THE DEVELOPMENT OF THE DAIRY INDUSTRY IN COUNTY WATERFORD

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Introduction
The takeover, in 1992, of most of the former Express Dairies operations in Ireland has made Waterford Co-operative Society (through its subsidiary, Waterford Foods) the largest corporate entity in the Irish dairy industry. The emergence of a Waterford-based dairy co-operative to pre-eminence in the Irish dairy industry may appear, at first glance, to be anomalous, in that county Waterford has always been (and remains) on the margins of the country's premier milk production region, centred on the Golden Vale of Limerick and Tipperary. In addition, in comparison to the latter region, the dairy co-operative system in Waterford was quite late in getting off the ground.

In tracing the evolution of the dairy industry in county Waterford over the last one hundred years, this chapter seeks in particular to identify the key developments which paved the way for the industry's contemporary national prominence. The chapter begins with a brief historical background to the emergence of the industry in Ireland generally, before tracing the far-reaching impact of the introduction of both the creamery and co-operative systems in the late nineteenth century. The chapter then focuses on Waterford, looking at the early geography of dairying in the county and the initial growth of co-operatives prior to the First World War. The steady progress made by the industry in the decades immediately before and after the Second World War is then outlined. The major changes which transformed dairying in Waterford from the early 1960s are next examined, with particular reference to the emergence and expansion of Waterford Co-operative Society. The chapter concludes with some observations on the current prospects for the industry at a time of great instability and change.

Early development of the Irish dairy industry
In the 200-year period between 1650-1850, Ireland emerged as probably the world's leading exporter of dairy produce (especially butter). A number of factors were responsible for this, including a climate conducive to pastoral agriculture, restrictions on live cattle
exports which encouraged an orientation towards the provisions trade (mainly salted meat and butter); and access to the British domestic and colonial markets. Within Ireland, dairying was to become particularly important in a region encompassing most of Limerick, north Cork and much of Tipperary, focussed on the so-called ‘Golden Vale’. The considerations influencing this spatial concentration included heavy soils, not particularly suited to tillage, a long grass-growing season, proximity to the principal trade routes between Britain and America, and an agrarian structure of medium-sized farmers who could make a better living from more intensive dairying than from drystock rearing.2

Butter was made by the farmers themselves on their farms and was packed into special barrels known as firkins which were normally sold at local butter markets. These were then resold at the main ports prior to export. Two ports – Cork and Waterford – dominated the butter export trade, which towards the end of the nineteenth century switched dramatically away from the American colonies to Britain itself. In 1800, the British market accounted for 95 per cent of Irish butter exports, of which just over one-half passed through Cork and one third through Waterford.3 While counties Cork and Limerick were primarily served by the former port, Waterford's hinterland encompassed the Suir, Nore and Barrow basins, including Tipperary, east Waterford, most of Kilkenny and part of Wexford.4

The Irish dairy industry reached a peak in 1821, but then declined slowly throughout the rest of the century as Irish farmers switched increasingly to drystock production. This was due mainly to better prices for the latter, but also to a declining ability on the part of Irish butter producers to compete on the British market in the face of growing penetration from Denmark, where the industry was better organised in terms of both quality and continuity of supply.5

Development of the creamery system in Ireland

Although the Irish dairy industry experienced a decline in the late nineteenth century in terms of cow numbers and butter output, it nevertheless underwent profound organisational changes in this period. These derived directly from a single technological innovation, the centrifugal separator, which allowed much faster and more thorough separation of cream from milk, but which required centralisation of the separation in mechanised plants which became known as creameries. The centrifugal separator was developed in Germany in the early 1870s, and the first creamery incorporating the new technology to be established in Ireland was opened in Hospital, county Limerick, in 1884.6

While the dairy industry in Ireland today is almost exclusively associated with farmers' co-operatives, in fact, in the early decades of the creamery system, privately-owned creameries were very much to the fore. The first co-operative creamery was set up in Drumcollogher, in county Limerick, in 1889. The establishment, in 1894, of a national organisation, the Irish Agricultural Organisation Society (I.A.O.S.), to promote co-operative development heralded a major spurt of growth in the number of co-operative creameries. By 1905, some 250 were in existence even then this was less than half the number of private creameries.

The new system required the individual farmer to deliver milk daily to the creamery. This created an entirely new social interaction pattern in much of rural Ireland, as farmers were afforded a daily opportunity to come together and discuss current affairs. While much of this consisted of nothing more than gossip and idle chat, these daily meetings also became an important mechanism for the diffusion of information regarding market conditions, prices, and technology.

Given the transport difficulties of the time, and the fact that a large number of suppliers was not required to support a separator, many central butter-making creameries were linked with outlying auxiliary creameries whose function was to separate cream from the milk of suppliers in the immediate hinterland. This cream was then transported to the central creamery for processing into butter, thereby saving substantially in transport costs. In many cases these auxiliary creameries were independently owned, but more commonly they were subsidiary branches of the central creamery.

The dairy industry in Waterford in the late nineteenth century

In Waterford, the dairy herd (milch cows plus heifers-in-calf) declined even more rapidly than in the country as a whole in the second half of the nineteenth century. And, with the county’s herd of non-dairy cattle increasing more quickly than nationally, dairy cows dropped from over one-half of all cattle to only one-third between 1861-1901. However, Waterford was still an above-average producer of dairy produce, with 12.3 dairy cows per one hundred acres of agricultural land in 1901 compared with a national average of only 9.4.7

Within Waterford, significant spatial variations in the development of the dairy industry were apparent in the late nineteenth century. In the area around Dungarvan, and stretching north towards Clonmel, the density of dairy cows per 100 acres of agricultural land was up to 50 per cent higher than in the western extremities of the county, contiguous to county Cork. In the eastern part of the county, dairy cow densities were generally close to the overall county average.

A number of factors may be elicited to explain this pattern of dairy density, which has persisted throughout the twentieth century (figs.
28.5, 28.6). In the first place, the greatest concentration of dairying in the county coincides with a zone of relatively smaller farms in the vicinity of Dungarvan (fig. 28.1). It is a general feature of Irish agriculture that smaller commercial farmers tend to specialise in more intensive agricultural enterprises, especially dairying, while larger farms are more oriented towards beef production. The greater relative importance of dairying in the east than in the west of the county (farms being larger in both areas) may be attributable, in the first place, to the historic importance of the butter trade through Waterford port and the demand for liquid milk in the city and, in the second place, to an extension into west Waterford of the distinctive agricultural economy of east Cork, with its greater relative emphasis on tillage (in particular) and dry stock. 8

A particular feature of the dairy industry in Waterford in the late nineteenth century was the low level of development of the creamery system. In 1905, Waterford contained only 20 creameries in all, compared with 112 in Limerick and 121 in Tipperary. Thus, the latter counties, each with approximately two-and-a-half times the number of dairy cows as Waterford, had between five and six times the number of creameries. This indicates a much stronger adherence to traditional on-farm buttermaking techniques in Waterford than in the dairying heartland. However, it would be incorrect to regard Waterford as being unusual in this respect: in 1906, only one third of the manufacturing milk produced in Ireland was processed in creameries, the remaining two thirds of processing being carried out on farms. Also of note at this time was the very limited development of co-operatives in the creamery system in Waterford. Of the 20 creameries in existence in 1905, only three (15 per cent) were co-operatives. In both Limerick and Tipperary, one quarter of all creameries were co-operatives. 9

Gaultier Co-operative Creamery, established in 1894 to serve the eastern extremity of the county (fig. 28.3), would appear to have been Waterford's pioneering dairy co-operative, and had 69 members in 1905. A co-operative creamery was next established at Ballinamult in 1895, with about 60 members. Following reorganisation, this re-emerged as Knockmeal Co-operative Creamery (fig. 28.3) in 1907. The third co-operative listed in the 1905 Agricultural Statistics had been established at Ballyduff in 1903, but appears to have gone out of business shortly afterwards.

The early twentieth century

In the first twenty years of the 20th century, there was a significant increase in the national dairy herd, both absolutely, and relative to the total number of cattle in the country. However, in Waterford the dairy herd actually declined in this period. Thus, Waterford's marginal position in Ireland's dairy industry was further emphasised. However, there were some further developments in the co-operative sector. In 1914, the Blackwater Valley Co-operative Agricultural and Dairy Society was established in Cappoquin, and functioned as an independent auxiliary to Knockmeal, while in 1916 Kilmadean Co-operative Creamery commenced operations in the east of the county (28.3).

Nationally, the early years of the century were a period of rapid growth in the dairy co-operative movement, with the total number more than quadrupling from 85 to an historic peak of 346 between 1897 and 1916, although there was a slight decline (to 339) by 1918. Waterford's four co-operatives in that year contrasted sharply with Tipperary (55), Limerick (53), Cork (28) and Kilkenny (24).

The first two decades of the century also witnessed a decisive shift in the balance of power in the dairy processing industry between co-operative and private creameries. From a peak in 1905 when there were 537 privately-owned creameries (as against 254 owned by cooperatives), there was a continued decline to a figure of only 180 in 1920 (by which time the number of co-operative creameries had grown to 530). Unfortunately, after 1906 the Agricultural Census ceased to publish detailed county data on creameries, so it is not possible to say how the private sector fared in Waterford in this period.
The inter-war years

Although the dairy industry nationally experienced very difficult conditions in the 1920s, there were nevertheless some significant developments in Waterford, with the entry of four further co-operatives into the creamery business. In terms of its long-term implications, undoubtedly the key development was the establishment, in 1921, of Dungarvan Co-operative Creamery. It is remarkable that no co-operative had been established before then in what was the country’s premier dairying region. This may be related to the existence of a well-established private operation in the town (Shandon Dairies), which in the early 1920s employed almost one hundred workers and, unusually for the time, manufactured both milk powder and cheese as well as butter.

It is equally remarkable that Dungarvan Co-operative Creamery should have been established in the midst of a major economic slump between 1920 and 1921 alone, the price of milk dropped by some forty per cent. In addition, the country was racked by political unrest at the time, and many creameries had been damaged or destroyed by the British security forces. Dungarvan Co-operative Creamery was founded by just thirteen initial members, although the total had risen to sixty-six within a year. The decision to establish the society is reputed to have arisen from a dispute over milk prices with Shandon Dairies. It is clear from the membership of the pioneering committee that the co-operative was initiated by very substantial farmers in the area. The co-operative began both creamery and store operations off Grattan Square in Dungarvan, on a site backing onto Shandon Dairies. In 1924, branches were established at Old Parish, Grange and Clashmore (fig. 28.3).

Elsewhere in the county, in 1922 a creamery was opened in Ballymacarbry under the name 'Nire Valley', and operated initially as an independent auxiliary to Knockmeal, although subsequently it became an integral part of the latter society. In 1924, the Stradbally and Comeragh Valley Co-operative Agricultural and Dairy Society, originally founded in 1919 to operate an agricultural store, established a creamery at Durrow, with a branch subsequently being set up at Mahonbridge (fig. 28.3). In 1926, the Rathgormack Co-operative Agricultural and Dairy Society (which had also initially been established in 1919 to operate a store, based at Carrick-on-Suir) opened a creamery at Millvale, five kilometres to the west of Carrick-on-Suir. Another branch was built soon after at Rathgormack and another (at Mothel) was taken over from the Dairy Disposal Company (established in 1927 to rationalise the creamery industry by taking over privately-owned creameries and insolvent co-operatives and either closing them down or transferring ownership to other co-operatives). In 1931, the store and dairy activities of the Rathgormack society were divided into separate societies, with the new dairy society being named Millvale (fig. 28.3).

In the meantime, Kilmeaden Co-operative had expanded substantially, opening branches at Ballydum, Carroll’s Cross, Kill and Cullen Castle, while Knockmeal had opened a branch at Scarbridge (fig. 28.3). By 1930, therefore, most farmers in the county were within reasonable reach of a co-operative creamery installation. Nevertheless, as late as 1930, less than half (46 per cent) of dairy cows in Waterford were to be found on farms supplying milk to creameries, in marked contrast to Limerick (96 per cent), Tipperary (87 per cent) and Kilkenny (75 per cent). Thus, traditional forms of milk processing were still dominant in the county. The extreme west of the county, in particular, was completely devoid of creamery coverage, being described by the Horace Plunkett Foundation as a 'desert', where ranching and home butter-making were prevalent.

Figure 28.2 indicates the relative sizes of the different co-operative creameries in 1933 (the first year for which comparable data are
available for all of the co-operatives) in terms of milk throughput. By then, the Nire Valley society had been amalgamated with Knockmeal, which, including the milk provided by the independent Blackwater Valley auxiliary at Cappoquin, was clearly the leading co-operative dairy processor in the county. Kilmeadan was just ahead of Dungarvan in second place, with the other three co-operatives some way behind. Apart from milk processing, all of the societies also carried on substantial additional businesses in agricultural supplies, contributing up to one half of total turnover.

In the following three years, the shape of the co-operative system in Waterford was to change quite profoundly. In 1934, Shandon Dairies (including a branch at Cappagh) was purchased by the Dairy Disposal Company and resold to Dungarvan Co-operative. Apart from facilitating an overnight doubling in milk supply, this also gave the Dungarvan society access to milk drying and cheese-making facilities. In 1936, Dungarvan also took over the Stradbally and Comeragh Valley Society via the Dairy Disposal Company and established a further branch at Aglish. In that year also, a lucrative contract was secured with the British Cow and Gate company for the supply of milk powder. These developments allowed Dungarvan to move decisively ahead of the other co-operatives in the county, with a milk throughput in 1936 almost twice that of Knockmeal and Blackwater Valley combined. Meanwhile, the previously-mentioned ‘desert’ in the far west of the county was finally penetrated, when Castletown Creamery in northeast Cork set up a branch at Ballyduff in 1935 (fig. 28.3).

The difficulties experienced by the Irish national economy in the 1930s were reflected in county Waterford in the fact that, in 1940, all of the co-operatives except Dungarvan were processing less milk than in 1930 and, even in the case of Dungarvan, there had been a significant decline in the later years of the decade. Nevertheless, by 1940 there were only three co-operatives in the county (Ballyclough, Drinagh and Mitchelstown, all located in county Cork) larger than Dungarvan in terms of milk intake. In 1940 the formal amalgamation of the Cappoquin-based Blackwater Valley Society with Knockmeal occurred, while the following year the Castletown society established a branch creamery in Tallow (fig. 28.3).

The post-war period
Despite the privations occasioned by war and its aftermath, the 1940s was a period of steady growth nationally in the creamery industry, due partly to modest growth in milk production, and partly to a continuing switch from farmers' to creamery butter. Given the prevailing circumstances, the performance of the dairy industry in Waterford in
the 1940s was truly remarkable, with creamery milk throughput rising by no less than 70 per cent, well ahead of any of the other southern dairy counties. Most of this growth was attributable to the Dungarvan society, whose milk intake more than doubled during the decade. Rapid expansion in the production of milk powder for Cow & Gate was mainly responsible for this, and Dungarvan was becoming increasingly reliant on buying in milk supplies from other areas. By 1950, Dungarvan had become the second largest milk processor in the country, headed only by Mitchelstown.

Two important changes in the human resource base of the dairy industry in Waterford materialised in the 1940s. Firstly, a new generation of younger farmers was replacing the earlier pioneers on the management committees of co-operative societies. Secondly, education levels among leading farmers were improving. This was due partly to the impact of the young farmers’ organisation, Macra na Feirme, which was established in 1944. In addition, all the main societies had become involved in sponsoring adult education extension courses mounted by University College, Cork. These developments laid the foundation for the key leadership group which was eventually to steer the industry in the county through the major changes of the 1960s.16

The 1950s was a decade of steady growth in the creamery industry, due mainly to improvements in average milk yields, as both the size of the national dairy herd and the output of farmers’ butter remained largely unchanged in this period. The decade was also marked by an increasing recognition of questions of health and milk quality, with the spread of pasteurisation and the introduction of measures to tackle bovine TB, mastitis and brucellosis. In addition to maintaining vigorous growth on the dairying side, the Dungarvan society also undertook a major expansion in its grain storage and milling activities, and in fertiliser sales to farmers. However, a plan to further diversify the society’s dairy processing activities through the establishment of a chocolate crumb factory failed to materialise after the government decided to give the licence instead to the Miloko company, based in Carrick-on-Suir.

The 1960s: Expansion and reorganisation

After forty years of, at best, slow and steady growth, the Irish dairy industry entered a new phase of rapid expansion in the 1960s. The national economy in general received a great fillip from the introduction of the First Programme for Economic Expansion in 1959. In addition, special measures (mainly in the form of a variety of subsidies) to promote the agricultural sector—and dairying in particular—were implemented in order to prepare Irish farmers for what was expected to be early membership of the European Economic Community (E.E.C.).

As part of the preparations for E.E.C. membership and the free trade conditions which would ensue, the government conducted a number of surveys of Irish industrial sectors with a view to promoting rationalisation and thereby the competitiveness of Irish firms. The survey of the dairy industry17 was to prove remarkably prescient concerning the profound changes which were to affect the industry in the subsequent decades. Firstly, the report recommended amalgamation of dairy co-operatives into larger units in order to achieve economies of scale and specialisation. Secondly, diversification away from butter into new product lines was envisaged. Thirdly, direct collection of milk from farms should replace deliveries by farmers to creameries. And, fourthly, milk should be delivered directly to processing plants, thereby leading to the elimination of intermediate separating stations.

Formation of Waterford Co-operative Society

However, by this stage the process of amalgamation within Waterford was already well under way, and culminated in the creation of Waterford Co-operative Society (hereafter W.C.S.) in 1964. The impetus behind this move came from Dungarvan Co-operative Society which was clearly the dominant entity in the industry within the county,
accounting for almost two thirds of all creamery milk throughput in 1960. Dungarvan had come to rely increasingly on buying in outside milk in order to keep its extensive processing plant going. Some alarm had been occasioned in this regard when all of the other co-operatives in the county became shareholders in, and began to send surplus milk supplies to, the Miloko processing plant, which began operations in Carrick-on-Suir in 1960. Amalgamation with these co-operatives was therefore seen as a means of securing future supplies from this source.

A further impetus to amalgamation was provided by an educational visit to Finland by leading members of the Dungarvan society, where the advantages of supply centralisation were clearly demonstrated. With personnel from the I.A.O.S. acting as intermediaries, negotiations with the other Waterford societies got under way and proceeded in a very positive fashion. Possible fears that amalgamation might be seen as a 'takeover' by Dungarvan were allayed when Dungarvan offered a majority of places on the committee (seven out of thirteen) of W.C.S. to the smaller societies, even though they accounted for little more than one third of total milk supplies. In addition, the practice was instituted whereby the chair of the new society rotated between the constituent societies. The existing society committees were retained as area advisory committees in the new co-operative structure.

The professional management of the Dungarvan society played an important role in the formation of the new co-operative by attending local meetings of farmers to explain the benefits and technicalities of amalgamation, while the managers of the smaller societies were invited to attend board meetings of the new society, in addition to local farmers' representatives. Good channels of communication were thereby maintained throughout the amalgamation process and made a major contribution to the success of the process. It is also clear that a key ingredient in getting the new enlarged co-operative up and running was the leadership abilities of individual farmers in all the societies which were party to the merger. At least in part, this represented a valuable pay-off from the initiatives in farmer education which had been undertaken in the 1940s and 1950s.

The one major blemish to taint the amalgamation process was the decision by the Knockmeal society to opt out. Such a decision by small individual co-operatives to shun the amalgamation process and remain in an 'unmarried state', as O'Leary put it, was to be a recurring feature of the reorganisation of the Irish dairy industry over the following two decades. Typical factors involved in this have been a strong feeling of local pride and independence; the desire on the part of managers to remain as ‘big fish’ in a small pool; and the fear of redundancies among workers as a consequence of post-amalgamation rationalisation.

There is no doubt that the Knockmeal society had had a very substantial impact in the relatively disadvantaged area in which it operated. Apart from providing an outlet for local milk supplies (some of which it processed into butter, with the remainder being redirected to the Miloko plant in Carrick-on-Suir), it also operated a mill, a piggery, an egg marketing agency and a chain of agricultural and retail stores, thereby providing employment for almost one hundred people. At one stage, the society employed its own cobbler's and tailors, and could be regarded more as a model of local self-sufficiency than just an agricultural co-operative.

Nevertheless, to some at the time, the decision by Knockmeal to 'go it alone' appeared to be swimming against the inevitable tide of progress. Be that as it may, the circumstances under which Knockmeal eventually joined up with W.C.S. were rather unhappy. The decision, in 1968, of seventy of the society's leading milk producers to transfer to W.C.S. (thereby reducing milk supplies overnight by one fifth) proved to be a severe blow to Knockmeal's viability. The society subsequently sank into insolvency and was placed in receivership before being bought out by W.C.S. in 1975. Apart from those farmers in
the far west of the county who were affiliated to the Castlereagh society, this completed the process of bringing all the milk suppliers in Waterford under the umbrella of a single co-operative society.

The emergence of W.C.S. represented the first major rationalisation of the dairy co-operative system in the modern era, and paved the way for W.C.S.'s subsequent leading role in the industry. Apart from the factors, identified above, which were conducive to this development, undoubtedly further key ingredients were the facts that there were already so few societies within the county, and that these, for the most part, had clearly defined and mutually exclusive territories. In the heartland of Irish dairying, Tipperary and (especially) Limerick, the profusion of small co-operatives—frequently overlapping territories—made the task of rationalisation virtually an impossible one. In 1960, when the process of amalgamation among the five societies in Waterford was about to be set in train, there were 24 societies operating in Tipperary and no less than 40 in Limerick (fig. 28.4).

It can be seen, therefore, that Waterford’s very marginality relative to the core area of the industry, and the early tardiness in the growth of the co-operative movement in the county, were ultimately to prove to be of great benefit in facilitating the later rapid growth of the industry there. Another important consideration in the early rationalisation of the industry in Waterford was the emergence of a single society (Dungarvan) to dominance in the county. This was perhaps inevitable, given the traditional concentration of dairying in the Dungarvan area, but it did allow Dungarvan to assume a strong leadership role—which was applied sensitively—in advocating and pursuing amalgamation.

The demise of the branch creamery

The creation of W.C.S. occasioned major internal reorganisation of the dairy processing sector in the county. Butter production was discontinued in all centres except Dungarvan, which also became the administrative headquarters of the new society. However, as a form of compensation to the eastern part of the county, a cheese factory (which had previously been earmarked for Dungarvan) was established in Kilmeadan in 1965. A 20 per cent share in the cheese operation was taken by the Unigate company (formed earlier by a merger of Cow & Gate with United Dairies). This continued the long-established association between the British firm and the dairy industry in Waterford, and acted as a quid pro quo for a similar share which Dungarvan Co-operative had taken in a cheese factory in Wexford which Cow & Gate had purchased from the Dairy Disposal Company in 1961. In 1982 these shareholdings were exchanged, giving W.C.S. outright ownership of the Kilmeadan plant.

Another major development, introduced shortly after the formation of W.C.S., was to have a major impact on daily movement patterns in rural Waterford. This was the decision to discontinue milk assembly at branch creameries and instead to have all milk delivered directly from farms to what were now the only two processing centres operated by the society, in Kilmeadan and Dungarvan. A number of factors contributed to this development. In the first place, the continued expansion of milk powder production at Dungarvan meant that less and less milk was being separated at branches, with more and more being sent on in whole form to Dungarvan for processing. By the early 1960s, therefore, the branches were largely functioning as assembly points where milk was pasteurised and cooled prior to being forwarded by tanker for processing.

Secondly, the 1950s had seen a virtual revolution in transport technology among farmers in Waterford with the increasing use of

Plate iii. This photograph of Ballymacarbry Creamery, taken in 1958 depicts some profound changes which had occurred in the period since plate ii was taken in 1942. Motorised milk collection is reflected in the small truck parked outside the creamery store. The black Volkswagen Beetle, complete with trailer, adjacent to the milk intake, signifies the rapid replacement of the horse and cart in the 1950s. The truck and car represented a drastic quickening in the pace of rural life and a growing commercial orientation in the attitudes of farmers. (Photograph supplied by Tom Walsh)
motorised transport. By 1965, less than three per cent of milk suppliers were using a horse or donkey to bring milk to branch creameries in the county.\(^{20}\) Of the remainder, one third were paying hauliers to cart their milk for them, and two thirds brought the milk themselves, mainly by trailers attached to tractors or cars. Given the speed and relative cheapness of motor transport, the need for transhipment of milk at an intermediate point between farm and processing plant was becoming increasingly questionable.

Thirdly, the early 1960s had seen quite significant changes in the structure of milk supply among dairy farmers in the county. Between 1960-65, the proportion of suppliers in the W.C.S. area supplying in excess of 15,000 gallons per annum increased from 4.2 per cent to 22.5 per cent, while the proportion supplying less than 5,000 gallons declined from 45.4 per cent to 19.9 per cent.\(^{21}\) In other words, the average milk output per supplier was increasing rapidly: indeed, by 1966, the average number of milch cows per supplier in W.C.S., at 13.7, was the highest in the country.\(^{22}\) This growing level of output per farm meant that economies of scale in long-distance deliveries of milk from individual farms were increasingly realisable.

W.C.S. responded to this developing situation in two ways, both of which involved direct delivery of milk from farms to processing plants, thereby by-passing the branch creameries. The first entailed giving two sets of milk cans to each supplier, one set being collected each day from special roadside stands and then exchanged the following day for the other set. The second innovation introduced by W.C.S. was to have suppliers store their milk in special refrigerated on-farm bulk tanks, from which the milk was then transferred to purpose-built tankers on a daily basis. Both of these approaches entailed W.C.S. acquiring its own fleet of lorries to collect milk from farms: previously, those farmers who did not deliver their own milk had to hire private hauliers to do so.

The bulk tank system, which was oriented to larger suppliers, was the first to be implemented in 1963. By 1969, about one third of all suppliers were utilising bulk tanks. The multi-can system was introduced in 1965 but proved to be a transient arrangement as more and more suppliers switched to bulk tanks. By 1980, more than 95 per cent of W.C.S. suppliers were using the latter system.

The daily visit of the farmer to the local branch creamery had, for many decades, been a central element, not only in the routine of the dairying economy, but in the social life of dairying regions. As Frawley had noted:

...the creamery is the focal point of a system of intimate and familiar networks of social relationships which have a place of their own in the community and in the everyday lives of many suppliers...In many ways, going to the creamery and what it entails takes on a meaning and life of its own, almost independent of the functional purpose it serves.\(^{15}\)

Yet this entire economic and social system was swept from agricultural life in county Waterford in less than a decade. While many regretted its going, for the more progressive farmers, the daily trip to the creamery was increasingly being seen as a waste of valuable time. For these, information was, to a growing extent, sourced from more formal channels such as the mass media and technical advisors provided either by the state's advisory service or by W.C.S. itself.

The branch creameries, however, were not completely eliminated from the rural landscape. They continued to play an important role as stores for providing fertilisers, feedstuffs and retail goods to local farmers. They therefore continued to act as meeting points and centres of information, although with nothing like the regularity of earlier years. Even then, not all the branches have managed to evade the ongoing forces of rationalisation: three (Carroll's Cross, Old Parish, and Mahonbridge) were closed down completely in the early 1980s, to be followed by Cappagh in 1988.

**Modernisation of dairy farming**

The state support which was introduced by the Irish government in the 1960s and greatly enhanced by the Common Agricultural Policy following E.E.C. entry in 1973 set in train a series of modernisation processes in Irish agriculture, including increasing specialisation and investment in land improvement, stock, feedstuffs, fertilisers and equipment. These processes were particularly evident in the dairy sector, and were to have a profound impact on the rural landscape of county Waterford, where the stimulus and encouragement provided by the formation of W.C.S. meant that this impact began to become apparent at an early stage.

The milking parlour was now becoming a common feature in the farmyard in county Waterford. When the relevant data were first collected in the Agricultural Census in 1960, over 500 dairy farmers in Waterford (about one fifth of the total) were in possession of a milking machine. By 1970, that figure had risen to 1,427. In that year, the Agricultural Census counted 395 complete milking parlours in the county: by 1980 this had risen to 886, representing about half of all dairy farmers.

Perhaps an even more spectacular landscape change arose from the rapid switch in cow breeds which took place in the 1960s and 1970s.
The traditional dairy cow breed in Ireland was the reddish-brown and white Shorthorn, a dual purpose animal capable of giving a good milk yield and a calf with good beef qualities. With the subsidisation of milk production in the 1960s, however, dairy farmers had the incentive to invest in breeds with higher milk yields, of which by far the most popular was the Friesian. With its characteristic black-and-white colouring, the Friesian is much less sympathetic to the pastoral environment than the Shorthorn, and its rapid diffusion in Ireland since the 1960s has had a rather jarring impact on the agricultural landscape.

In 1960, less than ten per cent of dairy cows in Waterford were Friesians, and these were mainly found in the dairy core area around Dungarvan and in the vicinity of Waterford City (where the liquid milk market was an important consideration). By 1970, two thirds of the cows in the county were Friesians, and by 1980 the proportion had reached almost 95 per cent. The Shorthorn, which accounted for over 80 per cent of all cows in 1960, had been virtually eliminated by 1980.

Apart from the increasing incidence of Friesians, the colour of the landscape was being altered by growing applications of fertiliser combined with land reclamation and better land drainage. The shape of the landscape was also changing, as farmers swept away hedgerows to create larger fields which were then divided into paddocks, marked off by electric fences, in order to ensure a more efficient grazing pattern. Even the characteristic smells of the rural environment were being altered, as slurry began to replace hay for fodder purposes, and the slurry spreader was brought increasingly into use.

Increasing volumes of slurry were, of course, mainly attributable to the rapid growth in the dairy herd which began in the 1960s and continued through the 1970s. In Waterford, the dairy herd grew by over a half between 1960-1970, while the volume of milk produced for the co-operatives in the county doubled. While the rate of growth in the dairy herd contracted in the 1970s (to 38 per cent), the volume of milk output doubled again.

However, a key aspect of this phenomenal expansion of the dairy industry was that it was accompanied by a rapid decline in the actual numbers of farmers involved in milk production. As elsewhere in Ireland, in Waterford the industry’s increasing demands for investment, technology and skill meant that many – mainly smaller – farmers either opted out, or were forced out, of dairying. In the mid-1960s, about 2,500 farmers (about three quarters of the total) were producing creamery milk in Waterford. Today, this figure has been almost exactly halved.

The remaining dairy farmers, on the other hand, have increased their output enormously. In 1965, only 6.6 per cent of suppliers to W.C.S. (as then constituted) were supplying more than 15,000 gallons per year. In 1989 the proportion (for the enlarged W.C.S.) was almost 80 per cent, with 20 per cent producing over 50,000 gallons per year. On the other hand, in 1965 over half the suppliers produced less than 5,000 gallons per year, compared with just 10 per cent in 1989.27 There has therefore been a growing polarisation between larger farmers, engaged in high-return dairying, and smaller farmers, most of whom have become oriented towards less intensive and less lucrative lines of farming.

Within Waterford, the expansion of the dairy herd since the 1960s was widely distributed throughout the county. A comparison between Walsh’s (1969) map of milk cow density in 1965 (fig. 28.5) and a similar map for 1980 (the latest year for which data at District Electoral Division (D.E.D.) level are available) (fig. 28.6) shows little change in the spatial extent of the dairying heartland around Dungarvan. However, in the interim, the milk cow density had grown greatly in almost all areas. In 1965, nineteen D.E.D.s had a density of less than 15 cows per 100 acres of crops and pasture; this had dropped to just three in 1980. On the other hand, the number of D.E.D.s with a density in excess of 25 had jumped from four to 52 (out of a total of 92). The average density for the county was 17 in 1965 and 27 in 1980.28 The most significant spatial change in this period was the emergence of a secondary cluster of high-density D.E.D.s in the east of the county, in the vicinity of Kilmeaden. This is related to the emergence of the Kilmeadan cheese factory as a major milk intake point in this area.

Territorial expansion of Waterford Co-Operative
Despite the rapid growth in milk production within county Waterford in the 1960s, the even more rapid expansion of W.C.S.’s processing capacity (in addition to construction of the Kilmeadan cheese plant, further powder plants were installed in Dungarvan in 1966 and 1967) meant an increasing dependence on purchasing in supplies from outside the county. Thus, for example, of the 33 million gallons of milk processed by the society in 1967, no less than 18 millions (55 per cent) came from a variety of outside sources, spread throughout east Cork, south Tipperary, south Kilkenny and Wexford.29 In order to secure these supplies in an increasingly competitive situation vis-à-vis other expanding co-operatives, the idea of further amalgamations was becoming increasingly attractive.

In addition, E.E.C. membership was drawing nearer, and with it, the prospect of greatly expanded milk output once the subsidies available under the Common Agricultural Policy were extended to Irish farmers. This meant that large-scale additional volumes of milk would become available for processing. However, it was important that secure supplies
of this extra milk should be secured before major investments could be made in new processing plant. Amalgamations with other societies were the obvious way to secure these supplies and moves in this direction were duly initiated in the early 1970s.

The I.A.O.S. had produced (in 1966) a set of rationalisation proposals which would have reduced the 192 dairy co-operatives then in existence to just 19 much larger units, with an average milk throughput of 20 million gallons each. These proposals envisaged W.C.S. amalgamating with Knockmeal, Imokilly (in southeast Cork) and Glenmore, a small co-operative in south Kilkenny. The possibility of merging with Imokilly was complicated by the fact that the I.A.O.S. proposals had recommended that neighbouring Castlelyons Co-operative, in northeast Cork, should merge with Mitchelstown, although it had been a long-standing supplier of milk to W.C.S. When a meeting of Castlelyons shareholders voted overwhelmingly to merge with W.C.S., Mitchelstown, alarmed at the implications for its own future supply requirements, then made a very attractive offer to Imokilly which was accepted. This has led to the anomalous situation whereby milk from the Imokilly region has to traverse W.C.S. territory in order to reach the processing plant in Mitchelstown.

The subsumption of Castlelyons into W.C.S. was duly completed in 1972, as was that of Southeast Farmers Co-operative, based in Inch, on the Wexford/Wicklow border, and of Ida Co-operative, a very small society located in south Kilkenny. As with Castlelyons, both of the latter had already been supplying milk to W.C.S. The amalgamation of Glenmore, proposed by the I.A.O.S. in 1966, was finally completed in 1973. In that year also, W.C.S. took over Snowcreek, a liquid milk supplier based in Waterford City, with a subsidiary in Wexford Town. As we have seen already, amalgamation with Knockmeal was eventually effected via takeover in 1975, and this phase of W.C.S.'s expansion ended with the incorporation into the society in 1978 of Shelburne Co-operative, a milling and store co-operative based in southwest Wexford.

The result of this series of expansions has been the creation of a crescent-shaped territorial structure (fig. 28.7), swinging in an arc around Ireland's southeast corner, and stretching from south Wicklow to east Cork. However, the W.C.S. presence in southeast Wexford is limited to those dairy farmers supplying Snowcreek, and the dominant dairy entity in southeast Wexford remains the Wexford Milk Producers group which supplies the Unigate plant in Wexford Town. The geographical shape of the W.C.S. territory is not particularly favourable from the point of view of efficient milk assembly, and reflects the generally ad-hoc and unco-ordinated manner in which the process of
amalgamation in the industry has proceeded, giving rise to what O’Leary has described as ‘a crazy geographical patchwork’.31

As with the initial formation of W.C.S., a process of rationalisation was set in train following this spate of amalgamations, so that, apart from liquid milk packaging operations in Castletyons, Waterford and Wexford, there are now only three milk processing centres in the W.C.S. territory (fig. 28.7). Dungarvan (where casein manufacture was introduced in 1972 and further new powder plants were installed in 1973 and 1974), Kilmeadan, and Inch, which was chosen as the site for Yoplait production, a highly successful venture which was launched in 1974. Major new provender milling facilities were also installed in Castletyons in 1977 and Clonroche (county Wexford) in 1980. A custard manufacturing venture was attempted at Castletyons but proved unsuccessful and was discontinued.

The Castletyons and Southeast Farmers societies were already substantial dairy processors prior to amalgamation, so that their incorporation greatly increased the W.C.S. milk pool. In addition, as predicted, E.E.C. entry in 1973 occasioned a marked acceleration in the growth of milk production within the W.C.S. territory, as elsewhere. This produced a remarkable surge in the volume of milk being handled by the society’s processing plants. In 1970, the societies which were to make up the expanded W.C.S. between them handled about 35 million gallons;32 by 1975, this had jumped to 60 millions and by 1980, 96 millions (i.e. a three-fold increase in a single decade). The growth in milk output continued to expand rapidly in the early 1980s, and reached a peak of 125 million gallons in 1986. However, by this stage the milk quota introduced by the E.E.C. in 1984 (designed to curb overproduction of milk) was beginning to take effect, and by 1990, milk supplies had dropped to 110 million gallons.

**External expansion of Waterford Co-Operative**

W.C.S. thereby was faced with the prospect of no further internal expansion in its core activity (milk processing); at the same time, further corporate growth was essential if the society was to survive the increasingly competitive conditions likely to emerge from the creation of the Single European Market in 1992 and the impending reform of the Common Agricultural Policy. It is important to note, in this context, that even the biggest Irish dairy co-operatives are relatively small compared with their counterparts in competitor countries such as Denmark and the Netherlands.33

W.C.S. therefore embarked, from the late 1980s, on an energetic policy of external acquisition as a means of building up its corporate strength.34 This included the acquisition (in 1989) of Galloway West, a Wisconsin-based dairy processing firm and Heald Limited, a Manchester-based liquid milk firm; (in 1990) of Western Cheese of Wiltshire; and (in 1991) of United Co-op Dairies, also of Manchester. In 1989 also, Waterford joined with the British Express Dairies firm to purchase Premier Tir Laighean, the leading liquid milk supplier to the Dublin market.

These acquisitions saw Waterford’s turnover more than quadruple from the 1980 figure of £105 millions to £439 millions in 1990. Employment, which stood at 1,200 prior to the recent expansion phase, grew to some 3,500 by early 1992, including over 2,000 in the U.K. and 270 in the U.S.A. The acquisition, from Express Dairies, in early 1992 of the remaining 50% share in Premier Tir Laighean, alongside the Virginia Milk Products plant in county Cavan and the Magheralin cheese plant in county Armagh, will bring total turnover to a projected one billion pounds in 1993 and create a milk pool of some 220 million gallons, by far the largest in the country.

Financing these acquisitions (which between them have cost over
£200 millions) has required a profound corporate restructuring of W.C.S. in order to facilitate the raising of capital on the stock market. In 1988 a new public limited company, Waterford Foods plc, was established as a subsidiary of W.C.S., but with a remit to raise capital by issuing shares on the stock market. Some 32 per cent of the shares in Waterford Foods are, at the time of writing (April 1992), held by outside shareholders, with the remainder held by W.C.S. In effect, W.C.S. now acts as a holding company, with all functional operations being conducted through Waterford Foods.

A further major development in the evolution of W.C.S. seemed on the cards in 1991 when it was announced that negotiations had commenced with Avonmore with a view to a merger which would have created not only Ireland's largest, but the E.C.'s eleventh largest, food company. The rationalisation measures which would have ensued from this merger would have allowed considerable savings to be made, with a projected loss of 280 jobs (out of a combined total of 2,800) and would have involved a relocation of headquarters functions to Waterford City. However, in September 1991 the negotiations were abandoned, apparently due to irreconcilable differences over the relative valuations to be placed on the two participant co-operatives.

Conclusions
The dairy industry in county Waterford has come a long way since the first co-operative was established in Gaultier in 1894, almost one hundred years ago. Developments in dairy farming were the main driving force behind the virtual transformation of the rural economy in the county over the last thirty years in particular. The emergence and evolution of Waterford Co-operative Society as an integral component of these developments has led to the creation of vital spin-off effects throughout the local economy. Over 1,000 farmers in the county are largely dependent on W.C.S. as an outlet for their produce, while some 500 people are also employed directly by the society in processing and a range of service activities. When one includes the multiplier effects of local spending by W.C.S. itself, by dairy farmers and by W.C.S. employees, it is clear that well over 2,000 people in the county are dependent on the dairy industry for their livelihoods.

An important aspect of W.C.S. - as with the other big Irish dairy co-operatives - is that its headquarters functions are based outside Dublin, where the head offices of most large Irish firms are located. This has important implications in regional development terms. The 'branch plant' syndrome has meant that most Irish provincial towns have become heavily dependent on routine production activities, with very limited local outlets for those with higher level technical and managerial qualifications. As the headquarters of W.C.S., one of the Ireland's largest industrial firms, Dungarvan is able to provide an unusually diverse range of employment opportunities. In addition to some 200 production and transport staff, there are up to 50 people engaged in research and scientific work, another 50 in executive and professional functions, and a further 50 in clerical occupations.

The future prospects for the dairy industry in county Waterford at the time of writing are uncertain. While dairy farming has not yet approached the technical limits of its output possibilities, its development has been severely constrained by the quota restrictions introduced in 1984. As we have seen, milk production in 1990 had dropped to 90 per cent of the peak level reached in 1986. The modernisation process has been reducing the number of farmers involved in the industry, while ongoing rationalisation and the introduction of new technology have been eroding the numbers employed in downstream activities. The process of external expansion, while helping to guarantee the jobs of those already employed, has not contributed significantly to new employment creation within the county.

While the proposed reforms of the Common Agricultural Policy have been condemned by many as the harbingers of disaster, it may be that their effects could be quite positive in the case of Waterford. The freeing of markets which the reforms entail will work to the benefit of the most efficient operators in the industry, and it is clear that Waterford's dairy farmers, and W.C.S. itself, are among the most efficient in the business. W.C.S. already has a very low dependence (less than 20 per cent) on the commodity products which have relied most on the protection of the C.A.P. The company's strong market-led orientation, therefore, puts it in a strong position to exploit the opportunities provided by future enlargement and integration of the European market.

References
1. The author wishes to thank all those who provided assistance in the compilation of this paper. Particular gratitude is expressed to Con Dempsey and Pat Dineen. Any errors of fact or interpretation are the responsibility of the author. The maps were drawn by Jim Keenan.
5. Daly, Early development of the creamery system, pp. 26-28.
A SELECT BIBLIOGRAPHY OF COUNTY WATERFORD

DONALD BRADY

The student of Waterford's history and culture is faced with a veritable wealth of sources. The material can be loosely classified into three major categories: monographs; serials; manuscripts. This bibliography is concerned solely with monographs and it is hoped that one covering all materials will be published early in 1993. The primary sources for this listing are the local history collections of the Waterford county and city libraries. The acquisition of these collections owes much to the efforts of Fergus Murphy first county librarian and Stan Carroll who did much to collate the Waterford city collection.

The primary serial sources for the county are: Decus; Ardmore Journal; Journal of the Waterford & South-east of Ireland Archaeological Society; Journal of the Cork Historical and Archaeological Society; and The Journal of the Royal Society of Antiquaries of Ireland. Full runs of these journals are available and details of individual articles included therein have not been included here. In addition much manuscript material including the Villiers-Stuart Papers, the Chearnley Papers and part of the Lismore Papers are also available.

I would earnestly request that any future publications, no matter how ephemeral, be notified to the library authorities so that copies may be acquired and preserved as part of the county's heritage. In the case of manuscript material, and particularly estate and legal records, the county library is delighted to act as a depository for this material and is happy to discuss terms relative to this deposit.

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