Linen in the Lagan Valley

Laganscape

Setting the scene for linen

The catchments of the River Lagan were for several hundred years the industrial heartland of Ulster. Although the region's fertile soils have supported settlement for over 5000 years, as recently as 400 years ago the Lagan Valley was relatively unknown. All this was to change with the arrival of Scottish and English settlers in the 17th century when the woodlands were cleared and permanent fields established.

During the 1600s a network of roads developed both along and across the river. Shaw's Bridge is said to take its name from a captain in Cromwell's army who erected a wooden bridge over the Lagan in the 1650s. This was replaced by the present stone bridge in 1709.

The development of the road network along the Lagan was crucial to the development of Belfast. Strategically located at the mouth of the Lagan the town grew to become Ulster's leading port. Its main trade was in the export of agricultural produce to Britain, much of which was brought along the Lagan corridor from the fertile lands of central Ulster.

The Lagan canal was another important addition to the infrastructure of the Lagan Valley. Initially it ran from Belfast to Lisburn and opened in 1763. The Lagan canal isn't so much a canal as a river made navigable by means of 12 sets of locks around rapids and weirs. Thomas Omer was responsible for this work and not only was he a canal engineer he also designed the lock keeper's cottages which were all of the same design, two intact examples can be seen at Drum Bridge and at Ballyskeagh.

The effect of the canal was to make the Lagan Valley much more accessible at least as far as Lisburn where a quay was built at Union Bridge. Soon after the canal was completed a chemical works was opened on the 'Island' at Lisburn for the manufacture of sulphuric acid. This enabled

Thomas Omer' lock keeper's cottage at Drumbeg

brown linen to be bleached chemically greatly speeding up the process and allowing it to be carried out throughout the year. In 1794 the navigation was extended from Sprucefield via Moira and Aghalee to Lough Neagh. This was a canal in the true sense of the word being entirely manmade and connected Belfast directly to the fertile areas inland.

By the end of the 1700s with the establishment of a good road network, canal system and the port of Belfast the stage was set for the industrialisation of the Lagan Valley and the development of the linen industry in particular.

The rise of the linen industry and its innovations

During the course of the 18th century the export of linen to Britain grew dramatically, much of which originated in the Lagan Valley. The impetus for this growth is traditionally attributed to Louis Crommelin, a Huguenot immigrant who settled in Lisburn around 1700. He set up a bleach works at Hilden, and in 1705 published a book on improved methods of flax growing and linen manufacture. He and the newly formed Irish Linen Board were the first to introduce the notion of

quality into the industry.

The transformation of flax to linen involves many stages; retting, scutching, spinning weaving and bleaching. First the harvest flax is retted by steeping in what is known as a flax dam or lint hole. This sets up a bacterial action between the woody stem of the plant, and the actual flax fibre making it easier to separate the two in the next process. These retting dams gave off a nasty smell and caused extensive pollution to the river when the spent water was released.

In scutching, the retting flax is beaten with a wooden blade to remove the woody stem from the fibre which is then combed to remove any remaining fragments. The fibres are then spun into fine yarn, woven on a loom into cloth ready for sale at market.

Linen originally was a small scale craft done in the home alongside industries such as agriculture. During the 1700s the first technical innovations were introduced. A main problem with flax fibre is that it's brown in colour and so is the cloth it produced. To whiten it the material had to be soaked in exotic mixtures of seaweed, ash, buttermilk, lime and manure and spread out on the ground to catch the sun's ultra-violet rays over the summer months.

Lagan Valley was ideal for this process with its copious supply of soft water from Slieve Croob and gently sloping river banks. During the 1700s the domestic processing of brown linen became industrialised with the inception of a number of large bleach greens along the banks of the river. Waterwheels were used to power the wash mills and beetling engines by which the warp and weft (weave) of the cloth was tightened up and given a sheen.

By 1800 bleach works had been set up all along the Lagan particularly its lower sections. There was one at Newforge and Seymour Hill near Dunmurry. This site was bought by William Charley in the 1820s.

Another 18th century innovation was the inception of mechanised scutching. Water was used to power a wheel this time to turn wooden handles which beat against the flax.

A hugely important development in the industrialisation of the linen industry was the inception of wet spinning in 1825. In this process the flax yarn is passed through a trough of hot water before being spun. The idea was to melt the gummy surface of the fibre allowing it to be drawn out into a fine thread. If the fibre was not passed through hot water it was impossible to draw out the yarn by mechanical spinning frames. Only very coarse yarns could be produced by dry spinning. By the 1840s William Barbour's linen thread works at Hilden were in operation and another mill had taken over the Island in Lisburn and their success can largely be put down to the wet spinning innovation.

Weaving was the final process to be mechanised around 1850. Until then it had not been economical for the mill owners to invest in power driven looms, as fine quality cloth could be produced very cheaply by the numerous hand-loom weavers in the countryside. However, as wages increased after the Famine it became more cost effective to invest in mechanical looms.

Weaving factories with hundreds of looms sprang up along the Lagan Valley including John Shaw Brown's St Ellen Works at Edenderry.

Industrial development

The management of the industry also changed during the 18th century. The selling of brown linen became regularised with the opening of markets in Belfast, Lisburn and Banbridge. Drapers bought up the brown linen, arranged to have it bleached and then sold it on.

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So-called 'manufacturers' brought hand-loom weavers together under one roof to mass produce hand-woven cloth. Perhaps the most famous of these manufactories was William Coulson's factory at Lisburn.

By the end of the 18th century the bleachers bought the brown linen directly from the manufacturers, bleached it and then sold it, thus cutting out the middle-man. The bleachers and manufacturers had to sell their goods in the White Linen Hall in Dublin which was several days journey. To overcome this problem the Lagan bleachers raised £10,000 (around a million pounds in today's terms) to build a White Linen Hall in Belfast in 1785. This building was eventually demolished to make way for the City Hall in the 1890s and is now remembered in the name of the Linen Hall Library.

The growth of the industry grew with scutching, bleaching and beetling mills spreading right along the Lagan Valley and beyond. The heyday of the scutch mill was the late 1860s during the American Civil War, when cotton supplies were interrupted. This created an increased demand for linen and the building of numerous small water-powered scutch mills to cope with the increased acreage of flax.

Sizeable settlements grew up around some of the mills; John Shaw Brown's weaving factory at Edenderry resulted in the building of rows of terraced houses to accommodate his workers. The same can be said for Hilden where the Barbour's also supplied housing and funded the building of the local school.

This was a time of consolidation for the industry. Whereas in the earlier 19th century different firms were responsible for each stage of the production process, by 1900 some had integrated the various processes under one management. A giant of the industry was Richardson, Sons, & Owden who had extensive bleach-works at Glenmore beside Hilden. They also had a share in the nearby Lambeg weaving factory and a warehouse and offices in Donegal Square North and offices in New York, Paris, Berlin and Melbourne.

End of an era

The twentieth century saw the rapid decline of the linen industry along with the other great industries of tobacco, rope making and ship building. Many sites have been torn down, including the Island spinning mill at Lisburn. Some have been converted to other uses such as Lambeg where Coca-Cola Bottlers took over the old Ulster Bleach Works and at Edenderry where the weaving factory site has been turned over to housing.

The linen industry saw resurgence in the years running up to World War I. During the two world wars there was an increased demand because of the demand for uniforms, tenting, webbing, parachute covers and tarpaulins all of which were made out of linen. After World War II competition from the more modern and cheaper man-made fibres meant that the linen industry just couldn't compete. In the 1950s and 60s many places went out of business or changed to man-made textiles.