

# The renovation of handmade paper mill in Košice model proposal with possibility of application in geotourism

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## ABSTRACT

The paper deals with the problematic of handmade paper mill. It introduces history of this topic as in our country, same in foreign countries. Briefly informs about technologies used in paper mills. It is important to mention about present state in paper mill problematic. At the end gives idea, how to provide paper mill in Košice region.

**Keywords:** paper mill, handmade paper, history of production, geotourism

## INTRODUCTION

First documented memoirs about paper making in Slovakia comes from the year 1530, when according to historical memoirs, was through Levoča siege burnt out paper mill. Handmade paper was gradually naturalized in Slovakia so that Slovak paper started its way to Budapest, Miskolc, Debrecen and other cities. In the second half of the 19-teen century was in our territory worthy 105 handmade paper mills.

Nowadays there are in Slovak republic territory two handmade paper mills. We think that here is space for creating new manufacture, which should be used also for geotourism needs.

In the submitted article is short review of handmade paper in paper mill in the world and in Slovakia. The article gives survey historical development of handmade paper making in the world and in our country. At the end gives the idea how should work the new object also usable in geotourism as a relatively new and rapidly growing form of

tourism growing worldwide [11], [12].

## BRIEF HISTORY OF HANDMADE PAPER PRODUCTION IN EUROPE REGION

### Before the 12<sup>th</sup> Century

Parchment and Vellum are "commonly" used for writing manuscripts and legal documents. Paper is quite rare and is imported mainly from the Arabic regions and Asia Minor both as laid and wove sheets. The nearest papers today are some smooth, fine, closed papers from India and Bangladesh in a soft white or light brown color.

### 13<sup>th</sup> Century

Paper is made in Italy and Spain in the 13<sup>th</sup> Century for the first time. Papermaking techniques are adapted to suit European climate and availability of raw materials. Papers are made unsized or are sized with gelatin. Unlike the imported

papers of Arabic origin which are predominantly unsized or sized with starch. European made papers are laid only. Chain lines are of varying widths and watermarks are of relatively crude construction.

#### **14th Century and 15th Century**

Papermaking spreads through Western Europe. Mills producing the finer papers are usually situated near cities and in areas where there is a good supply of clean water and the greater availability of fine linen rags. Coarser and inferior quality papers were made by mills near ports where old sails and ropes could be used. Paper mills in the country areas produced, as a rule, papers of rough or intermediate quality. Paper is exported between countries in Europe.

Chain lines are still of varying widths but watermarks begin to be better made sometimes more complex in design.

#### **17th and 18th Centuries**

Handmade papermaking comes of age and some of the finest papers ever made by hand are produced. Pulp quality is improved by the adoption of the Hollander Beater and paper moulds of superior construction particularly in England.

In the mid 1700's the first wove paper of European origin is made in England. However it wasn't until just over 30 years later that wove paper was produced in any great quantity. Synthetic bleach began to be used to correct the color of the pulp. Chain line spacing in laid papers becomes more standardized and watermarks can be highly decorative.

#### **19th Century**

This was a period of great change in the papermaking industry. The invention and adoption of the papermaking machine in the early decades of the 1800's brought about a sharp decline in the number of handmade mills. Paper continues to be made from linen, hemp and cotton rags until the first commercially supply of wood pulp becomes available in the 1850's. Natural

dyestuffs begin to be replaced by the new synthetic chemical dyes.

#### **20<sup>th</sup> Century**

Some handmade mills survive by producing paper for niche markets whilst other mills survive as working museums. Working knowledge is gradually lost as the last generation of traditionally trained full-time working papermakers lay down their moulds for the last time.

### **PAPER MAKING IN SLOVAKIA FROM HISTORICAL VIEW**

Paper production in Slovak territory reached to 14<sup>th</sup> century. In this period is usage of paper documents more common although parchment still persist. The whole century is paper imported from foreign countries, mainly from Italian paper mills. The trade from Venezia was not leading straight to our country, but was traded through Wien businessmen.

In 15<sup>th</sup> century is changing Italian monopoly situation in the whole trade business under onslaught of Turkey what was reflecting also on paper import to Slovakia region. Import of paper from Italy and France is declining and till the end of 16-teen century stops definitely. To the Slovak region is started import of paper from south Germany and Austrian paper mills, later from Czech cities, as: Opava, Jihlava, Benešov and Litovna. This import persisted till 18<sup>th</sup> century [1].

From this point of view results, that Slovakia was till 18<sup>th</sup> century country depended on paper import.

Since the demand was growing it was reason for creation own paper mills in Slovakia and the dependence on import was decreasing till it stops definitely. Slovakia becomes gradually also paper exporter, mainly to Budapest, Miskolc, Debrecen and other cities [1].

#### **Handmade paper making in Slovakia**

„From creation of first handmade paper

mill in Slovakia till the extinction of handmade paper making till the second half of 19<sup>th</sup> century passed over four hundred years.” [1].

Through this period were existed over one hundred and five handmade paper mills. Like evidence we can see materials and transparency which were preserved. Handmade paper making was spread also in eastern Slovakia in five counties, like Abov, Gemer, Šariš, Spiš and Zemplin County.

According to historical base only in Abov County used to work completely fifty five handmade paper mills, therefore more than half of all handmade paper mills in Slovakia [3].

### **The device of handmade paper mills**

The base of handmade paper mills were grinding aggregate, crazing mills and engines. Only in second half of 18<sup>th</sup> century are appearing other machines, like rag cutting machine, rag washing machine and dehydrate presser. The driver unit was water wheel, one or three on dependence of the size of paper mill. Propellant power was transporting through wooden winch and wooden gear wheel to crazing mills and engines placed near trunk. As the propellant device was from wood was often defective. Often repairs were needed. Afterwards were wooden parts replaced by iron and the failure decreased [1].

### **Paper mill in Košice - history**

From the amount of paper mills in Slovakia, Abov County belong to the poorest in the amount of paper mills with the amount of three handmade paper mills, from that amount, one paper mill was in Košice. Košice was in 17<sup>th</sup> century significant business and craft centre. Handmade paper mills in Košice and around Košice rose as follows:

- 1640 in Košice
- Round 1759 in Drienovec
- 1792 in Svinica

These were paper mills which were

focused on coverage paper consumption in the area of Košice and near surrounding.

Paper mill in Košice was built in Čermel' valley near the stream Čermel' in the north side of the city. It was also known as “the way to paper mill”. The founder of paper mill was painter Ján Spillenberger. This family comes from Westphalia, and already owned several paper mills [3], [13].

The paper mill suffered from very beginning of water lack for machine rear. Production had unsteady character. In that period was also imported paper from Austrian paper mills and had better quality than the one from Košice paper mill. Information about the device and performance of paper mill in Košice were not historically preserved. From 18<sup>th</sup> century was Košice paper mill property of city. It was necessary to support sale of paper, therefore the city asked Kosice businessmen to buy home paper and not paper imported from foreign countries, even the foreign paper had better quality and also cheaper.

In the second half of 18<sup>th</sup> century had the city Košice rent the paper mill to Ján Gábory from Košice. In that period had paper mill three water wheels, crazing mill with thirty five hammers, presser for paper press and well vat. In this manner was paper mill working till the year 1790, when on cities costs was renovated. From this period we can find list of manufactures and paper mill belong to this list.

In the year 1790 has the city renew and added machine device to dewatering presser and crazy mill. Even the power increased on three or four traits of paper daily, paper mill still suffers from lack of water in Čermel' stream. Paper mill is not working on full power [1].

From the year 1796 is preserved large transparency which shows Košice coat of arms according to coat of arm list from the year 1502 which was published by Vladislav the second. At the end of 18<sup>th</sup> century are existing transparencies with heraldic lily, which is part of Košice coat of arms. To these transparencies had master,

who was owner of paper mill, enclosed its initials or name. It was difference between paper mill in Košice and other paper mills in that time.

Several renters were changing in that period in the Košice paper mill. Biggest absence of Košice paper mill was its placement. Through the whole period suffered from lack of water from Čermeľ stream and therefore lack of drive power. In the summer time were made cardboard and through winter mostly absorbent paper, which did not need slightly and precisely mixed mass.

In the first half of 19<sup>th</sup> century and next years were papers still rough and thick, just some of them, specially post paper, or paper for offices had better quality. From historical development we can deduce that Košice paper mill was not always rentable, the reason could be often changing renters and irregular working [1].

## **CURRENT STATEMENT OF HANDMADE PAPER MAKING IN SLOVAKIA**

Handmade paper mill have in law belong to our historical wealth and the work of paper masters is the evidence of national cultural maturity. Unfortunately there was not preserved any historical building of paper mill in Slovakia. Current handmade paper making becomes from historical reports, historical products and historical reports of business.

From research made from available resources we can assume, that in Slovakia are now existing just two manufactures, which are dealing with handmade paper making. First one – manufacture PETRUS started production after one hundred and fifty year pause of handmade paper making and rank to another traditional European paper mills, which proved production without pause several centuries [2,8,10].

To the product range belong providing quality book printing, calligraphy, embossing and art bookbinding. We can

find here products like art greetings, and invitations.

On handmade paper from manufacture PETRUS is writing also president of our republic.

Together with the printer TULLIUS, are organized lectures and excursions to their small manufacture [8].

From the year 2004 was established production manufacture for handmade paper in Brezno. The ADDY Company produces handmade paper by traditional technology from cotton and by following pouring on wooden sieves. Thus made paper is characteristic by its high quality and have found its application also in high representative contact. In the year 2006 was to ADDY Company granted statute “sheltered workshop” what enables employ people with disability who can in the company develop their skills [7].

## **CURRENT STATEMENT OF HANDMADE PAPER MAKING IN WORLD**

Please take in consider, that following paper mills form abroad are just taken for illustration. Some of them could be great inspiration for the project renew handmade paper making in paper mill Košice. We start in Czech Republic, than continue to Ireland and take a look to paper making in Nepal.

### **Czech Republic**

Handmade Paper Mill Velke Losiny, established prior to 1596, is one of the oldest paper manufacturing operations in Europe. At the Mill, paper is made by hand using original formulas and processes that have come down through the centuries. During its long history, the Mill has become the world wide known over for high-quality craftsmanship, and its products received international awards and recognition at many trade shows.

The Handmade Paper Mill offers its customers handmade paper both in sheet and in the form of final handmade

products which can be used as gifts or in promotions.

Products from Velke Losiny are exported to customers in Europe and United States.

A Paper Museum is housed at the Mill, where visitors can acquaint themselves with the history and development of papermaking. The Museum is one of its kinds in the Czech Republic. Also on the Mill grounds, there is a company store and a gallery of works of artists that use Velke Losiny handmade papers as medium [5].

Product line is based on: Graphic papers and boards, sheets with deckle edge suitable for exclusive prints, letters, books, announcements. All graphic papers has Losin watermark or customer watermark. Museum of Papermaking in Velke Losiny Museum work at usual "museum" time, on workdays from 9.00 AM to 5.00 PM, in season on weekdays as well. Visitors have opportunity to pump their own sheet of handmade paper with certificate of origin [5].

## **Ireland**

The Griffen Mill specializes in making fine quality, handmade paper in subtle tones. The papers are made from natural fibers such as cotton and hemp and are archival in quality. They have many different uses.

### *Bookbinding and Paper Conservation*

A range of paper in different weights specifically designed to meet the challenges of paper conservation, bookbinding and restoration.

### *The Recreation of Antique Books, labels, maps and journals*

The range of antique toned papers is very similar to those used in the past so they are ideal for recreating old maps, scrolls and documents. Other uses include lining and label making when restoring antique musical instruments or furniture [4].

### *Historic Wallpaper Restoration*

The conservation and repair of historic handmade wallpaper can require a

handmade paper that is unique to a particular location.

During the last fifteen years Griffen Mill has worked with a number of wallpaper conservators to make handmade wallpaper and lining papers.

### *Fine Printing and Limited Editions*

Many of Griffen Mill papers can be used for letterpress and screen printing. Printing papers are also made to order for copperplate engraving [4].

## **Nepal**

In Nepal, handmade paper is made from the fibers of lokta and other natural fibers. Lokta is the fibrous inner bark of the high elevation forest shrub called *Daphne bholua* and *Daphne papyracea*. It grows gregariously and abundantly on the south slopes of Nepal's Himalayan forests between 1,600 and 4,000 m (c. 5,250-13,000 ft). Long-lasting qualities and resistance to insects and mildew make lokta paper popular.

Historically, lokta paper was a single purpose product used primarily for recording government records and religious texts. Since at least the 12th century AD, production of traditional handmade paper has occurred at several locations in the rural hills of Nepal, most notably the central district of Baglung. As early as the 1930s, however, handmade paper production began to decline due to paper craft imports from Tibet. By the 1960s, the traditional Nepalese paper industry was virtually moribund due to competition by mass produced paper made by machine in India. In the 1970s, before rejuvenation of the industry began, only a few families in Baglung and neighboring Parbat District retained the traditional knowledge of handmade lokta paper production. Today the handmade paper industry is growing at a rate of 15% per year, and harvesting lokta and rural papermaking occurs in at least 16 hill districts. It is currently estimated that about 70% of all handmade paper products in Nepal use lokta fiber, and 30% use

cotton waste and other recycled natural fibers [9].

Interest in rejuvenating lokta craft paper-making occurred as the tourism industry in Nepal began to grow in the 1970s. After a steady decline in papermaking (in the late 1970s), encouraging evidence of a potential international market presented itself. In this climate of optimism for handmade paper and paper craft products, the United Nations Children's Fund (UNICEF) and the Agricultural Development Bank of Nepal/Small Farmer Development Program (ADBN/SFDP) launched the CDHP project in 1980 (hereafter called "the project"), with close government involvement and coordination. This was the first donor-funded attempt to revive indigenous paper making processes.

In the late 1980s and early 1990s, with the growth of popularity of lokta based and recycled fiber products, Nepalese entrepreneurs sought out and developed international trading partners. Currently, the Cottage Industry Department reports 377 registered handmade paper production industries, out of approximately 600 units operating in the country. Of these, 175 manufacture about 30,000 metric tons of paper products each year. Yet, despite this major increase in handmade paper production, large lokta resources remain untapped. Lokta-based handmade craft paper products continue to offer considerable economic sustainability due to their high-quality niche market potential (Dhakal, 2004) [9].

### **POPOSAL OF POSSIBLE OPERATION HANDMADE PAPER MILL IN KOŠICE**

Based on function models which we can see working in Europe, but also in our country is it possible to propose operation of handmade paper mill in Košice. Probably the best model should be the company Handmade Paper Mill Velke Losiny in Czech Republic, where simultaneously works museum of handmade paper and

museum of handmade paper mill.

Handmade paper mill in Košice should work also as sheltered workshop, where we can take inspiration in already working production in the ADDY Company. By allowance to sheltered workshop should be initial expenses moderate, because under section 56 is allowance for sheltered workshop establishment, (next just allowance) provides office for employer, which has workplace for disabled person from the date of its inclusion to occupation applicants evidence. The amount of allowance for one established workplace in sheltered workshop is in other regions except Bratislava region most 65% from 16 multiple the whole labors cost according to §49 paragraph 4 calculated from employee average wage in Slovak republic economy for first and third quarter of calendar year, which preceded by calendar year in which is donated [14].

The absence of origin paper mill should cause the problem with seeking of appropriate space, but, by good proposed project, where autonomy, city and other institutions are involved it is possible to find consensus. Also with collaboration with above mentioned institutions it is possible to request for allowance from Europe union. In the case of succeeding of the project it is possible to include different workshops, traineeship, excursions, and activities for children.

On the "map" of geotourism should appear new destination, offers not only educative but also entertained program. Place, where new promotion objects could be not only created, but also selling. Place, where it is possible to find history of handmade paper mill in modern dress.

### **CONCLUSION**

It is fact, that establishment of this kind of operation needs big effort and it is necessary to convince several institutions, without which consent is not possible to run this business. About financial aspect is no

doubt, but against all barriers we think, that establishment of this kind of unit should have huge benefits as social, so economic and last but not least it can find its place in geotourism.

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