

## Notes and Comments

### *The Kelp Industry in North Knapdale*

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The second half of the eighteenth century saw the rapid transformation of Britain from a mainly agricultural country into one predominantly industrial. One consequence of this was a much increased demand for industrial chemicals which, coupled with the drastic cuts in foreign supplies brought about by, for example, the American War of Independence and the Napoleonic wars, led to the rapid development of the kelp industry. I recently made a survey of the general history of the industry and its social and economic consequences, but most of the information derives from the Hebrides and Orkney, and is of a rather general nature (Rymer 1974). Here it is proposed to examine the state of kelp manufacture in the mainland parish of North Knapdale on the west coast of Argyll towards the end of the eighteenth century, and to look at some details of the trade that are not covered in the general survey.

The northernmost boundary of North Knapdale more or less coincides with the Crinan Canal: the area is almost bisected by the sea-inlet of Loch Sween, and is further dissected by branches of this loch such as Linne Mhuirich. Particulars of kelp manufacture are available for the lands of Danna, Taynish and Ulva, which were then owned by Sir Archibald Campbell (d. 1791) of Inverneill (Inverneill Papers 1769-1928). Taynish is a long, narrow peninsula, while Ulva and Danna together form another peninsula, Danna being, in fact, an island connected to Ulva by a single road bridge. Considering the great length of coastline in relation to the land area, it is not surprising that kelp-manufacture became important there.

The earliest reference to kelp occurs in 1773 when Archibald Campbell of Danna, 'finding his affairs in disorder', was forced to sell his estate. At this time the industry was already well established in the Islands, kelp being sold for £5 a ton. However, in the rental of Danna we find that 'The kelp of Mid Town and New Town was sold summer 1773 at £7 strl. and it will sell at the end of every three years at that price' (IP Record Book, Folio 1st 1769-77:154). It is very unlikely that just over a ton of ash was produced, so it would seem that 'kelp' is being used (in the modern sense) as a synonym for sea-ware, the shores being let to independent contractors who arranged the collection and burning of the weed, and who reaped most of the profits. This seems to have been general practice in the area, for in the same year Major Donald Campbell let the sea-ware of Castle Sween and Kilbryde shores at £1 10s. od. p.a., or £4 10s. od. for the three-year period (*op cit*: 67).

The next cut of the Danna shores was not until the summer of 1776 (a three-year rotation being practised) when Neil Brown, change-keeper in Keills, paid £9 for them (*op. cit.*:182). The rent of the shores then showed a rapid increase and in 1782 John Stewart and Hugh McDougall paid £37 for the right of cutting the rock-weed. They manufactured 12 ton 12 cwt (Clyde weight)<sup>1</sup> of the ash, but Duncan Campbell, the Inverneill factor, was uncertain as to 'whether the necessary attention was paid to the manufacturing it by that CoY' (I.P. Letter book. Sir Archibald Campbell. 2 Nov. 1787, p. 77). At that time kelp-ash was worth about £6 a ton, so Stewart and McDougall would have collected at most £75, leaving £38 after deduction of rent. Production costs must have been kept low if they were to make a reasonable profit; yet in 1788, when kelp ash was still £6 a ton, Duncan Campbell told Lieutenant Archibald Campbell of Greenock that he was expecting 'Fourty pounds sterling . . . [for] the sea-ware on the Estate of Danna fit for kelp cuttable next summer' (IP Letter book on Sir Archibald Campbell's Business. 2 Nov. 1787:80).

As the industry became increasingly important, the people bidding for the shores came from further afield and increased in number. In 1788 the Danna shores were finally let to Messrs Angus & Neill Shaw and MacDougall and Co., of Lagg in Jura. It is worth quoting from their contract, as it is the only one surviving in the papers. The company were given

Full power . . . to Cut and Manufacture during the ensuing Summer the whole sea-ware fit for kelp, . . . with Liberty for that purpose to erect and use Kills and pits and take Turff and stones for the same upon and from the said shores and nearest Ground thereof beyond the highest Tide of flood on the same for Manufacturing and securing the said Kelp properly you always committing thereby the least damage possible to the ground . . . and carrying off the said Kelp from the same before the first day of November next (*op. cit.*:95, 96).

Under normal conditions a good crop of seaweed took three years to grow, and the crop was sold as soon as it became ready for cutting. In 1790 the factor decided to change this system. He proposed that, instead of selling each area of kelp as it became suitable for cutting, he would give a lease of the shores of the whole Estate (Taynish and Ulva as well as Danna) for nine or twelve years. Consequently, in August 1790 Duncan Fisher, merchant at West Tarbet, was offered the lease of all the sea-ware on the estate 'which is cuttable in hags at 3 years age and affording a cut every year after Whitsunday next including a cut for summer first' for a yearly tack duty of £50. As 'overtures for the kelp shores are daily made' he was warned that if he wanted to become lessee of that 'valuable subject' no time ought to be lost in placing his offer (IP Letter book. Sir Archibald Campbell. 11 Jan. 1790:24). So far as the papers reveal Duncan Fisher made no offer; nor did anyone else. But it may be that offers were made and rejected, because between 1790 and 1791 the price of kelp ash increased from £6 to £9-£10 a ton. At any rate, in May 1791 Sir James Campbell was told that the sea-ware of Danna had been sold to the tenants for £44; the tenants of Taynish had paid £44 for the seaweed on that estate; and the ware on Ulva and Knap shores was expected to fetch

£16 and £12 respectively (IP Letter book. Sundries. 30 Aug. 1790:60). This was considered a more beneficial measure than 'employing undertakers to manufacture it, unless a person resided on the lands to superintend them daily'. As the Ulva shores were not let, Alexander McNab of Ulva 'engaged hands meal and tools' for manufacturing its kelp on behalf of Sir James, second of Inverneill (IP Letter book. Sundries. 30 Aug. 1790:70). He produced 10 tons 3 cwt which was sold at £4 10s. a ton with a further 2 tons 18 cwt described as 'not marketable' and presumably of low quality (IP Stated Accounts. Sir Archibald Campbell 1784-88:iv.55). The ash made on Danna in that year was sold at £5 9s. a ton and fetched the same price in 1793. By 1794 the price had risen to £5 15s. a ton and in 1798 the kelp manufactured was sold at £7 17s. 11½d. a ton (*op. cit.*:iv. 55, 121, 243). But even this 1798 price was significantly below the £10 per ton being paid for kelp manufactured in the Islands (Rymer 1974).

This difference in price between kelp produced in Knapdale and that produced in the Islands may well be a result of the smaller quantities of ash produced on the mainland and the greater effort and inconvenience required by the purchaser to go and collect it. On the other hand, it may simply reflect the fact that, at this time, there were many available outlets for the ash, each requiring different quantities and paying different prices. This contrasts with the situation at the end of the nineteenth century and in the early part of this century, when only two companies were in the market: the British Chemical Company, Limited, of Glasgow bought all the ash manufactured in the west of Scotland while Messrs Fairlie of Falkirk purchased all the kelp manufactured in Orkney (see AF 40/73). I have been unable to determine the final destination of the Knapdale product, but it probably varied from year to year. Thus in 1791 about 20 tons were offered to John Stevenson, merchant in Oban, who was already the owner of kelp that had to be shipped from the Oib Campbell Estate in Knapdale (IP Letter book. Sundries. 30 Aug. 1790:129). The same year Duncan Campbell enquired of James Campbell of Bolton Lemoor, near Liverpool, whether there was going to be any demand for 'kelp or Highland wool, clean or laid with tar at Liverpool Manchester Leeds, or any of the manufacturing towns in your neighbourhood'. A letter of similar import was sent to Richard Paley Esq., a merchant in Leeds (IP Letter book. Sundries. 24 Sept. 1792:239, 242). The coupling of kelp and wool is not as strange as it may seem, for the woollen industry would use large quantities of soap for cleaning, and kelp was important in the manufacture of soap.

Of especial interest are the detailed accounts of kelp manufacture given in the Taynish rent roll for 1794 which includes a full and detailed breakdown of the cost of manufacture and shipping of the ash, and enables an estimate to be made of the number of people taking part in the industry in this area (Rent Roll book of the Estates of Taynish, Ulva and Danna 1794). Table 1 lists the amount of kelp produced in each division of the Taynish Estate cut that year. The manufacture was carried out on behalf of Duncan Campbell. The Scottish, Kilmory and Taynish divisions are rather unusual in that they were on a four year rotation. A total of 31 tons 4 cwt 24 lb of ash were made 'but

rendered on delivery at Glasgow including  $\frac{3}{4}$  ton of a very small kelp' 31 tons 4 cwt 48 lb (Clyde weight). This was sold at £5 15s. per ton, realising £179 10s. 3d. Table 2 then shows the deductions made against the price received. All items are self-explanatory except, perhaps, for the 'Clatters', the kelp irons, implements used for stirring the burning ash. The largest single item is £71 11s. 4 $\frac{1}{4}$ d. for the wages of the labourers.

TABLE I

*Details of Kelp manufactured on the Taynish Estate in 1794*

	tons	cwt	lb
Scotnishes: 'wreck 4 years old', manufactured by Donald Munro	6	8	48
Kilmory: same age, manufactured by Malcolm McLean	5	12	72
Taynish: as Kilmory	8	16	96
Barnashallag, Barbreck, and North Ardbeg: 3 years old, manufactured by Dugald Graham	10	8	48
Total	31	4	24

TABLE 2

*Cost of manufacturing 31 tons of kelp on the Taynish Estate in 1794*

	£ s. d.	£ s. d.
Freight at 10s. per ton	16 0 0	
Tonage	1 10 0	
Custom House Fees	10 0	
Commission for sale	4 8 0	
Discount of $\frac{3}{4}$ ton small kelp at half price	2 3 1	
	<hr/>	24 11 1
To 30 sheeting hooks	11 3	
To 1 cwt good rope	2 7 6	
To wages of hands manufacturing	71 11 4 $\frac{1}{4}$	
	<hr/>	74 10 1 $\frac{1}{4}$
To 12 stone iron for Clatters	2 8 0	
To smith for making same	18 4 $\frac{1}{2}$	
	<hr/>	3 6 4 $\frac{1}{2}$
		<hr/>
Free proceeds		102 7 6 $\frac{3}{4}$
Free proceeds	£77 2s. 8 $\frac{1}{4}$ d.	

An examination of various account books suggests that a man received 6d. for one day's work, and if this was the case for kelp labour, simple arithmetic shows that about 2,860 man days went into the production of about 31 tons of kelp, or that 90 man days were required to produce 1 ton of kelp. This would appear to be a very low productivity, but when one considers that 20 tons of wet seaweed were required to produce one ton

of ash; that the seaweed had to be cut from the rocks on which it was growing, gathered, dried, placed in pits dug in the ground and burnt, the estimate does not seem too outrageous, and it does go some way to explain the profound social consequences of the industry (Rymer 1974). As in any one year (*e.g.* 1791) kelp might be manufactured on Danna, Taynish, Ulva and Knap—and the rents received suggest Danna produced a similar amount of weed to Taynish, with Ulva and Knap together producing about half as much as Taynish—it can be seen that a considerable portion of the work-force must have been involved in the industry. Of course, not all the tenants were working at the kelp every day of the season. In the rent roll for Old Ulva, 1796, we find the entry 'By work at Kelp summer last per folio 1st kelp book 18/-', showing that at least one tenant put in 36 days work at kelp. Unfortunately, none of the kelp books appear to have survived, so it is impossible to gain any clear idea of the total number of people involved, or the effect that this industry might have had on agriculture. It is interesting to note, however, that in 1791 Sir Archibald Campbell was writing that his estates in the parish ' . . . abound with more inhabitants than sufficient employ can be had for,' (IP Letter book. Sundries. 30 Aug. 1790: 171) and that in 1792 the population of Taynish, Ulva and Danna amounted to 632, 330 of whom were under the age of 16 (IP Letter book. Sundries. 24 Apr. 1792: 143).

No reference to the kelp trade has been discovered in the estate records later than 1798. John Leyden, who visited the area in 1800, mentioned that 'On the shores of Knapdale . . . the manufacture of kelp has been carried on to great advantage', but there is no reference to the industry in the parish entry dated 1844 in the *New Statistical Account* of 1854. One can only suppose that it was discontinued sometime after 1822 when, for a variety of reasons, there was a sudden and drastic fall in the price of the manufactured ash (Scott 1914: 173, 174). In the Islands the industry was able to recover, because of plentiful supplies of iodine-rich drift-weeds, but the rock-weeds of Knapdale and other mainland areas were suitable only for the production of alkali salts which were in plentiful and cheap supply from other sources.

The decline of the industry must have had some effects on the parish economy, but there seems to be no evidence to show how great they were. The population of the parish began to decline in 1821, and even more rapidly after 1831, but this is just as likely to be associated with agricultural depression as with the demise of the kelp industry. The economy of the parish seems to have remained basically agricultural throughout the period considered here, and the profits made were in no way comparable with those made on some of the Island estates.

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## NOTE

- 1 According to a note in the Rent Roll, Estate of Ulva 1776, one ton of kelp weighed 2,520 lb. on the Clyde, 2,408 lb. at Liverpool.

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