

N.B. preliminary version and incomplete: all comments welcome. Liam Kennedy

‘The Trees and Woods having been so much destroyed in Ireland, as heretofore we have shewed, and consequently wood for firing being very dear in great part of the land, the inhabitants are necessitated to make use of other fuel, viz. of Turf, and of Sea-coals.’

Gerald Boate, *Irelands Naturall History* (London, 1652).

## “THE PEOPLE’S FUEL”: TURF IN IRELAND IN THE 19<sup>TH</sup> and 20C CENTURIES\*

### **Introduction:**

The role of turf or peat in Irish national development is, to say the least, controversial. Robert Kane, writing in the mid-nineteenth century, envisaged a major contribution to economic growth and welfare from this natural resource. More than a century and a half later an edition of the Irishman’s Diary in the *Irish Times* consigned turf to the rubbish heap of national fantasies: “Once upon a time, we built a state around the concept of a Gaelic-speaking, peat-fired economy, and then stood on our quaysides bidding tearful farewells to our young people.”<sup>1</sup> Recent historical scholarship seems to concur, at least as far as the industrial exploitation of turf is concerned. O Grada believes that turf was given “every opportunity to prove itself as an industrial fuel during the nineteenth century, and it failed”.<sup>2</sup>

The focus of this paper, however, is on turf as a source of heat and energy for households. Arthur Young was one of the earliest to observe the benefits conferred on Irish cottiers by virtue of easy access to home-produced fuel, as compared to the English labourer shivering in his cottage and dependent on purchased coal.<sup>3</sup> The subsistence crops of potatoes and turf constituted the

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\* These are first thoughts towards the writing of a draft of the paper.

<sup>1</sup> Kevin Myers, “An Irishman’s Diary”, *Irish Times*, 7 March 03.

<sup>2</sup> Cormac O Grada, *Ireland: A New Economic History, 1780-1939* (Oxford, 1994), p. 324.

<sup>3</sup> Arthur Young, *Tour of Ireland*.

mainstay of living over much of Ireland before the Famine, and indeed were important for long afterwards.

Some of the questions addressed here include the quantity of turf burned by the typical household in a year, the national output of turf, market valuations of turf output and the course of prices over time relative to the cost of living and relative to coal, the principal substitute fuel. The significance of turf in terms of agricultural and national income are briefly mentioned.

### **Turf Production and Consumption:**

There are various impressionistic accounts of the quantity of turf used by rural households in the early to mid 19<sup>th</sup> century, though these are far from plentiful, and of course the quality of the turf inevitably varied within a particular bog and between bogs.<sup>4</sup> Only one source, to my knowledge, gives hard evidence on the amounts actually saved. This is from the Coolattin estate in County Wicklow and relates to the late 1850s.<sup>5</sup> A preliminary analysis of these account books suggests wide variation in the amounts of turf saved, with 40 kishes per annum being the median figure. This plunges us at once into the awkward issue of once popular but now obscure measures, based on volume rather than weight. No doubt there were kishes and kishes, depending on the part of the country one is talking about. Wakefield suggested the dimensions of a kish were (4x2x3) feet or 24 cubic feet. McEvoy's estimate was a little higher at a cubic yard (27 cubic feet), though this seems to refer to a heaped kish, so the two estimates may well be very close. Estyn Evans provided photographic evidence on the size of a kish, with dimensions that implied a kish equalled 22 cubic feet. As archaic measures go, the range of values is reassuringly narrow. On balance, Wakefield's estimate may be the one to be preferred. Again on the basis of information supplied by Wakefield, it is possible to calculate that a kish weighed 444 lbs or almost exactly 4 hundred weights (of 112 lbs each). There is nothing that can be done in relation to the problem of variations in the quality of turf, in view of the absence of any price data for the estate.

Forty kishes would imply the production and consumption of 8 tons of turf per household per annum, on the above assumptions. It might be reckoned that standards of firing, as with other items of consumption, were somewhat

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<sup>4</sup> Poor Law Report, 1836; Ordnance Survey Memoirs; and earlier in the century some of the county statistical reports compiled by the Dublin Society. These may be viewed as providing guess-estimates, at best, by contemporaries of a higher social standing.

<sup>5</sup> Coolattin, Turf Account Book, 1859-60, N.L.I., Ms 4897.

lower before the Famine. On the other hand, for most households the amount of turf available to it depended almost exclusively on two factors: weather conditions and household labour. Labour was more rather than less plentiful before the Famine. Still, the standard of housing, including the number of hearths, was higher circa 1860 as compared to some decades earlier and housing on the Coolattin estate was probably better than in the western parts of the island. Much of the poorest housing on the estate had been pulled down during and after the Famine. So, it may be that 8 tons per household is a bit on the high side for the first half of the 19<sup>th</sup> century for Ireland as a whole. Perhaps 6 or 7 tons per household is nearer the mark.

Some similarly crude forms of estimation help to paint a picture of the output and consumption of turf on a countrywide basis. Here we can exploit the fact that turf was an almost pure subsistence good – even more so than potatoes – with most of the produce destined for home consumption or locally circumscribed markets. The high volume to value ratio made turf an unattractive commodity for sale in the context of the transport technology of 19<sup>th</sup> century society. If 90% or so of turf was for own or highly localised consumption, as seems likely, then the principal determinant of turf production was a demographic factor, that is, the number of households in rural and village Ireland.

Most rural households used turf, as did town dwellers in Galway, Limerick, Thurles and Clonmel.<sup>6</sup> In view of the rich boglands stretching across the central plain of Ireland, it seems reasonable to conclude that turf was widely available in the towns of the Irish midlands as well as of course in the countryside.<sup>7</sup> The east coast towns seem to have depended primarily on coal, most of it imported in view of the limited production from the Irish collieries at Castlecomer, Ballycastle and Coalisland. The completion of the Grand Canal brought limited quantities of turf to Dublin, in the region of 30 to 40,000 tons in the 1840s, but this would have catered for only a fraction of Dublin's fuel needs. On the assumption that 65 to 70% of households in Ireland burned turf, and that each household used 6 or 7 tons of turf per annum, we arrive at the following estimates (Table 1):

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<sup>6</sup> This claim is based on the use of turf by Franciscan houses in these towns (Franciscan Account Books Killiney, Co. Dublin).

<sup>7</sup> Athlone, for example, used turf as its main fuel into the 1950s. I am grateful to Frank Young, of Teagasc, for this information.

Table 1. Estimated Turf Output and Consumption in 1801, 1845 and 1851.

	1801 (‘000)	1845 (‘000)	1851 (‘000)	1926 (‘000)
Population	5,000	8,400	6,516	
Households	909	1514	1207	
Households 1	614	1022	784	
Turf Ouput	3,989 tons	6,641 tons	5,098 tons	3.6m

*Note:* assumptions: a mean household size of 5.5 in 1801, 5.55 in 1845 and 5.4 in 1851; Households 1: 67.5% of Irish households were turf users in 1801 and 1845, and 65% in 1851; each turf-using household consumed 6.5 tons on average in each of these years. 1926 IFS only.

In the first half of the century the trend in turf production and consumption was undoubtedly upwards, as the numbers of households multiplied. This must have been true also of the 18<sup>th</sup> century, especially during the period of vigorous houshold formation from the 1740s onwards. In round figures, and taking values at mid-range, the information in Table 1 would suggest the production of some 4 million tons of turf about the time of the Act of Union, a massive 6.6 million tons on the eve of the Famine, then falling to 5 million tons by the end of the Famine at mid-century. The trend after 1846 was inexorably downwards as households and hearths were extinguished through death, migration and emigration. The effect of demographic change was reinforced by economic forces. Coal was making inroads into urban Ireland and its hinterland. Thus we find, for instance, markets not only for turf but for coal in turf-rich, inland areas such as Strabane and Omagh in the 1880s.<sup>8</sup> The penetration of the countryside by coal imports is not known in any detail<sup>9</sup> but was aided by developments in road, rail and sea transport. Cost-reducing innovations in the coal-mining industry also meant that competitive pressures were unrelenting. It is likely that the decline in the

<sup>8</sup> See market reports in the Belfast Newsletter for the 1880s which quote prices for imported coal.

<sup>9</sup> That is, by the writer! Need to look at coal imports.

production of turf was moderated to some extent by rising standards of comfort and the more extensive cooking of foodstuffs for animals – maize in particular – on the part of turf-burning householders.

Still the remarkable fact is the resilience of turf. When the Irish Free State produced estimates of turf production for the first time, for the year 1926-27, the aggregate output was 3.6 million tons.<sup>10</sup> The inclusion of hand-won turf from Northern Ireland, for which no figures appear to be available, would edge this total up still further but not by very much. This suggests a decline in output of the order of less than a half between 1845 and 1927. This was actually less than the decline in population over the same period and so hardly represents an easy victory on the part of King Coal.<sup>11</sup>

Falling output there was of course, as the numbers indicate. But the decline was of a largely invisible kind. Landscape painting in Ireland, from Paul Henry to John Luke, gives not a hint of the gradual retreat of turf, while sentimental ballads from the Old Bog Road to Johnny Cash's 'Forty Shades of Green' perpetuated the image of a turf-burning people. The paradox is easily resolved by distinguishing between aggregate production and production per household. The fact is that most rural households, and many in the villages, still used turf rather than coal or wood up to the early 1950s. But this picture of continuity, with roughly constant levels of turf production per *household* in the traditional turf-burning regions, obscured the reality that more than a half million households and hearths had disappeared under the pressure of economic, social and demographic change.<sup>12</sup> Change was much more noticeable at the aggregate rather than the household level, which seems to be a characteristic of subsistence-type production.

The output of turf of 3.6 million tons in 1926-27 may be compared with an import of 1.8 million tons of coal into the Irish Free State in 1926, and

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<sup>10</sup> *Irish Trade and Statistical Bulletin*, XXVII (Dublin, 1952), p. 161. [Question: presumably the Gardai collected this information? If so, I wonder how reliable it is? Estimating a weight of turf is not like counting the number of cows on a farm.]

<sup>11</sup> The population of the island of Ireland fell by exactly 50% between 1845 and 1926, the number of households by the lesser amount of 37% (households were becoming smaller over time), and turf production and consumption by 46%. An allowance for turf production in Northern Ireland in 1926 would knock a percentage point or two off the last figure. [Later: Compare also relative to the decline (%) in the numbers of houses, 1845-1927.]

<sup>12</sup> On the basis of the figures presented here – some assumed – the average output of turf per household works out at 4.4 tons in 1845 and a bit under 4 tons in 1926 (all-Ireland). If even roughly correct, the decline in turf production and consumption at the household level was a remarkably gentle one in the century after the Famine. [Some coal figures wouldn't go amiss at this point, as a check on this conclusion, making due allowance for non-domestic uses.]

valued at £3.4 millions.<sup>13</sup> The official valuation of turf production in 1926-7 was £3.3 millions, a virtually identical value. As a significant proportion of the coal must have been destined for non-domestic use, in industry, on the railways and in public institutions, it follows that the dominant domestic fuel was still turf in the 1920s. For some years during the Economic War, and much more importantly during the Second World War, the rising tide of coal imports was reversed, as turf advanced relative to coal in supplying the domestic fuel market. The major retreat of turf as a domestic fuel was after World War 11.

## ENERGY PRICES

Unlike the case of coal, turf was a weakly traded commodity. It is, therefore, not easy to get prices for turf from conventional sources such as market reports in local or regional newspapers. The immaculately-tabulated agricultural statistics of Ireland, collected on an annual basis from 1846, also seem to have overlooked the humble turf harvest, notwithstanding the importance of saving fuel within the cycle of the farm year. Yet it is possible to sketch the outlines of a price history for turf from some unconventional sources: the account books kept by Franciscan Houses in Ireland. This is not the place to discuss these sources in any detail. Suffice it to say that some Franciscan Houses bought turf, along with a host of other commodities, during the course of the 19<sup>th</sup> century, and kept records of varying degrees of usefulness to the historian. There is no reason to believe that these institutions bought below the market price. Even if this were the case, fluctuations and trends in prices should still prove revealing.

Only parts of these accounts have been worked as yet, and there are some frustratingly large gaps as well as incomplete information at times, so only a limited amount can be said at this stage. There are two annual series for Galway city for the period before the Famine, 1793-1809 and 1829-1842. Unfortunately the former relates to price per kish and the latter to price per boatload of turf (at Galway quays), so no links are possible, at least at this stage.<sup>14</sup>

These fragments of price data do throw light on one especially important point. It might be thought, in a variation on a Malthusian theme, that a

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<sup>13</sup> Thom's Directory of Ireland, p. 535. [Check out SA: hard to believe so low. Untypically low year: lk]

<sup>14</sup> [It may eventually prove possible to link the two series, making inferences from coal prices, with the aid of estimates of British Thermal Units per penny spent on each type of fuel.]

rapidly expanding population before the Famine would have pressed heavily on fuel resources, pushing up the price of non-renewable resources like turf. If anything, the trend in the real price of turf (nominal price deflated by a cost of living index) was mildly downwards during the French Wars (up to 1809).<sup>15</sup> For the second price series (1829-42), which brings the series close to the eve of the Famine, there is no indication of a trend either way in the real price of turf. This would suggest that in these vital decades the population of Ireland was not in danger of outstripping its fuel resources.<sup>16</sup>

Production and price data are richer for the later 19<sup>th</sup> C and the twentieth centuries.

Comment on 20<sup>th</sup> C: see relevant diagram. It is reassuring to see that turf prices broadly conform to what one might expect in relation to the energy market in Ireland. Though a subsistence commodity (before the advent of Bord na Mona after WW 11), it seems that turf prices were shaped by international market forces, particularly by the price of coal.<sup>17</sup> We can see also that the remarkable surge in the price of oil, and other primary commodities, in 1973-74 and again in 1979-81 are also mirrored in Irish turf prices. It is unlikely that the price of oil internationally was driven by turf prices in Ireland.

## CONCLUSION

Any conclusions to this work of historical detection must be tentative at this stage but the following seem warranted, at least on the basis of the evidence and assumptions being made so far. Turf remained the major fuel resource of Irish households from the 17<sup>th</sup> to the mid-20<sup>th</sup> century. The production of turf expanded vigorously, in step with population, through the 18<sup>th</sup> century and up to the eve of the Great Famine. There are no sign of problems of depletion as we approach the Famine, at least in the price data for Galway city. On any reasonable assumption regarding the price of turf in the 1840s,

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<sup>15</sup> The cost of living index is from Liam Kennedy, 'The Cost of Living in Ireland, 1698-1998' in David Dickson & Cormac O Grada eds., *Refiguring Ireland: Essays in Honour of L.M. Cullen* (Dublin, 2003).

<sup>16</sup> One presumes there was pressure in some localities – perhaps particularly where bog resources were limited and the possibility of the commercial exploitation of turf existed – as is reported from a small number of places in the West of Ireland in the 1890s by the Congested Districts Board. See also Robin Fox, *Tory Islanders*.

<sup>17</sup> [Have collected twin observations of coal and turf prices for market towns in West Ulster for the period 1885-1925 but haven't as yet tested the relationship statistically. A visual reading of the data wd suggest the two series were correlated.]

it is clear that turf made a significant contribution to agricultural output and the welfare of the rural population.

Once the Famine struck the output of turf went into longrun decline. This decline was especially marked after 1950. However, in the century after the Great Famine, it is perhaps the resilience of turf production and consumption that is most striking. While overall turf production declined, as did rural population, production per household registered only a mild decline.

This is all the more remarkable in that there is little evidence of technical change since the 17<sup>th</sup> century in the winning of turf from the environment. The contrast here with coal, which enjoyed streams of cost-reducing innovations, is striking. Presumably the persistence of turf, and of other forms of subsistence production, was in large part a function of underemployment in the countryside and the low opportunity cost of family labour.

It would be interesting to compare trends and fluctuations in the price of subsistence goods like turf and potatoes with those of heavily marketed commodities of an agricultural or industrial kind. I suspect there are different patterns of price behaviour as between these two *categories* of economic goods.<sup>18</sup>

There are insufficient data as yet to form an impression of the extent to which fuel shortages coincided or did not coincide with food shortages. However, the 1793-1809 price series does allow us to say that during the severe subsistence crisis of 1800-01 fuel poverty was not an issue. Turf prices were exceptionally low in these years. It would be particularly useful to find a turf price series for the period of the Great Famine (though we do know from other sources that there was a coincidence of food and fuel shortages in 1847) and the agricultural downturns of 1859-64 and 1876-79.

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## COMPARING COAL AND PEAT PRODUCTION

The completed paper - missing section - compares the economic history of coal and peat in Ireland, seeing the hand production of turf as exhibiting the features of natural economy (and hence incompatible with either long-run or

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<sup>18</sup> Rem JD Gould's discussion of wheat prices and production in pre-industrial times.



short-run economic growth): little specialisation of labour, little or no production for the market, a stagnant technology across several centuries, a "sector' lacking internal or external economies of scale, etc. In effect, both an exemplar and metaphor for the kind of economic underdevelopment that characterised much of human history over the millennia.

## CONCLUSION

In the making!

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Turf and Coal Prices, 1883-1903

