>
1991	22,522	430,361	5,083,330
2001	21,988	433,745	5,062,011
<b>Change 1991-2001</b>	<b>-2.4%</b>	<b>+0.8%</b>	<b>-0.4%</b>

Source: 1991 Census and 2001 Census

At 2001 the population of Shetland stood at just under 22,000, accounting for 5% of people living in the HIE area and around 0.4% of the national population.

Over the preceding decade Shetland's population declined by 2.4%, representing an absolute decrease of 534 people. This compares to an increase in population within the HIE area of 0.8% over the same period and a slight reduction at the Scottish level. Data from GROs indicate that Shetland's population has continued to decline with the 2003 mid-year estimate showing a population level of 21,870, a total reduction of 0.5% since 2001.

Shetland's population has generally been falling since the start of the twentieth century other than during the 1970s when it grew by almost 30%. This was primarily associated with the development of the North Sea oil industry, and in particular the construction and operation of Sullom Voe.

In addition to the overall changes in population for Shetland as a whole there have also been important changes in the distribution of the population within Shetland, specifically a centralisation of population on the mainland, in particular around Lerwick, and population reductions outwith mainland Shetland.

By way of example, between 1991 and 2001 the population of Unst, Yell and Fetlar declined by 21%, from 2,220 people to 1,763. The population of these islands as a share of total Shetland population declined from 9.9% to 8.0% (a reduction of -1.9 percentage points). In comparison, the combined population of Lerwick, Gulberwick/Quarff, Bressay, Scalloway and Tingwall (representing the core of the mainland) increased by 0.9% from 10,319 to 10,410 people. Their share of Shetland's population grew from 45.8% to 47.3% (an increase of 1.5% points).

Despite the overall reduction in population, forward projections for Shetland are positive. GROs data suggest that between 2003 and 2018, the area's population will grow by 2%. Scotland's population is forecast to fall over the same period, by 2%. It is also interesting to examine the composition of the projected changes within Shetland. These are as follows, with the Scottish level projections shown in parentheses:

- Below working age: - 5% (-17%)
- Of working age: - 4% (-6%)
- Above working age: + 40% (24%)

This shows that the numbers of those below working age are forecast to fall sharply and those of working age to fall to a lesser extent over 2003-2018. In contrast, those above working age will increase by 40%. The direction of these forecasts reflect those for Scotland. However, they are less pronounced within Shetland for those of and below working age and more pronounced for those above working age.

### 2.2.2 Population Structure

**Table 2.2** describes the population structures of the three areas.

<b>TABLE 2.2: POPULATION STRUCTURE: 2001</b>			
<b>Age Band</b>	<b>Shetland</b>	<b>HIE</b>	<b>Scotland</b>
0-4	6.0%	5.4%	5.5%
5-19	20.4%	18.6%	18.7%
20-44	33.7%	32.0%	35.5%
45-64	25.8%	26.7%	24.5%
65-84	12.3%	15.2%	14.2%
85+	1.8%	2.0%	1.8%
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: 2001 Census. Note: some columns do not sum to totals due to rounding

In general Shetland has a population structure younger than that for both HIE and Scotland. Compared to Scotland it has a higher proportion of residents aged 19 or under and a lower share within the 20-64 grouping. The share of the population less than 45 years old stands at just over 60% for Shetland (similar to that for Scotland) compared to 56% for the HIE area. Conversely, the share of Shetland's population that is 65 years and older is just over 14% compared to 16% for Scotland and 17.2% for the HIE area.

However, GROs mid-year estimates for 2003 show the continuing aging of the Shetland population with the percentage of the population younger than 45 decreasing to 58.9%. As noted earlier Shetland's population declined between 1991

and 2001. However, this has not been evenly spread across all age ranges, as shown at **Table 2.3**.

<b>TABLE 2.3: COMPOSITION OF SHETLAND POPULATION CHANGE: 1991-2001</b>				
<b>Age Band</b>	<b>1991</b>	<b>2001</b>	<b>Change</b>	<b>% Change</b>
0-4	1,627	1,328	- 299	- 18%
5-19	4,919	4,481	- 438	- 9%
20-44	8,344	7,412	- 932	- 11%
45-64	4,534	5,682	1,148	25%
65-84	2,759	2,692	- 67	- 2%
85+	339	393	54	16%
<b>TOTAL</b>	<b>22,522</b>	<b>21,988</b>	<b>- 534</b>	<b>- 2%</b>

Source: 1991 and 2001 Census

The main source of growth has been the number of older people. The numbers of people aged 45 years or older grew by 15% while that of those younger than 45 fell by 11%. The largest absolute, and percentage, growth of population was for those in the 45-64 age group. In contrast, the absolute numbers of younger people declined. The greatest absolute decline was for those aged 20-44, accounting for 56% of the decline in all people younger than 45. The largest percentage reduction (-18%) was for those aged 0-4 years. Essentially, the population base of Shetland is growing older.

To an extent, this reflects regional and national trends. Analysis of the relevant data indicates, that the Shetland population is aging at a slightly faster rate than that of the HIE area. For example, the share of the region's population within the 20-44 age group declined by 3.1 percentage points in the decade to 2001, compared to a fall of 3.3 percentage points for the same group in Shetland.

## 2.3 ECONOMIC ACTIVITY

### 2.3.1 Economic Activity

Economic activity rates provide a measure of the economic health of an area, by demonstrating the extent of labour market participation. The rate is defined as those economically active within the working age population, which is taken as being 16-74. Data from the Census (2001) show the overall economic activity rate of Shetland at 75% is above that for both the HIE area (68%) and Scotland (65%).

The economic activity rate for **men** in Shetland at 82% is some 7 percentage points greater than that for the HIE area (75%) and 10 percentage points greater than for Scotland (72%). Similarly the economic activity rate for **females** in Shetland at 69% is 8 percentage points greater than that for the HIE area (61%) and 10 percentage points greater than for Scotland (59%).

While these are positive findings in terms of the current levels of activity in the local economy it does suggest, in the context of an aging population that there is only limited amounts of indigenous labour that can be brought into the market to expand supply. For example, GROs' forward projections (2003-2018), discussed above, predict that the numbers of those below working age in Shetland will fall by 15% and those of working age will fall by 4%.

Based on these forecasts, the approximate distribution of population by age group, and the average economic activity rates currently observed in Shetland, we can estimate the likely change and absolute level of the future available workforce in Shetland. This assumes that there is no net in-migration within the working age group.

It is estimated that in 2003 there were approximately 13,000 people of working age and the average activity rate was 75%, implying a total of 9,750 economically active people in Shetland. The total number of those of working age is expected to fall by 4% by 2018 implying a working age population of 12,480, a reduction of 520 people. Of these approximately 9,360 are expected to be economically active. Thus between 2003 and 2018 the available pool of economically active people will have fallen by 390.

The challenge for the future is more than replacing these 390 economically active people but in ensuring there is a sufficient labour pool to support the future Shetland economy. As will be discussed below, the two main sources of labour supply will be immigration and increasing the already high economic activity rate.

### 2.3.2 Self-Employment

Self-employment rates can, to some extent, be taken as a measure of entrepreneurialism, although in some areas high rates can represent a lack of alternative employment opportunities. The 2001 Census shows that the self-employment rate in Shetland (based on 16-74 aged population) is 10.6%, the same share as for the HIE area and 4 percentage points higher than for Scotland.

### 2.3.3 Business Start-Ups

Shetland outperforms both HIE and Scotland in terms of business start-ups. Data for new business start-ups based in Scotland that have opened accounts with the four Scottish Clearing Banks show that in 2004 109 new-starts were established in Shetland. This equates to a rate of **5.0** per 1,000 of population (based on 2001 Census data). By way of comparison, the rates are:

- **4.1** for Scotland.
- **4.8** for the HIE area.

Thus the Shetland rate is above both the regional and national averages. It does appear, however, that the rate has decreased marginally over the past year. The number of new starts in Shetland in 2003 was 111, two more than in 2004. This suggests that entrepreneurial activity in Shetland has been fairly stable over the last couple of years.

## 2.4 EMPLOYMENT STRUCTURE

### 2.4.1 Introduction

This section reviews the employment structure of the Shetland economy. This is based on two sources: the Annual Business Inquiry (ABI) of 2002 and the Census of 2001. It is important to understand the distinction between these two sources:

- The **ABI** is a sample survey which covers employees in employment in jobs in Shetland. It does not encompass the self-employed.
- The **Census** includes the self-employed and also relates to the employment of Shetland residents, some of whom will commute to work outside the local authority area.

There are some issues surrounding the reliability of the ABI data even at local authority level given the fact that the data are based on sampling. It is not, however, possible to estimate the extent of any under or over-reporting, of specific sectors of the economy. Bearing this caveat in mind, the ABI still represents a basis for comparison of the local economy with other areas.

### 2.4.2 ABI

#### Shetland

**Table 2.4** presents information on the sectoral composition of employees in employment.

<b>TABLE 2.4: COMPOSITION OF SHETLAND EMPLOYEES IN EMPLOYMENT: 2002</b>				
<b>Sectors</b>	<b>Jobs</b>	<b>FTEs</b>	<b>Males</b>	<b>Females</b>
Agriculture & Fishing	6%	7%	11%	2%
Energy & Water	5%	6%	9%	1%
Manufacturing	7%	8%	11%	5%
Construction	7%	9%	14%	1%
Distribution, Hotels & Restaurants	17%	16%	13%	21%
Transport & Communications	9%	10%	14%	4%
Financial & Real Estate, etc.	7%	7%	7%	7%
Public Administration, Education & Health	34%	30%	15%	52%
Other Services	7%	7%	7%	8%
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: ABI 2002. Some columns may not sum to totals due to rounding Note: FTEs estimate assumes that 1 part-time job= 0.5 FTEs (Full Time Equivalent jobs)

In terms of jobs, the main sector is Public Administration, Education & Health, which accounts for 34% of employees, followed by Distribution, Hotels & Restaurants with 17%. Transport & Communications account for a further 9% of jobs. Collectively these three sectors account for 60% of employment.

In terms of FTEs, the position is generally not significantly different from that for jobs, other than in the case of Public Administration, Education & Health. There are 34% more part-time workers than full-time workers in Public Administration, Education & Health compared to the overall position of 56% more full-time than part-time workers.

It is particularly noticeable that in Public Administration, Education & Health and Distribution, Hotels & Restaurants females outnumber males. There are almost four times as many females as males employed in the Public Administration, Education & Health sector and almost twice as many in Distribution, Hotels & Restaurants. In contrast, there are 6 times the number of males compared to females employed in agriculture and fishing, 8 times the number in energy and water and 9.5 times the number in construction. Overall, there are 10% more females than men employed in Shetland.

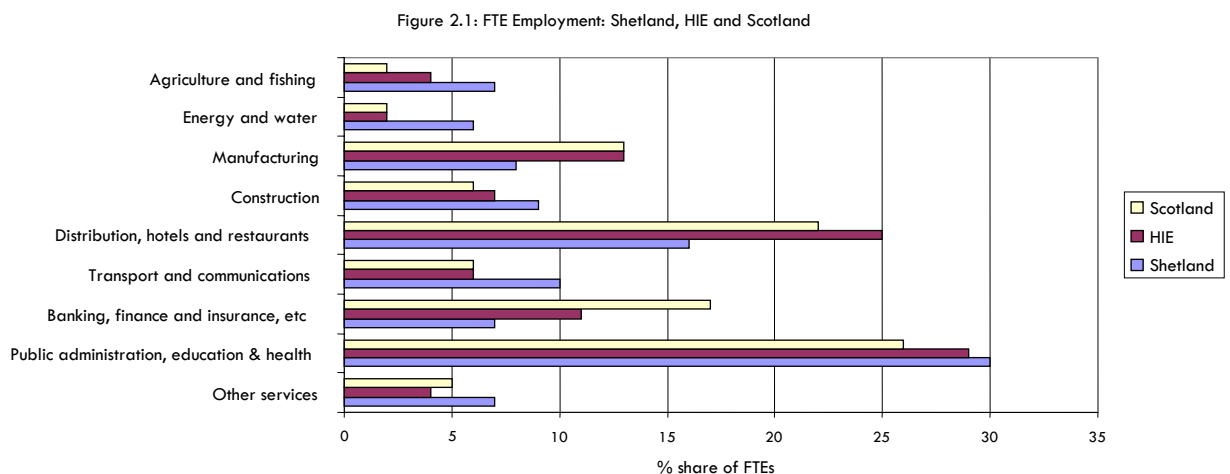
Male employment is more evenly distributed across the sectors of the economy than female jobs. The top three sectors account for 43% of men’s jobs, with Public Administration, Education & Health at 15% the most important, followed by Transport & Communications and Construction both accounting for 14%.

The composition of women’s employment differs sharply from that of their male counterparts. The top three sectors account for 81%, with the top two alone (Public Administration, Education & Health and Wholesale, Hotels & Restaurants) accounting for 73%.

Of particular interest is Public Administration, Education & Health which accounts for 52% of female workers and 50% of part-time workers in Shetland.

### Shetland Compared

**Figure 2.1** compares the composition of employment in Shetland, based on FTEs, with that of the regional and national economies.



The position in Shetland differs in a number of respects from that at the other two levels. Compared to the HIE area, Shetland has a:

- Greater share of employment within Agriculture & Fishing (7% compared to 4%), Energy & Water (6% compared to 2%), Construction (9% compared to 7%), Transport & Communications (10% compared to 6%), Public Administration, Education & Health (30% compared to 29%) and Other Services (7% compared to 4%).

- Lower share of employment in Manufacturing (8% compared to 13%) Distribution, Hotels & Restaurants (16% compared to 25%), and Banking, Finance & Insurance (7% compared to 11%).

The comparative patterns for Scotland are similar to those for the HIE area except these are more pronounced for Banking, Finance & Insurance and Public Administration, Education & Health.

ABI data show that for **men** the composition is quite different in Shetland compared to both the HIE and Scottish levels, other than for Public Administration, Education & Health, where the percentage shares are similar at all three spatial levels. Shetland has two to three times the share in Agriculture & Fishing and Energy & Water, a 50% greater share in Construction and Transport & Communications but two-thirds the share in Manufacturing and Distribution, Hotels & Restaurants.

Shetland's composition of **women's** employment is similar to that of both the HIE and Scottish areas. The key exceptions are Distribution, Hotels & Restaurants which accounts for 21% of women's jobs compared to 29% within the regional economy and 27% at the Scottish level and Public Administration, Education & Health, which accounts for 52% of women's jobs in Shetland compared to 46% at the HIE level and 40% at the Scottish level. The other key differences are that Banking, Finance & Insurance accounts for 17% of all Scottish female employees, compared to only 7% in Shetland and Other Services account for 8% of female employees in Shetland compared to 4-5% for the HIE area and Scotland as a whole.

**Table 2.5** reports part time jobs as a percentage of full time jobs.

<b>TABLE 2.5: PART TIME JOBS AS PERCENTAGE OF FULL-TIME JOBS: 2002</b>			
<b>Sectors</b>	<b>Shetland</b>	<b>HIE</b>	<b>Scotland</b>
Agriculture & Fishing	13.7%	13.5%	21.4%
Energy & Water	3.5%	15.2%	5.1%
Manufacturing	18.4%	10.2%	6.9%
Construction	5.9%	5.8%	5.7%
Distribution, Hotels & Restaurants	48.4%	51.0%	49.3%
Transport & Communications	23.5%	19.8%	14.0%
Financial & Real Estate, etc.	32.1%	23.4%	24.8%
Public Administration, Education & Health	57.3%	51.2%	40.8%
Other Services	54.0%	40.3%	39.3%
<b>TOTAL</b>	<b>39.0%</b>	<b>37.2%</b>	<b>31.9%</b>

Source: ABI 2002

Part-time jobs account for 39% of employees positions in Shetland. This is 2 percentage points, or 5% higher than the HIE average (37%) and well above (7 percentage points or 22%) the national average of 32%. Thus Shetland has a relatively high proportion of part-time working compared with other areas. This feature is usually associated with relatively low wages.

In part this reflects Shetland's concentration of employment in sectors, such as Public Administration, Education & Health, which have a relatively high ratio of part-time: full-time jobs. However, it is also because, for most sectors of the Shetland economy, the share of part-time jobs is greater than at the regional and national levels.

In Manufacturing, for example, over 18% of Shetland's jobs are part-time, compared with 10% for HIE and 7% for Scotland. In Public Administration, Education & Health, the share is 57%, compared with 51% in the regional, and 41% in the national, economy.

### 2.4.3 2001 Census

The Census 2001 showed a total of 11,377 Shetland residents aged 16-74 in employment. **Table 2.6** breaks down the figure by industry of employment.

<b>TABLE 2.6: EMPLOYMENT OF SHETLAND RESIDENTS: 2001</b>	
<b>Industry of Employment</b>	<b>Number of Jobs</b>
Agriculture and hunting	300
Fishing	630
Mining and quarrying	266
Manufacturing	1,077
Electricity and gas and water supply	150
Construction	1,077
Wholesale & retail trade and repairs	1,407
Hotels and restaurants	643
Transport and storage and communication	1,107
Financial intermediaries	126
Real estate and renting and business activities	988
Public administration and defence and social security	840
Education	869
Health and social work	1,351
Other	546
<b>TOTAL</b>	<b>11,377</b>

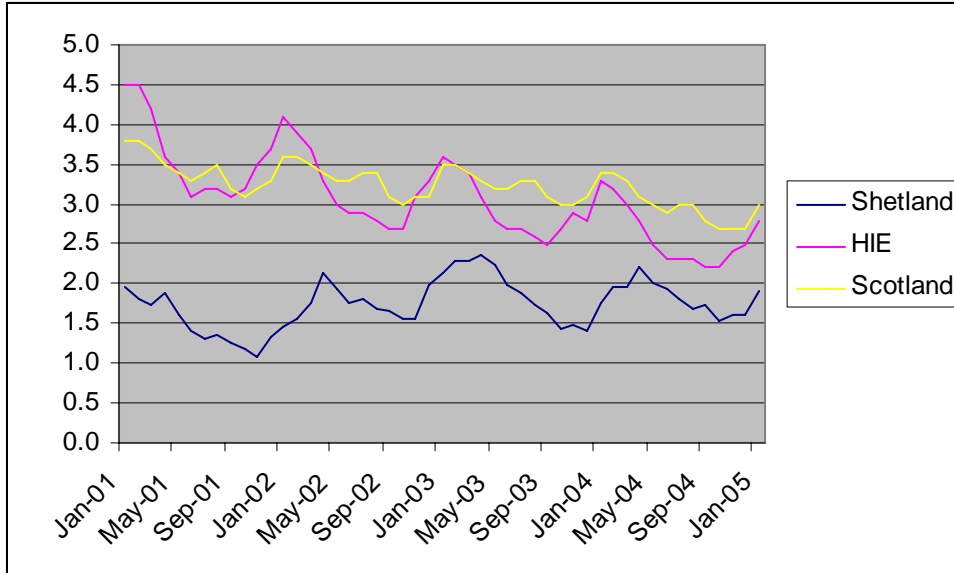
Source: 2001 Census

By definition the Census will provide a more accurate picture than the ABI to the total number of jobs, at least of Shetland residents.

2.5 UNEMPLOYMENT

Figure 2.2 charts trends in unemployment rates since January 2000.

**Figure 2.2: Claimant Unemployment Rates (%)**  
(January 2001 – January 2005)



Source: NOMIS

**Unemployment Rates**

At January 2005 the unemployment rate in Shetland was 1.7%. A total of 258 people were claimant unemployed in that month: 189 men and 69 women. The Chart shows that the trend in unemployment in Shetland has been relatively stable, with seasonal variation with unemployment varying annually between 1% and 2.5% since the start of 2001. In January 2001 the rate stood at 2.0%, three percentage points above the rate existing four years later.

Figure 2.2 also shows a degree of seasonality in unemployment rates. Peaks usually occur early in the year (April), with the trough in late autumn (October). Over 2004, for example, the rate peaked at 2.2% in April 2004 and had fallen to 1.5% by October. There is no evidence that unemployment is becoming less seasonal with the percentage change in unemployment rate over the four years varying between 40% and 82% (2001 – 62%; 2002 – 40%; 2003 – 71%; 2004 – 47%). In terms of numbers, the highest level of claimant unemployed over 2004 was 301 people. This is 94 above the number seen in October 2004 which represents the trough for that year.

Unemployment rates in Shetland were below those for the HIE area and Scotland throughout the period analysed, although this difference has narrowed over the period. The unemployment rate in Shetland has varied between 2.7 and 0.4 percentage points below those for the HIE area as a whole. Similarly, the unemployment rate in Shetland has varied between 0.9 to 2.2 percentage points below those for Scotland.

Throughout the period, Shetland's unemployment has generally been less seasonal than that at the regional level but more seasonal than at the national level. The more recent

data suggest, however, a degree of convergence between Shetland and the HIE area in this regard.

### Duration

At January 2005, 31% of Shetland's claimant unemployed had been without work for **over 6 months**. This is above the rates for the HIE area (25%) and Scotland (30%). While the rate is cyclical over any year the rate for Shetland showed a general downward trend between January 2001 and April 2002. Since then the general trend has been upwards.

## 2.6 SUMMARY

**Table 2.7**, below, provides a summary of the key points arising in this review of the Shetland economy.

<b>TABLE 2.7: SHETLAND ECONOMIC REVIEW-SUMMARY OF KEY POINTS</b>
<p><b>POPULATION:</b></p> <ul style="list-style-type: none"> <li>• Shetland's population of 21,988, accounts for 5% of HIE's population.</li> <li>• Shetland's population fell by 2.4% (1991-2001) compared to 0.8% growth for HIE.</li> <li>• Evidence of centralisation of population around Lerwick with falling populations outwith Mainland Shetland.</li> <li>• Shetland's population structure is younger than that of HIE and Scotland, but is aging at a slightly faster rate than that for HIE.</li> </ul>
<p><b>ECONOMIC ACTIVITY:</b></p> <ul style="list-style-type: none"> <li>• Overall economic activity rate in Shetland of 75% is 10% greater than for HIE.</li> <li>• In 2003, 13,000 people of working age and 9,750 economically active.</li> <li>• Self employment rate in Shetland of 10.6%, the same as for the HIE area.</li> <li>• Shetland out-performs both HIE and Scotland in terms of business start-ups.</li> </ul>
<p><b>EMPLOYMENT STRUCTURE:</b></p> <ul style="list-style-type: none"> <li>• Compared to HIE, Shetland has a greater share of employees in: <ul style="list-style-type: none"> <li>▪ Agriculture &amp; Fishing</li> <li>▪ Energy &amp; Water</li> <li>▪ Transport &amp; Communications</li> </ul> </li> <li>• Compared to HIE, Shetland has a lower share of employees in: <ul style="list-style-type: none"> <li>▪ Manufacturing</li> <li>▪ Distribution, Hotels &amp; Restaurants</li> <li>▪ Banking, Finance &amp; Insurance</li> </ul> </li> </ul>
<p><b>UNEMPLOYMENT:</b></p> <ul style="list-style-type: none"> <li>• Shetland's unemployment rate was 1.7% at January 2005.</li> <li>• Unemployment rates in Shetland are below those for HIE and Scotland.</li> <li>• Shetland's unemployment generally less seasonal than for HIE.</li> <li>• At January 2005, 31% of Shetland's claimant unemployed had been without work for over 6 months. This is greater than the HIE and Scottish rates.</li> </ul>

### **3 SECTORAL ANALYSIS**

#### **3.1 INTRODUCTION**

Chapter 3 presents a sectoral analysis of the Shetland economy based on a range of data sources and research reports including:

- Shetland in Statistics 2004, Shetland Islands Council (SIC).
- Review of the Shetland Economy, AB Associates Ltd, July 2004.
- Discussions with public sector and representative bodies.
- Media reports.
- Variety of sectoral specific reports.

#### **3.2 SECTORAL ANALYSIS**

The sectoral analysis focuses on the main sectors as determined by their share of total employment. Based on SIC data for employment in Shetland in 2003, there are just under 9,200 FTE in Shetland (note SIC convert 3PT jobs = 1FTE). Of these *Public Administration* accounts for 24.5% and *Education, Health & Social Work* a further 9.5% - implying, overall that 34% of employment in Shetland is in the Public Sector. Wholesale & Retail account for 11.3% and Fish Catching & Fish Farming account for 7%. Although manufacturing accounts for only around 10.6% of FTE employment, within that food and drink processing accounts for just over half. Fish processing accounts for over 90% of food and drink processing.

The importance of particular clusters of activity is hidden to some extent within this data. Specifically, it is generally accepted that the Shetland economy currently depends on four key sectors:

- Fisheries including fish processing.
- Oil related activities.
- Public Administration, Education, Health and Social Work.
- Tourism related activities.

These are discussed in turn below.

In addition, we provide a brief review of the construction and knitwear sectors.

##### **3.2.1 Fisheries including Fish Processing**

The fisheries sector in Shetland incorporates three broad areas of activity:

- Sea fishing.
- Aquaculture.
- Fish-processing.

In total the output of the sector amounted to £208m in 2002. This is almost £16m (7%) lower than in 2001.

## Sea Fishing

Sea fishing focuses on the three main fisheries – whitefish, pelagic and shellfish. The contribution of fishing to the Shetland economy derives from:

- Employment on all Shetland boats wherever they land.
- Income/value of landings of all Shetland boats.
- Direct landings by all nationalities into Shetland:
  - Income to port authority.
  - Demand for supporting goods and services.
  - Provision of raw material supply for fish processing.

The number of fishermen **employed** in the Shetland Fishing Industry has in general been declining since the mid-1970s. According to SIC, 384 people were employed in fish catching in 2003 (309-328FTE) and since then the numbers employed is believed to have fallen further. According to AB Associates (ABA), jobs in fish catching are estimated to have fallen to 245 in 2004. This is a reduction of 139 jobs or 36% over a one year period. It is likely that most, if not all, of this reduction is associated with the whitefish fleet.

The longer term reduction in numbers of fishermen has been a consequence of the closure of the herring fisheries during the 1970s and more recently by the increasing restrictions placed on the whitefish fishery and the impacts of the three successive rounds of vessel decommissioning in 1994-1997, 2001-2002 and 2003.

An indication of the impacts of decommissioning of whitefish boats is reflected in the general decline in the numbers of individual members of the Shetland's Fishermen Association (SFA). Since June 1999 the number of individual members has fallen from 500+ to 238 in April 2004 (ABA). This represents a reduction of 52%. According to the Scottish Fisheries Statistics 2003, 6 whitefish boats over 10m in length were decommissioned at Lerwick under the 2003 decommissioning scheme.

The **income generated by Shetland boats** wherever they land will have an impact on the Shetland economy, either directly in terms of employment in Shetland as well as indirectly in generating income for Shetlanders, part of which will be spent in Shetland. Estimates reported in ABA provide an indication of the trends in the value of landings by Shetland boats landing everywhere, not just in Shetland. These are reported in **Table 3.1**.

<b>TABLE 3.1: VALUE OF FISH LANDINGS BY SHETLAND BOATS<sup>1</sup></b>					
<b>Species</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>% Change 2000/2003</b>
Shellfish	£3.5m	£3.0m	£1.2m	£1.3m	-63%
Whitefish	£13.3m	£14.0m	£12.0m	£9.8m	-26%
Pelagic	£19.0m	£36.0m	£25.0m	£24.9m	+31%
<b>TOTAL</b>	<b>£35.8m</b>	<b>£53.0m</b>	<b>£38.2m</b>	<b>£36.0m</b>	<b>+0.6%</b>

Source: ABA

Note 1: Landings by Shetland boats everywhere.

Over the period 2000 and 2003 the total value of all fish/shellfish landed by Shetland boats has remained relatively stable growing by under 1% from £35.8m to £36m. However, this overall stability in total value of landings conceals varying

fortunes by type of species. Reductions in the value of shellfish (-63%) and whitefish (-26%) have been compensated by growth in the value of pelagic fish (+31%). However, even for pelagic fish there has been a reduction of 31% since 2001 when landings of pelagic fish was £36m. Of this approximately £18m was landed by Shetland vessels outwith Shetland (based on 2002 data).

Compared to the overall pattern of reductions in value of fish landed in Shetland (see below), the value of landings by Shetland boats has remained relatively stable since the mid-1990s. By implication, this suggests that the earnings of Shetland boats has been maintained despite the problems facing the fishing sector more generally. However, there are also issues of increased costs to achieve this turnover, for example for fuel.

**Table 3.2** reports the value of fish landings into Shetland by both UK and foreign vessels.

<b>TABLE 3.2 VALUE OF FISH LANDINGS INTO SHETLAND UK &amp; FOREIGN BOATS</b>				
<b>Species</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>% Change 2000/2002</b>
Shellfish	£1.6m	£1.6m	£1.7m	+6%
Whitefish	£12.6m	£12.8m	£9.8m	-22%
Pelagic	£8.0m	£15.5m	£26.5m	+231%
<b>TOTAL</b>	<b>£22.2m</b>	<b>£29.9m</b>	<b>£38.0m</b>	<b>+71%</b>

Source: SIC

The importance of whitefish **landings in Shetland** has been declining over the past five years. In 2000, almost 20,000 tonnes of whitefish worth over £12m were landed by UK vessels in Shetland. In 2003 this had declined to 7,600 tonnes worth £7m. As noted above this reflects the pressures faced by the whitefish sector in terms of tighter quotas and the consequences of vessel decommissioning schemes.

In comparison, since the mid-1980s pelagic species, in particular herring and mackerel, have become increasingly important for Shetland. Between 1999 and 2003 Shetland accounted for around 44% of all pelagic fish landed in Scotland by UK vessels. In 2002, almost 82,000 tonnes of pelagic fish (worth almost £26.5m) was landed in Shetland. Of this, approximately 85% (or 69,000 tonnes) was landed by UK vessels. Shetland has 8 pelagic boats.

Landing fish in Shetland provides **income to the harbour** authorities in terms of ship and fish dues. Fish dues at Lerwick Harbour are charged at 2.5% of the value of the fish landed. Assuming similar rates for landings elsewhere in Shetland, implies total (Shetland) harbour revenues from fish dues of just under £1m in 2002. In addition, vessels use of harbour facilities generates a range of other incomes.

Boats landing in Shetland will make a broader contribution through the purchase of goods and services related to the operation of boat (including provisions, fuel, engineering and electrical services etc.) as well as personal expenditures of non-Shetland fisherman while in port. The importance of these can be gauged from the total number of vessel visits. Overall, the number of vessels has been falling since the mid-1980s reflecting the various issues that have faced all parts of the industry. In 2003 there were in the region of 902 visits by fishing boats of which 75% were UK

vessels. Foreign fishing boats tend to be from Denmark, Ireland and Norway. This is some 154 (15%) less than in 2002.

SIC provide estimates of **employment of ‘ancillary’ workers** associated with the Shetland fishing industry. These jobs relate to the provision of goods and services in support of the fish catching industry in Shetland, in particular of those boats that are landing in Shetland, and will include everything from ice/refrigeration gases to engineers and accountants. On average, every FTE in fish catching generates a further 0.75 FTE in ancillary jobs. It is estimated by SIC that the fish catching industry in Shetland supported 280 ancillary jobs.

Finally, fish catching and landing in Shetland makes a key contribution to the Shetland economy by providing the supply of raw material for the fish processing industry in Shetland. This sector is discussed in further detail below.

### Aquaculture

Aquaculture activity in Shetland, although it is primarily focussed on salmon production, also includes mussel production as well as some scallops. Shetland produced 1,246 tonnes of mussels for table in 2002 accounting for almost 40% of total Scottish production.

In terms of salmon production **Table 3.3** reports the trend in salmon production in Shetland against that for Scotland as a whole.

<b>TABLE 3.3 PRODUCTION OF SALMON</b>				
	<b>1991</b>	<b>1996</b>	<b>2001</b>	<b>2002</b>
<b>Shetland</b>	10,614	19,710	39,745	49,341
<b>Scotland</b>	40,593	83,121	138,520	145,609

Source: SIC & SEERAD

In line with Scotland as a whole, production of salmon in Shetland has, until recently, generally been growing. In 2002 salmon production was 4½ times greater than it was in 1991 whereas total Scottish production in 2002 was 3½ times greater. In 1991 Shetland produced just over a quarter of Scottish salmon compared to over a third in 2002. Thus salmon has increased significantly in terms of its contribution to the Shetland economy and in terms of its importance within Scotland.

Over the past few years salmon farming has been facing increasing challenges arising from disease, overcapacity, and dumping of Norwegian salmon which has led to the closure of a number of salmon farms including within Shetland.

Data on employment in salmon farming is available from a number of sources – SEERAD, SIC and SSFA. Based on data quoted in ABA, **Table 3.4** reports the number of jobs and FTEs in Salmon farming in Shetland over the period 2000 to 2004.

<b>TABLE 3.4 SALMON FARMING EMPLOYMENT</b>					
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
<b>Jobs</b>	379	387	389	371	324
<b>FTE</b>	330	338	335	323*	289

Source: Quoted in ABA

\*Estimated conversion to FTE based on average Jobs/FTE ratio for the other four years.

Basically, there has been a significant reduction in employment in the sector since 2002 - 17% in terms of jobs and 14% in terms of FTEs.

In addition, SIC estimate that a further 794 ancillary workers were dependent on direct aquaculture activity in 2003. As with direct employment it is expected that there will also be a reduction in ancillary workers although it is not clear how far this reduction will be limited by salmon farms being able to outsource some of their activities.

Based on SEERAD data we estimate that there were in the region of 338 FTEs in aquaculture (including salmon, mussels and scallops) in 2002 in Shetland.

### Fish Processing

Shetland is an important location for all forms of fish processing both caught and farmed. Data for 2003 (SIC) shows that there were 16 firms involved in fish processing in Shetland. This is one less than in 2002 and 7 less than in 2000. Overall between 2000 and 2003 there was a 30% reduction in the number of fish processing companies and a 24% reduction in the number of fish processing factories.

**Table 3.5** reports the trend in the number of fish processing lines by type of fish species/product between 2000 and 2003.

<b>TABLE 3.5: FISH PROCESSING LINES</b>				
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>White Fish</b>	10	10	7	8
<b>Herring &amp; Mackerel</b>	7	7	7	6
<b>Fish Meal Plants</b>	1	1	1	1
<b>Shellfish</b>	8	8	7	7
<b>Salmon</b>	14	14	12	9
<b>Smoking</b>	6	7	7	6
<b>TOTAL</b>	<b>46</b>	<b>47</b>	<b>41</b>	<b>37</b>
<b>Firms</b>	<b>23</b>	<b>20</b>	<b>17</b>	<b>16</b>
<b>Factories</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>16</b>

Source: SIC

Since 2000 the total number of fish processing lines has fallen by almost 20% with the reduction in the number of salmon processing lines accounting for 56% of this reduction. It is our understanding that there are now no white fish processors operating in Shetland.

**Table 3.6** reports the numbers of jobs in fish processing between 2001 and 2003.

<b>TABLE 3.6: FISH PROCESSING EMPLOYMENT</b>			
	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>Full-time</b>	448	383	410
<b>Part-time</b>	209	123	38
<b>Jobs</b>	657	506	448
<b>FTE</b>	553	445	429

Source: SIC

Since 2001 the number of FTE jobs has fallen by 22%. However, while full-time jobs have fallen by 8% part-time jobs have fallen by 82%. This change was most obvious between 2002 and 2003 when FTE jobs fell by 4%, part-time jobs by 69% while full-time jobs increased by 7%.

The estimated turnover from fish processing has been on an upward trend since 2000 growing from £90m in 2000 to £117m in 2003 (30%). Growth of 11% between 2001 and 2003 implies improved productivity across all processing in the region of 33% in terms of turnover per FTE (in real terms). This only provides a very broad indication of productivity improvements, presumably arising from new investment in processing facilities. However, the ratio of turnover to FTEs can be affected by a number of factors including the prices being paid for fish.

### Summary

In summary the key characteristics of the fisheries sector are:

- The sector includes sea-fishing, aquaculture and fish-processing.
- Total output of the sector amounted to £208m in 2002.
- Long term decline in numbers of fishermen.
- Between 2000 and 2003 the total value of all fish/shellfish landed by Shetland boats has remained relatively stable.
- Whitefish landings into Shetland has been declining whereas pelagic species have become increasingly important for Shetland.
- Aquaculture is primarily focussed on salmon production.
- In 2002 Shetland produced over a third of Scottish farmed salmon.
- The sector has been facing a number of challenges over the past few years which has resulted in reductions in salmon production and employment.
- Shetland is an important location for all forms of fish processing focussing on salmon and pelagic species.

### 3.2.2 Oil Related Activities

The main components of oil and gas sector in Shetland relate to the activities of:

- Sullom Voe Oil and Gas Terminal.
- The offshore oil and gas fields.
- Services related to both of these.

BP Exploration Operating Company Ltd operates the terminal on behalf of companies participating in the Brent and Ninian pipeline groups. The terminal has a throughput design capacity of 1.2 million barrels of crude oil per day. At its peak in 1984 the terminal received a total of just under 440m barrels (effectively 1.2 mbpd for 365 days). Currently, the terminal averages 650,000 bpd.

In 2003 Sullom Voe achieved a total throughput of 21m tonnes of oil, 89,000 tonnes of propane and 62,000 tonnes of butane. In **Table 3.7** an index of the throughput at Sullom Voe for each of the three products is reported.

**TABLE 3.7: SULLOM VOE THROUGHPUT INDEX (1986 = 100)**

Year	Oil	Propane	Butane
1986	100	100	100
1991	64	43	39
1996	68	35	31
2001	45	11	10
2003	38	11	10

This shows the overall trend in the volume of throughput since 1986. The throughput of oil is currently running at below 40% of the levels in 1986. There has been a more significant reduction in the throughput of gas which in 2003 was only 10% of 1986 levels.

Employment at the terminal is split between SIC Marine Operations, Shetland Towage, BP and sub-contractors. **Table 3.8** reports the employment levels at the terminal.

**TABLE 3.8: PERMANENT TERMINAL WORKFORCE (NOS)**

	1978	1981	1986	1991	1996	2001	2002	2003
SIC Marine Operations	32	92	99	94	98	106	110	93
Shetland Towage	25	86	92	94	73	71	68	64
BP	113	407	583	516	333	315	305	279
Sub-contractors	N/A	336	223	406	195	514	186	204
<b>TOTAL</b>	<b>170</b>	<b>921</b>	<b>997</b>	<b>1,110</b>	<b>699</b>	<b>1,006</b>	<b>669</b>	<b>640</b>

In 2003 a total of 640 jobs were provided at the terminal. This compares to just over 1,000 in 2001. While this represents a decline of 36% in the total terminal workforce, this decline is not distributed equally across the three main 'sub-workforces'. While SIC Marine Operations showed a 12% reduction in workforce, Shetland Towage a 10% reduction and BP an 11% reduction, in contrast, sub-contractors showed a 60% reduction in workforce at the terminal and accounted for 85% of the total reduction in terminal workforce.

**Table 3.9** reports the percentage of the workforce that are local. It can be seen that over time the terminal has become increasingly important as a source of local employment with all of the 'sub-workforces' being 100% local (2003) except for sub-contractors which varies depending on the scale of sub-contract work and presumably the capacity of Shetland to provide the numbers and skills required when there is increased demand. In total the terminal directly provides 550 jobs for local people as shown in **Table 3.10**.

**TABLE 3.9: PERMANENT TERMINAL WORKFORCE (% LOCAL)**

	1978	1981	1986	1991	1996	2001	2002	2003
SIC Marine Operations	66	63	72	71	77	97	96	100
Shetland Towage	80	88	93	100	100	100	100	100
BP	31	48	59	58	70	100	100	100
Sub-contractors	N/A	41	68	56	79	67	88	56
<b>TOTAL</b>	<b>45</b>	<b>50</b>	<b>73</b>	<b>62</b>	<b>77</b>	<b>83</b>	<b>96</b>	<b>86</b>

<b>TABLE 3.10: PERMANENT TERMINAL WORKFORCE (LOCAL NOS)</b>								
	<b>1978</b>	<b>1981</b>	<b>1986</b>	<b>1991</b>	<b>1996</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
SIC Marine Operations	21	58	71	67	75	103	106	93
Shetland Towing	20	76	86	94	73	71	68	64
BP	35	195	344	299	233	315	305	279
Sub-contractors	n/a	138	152	227	154	344	164	114
<b>TOTAL</b>	<b>77</b>	<b>461</b>	<b>728</b>	<b>688</b>	<b>538</b>	<b>835</b>	<b>642</b>	<b>550</b>

In addition to the direct employment at the Sullom Voe Oil Terminal, a further 200 jobs are supported by SBS Logistics at the Marine Service Base. SBS Logistics provide logistical services, a fuel facility, property and maintenance services.

In total therefore, the oil sector directly supported in the region of 840 jobs in 2003.

### **Summary**

In summary the key characteristics of the oil related sector are:

- In 2003 the oil sector supports a total of 840 jobs in Shetland.
- Of these 640 were employed as permanent staff at Sullom Voe
- The throughput of oil at Sullom Voe is less than 40% of the levels in 1986.
- Throughput of gas is only 10% of 1986 levels.

### **3.2.3 Public Administration, Education, Health & Social Work**

In 2003, *Public Administration, Education, Health & Social Work*:

- Accounted for 5,319 jobs (3,456 FTE).
- This is equivalent to over 43% of jobs and close to 38% of FTEs in Shetland.
- No other sector comes close in employment terms.
- In comparison fisheries (including fish catching, farming and processing) account for around 12% of FTEs.
- In 2003 SIC employed 2,878 staff, equivalent to 2,131 FTE or 62% of the total FTEs within Public Administration, Education, and Health & Social Work.
- Between 1999 and 2004 the total number of jobs in SIC has fluctuated between 2,800 and 3,200.
- At March 2004 this figure stood at 2,947.
- In addition to SIC the health sector provides a further 450 jobs.

### **3.2.4 Tourism Related Activities**

It was estimated by SIC that the value of the tourism sector in Shetland stood at just under £13m in 2002. This is marginally less than agriculture but only 6% of the value of the fisheries sector. It was estimated by ABA that the value of tourism in 2003 would not be significantly greater than for 2002. In fact since 1995 the value of tourism has ranged between £11m - £13m with little evidence of any real growth.

When analysing visitor and tourist data for Shetland it is important to bear in mind the importance of business tourism in particular in relation to the oil sector. ABA notes in his 2004 review that, for example, 'for 2002 turnover is not estimated to be as high as 2001 as there were no comparable developments at Sullom Voe in that year'. In other

words the current visitor base is driven significantly by business visitors especially those related to oil. This suggests a key challenge for the future of tourism in Shetland is development of different parts of the market.

The Shetland Visitor Survey 2000 as reported in SIC identifies 45% of visitors as being in Shetland on business and 34% as being on holiday with a further 18% on holiday visiting friends and relatives. **Table 3.11** provides estimates of the number of visitors to Shetland.

<b>TABLE 3.11: TOURIST INFORMATION CENTRE VISITOR NUMBERS</b>				
	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
January - April	11,796	12,186	13,016	16,494
May - August	48,460	45,778	49,752	n/a
September - December	13,128	12,641	15,580	n/a
<b>TOTAL</b>	<b>73,384</b>	<b>70,605</b>	<b>78,348</b>	n/a

**Source:** Shetland Islands Tourism (sourced in ABA).

This data is based on the number of people visiting the Tourist Information Centre and so is only indicative of overall trends and levels of visitor numbers to Shetland. Overall, this data suggests that there is a general upwards trend in the number of visitors to Shetland, although, it appears on this data that the trend may exhibit cyclical characteristics. This could reflect both variations in the level of business visitor demand, that as noted above could be affected by large projects, and the sensitivity of tourist travel to political, social, health and natural disasters. Visitor numbers grew by just under 7% between 2001 and 2003, equivalent to around 3.3% per annum.

The number of visitors over January-April 2004 was some 26.7% greater than the same period in 2003. If this rate of growth were to be sustained throughout 2004, this would imply that the total number of visitors to Shetland during 2004 would be around 99,300. In fact it is now believed that in the region of 95,000 visitors came to Shetland in 2004, 20% up on 2003.

More recent anecdotal information suggests that this trend is continuing. In 2005 Lerwick harbour is expecting its busiest tourism season with visits from around 50 cruise liners, as well as yachting competitors from the North Sea Triangle event and the Bergen Shetland Races. Lerwick also hosted the international Island Games in July 2005 which attracted 2,500 athletes from 24 island communities. In addition, there are indications of more visitors from Scandinavia and northern Europe.

The tourism industry impacts on a number of economic sectors and it is not always easy to directly estimate the impacts based on sectoral data. This sector will usually impact on:

- Accommodation.
- Catering, restaurants and pubs.
- Travel.
- Entertainment.
- Attractions.
- General expenditures, from books to clothes.

In general we can assume that the majority of expenditures on accommodation will tend to be by visitors (both business and tourist). For the other sectors the share of expenditures is unclear and is best assessed through specific visitor surveys.

Employment in the accommodation sector is reported in **Table 3.12**.

<b>TABLE 3.12: EMPLOYMENT IN ACCOMMODATION SECTOR</b>					
	<b>1991</b>	<b>1994</b>	<b>1997</b>	<b>2000</b>	<b>2003</b>
Hotels & Guest Houses	356	340	344	314	313
Bed & Breakfast	81	40	52	40	23
Self Catering etc.	89	28	62	67	36
<b>TOTAL</b>	<b>526</b>	<b>408</b>	<b>458</b>	<b>421</b>	<b>372</b>

Source: SIC

Since 1991 employment in the accommodation sector appears to have declined from 526 in 1991 to 372 in 2003 (-29%). Most recently there has been a 12% decline between 2000 and 2003.

ABA indicates that there has been good growth in the numbers of visitors to attractions in Shetland – ‘the Visitor Attraction Barometer Report compiled by the Moffat Centre for October 2003 showed that there was a 12.9% increase in visitors to attractions in Shetland between January and October 2003 compared to the same period in 2002. This was the second highest increase of any area in Scotland’.

**Table 3.13** identifies the top paying and free attractions in Shetland in 2002.

<b>TABLE 3.13: TOP VISITOR ATTRACTIONS 2002</b>			
<b>Paid Attraction</b>		<b>Free Attraction</b>	
<b>Attraction</b>	<b>Visitors</b>	<b>Attraction</b>	<b>Visitors</b>
Jarlshof	9,617	Shetland Museum	32,629
Croft House Museum	3,454	Bonhoga	12,924
Islesburgh Summer Exhibition	2,496	Old Scatness	6,161
Quendale Watermill	2,300	Da Warp & Weft	6,466
Up-Helly-Aa Exhibition	690		

Source: SIC

Based on the partial information presented above the following characteristics of the visitor sector in Shetland can be identified:

- Turnover has been reasonably constant.
- Employment in accommodation has been declining.
- The number of visitors has been cyclical although appeared to be growing during 2003 and 2004.
- There has been recent (2003) growth in the numbers of visitors to attractions in Shetland.

### 3.2.5 Construction

Employment in construction accounts for around 9% of FTE employees in employment in Shetland. This is greater than at the HIE or Scottish levels. From the Census 2001, it is estimated that around 1,100 residents of Shetland are employed in the construction

sector. More recently ABA estimated that the labour force employed by the members of the Shetland Builders and Allied Trades Association stood at around 800 in 2003.

It is believed that there is sufficient work to keep this sector fully employed during 2005 although there are longer term concerns within the sector over some areas of demand in particular in relation to work associated with SIC housing.

### 3.2.6 Knitwear

The knitwear sector in Shetland has been traditionally important not least because of the network of home knitters that it supports. In 1999, 121 people (113 FTE) were employed in the industry with a further 22 (15 FTE) self-employed and 960 home knitters. In 2004, this had fallen to 85 people employed (75 FTE) 14 self-employed (11 FTE) and 750 home knitters. Overall FTE employment has fallen by 33% and home knitters by 22%. (See **Table 3.14**)

<b>TABLE 3.14: EMPLOYMENT IN KNITWEAR SECTOR</b>			
	<b>1999</b>	<b>2004</b>	<b>% Change</b>
Employed (FTE)	113	75	-34%
Self Employed (FTE)	15	11	-27%
Home Knitters	960	750	-22%
<b>TOTAL</b>	<b>128 &amp; 960</b>	<b>86 &amp; 750</b>	<b>-33% &amp; -22%</b>

Source: SIC/ABA

The industry produces a range of products that are produced using traditional, labour intensive hand knitted method; hand frame garments; and industrial computerised machined garments. Three companies, who use the industrial machines, Judane Knitwear, Jamieson's Knitwear and Laurence Odie, produce over 80% of the turnover in the Shetland industry.

Of these Laurence Odie (previously Laurence J. Smith) re-opened for business in May 2004 having gone into voluntary liquidation in December 2003 resulting in the closure of two Shetland factories and a third in Fife. The new company is producing an up-market product targeted at smaller boutique style stores. In early 2005 Judane, one of the biggest knitwear firms in Scotland, closed their factory in Lerwick with the loss of 15 jobs. This suggests that currently the number of people employed in the sector could have fallen by a further 20% since 2004.

The industry faces a number of challenges including the strength of the pound and very significant global competition at the lower end of the market.

A report by Stewart Miller Associates 'Shetland Knitwear: The Way Forward' made the following points:

*'Total sales turnover has been in decline since 2000 when it achieved £5 million of sales. This figure is now only half. Major changes include:*

- *Massive reduction of available home workers.*
- *Finite shortage of certain skills within the industry, including finishing, which is hampering production output.*

*Key strengths of the industry are:*

- *Product recognition worldwide.*
- *Historical reputation for quality, craftsmanship, tradition and exclusivity.*
- *Product uniqueness – Made in Shetland.*

*Key weaknesses are:*

- *Lack of overall management skills.*
- *No succession plans.*
- *Critical skills shortages in certain parts of the production process.'*

Overall, it is believed by the British Wool Textile Export Corporation that there is still a still a future for niche textile manufacturing in Scotland but not aimed at High Street shops.

As noted by Stewart Miller Associates the Shetland Knitwear industry has evolved to offer products for different market segments. However, in this situation it is important that the market recognises that there are different products for different market segments and that the consumer does not perceive Shetland Knitwear as one standard product.

## 4 **ASSESSMENT OF FRAGILITY AND DEPENDENCE**

### 4.1 **INTRODUCTION**

This Chapter assesses whether the Shetland economy is dependent on certain sectors and the extent to which these sectors are 'fragile'. The assessment will focus on those sectors that are both significant to the economy of Shetland and are believed to either be facing problems currently or that are likely to in the future.

### 4.2 **DEPENDENCY**

There are a number of ways in which dependency can be analysed:

- **Overall:** dependency in terms of the absolute and relative numbers employed in each sector within Shetland.
- **Gender:** in terms of male or female employment being dependent on particular sectors.
- **Geographical:** dependency in terms of particular parts of Shetland being dependent on these sectors. Sectoral economic activity data are not easily available for sub-areas within Shetland. An assessment in terms of geographic dependence has therefore not been undertaken.

There are also a number of ways in which sectors can be defined, the two most useful for this analysis are by Standard Industrial Classification code or by cluster of activity. This ensures that important drivers of the local economy are not overlooked because they are effectively spread across a number of Standard Industrial Classification codes. So while the oil industry may not appear especially large in Shetland, this changes once the other direct and indirect sectors that are part of the oil cluster are taken into account. We thus need to assess dependency in terms of broad Standard Industrial Classification codes and in terms of the main activity clusters within Shetland.

The analysis in previous Chapters provides the basic data to allow us to identify those sectors most important in terms of employment by Standard Industrial Classification code.

#### 4.2.1 Overall

Based on analysis of the ABI, the top five sectors in terms of employees in employment (FTE) in Shetland are:

- Public Administration, Education & Health 30%
- Distribution, Hotels & Restaurants 16%
- Transport & Communications 10%
- Construction 9%
- Manufacturing 8%

In total they account for 73% of employees in employment (FTEs).

Based on an analysis of employment of Shetland residents (Census 2001), based on definitions as close as possible to those above, the top five sectors are:

- Public Administration, Education & Health 27%
- Distribution, Hotels & Restaurants 18%
- Transport & Storage & Communications 10%
- Construction 10%
- Manufacturing 10%

In total these five sectors account for 75% of employment of Shetland residents in 2001.

However, we can also consider a finer disaggregation from the Census data. This reveals that the top five sectors are:

- Health & Social Work 12%
- Wholesale & Retail Trade & Repairs 12%
- Transport & Storage & Communications 10%
- Construction 10%
- Manufacturing 10%

In total these sectors account for 54% of employment of Shetland residents in 2001.

Essentially, all three rankings point to the same or similar sectors dominating the Shetland economy.

We can also consider dependency in terms of the **relative importance of the sector in Shetland compared to HIE and Scotland**. This allows those sectors that may be overrepresented in Shetland to be identified and thus on which Shetland may have a dependency that is not revealed through the absolute numbers employed.

**Table 4.1** reports the percentage share of employees in employment by sector across Shetland, HIE and Scotland. Sectors where Shetland is over-represented are shaded.

<b>TABLE 4.1: EMPLOYEES IN EMPLOYMENT (FTE) 2002</b>			
<b>Sectors</b>	<b>Shetland</b>	<b>HIE</b>	<b>Scotland</b>
Agriculture & Fishing	7%	4%	2%
Energy & Water	6%	2%	2%
Manufacturing	8%	13%	13%
Construction	9%	7%	6%
Distribution, Hotels & Restaurants	16%	25%	22%
Transport & Communications	10%	6%	6%
Financial & Real Estate, etc.	7%	11%	17%
Public Admin, Education & Health	30%	29%	26%
Other Services	7%	4%	5%

Source: ABI 2002.

From this it can be seen that Shetland appears to be over-represented in Agriculture & Fishing; Energy & Water; Construction; Transport & Communications, and other services. For all other sectors Shetland is either under-represented or very similar to

the shares for HIE and Scotland. It should be noted that in comparison to Scotland as a whole, both Shetland and the Highlands and Islands are more dependent on Public Administration, Education & Health.

**Table 4.2** compares the percentage share of employment by sector based on the 2001 Census across Shetland, HIE and Scotland. As the Census includes the self-employed it will provide a better representation of the overall scale of dependency whereas the ABI data really provides a measure of dependency of employees.

<b>TABLE 4.2: EMPLOYMENT BY SECTOR 2001</b>			
	<b>Employment</b>		
	<b>Shetland</b>	<b>HIE</b>	<b>Scotland</b>
Agriculture, hunting, forestry	2.7	4.2	2.2
Fishing	5.6	2.1	0.3
Mining & quarrying	2.4	1.5	1.3
Manufacturing	9.6	9.7	13.7
Electricity, gas and water supply	1.4	0.9	1.0
Construction	9.6	8.9	7.8
Wholesale and retail trade, repairs	11.6	13.9	13.3
Hotels and restaurants	5.4	8.2	5.0
Transport, storage & communications	9.9	7.1	6.9
Financial intermediaries	1.1	1.8	4.7
Real estate, renting & business activities	8.7	8.8	11.4
Public admin. & defence, social security	7.5	8.6	7.2
Education	7.8	6.7	7.4
Health and social work	12.1	12.1	12.6
Other	4.7	5.4	5.2

Source: GROs

This suggests, that Shetland has a greater dependency than HIE and Scotland, in four sectors:

- Fishing – 167% greater than HIE and 1,767% greater than Scotland.
- Construction – 8% & 23%.
- Transport, Storage & Communications – 39% & 43%.
- Education – 16% & 5%.

#### 4.2.2 Gender

We have also considered dependency in terms of gender. **Table 4.3** reports the composition of employees in employment by gender.

<b>TABLE 4.3: COMPOSITION OF SHETLAND EMPLOYEES IN EMPLOYMENT: 2002</b>		
<b>Sectors</b>	<b>Males</b>	<b>Females</b>
Agriculture & Fishing	11%	2%
Energy & Water	9%	1%
Manufacturing	11%	5%
Construction	14%	1%
Distribution, Hotels & Restaurants	13%	21%
Transport & Communications	14%	4%
Financial & Real Estate, etc.	7%	7%
Public Admin, Education & Health	15%	52%
Other Services	7%	8%
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>

Source: ABI 2002.

In terms of employees in employment, it is noteworthy that over 50% of female employees are employed within Public Administration, Education and Health with a further 21% in Distribution, Hotels & Restaurants. In total these two sectors account for 73% of female employees in employment. In comparison males are much less dependent on any one sector with the most important being Public Administration, Education & Health, Transport & Communications and Construction which between them account for 43% of male employees.

**Table 4.4** reports the comparison of male and female dependency on the basis of Census 2001 data. This includes self-employment and so will give a better picture of those sectors that are important for males and females in Shetland.

<b>TABLE 4.4: EMPLOYMENT BY SECTOR 2001 (%)</b>		
	<b>Employment</b>	
	<b>Male</b>	<b>Female</b>
Agriculture, hunting, forestry	3.5	1.6
Fishing	8.6	1.7
Mining & quarrying	4.0	0.3
Manufacturing	11.5	6.9
Electricity, gas and water supply	2.1	0.4
Construction	16.0	1.3
Wholesale and retail trade, repairs	10.7	14.5
Hotels and restaurants	3.1	8.9
Transport, storage & communications	14.2	4.1
Financial intermediaries	0.8	1.5
Real estate, renting & business activities	8.8	8.5
Public admin. & defence, social security	6.0	9.1
Education	3.7	12.6
Health and social work	3.1	22.9
Other	4.1	5.7

Source: GROs Census 2001

For females the Public Sector is the most important accounting for almost 45% of female employment (including self-employment) within which Health & Social Work account for half of that total and Education for almost two-sevenths. After the Public Sector in general, the next most important sector is Wholesale & Retail Trade at 15%.

In comparison, for males, Construction, followed by Transport, Storage & Communications, Manufacturing, and Wholesale & Retail Trades account for 50% of male employment in Shetland.

**Table 4.5** reports the distribution of male employment comparing Shetland with HIE and Scotland, once again to provide an indication of those areas where Shetland may be over dependent.

<b>TABLE 4.5: MALE EMPLOYMENT BY SECTOR 2001 (%)</b>			
	<b>Male Employment</b>		
	<b>Shetland</b>	<b>HIE</b>	<b>Scotland</b>
Agriculture, hunting, forestry	3.5	6.2	3.2
Fishing	8.6	3.4	0.5
Mining & quarrying	4.0	2.7	2.0
Manufacturing	11.5	12.4	17.6
Electricity, gas and water supply	2.1	1.5	1.4
Construction	16.0	15.1	12.9
Wholesale and retail trade, repairs	10.7	11.9	13.2
Hotels and restaurants	3.1	5.4	4.3
Transport, storage & communications	14.2	9.7	9.3
Financial intermediaries	0.8	1.3	3.6
Real estate, renting & business activities	8.8	9.0	11.8
Public admin. & defence, social security	6.0	9.4	7.0
Education	3.7	3.3	4.3
Health and social work	3.1	3.7	4.3
Other	4.1	5.1	4.6

Source: GROs

The key sectors where male employment in Shetland appears over-dependent compared to HIE and Scotland are:

- Fishing.
- Mining & Quarrying
- Construction.
- Transport, Storage & Communications.

The percentage share of male employment in fishing is around two and a half times greater in Shetland than for the Highlands and Islands as a whole. Similarly, Mining & Quarrying is one and a half times greater reflecting the importance of activities associated with the oil sector, although some or all of the activities of Sullom Voe will be included within Transport, Storage and Communications which is also over-represented.

**Table 4.6** reports the allocation of employment (based on the census) of females comparing Shetland with HIE and Scotland.

<b>TABLE 4.6: FEMALE EMPLOYMENT BY SECTOR 2001 (%)</b>			
	<b>Female Employment</b>		
	<b>Shetland</b>	<b>HIE</b>	<b>Scotland</b>
Agriculture, hunting, forestry	1.6	2.0	0.9
Fishing	1.7	0.5	0.1
Mining & quarrying	0.3	0.2	0.4
Manufacturing	6.9	6.5	8.4
Electricity, gas and water supply	0.4	0.3	0.6
Construction	1.3	1.5	1.5
Wholesale and retail trade, repairs	14.5	16.3	15.8
Hotels and restaurants	8.9	11.4	7.4
Transport, storage & communications	4.1	4.0	3.8
Financial intermediaries	1.5	2.3	5.8
Real estate, renting & business activities	8.5	8.5	10.5
Public admin. & defence, social security	9.1	7.7	6.9
Education	12.6	10.9	10.6
Health and social work	22.9	22.2	21.4
Other	5.7	5.8	6.1

Source: GROs

The key sectors where female employment in Shetland appears over-dependent compared to HIE and Scotland are:

- Fishing.
- Hotels & Restaurants.
- Public Administration etc.
- Education.
- Health & Social Work.

Of these, over-representation in fishing will most probably relate to fish-farming as fish-processing, the sector you would expect to be more important for women, is reported within manufacturing. Females appear to be over-represented in Hotels & Restaurants but only in relation to Scotland and in fact are under-represented when compared to the Highlands and Islands. Finally, within each of the public sector divisions, women in Shetland appear to be over-represented by around two percentage points in each case. In total female employment in the Public Sector in Shetland is 10% greater than at the HIE level and 15% higher than the Scottish level.

#### 4.2.3 Clusters of Activity

Analysis by industrial sector (as reflected by Standard Industrial Codes) can conceal dependencies built around industry clusters. SIC and Shetland Enterprise identified three clusters that they believe the Shetland economy is dependent. These are:

- The Public Sector, primarily, Shetland Islands Council.
- Fisheries, including fish farming and processing.
- Oil-related activity.

The Public Sector has already been identified in the above analysis as a sector on which employment in Shetland is dependent.

Fisheries, including fish-farming and processing covers more than one Standard Industrial Classification code and as such the extent to which Shetland is dependent on this sector may not be fully revealed in the above analysis. The fisheries sector currently employs, including indirect (ancillary) employment, in the region of 2,000 FTE accounting for approximately 20% of jobs in Shetland. Similarly, the value of the sector at approximately £250m contributes around 25% of the total value of the economy. As such, it is clear that the broader fisheries sector is important to Shetland and one on which Shetland is dependent.

Finally, oil-related activities have been important for Shetland since the mid-1970s and include the operation and maintenance of Sullom Voe, as well as a range of support services to the off-shore oil and gas industry. It is estimated that in the region of 850-1,000 jobs in Shetland depend on the oil sector.

#### 4.2.4 Conclusions

**Table 4.7** provides a summary of the dependence of employment in Shetland on specific areas of economic activity. For each measure the top five sectors are identified. The main conclusions are:

- **Overall** within Shetland the five **most important sectors** are:
  - Public Administration, Education & Health.
  - Distribution, Hotels & Restaurants.
  - Transport & Communications.
  - Construction.
  - Manufacturing.
- Of these, Shetland is relatively **dependent on**:
  - Transport & Communications.
  - Construction.
- In addition, employment in Shetland is also over-represented in:
  - Agriculture & Fishing.
  - Energy & Water.
  - Other services.
- By gender, the pattern seems to be that **males** depend on:
  - Public Administration, Education & Health.
  - Distribution, Hotels & Restaurants.
  - Transport & Communications.
  - Construction.
  - Manufacturing.
  - Agriculture & Fishing
- Of these, males are over-represented in:
  - Transport & Communications.
  - Construction.
  - Fishing.
- In comparison **females** in Shetland depend on:
  - Public Administration, Education & Health.
  - Distribution, Hotels & Restaurants.
- In both of these females in Shetland are over-represented.

<b>TABLE 4.7: SECTORAL IMPORTANCE AND DEPENDENCY</b>									
	<b>Absolute Importance ABI &amp; Census</b>	<b>Relative Dependence ABI</b>	<b>Relative Dependence Census</b>	<b>Absolute Male ABI</b>	<b>Absolute Male Census</b>	<b>Relative Dependence Male Census</b>	<b>Absolute Female ABI</b>	<b>Absolute Female Census</b>	<b>Relative Dependence Female Census</b>
Agriculture & Fishing		*		*					
Fishing			*			*			*
Mining & Quarrying						*			
Energy & Water		*							
Manufacturing	*			*	*		*		
Construction	*	*	*	*	*	*			
Wholesale & Retail Trade					*			*	
Distribution, Hotels & Restaurants	*			*			*	*	*
Transport & Communications	*	*	*	*	*	*			
Financial & Real Estate					*		*		
Public Admin., Education & Health	*			*			*		
Public Administration								*	*
Health & Social Work								*	*
Education			*					*	*
Other Services		*					*		

In summary, Shetland depends on four sectors of which two – Transport & Communications and Construction primarily affect men and two – Public Administration, Education & Health and Hotels & Restaurants primarily affect women.

Looking more broadly at clusters of activity, employment in Shetland is dependent on:

- The Public Sector, primarily, Shetland Islands Council.
- Fisheries, including fish farming and processing.
- Oil-related activity.

### 4.3 **FRAGILITY**

While an economy may depend on certain activities or sectors, this does not mean that the economy as a whole is fragile. The whole concept of competitive advantage focuses on those areas where the economy has some advantage over other economies. Effectively, this is a form of dependency but based on sectors that are strong, dynamic and interconnected.

The key issue for Shetland is to identify those sectors, industries or clusters on which they depend and which are also fragile. Fragility can be defined as susceptibility, or lack of resistance, to factors capable of causing disruption of continuity or integrity. In other words if a sector or industry is fragile this implies that it is not sufficiently robust to withstand downturns and other negative changes within its operational environment.

Fragility can relate to the market conditions within which businesses operate as well as to the characteristics of the companies themselves in terms of their ability to respond and adapt. Causes of fragility include:

- Security of supply of raw materials.
- Dependent on few suppliers.
- Dependent on few markets/customers.
- Dependent on limited number of people/entrepreneurs.
- Industry open to global competition.
- Market driven by price not quality.
- Sector is all the same – homogeneous – so any threat will affect all the sector.
- Economic value of sector to local economy is derived from one or two companies so if one goes down has big impact on local economy.

In this section we assess the extent to which the following sectors can be considered fragile:

- The Public Sector, primarily, Shetland Islands Council.
- Fisheries, including fish farming and processing.
- Oil-related activity.

#### 4.3.1 Public Sector

The Public Sector is an important source of employment within Shetland, and its share of total employment at 30% is slightly higher than that for HIE (29%) and Scotland (26%). A key component of the Public sector is SIC. Since the arrival and growth of the oil sector in the 1970s, SIC has benefited from the Shetland Oil Fund that has allowed the Council to fund a wide range of community, economic and infrastructural projects. The Council has grown over the years and has provided an attractive career path for residents. This is reflected in the share of Shetland's economically active population employed by the Council.

The public sector, by its very nature would not normally be considered fragile. The range of functions and services provided by the public sector is both wide-ranging and essential. Any problems for the public sector is most likely to arise from issues of over-spending and staff efficiency in delivering services. The main consequences of such problems could include reductions in the range of services provided, the number of projects that the Public sector could support and of course reductions in staff levels.

The key issues currently facing the Council are highlighted in the Accounts Commission Audit of Best Value and Community Planning (March 2005). A key conclusion was that 'the Council has been unable, in three successive years, to agree a balanced budget and has met the shortfall between expenditure and income from reserves. This is unsustainable and not conducive either to sound financial management or to good planning.' As a result the value of its reserves has fallen by £16 million. Without efficiency savings or cuts in some of its services, this position is not sustainable. In general service provision is seen as being high level of service but at a high cost.

In comparison with other similar sized council areas Audit believe that overall staff numbers are high with in the region of 95 per 1,000 population compared to 77 for Orkney Islands, 68 for CnES, 46 for Highland and 50 for Scotland. However, significant causes of the difference between Shetland and most other Council areas relates to the number of Council staff per 1,000 of population involved in roads and transport – most likely due to the council operation of the ferry service. Compared to the next highest (Orkney) Shetland has 9 more (FTE) staff employed in Roads and Transport. The other significant difference is in the number of teachers. Shetland has the largest number of teachers per 1,000 of population of all Council areas at 19.1. The next highest is 14.6 in CnES. That is 4.5 more teachers per 1,000 of population in Shetland compared to CnES.

The economy of Shetland is dependent on the SIC both in terms of its range of services including the inter-island ferry and air services. SIC, together with the local trusts accounts for around one third of the Shetland economy and as noted by the Commission, any changes in Council spending could have a marked impact on the wider community.

The key issue in regard to SIC is how it achieves balance in its budget and the consequences of this for employment within the Council. The question is the extent of any reduction in staffing numbers and the timeframe for this. If any reductions in staffing is achieved through natural wastage then the main loss to the Shetland economy will be equivalent to the reductions in income associated with these posts. There could be additional wider impacts depending on the extent to which migration into Shetland has been based on incomers taking jobs in the Council and then

remaining in alternative employment once they leave the Council. Thus any 'downturn' in SIC activity could also translate into a smaller pool of available employees.

Overall, while the Public Sector, in particular the SIC, is facing a number of issues, it is believed that these will manifest themselves as a reduction in the staffing levels. Most of the staff reductions are likely to be achieved through natural wastage over a number of years and will have less impact on unemployment and more of an impact on jobs available for future employees. In some ways this could benefit Shetland to the extent to which it releases more potential entrepreneurs into the local economy.

#### 4.3.2 Fisheries

The first thing to note about the fisheries sector in Shetland is that it is a reasonably diversified industry incorporating the three main sea fisheries (pelagic, demersal and shellfish), salmon farming, shellfish farming as well as investment in new farmed species, including cod. In addition, the fish processing sector covers all the species and is moving into higher value-added products.

Clearly, fish processing depends on the availability of a raw material supply and any threats to that supply of fish could expose the sector. However, one of the key advantages faced by Shetland is the availability of a wide range of fish species – perhaps more than any other fisheries port in Scotland.

Each of the individual species has faced threats in recent years including the banning of shellfish (primarily scallops) because of the threat of algal toxins; the current quotas and fishing restrictions facing the whitefish sector; and the recent pressures facing the Scottish salmon farming industry which is still in the process of re-organisation and rationalisation. Greater challenges may relate to attracting the workers that are required, in particular in relation to processing.

Despite the challenges the fisheries industry in Shetland is still a key contributor to the local economy unlike other fisheries economies in Scotland that have seen a collapse of their fishing industries in the last few years.

However, the sector does face a number of challenges and uncertainties about the future, most especially in relation to the whitefish sector. These issues are generally outside of the control of the industry. Potentially, this part of the fisheries sector can be considered the most fragile.

#### 4.3.3 Oil-related Activity

The oil sector has been an important contributor to the Shetland economy for close to 30 years, both in terms of employment and (though Sullom Voe) in creating the oil fund that has allowed the Council to undertake a wide range of investments to the benefit of the local community.

The oil sector has faced a number of crises over the past 35 years usually reflected in oil prices increasing or falling dramatically. Despite this the oil and gas industry is still important to the Scottish economy and, unlike many other sectors, it is possible to make reasonably long-term forecasts for production in the North Sea. According to ABA Review of the Shetland Economy, it is expected that Sullom Voe Oil Terminal will continue to be operational until at least 2028.

On this basis it is reasonable to assume that the oil sector in Shetland is not especially fragile, but it also is realised that given the nature of this activity – i.e. it is based on a finite natural resource – that at some point in the future the sector will be far less important to the Shetland economy than it currently is. The issue for Shetland, is therefore, not trying to find ways of keeping the oil terminal open but in finding ways to diversify the sector based on applying existing knowledge and skills to service the global oil and gas industry.

## **5 DEVELOPMENT OPPORTUNITIES**

### **5.1 INTRODUCTION**

This Chapter identifies and explores a range of industries, sectors and clusters that could provide the basis of the Shetland economy in the future. These areas have been identified in conjunction with SIC, Shetland Enterprise and Highlands & Islands Enterprise and through consultations with a number of other organisations and businesses within Shetland.

The future opportunities for Shetland are based on both development and diversification of existing industries and sectors as well as on new and emerging activities. There are opportunities for existing sectors within Shetland to improve competitiveness and to develop niche markets based on quality and diversity within traditional sectors. These sectors, including knitwear, decommissioning of oil related production facilities and fisheries & aquaculture, will form part of the strategy but are only discussed here in broad terms as the research steering group expressed a wish to focus on new areas of opportunity.

The review of future opportunities is built around six potential areas for activity:

- Knowledge and Information Technology.
- Renewable Energy Supply Chains.
- Opportunities to Diversify Higher and Further Education in Shetland.
- Commercialisation of Creative & Visual Art and Culture.
- Activity Tourism.
- Non-Fisheries Food and Drink.

Within this Chapter, while proposing and developing opportunities for economic activity we also discuss the challenges facing Shetland in realising these opportunities.

### **5.2 THE CHALLENGE**

Shetland faces a number of challenges:

- Aging population.
- Dependency on three sectors for majority of employment.
- Remote location.
- Expensive destination.
- A need to broaden the economic base.

Forward projections suggest that the population of Shetland will grow by 2% between 2003 and 2018 with those above working age growing by 40% while those of working age is expected to decline by 4% and those of below working age declined by 15%. To ensure a dynamic and competitive economy in the future Shetland needs to encourage more working age people to relocate to Shetland.

Population growth, including an increase in the number of in-migrants, is highlighted as a crucial contributor to economic success within HIE's 'A Smart Successful Highlands and

Islands'. It is clear that more people living, working and studying in Shetland are essential to sustaining long-term progress in the area.

The Shetland economy is dependent on three sectors, in particular the public sector, for the majority of employment. Given the absolute and relative importance of the public sector in Shetland it is possible that it has contributed to the potential underdevelopment of the indigenous private sector through crowding out in the labour market. Effectively, the Public Sector has attracted many people who potentially could have developed businesses in the private sector.

Other sectors like fisheries and the oil industry are very important to the Shetland economy and are likely to continue to be so in the future. It is to be expected that the fisheries sector has and will continue to experience a range of problems and that the production of north sea oil and gas will eventually stop (or at least be significantly reduced). Thus Shetland needs to diversify its economic base to ensure long term economic activity and employment.

Shetland comprises the most northerly communities within the UK and as such are considered to be remote from much of Scotland. Given their location and more especially the costs to travel to Shetland future economic development must focus on reducing remoteness by focussing on high value low mass 'products' – in other words moving from low value production to high value knowledge work.

'Smart Successful Highlands and Islands' underlines the productivity challenge facing the region as a whole. Creating more businesses of scale and exploiting new sectors of opportunity will help overcome the challenge of remoteness.

It is important to recognise that in developing a strategy for Shetland to diversify and broaden its economic base, given the size of the economy we need to ensure that the proposals are at an appropriate scale. As noted in the SIC Structure Plan 'Shetland [has] to be smarter about how and where it grows - to invent ways in which we can create more compact and efficient growth patterns that are responsive to the needs of people at all income levels, and which help to maintain Shetland's quality of life and economic competitiveness'.

For example, it would be inappropriate to consider major individual inward investors (say of 100+ jobs) as a potential solution to the challenges faced by Shetland. It is more likely that within each of the identified sectors the employment or level of activity target will more likely be 50-100 jobs. This is important, because this new activity will have to be driven by the private sector and thus we have to be sensitive to the possible number of entrepreneurs who may be encouraged to establish new businesses, many of which may only involve one or two employees.

'A Smart Successful Highlands and Islands' highlights the business development need of 'raising productivity in all economic sectors of employment. This will require ambitious leadership, supported by continuous capital investment, allied with investment in skills, harnessing of research, creativity and innovation and greater effectiveness of management in driving improvements forward'.

### 5.3 TRADITIONAL SECTORS

The traditional sectors in Shetland are important not only because they offer opportunities for further development but because they are critical in helping to maintain population in remote communities and are an important source of employment. This section provides a very broad over-view of opportunities in relation to other traditional sectors that have already been researched in detail by various agencies in Shetland, specifically:

- Knitwear.
- Decommissioning.
- Fisheries.

#### 5.3.1 Knitwear

The knitwear sector in Shetland has an historical reputation for quality, craftsmanship, tradition and exclusivity with worldwide recognition. However, the industry has evolved to offer products for different market segments and has faced a number of global challenges including the strength of the pound and very significant global competition at the lower end of the market.

Despite the recent decline in the sector there is still an opportunity to re-establish Shetland knitwear as a quality brand and focus on higher margin sales. This will require the sector to focus on niche markets in much the way that Laurence Odie appears to have repositioned themselves by targeting smaller boutique style stores.

A report by Stewart Miller Associates 'Shetland Knitwear: The Way Forward' identified the following opportunities and threats to the knitwear sector:

*'Major opportunities:*

- *Possibility to provide some direction for the fragmented industry to help strengthen its position.*
- *Opportunity to target higher margin sales.*
- *For the industry to associate itself with any recommendations as part of the Shetland Branding project.*

*Biggest threats:*

- *Continued lack of unity.*
- *Need to halt decline in sales.*
- *Lack of new people wishing to enter the industry.'*

To deliver these opportunities will require:

- Attracting people back into the industry.
- Developing the necessary skills, for example in the fundamentals of machinery operation.
- Management training.
- Improving quality and marketing of the product.
- Improving customer service.

### 5.3.2 Decommissioning

The offshore oil and gas sector has been an important contributor to the Shetland economy for 30 years in terms of exploration, development and production activity. It now offers increasing opportunities for the next twenty years and more as the productive life of existing fields comes to an end and a range of off-shore structures are decommissioned.

Shetland has a number of advantages that should assist in developing these opportunities:

- Relative proximity to oil and gas fields in the northern north sea area of the UKCS, specifically those associated with the Brent and Ninian systems.
- History of working with the oil and gas sector on both on and off-shore facilities.
- A skilled workforce.
- Available deepwater berthing.

To develop these opportunities it will be necessary to:

- Build up relationships with the main contractors who will be project managing the decommissioning projects.
- Ensure that the necessary skills are maintained and kept up to date.
- Ensure that any physical decommissioning works undertaken in Shetland are done so in a sensitive and environmentally secure way to ensure that there are no negative impacts on other Shetland products including aquaculture and tourism.

If Shetland develops a reputation as a good base for the off-shore elements of decommissioning and a good location for the on-shore aspects of decommissioning then it may have an opportunity to undertake decommissioning work of oil and gas fields further south.

### 5.3.3 Fisheries

The fisheries sector, including aquaculture, sea fishing and processing are important for the economy of Shetland. However, this is a sector that has faced a series of difficult challenges across the board. Despite this, there are opportunities for further developing and refining the sector in Shetland.

The areas of opportunity relate to:

- Consolidation and revival of salmon farming.
- Development of new farmed species.
- Continued support and development of the pelagic sector.
- Maximising benefits from whitefish sector by enhancing quality and continuity of supply.
- Investment in value-added processing, in particular in relation to farmed salmon.

## 5.4 NEW AND EMERGING ACTIVITIES

This section reviews future opportunities around six potential areas for activity:

- Knowledge and Information Technology.
- Renewable Energy Supply Chains.
- Opportunities to Diversify Higher and Further Education in Shetland.
- Commercialisation of Creative & Visual Art and Culture.
- Activity Tourism.
- Non-Fisheries Food and Drink.

### 5.4.1 Development in Knowledge and Information Technology (KIT)

The majority of competitive businesses are based on the use and development of knowledge facilitated by information technologies. In addition, the knowledge and information technology sector itself is an important source of economic activity.

The Shetland Structure Plan 2001-2016, in relation to Telecommunications and Economic Development, states that ‘the growth of new technologies such as cellular telephones, video conferencing, satellite and interactive TV and electronic data transfer could significantly help the Shetland economy to overcome its inherent disadvantages of peripherality and population sparsity; (which are) major barriers to Shetland’s economic development. This is particularly the case in the rural areas where improved telecommunications could make a significant contribution to a sustainable development strategy, for example, allowing people to work from home. An efficient telecommunications infrastructure within Shetland and between Shetland and the UK mainland is vital for the continuing competitiveness and well-being of Shetland businesses and to provide information, education, health care and entertainment to its population.’

This sector is important for two main reasons. First, it provides an economic opportunity in itself as a provider of products and services. Second, it is required to support and help develop other sectors that require these technologies and skills to create and deliver their products and services. Basically, if these products and services are not developed locally, then businesses will either have to source their requirements elsewhere in the UK and abroad or not adopt these technologies and suffer from reduced competitiveness.

The sector is attractive because it often involves individuals who are not tied to any specific location, who are creative, high value-adding and operate in the global market. In addition, they tend to associate with, and rely on academic and research institutions to allow their technologies to develop. The key question is how to get these people to base themselves in Shetland.

The KIT sector has been defined as including those businesses involved with and providing services in relation to:

- Multimedia.
- Web sites.
- Graphic design.
- Electronic publishing.
- Software.
- Data/information handling.
- Photography.
- Electronic communication.
- Related training.

This list is not exhaustive and reflects current understanding of what is possible. As one consultee observed, and is reinforced by the experience of silicon valleys around the world – if you provide the processing power and bandwidth, creative individuals will find ways to absorb that capacity in new and exciting ways.

Individuals associated with knowledge and information tend to be mobile in terms of where they base themselves so long as the necessary infrastructure is available. This includes not only electronic and communications infrastructure but the availability of good and preferably cheap transport. The importance of being part of a professional community as well as being able to meet customers and partners face-to-face, means that even those sectors that are built around electronic infrastructure still require physical contact.

The question is what can Shetland provide that will attract KIT entrepreneurs to evolve indigenously and locate in Shetland. There are already a number of indigenous KIT businesses located in Shetland that are global operators. Specifically, Kildrummy, Shetland Composites, 4QL/OctEpods and to a degree the PURE Project (Unst Hydrogen Cell project). In addition a number of 'national/international' magazines are currently being edited and published electronically in Shetland. These business involve a small number of people some of whom have made a decision to live and work in Shetland.

The types of opportunities available in distance working associated with communication links has been identified to include the following:

- Software development.
- Digital/data processing.
- Creative knowledge.
- Entertainment industry.
- Digital media.
- Electronic publishing.
- Tele-business.
- E-commerce.
- Multimedia.
- Wireless networking.
- Exploitation of broadband features.

The importance of this sector lies in the fact that it can overcome a key barrier to development in Shetland - the costs of transport especially of goods produced. In other words this sector and its application can increase the share of economy that is light on atoms and heavy on bits.

The development of this (very broad) sector faces a number of constraints and challenges:

- Availability of electronic connections and bandwidth.
- Fibre optic connections **not** satellite or microwave.
- Development of necessary KIT skills.
- Availability of training and skills development.
- Access to technical academic resources.
- Attraction/development of entrepreneurs.
- Networking of existing KIT businesses.
- Change of culture to developing/relying on e-commerce.

However, Shetland does and can offer a range of characteristics that may be attractive to the individuals who make up this sector. These include:

- Lifestyle.
- Quality of Life.
- Safety.
- Education.

#### 5.4.2 Renewable Energy Supply Chains

Shetland offers a wide range of opportunities in relation to the production of renewable energy sources. An assessment of the potential renewable resources available in Shetland and its surrounding waters identified the following potential sources of renewable energy:

- Tidal current.
- Offshore wind.
- Onshore wind.
- Offshore wave.
- Tidal head.
- Coastal wave.
- Biomass.

While production of renewable energy in Shetland could provide a significant income flow, in terms of the construction and maintenance of renewable energy schemes there are also opportunities associated with the renewable energy supply chain. A number of the supply chains are already well established in other northern European countries, in particular the technologies associated with wind power are already dominated by Denmark and Germany, in particular. While there may be opportunities in installation and maintenance, these other European countries have already established their dominance.

However, Shetland could take advantage of the following aspects of the supply chain:

- Research and development.
- Assembly of components.
- Manufacture of components.
- Maintenance of structures and machinery.
- Professional services required for development of projects.

Many of these activities are knowledge based and can operate well if there are good telecommunications and IT infrastructure in place. Clearly, Shetland needs to become a major generator of renewable energy if it is to take advantage of the opportunities offered by the supply chain. This in turn depends on Shetland being able to export the renewable energy it generates which depends on the existence of an electricity interconnector to mainland Scotland. Without this Shetland would not be able to realise its full potential in the generation of power and thus the supply chain would not be nearly so significant.

The main source of renewable energy to date has focussed on on-shore wind power. The technologies are well developed and the main opportunities for Shetland are likely to be in some local component manufacture most likely the manufacture of the towers and the assembly of the components. Most of the knowledge based value added activities will take place elsewhere in Europe.

However, there are more opportunities available in the development and eventual manufacture of the newer technologies. The Highlands & Islands of Scotland is already well placed in terms of wave and tide based power sources as well as being the latest testing ground for deep sea wind power schemes. Shetland is already involved in the development and testing of hydrogen cell technologies and in tidal power and there is a potential linkage with the EMEC facility in Orkney. What is especially interesting is that these developments can be both in terms of world scale technologies as well as the development of systems and solutions that are appropriate for remote rural areas as exemplified by Unst.

The real benefits for Shetland will come from involvement in the research, development and testing of these new technologies most particularly in developing the practical application of technologies.

#### 5.4.3 Opportunities to Diversify Higher and Further Education in Shetland

The role of higher education and research is well established as a critical factor in the support of competitive advantage within regional economies. If Shetland is to maximise the impacts of the range of opportunities that are available then it will need the support of the research and training available through Further and Higher Education. The establishment of the UHIMI network provides Shetland with access to a strong dispersed network of academic research and training. This however, depends critically on the UHIMI working together rather than as a number of separately competing local colleges.

Based on the existing and emerging opportunities within Shetland there are number of opportunities that should be considered by Shetland College. (It should be noted that

most of these opportunities are being considered or have been developed by the College):

- Renewable Energy.
- Knowledge and Information Technology.
- Textiles.
- Teaching English as a Foreign Language.

A range of opportunities have been identified in relation to **renewable energy**. These primarily relate to the establishment of a Renewable Energy Skills Unit at Shetland College. The courses will relate to developing small scale renewable energy projects both in terms of teaching the basics about installing renewable energy systems such as windturbines and solar panels as well as offering business advice to those interested in moving into this area of activity.

In relation to **Knowledge and Information Technology**, Solution Management's Workforce Development Plan for KIT, identifies the need for future skills in the following areas:

- Core skills that provide the foundation for all good practice in the areas of design and coding.
- Programming and application skills that are in short supply and are needed for the new multimedia world of 3D animation and artificial intelligence. Also in this group are the programming skills to produce e-business applications, such as e-commerce sites and data management applications.
- The business and management skills that will continue to be required to ensure businesses have the tools to manage the changes and exploit the new markets.

As well as providing training for **textile** students, the college also has a textile facilitation unit, which includes a range of machinery. This can be used by those who cannot afford to purchase such machinery (c£100,000) The College employs an individual with 25 years experience in the textiles industry and he programmes the machines. This provides the opportunity to design textiles and to use CAD to test whether designs will work. This is particularly relevant for high value textiles with short runs.

Finally, it is recognised throughout the Highlands and Islands that part of the solution to the aging workforce and the increase in demand for workers will be migration of workers from elsewhere in the EU. It is important that these workers are able to communicate in English and a number of areas are already introducing TEFL courses specifically for these migrants. Such provision could be provided through or in association with the College.

#### 5.4.4 Commercialisation of Creative and Visual Art and Culture

Over the past twenty years, culture and heritage broadly defined, has been recognised for its role in social and economic development, and being important aspects of successful, competitive economies as well as significant contributors in terms of jobs and income. The development of more sophisticated information and communications technology has widened the potential for global access to Shetland's culture. Creative and visual art and culture are based on knowledge creation and tend

to be low weight, high value commodities and services. But it is critical that they are showcased to the world, both within Shetland as well as being accessible (for use and purchase) through the Internet.

Public agencies within Shetland have recognised the importance of culture and heritage to the area and research by Glasgow University states that within Shetland ‘there is a balance to be found in the programmes offered – a balance between the indigenous and the imported, the amateur participant and the internationally recognised ‘home grown’ talent, a respect for tradition and the development of the new’.

However, they also note that ‘there is also a balance which has to be struck between offering programmes which address the social and cultural needs of Shetland people and the economic opportunities which can come from creating an international market for cultural goods, and raising skills and confidence in the workforce’.

Shetland has been particularly successful in relation to music. Shetland has managed to preserve and develop their musical traditions with the involvement of a wide age group. It is well known that a number of Shetland musicians are internationally successful. It is estimated that around 10 professional musicians are working outside of Shetland and a further 10 young people are studying music outside of Shetland. This reflects both the success and promise of the sector as well as the opportunities for Shetland to be able to provide these people with the resources and infrastructure to live, study and work within Shetland.

While an international Shetland music business has effectively evolved this is less evident in relation to other aspects of Shetland’s art and culture. It is important that this success is built on and applied to other aspects of Shetland’s culture and heritage. The research by Glasgow University identified high levels of participation suggesting that cultural events are supported by Shetlanders so that potentially this sector can depend on both the local and visitor markets thus offering a sustainable economic opportunity for Shetland.

The recently published ‘Cultural Strategy for Shetland’ recognises the important contribution that cultural activities can play in economic development and identify four strategic aims related to economic development:

- Invest in, and support, the contribution of cultural activities to school education and to the lifelong learning process for the wider community.
- Exploit the potential of cultural activity to contribute to the economic regeneration of Shetland and promote widespread usage of and participation in these activities.
- Utilise and promote Shetland’s rich and diverse cultural life, built and natural heritage as the principal focus for developing tourism to the islands.
- Promote Shetland’s cultural life and activities in order to contribute to the retention and growth of the population of the islands, especially in rural and outlying communities.

These aims capture very well the opportunities that are available in relation to cultural activities. ‘A Smart, Successful Highlands and Islands’ also captures similar opportunities, recognising that an ‘area’s natural and cultural heritage are vital

ingredients of local amenity, quality of life, health, community, confidence and a sense of place. They are unique assets which offer clear economic opportunities in the creative industries such as music, cultural and environmental tourism’.

#### 5.4.5 Activity Tourism

Tourism has become increasingly important for Shetland and recent years have shown the sector, in general, to be buoyant. It is critical that the tourism sector gets it right as it is generally accepted that although visitor numbers are growing Shetland is unlikely to attract very large numbers of visitors because of perceptions of remoteness and the reality of the costs and difficulties of getting to Shetland. In comparison the Western Isles attracts almost double the number of visitors.

Given the costs of getting to Shetland and the likelihood, that until perceptions and travel costs change dramatically, that Shetland will ‘under-perform’ in terms of absolute visitor numbers the sector should consider focusing on developing higher value adding niches that will make a greater contribution to the local economy.

HIE has undertaken research that identified the scope for product development and market opportunities among a range of niche activities, including wildlife, walking and mountaineering, cycling, water sports, outdoor culture and heritage, adventure, equestrian, sea angling and snow sports. Shetland is well suited to supporting some of these activities.

It was noted in the Shetland Visitor Survey that generally it is the more passive activities like touring, visiting attractions, shopping which are undertaken by most visitors. Sporting and more active or specialist activities are generally undertaken by smaller minorities. In terms of motivation for visit only 1% indicated ‘Activities’. This does not mean that visitors who are primarily motivated by other reasons do not also undertake ‘activities’ but it does suggest that there is potential to develop this aspect of tourism especially given the wide range of possible outdoor activities available in Shetland.

Currently companies in Shetland offer a range of activity pursuits including:

- Wreck and scenic/wildlife dive sites.
- Wildlife based holidays/ boat trips.
- Sea angling and trout fishing.
- Well developed network of sports facilities.
- Pony trekking.
- Sea kayaking.
- Guided archaeology based holidays.

Given the scale of the resource available in Shetland opportunities should be sought in developing this sector further and aim to increase the percentage of visitors to Shetland that are motivated primarily by activity holidays. HIE recognise that the development of activity based businesses can have a significant economic impact in more remote areas.

In summary Shetland needs to broaden its tourism product towards more sustainable high value tourism. To achieve this it is essential that the facilities offered are of the

required quality and standard to be internationally competitive. Shetland has on offer world class natural heritage, archaeology, music and creative arts. The other critical components – accommodation and catering – must also be world-class. Currently Shetland does not offer a consistent quality package of accommodation and catering. The UK is now regarded as one of the more expensive destinations in the world and visitors from abroad expect a higher standard for their money.

Development of activity tourism niches therefore face a number of challenges:

- Cost of travel.
- Quality and availability of accommodation.
- Quality of catering and restaurants.
- Awareness of activity holidays – do they need to be packaged better to attract the general public?

#### 5.4.8 Non-Fisheries Food and Drink

There is a perception, based on its scenery and unpolluted environment, that Shetland provides high quality food. While Shetland is strongly associated with fish and shell-fish products there is less availability of other indigenous non-fisheries food products. The few exceptions include:

- Oatcakes.
- Beer.
- Ice-cream.
- Lamb.

Simply, Shetland has the opportunity to develop more non-seafood food processing businesses. However, it is important that these products are associated with Shetland and are of high quality. They should be available locally through shops, restaurants and hotels. This will require the attraction of top quality chefs to Shetland as well as supporting training facilities in food development, processing and cooking.

Innovations such as the Food Processing Unit at the North Atlantic Fisheries College which will allow new businesses to develop and market test innovative or value-added food products is a positive development.

In summary, this sector faces a number of challenges:

- Development of marketing and branding.
- Logistical issues in getting product to market.
- Development of quality systems appropriate to the scale of businesses.
- Development of management skills.
- Greater customer focus - being market led.
- Providing the infrastructure for more R & D and product development.

## 5.5 SUMMARY POINTS

Key issues arising across these opportunities are:

- General need for branding
- Business collaboration both within Shetland and globally.
- Awareness of global competition and opportunities.
- Focus on quality and high value adding activities.
- Development of skills, including management skills.
- Encouraging and supporting R & D and innovation.
- Being market led and customer focussed.
- Overcoming perceived and actual logistical and distance to market issues.
- Marketing Shetland as a location to work remotely.
- Development of telecommunications infrastructure.

## **6 STRATEGIC APPROACH**

### **6.1 INTRODUCTION**

Based on the previous analysis **Chapter 6** presents a strategic framework for the opportunities available to Shetland.

The sectors included within this framework are:

- Renewable Energy.
- Knowledge and Information Technology.
- Activity Tourism.
- Food and Drink.
- Fisheries.
- Creative and visual art and culture.
- Further and Higher Education.
- Knitwear.
- Decommissioning.

The framework reports, for each sector identified:

- Potential opportunities available.
- Strengths of Shetland or the sector in relation to the opportunity.
- Challenges facing the delivery of the opportunity in the context of Shetland or the wider environment.
- Actions required to facilitate or drive towards the opportunities.

**TABLE 6.1: STRATEGIC FRAMEWORK**

<b>Renewable Energy</b>			
<b>Opportunities</b>	<b>Strengths</b>	<b>Challenges</b>	<b>Actions</b>
Generation of renewable energy	Favourable climatic & environmental conditions. Location of technology testing & development.	Exporting power. Attracting projects. Attracting investors.	Lobby for interconnector to mainland Scotland. Attract projects and investors. Develop indigenous capacity. Internal and external infrastructure.
Renewable Energy Technology R & D	Potential as test site and generator of renewable energy from a number of sources. Scottish presence in development of wave/tidal technologies. Shetland presence in hydrogen fuel technology.	Telecommunications. IT infrastructure. Available technical/academic resources. Available skilled R & D practitioners. Entrepreneurs.	Drive improvements in telecoms & IT infrastructure-internal/external. Attract R&D projects. Encourage and support indigenous R&D. Develop indigenous skilled human resource-training and returners. Attract skills through inward migration.
Assembly of components	Demand for windturbines, tidal and wave power infrastructure.	Competition elsewhere for assembly. Scale may be determining factor.	Identify main manufacturers of renewable energy infrastructure. Encourage assembly and component manufacture in Shetland. Maximise supply chain for all new technologies.
Manufacture of components	Existing demand for renewable energy infrastructure. Scottish presence in wave/tidal technologies.	Well established foreign presence in windpower.	Link into both the generation of energy and the R & D. Manufacture components for technologies being developed and tested.
Maintenance services	Renewable energy sites that require maintenance.	Sufficient work to justify maintenance facility on Shetland.	Provision of skills/courses.
Professional services	Related businesses already exist.	Telecommunications. IT infrastructure. Maximise value-added within Shetland.	Identify/encourage national/international providers of professional services to open offices in Shetland initially when they are servicing Shetland projects. Support indigenous new-starts.
Provision of skills and training	Opportunities for local experience of technologies.	Critical mass of training courses.	Assess range of skills and courses required to support sector. Identify most efficient delivery – local, UHIMI and beyond. Ensure Shetland has <b>access</b> to resources and not necessarily be the sole provider of skills and courses.

**TABLE 6.1 (CONTINUED): STRATEGIC FRAMEWORK**

<b>KIT</b>			
<b>Opportunities</b>	<b>Strengths</b>	<b>Challenges</b>	<b>Actions</b>
Business opportunity	A number of KIT businesses already exist.	Businesses working in isolation. Availability of skills.	Support networking of existing KIT businesses. Development of KIT skills. Support development of technical academic resources. Ensure technical and business support targeted at sector.
Support service	Modern, competitive businesses need these services – there should be demand for it.	Limited e-business culture.	Support existing businesses to greater use of IT. Encourage businesses to offer sales and support over the internet.
Facilitator of distance working	Examples of distance working in media businesses. Quality of life. Quality of education.	Electronic connections & bandwidth. Supply of entrepreneurs. Travel costs/distance.	Drive improvements in telecoms & IT infrastructure—internal/external. Attract skills through inward migration. Provide office and support facilities (e.g. video conferencing). Target companies to support staff who want to work from Shetland.
<b>Activity Tourism</b>			
<b>Opportunities</b>	<b>Strengths</b>	<b>Challenges</b>	<b>Actions</b>
Higher value specialist niche markets	Shetland offers wide range of niche activities.	Unlikely to attract mass tourism market. Cost of travel. Perception of remoteness. Quality/availability of accommodation. Quality/availability of catering & restaurants. Awareness of what is available in Shetland. Currently small number of visitors are attracted by activities.	Survey of potential/target visitors - what want and expect. Support development of indigenous tourism activity companies. Accommodation quality assurance schemes. Catering/restaurant quality development programme – skills and products. Review marketing of Shetland as niche activity destination. Target potential visitors interested in outdoor niche activities. Networking & coordinating activity associated with the market supply chain – marketing, transport, accommodation, catering and activities.
<b>Food &amp; Drink</b>			
<b>Opportunities</b>	<b>Strengths</b>	<b>Challenges</b>	<b>Actions</b>
Develop quality food & drinks businesses	Positive associations with unpolluted environment. Perceptions regarding Shetlands natural resources.	Poor quality of restaurants and catering. Limited availability of quality non-fish local products. Attitudes to quality. Attitudes to customers.	Development of cooking and processing skills. Encourage local shops and restaurants to use/sell local quality food products. Branding. Change in Sectoral culture to be customer focussed.

**TABLE 6.1 (CONTINUED): STRATEGIC FRAMEWORK**

<b>Fisheries</b>			
<b>Opportunities</b>	<b>Strengths</b>	<b>Challenges</b>	<b>Actions</b>
Salmon	Environmental quality-ideal growing conditions. Experienced workforce.	Price competition from abroad. Disease. Distance to market. Poor marketing/branding.	Product differentiation - Niche branding. Trade promotion. Relationships with retailers further down supply chain.
New farmed species	Companies are investing in new species. Skills. Environment.	Risk and market perception. Transfer of skills. Marketing/branding.	Organic produce. Business skills.
Increased value added processing	Access to wide range of species. Major pelagic, whitefish and shellfish port. Closeness to fishing grounds.	Fishing restrictions & regulations. Irregular supply of whitefish. Distance to markets. Marketing/branding.	Identify opportunities to ensure continuity of supply of caught fish. Support investment in newer vessels and on-board processing of fish to maximise quality and freshness. Branding. Business skills.
<b>Creative &amp; Visual Art and Culture</b>			
<b>Opportunities</b>	<b>Strengths</b>	<b>Challenges</b>	<b>Actions</b>
Developing cultural activities as a contributor to economic and social development	Rich heritage. Internationally renowned for traditional fiddle music. High levels of local participation and interest by visitors.	Moving beyond traditional music. Commercialisation of sector.	Invest in, and support, the contribution of cultural activities to school education and to the lifelong learning process for the wider community. Exploit the potential of cultural activity to contribute to the economic regeneration of Shetland and promote widespread usage of, and participation in, these activities. Utilise and promote Shetland's rich and diverse cultural life, built and natural heritage as the principal focus for developing tourism to the islands. Promote Shetland's cultural life and activities in order to contribute to the retention and growth of the population of the islands, especially in rural and outlying communities.

**TABLE 6.1 (CONTINUED): STRATEGIC FRAMEWORK**

<b>Further &amp; Higher Education</b>			
<b>Opportunities</b>	<b>Strengths</b>	<b>Challenges</b>	<b>Actions</b>
Training in support of industry	Range of potential areas of focus. Evolving role of Colleges and UHIMI and associated opportunities.	Breadth of provision vs. dilution of effort and quality. Providing appropriate level and quality of support to industry.	Identify training needs of existing and new businesses. Identify appropriate providers/partners to deliver training. Encourage businesses to undertake training.
Provision of research & development resources			Identify areas for research & development support including renewable energy, aquaculture and KIT. Review/identify resources required to deliver R&D to appropriate standard.
Provide support to the social and business communities	Available facilities and technologies (e.g. CAD, video conferencing etc.).	Identifying and encouraging users.	Identify types of support businesses and communities would be interested in. Support routes to providing support/facilities to business, individuals and communities.
<b>Knitwear</b>			
<b>Opportunities</b>	<b>Strengths</b>	<b>Challenges</b>	<b>Actions</b>
High quality knitwear	Tradition, history and experience.	Re-establishing the quality of the brand. Competition at lower quality end. Skills shortages.	Ensure industry works together. Branding for quality. Investment. Training programmes to retain existing and develop new skills. Encourage and support E-commerce applications.
<b>Decommissioning</b>			
<b>Opportunities</b>	<b>Strengths</b>	<b>Challenges</b>	<b>Actions</b>
Decommissioning of offshore structures	Geographic location in relation to Northern North Sea area of UKCS. Deep water berths. Oil & offshore service related skills. Previous experience with large oil engineering companies.	Environmental issues. Potential negative perceptions on other sectors. Price competition. Linkage with the large decommissioning contractors.	Designation of decommissioning sites. Support in winning projects/contracts. Attracting large contractors to base on-shore activities in Shetland. Ensure up to date environmental and decommissioning skills.