

Indo-Islamic Papermaking

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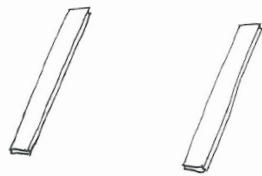
What is Islamic-world Papermaking?

The knowledge of papermaking traveled from China to the Islamic world, in Samarkand via the Silk route. It is believed that the craft was transmitted through Chinese prisoners of war in the eight century CE. The method of papermaking was adapted to the materials readily available in the Middle East, and therefore can be considered a hybrid version of the eastern style papermaking. A flexible mat (used as the mould surface) is placed over a wooden frame. Deckle sticks are used on either side to prevent the pulp from slipping out.

Paper soon replaced parchment, cloth and palm leaf, as the substrate of choice, being made from hempen and linen rags that were widely available.

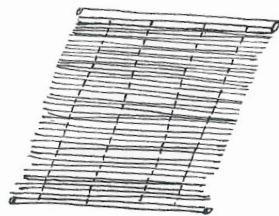
The knowledge of papermaking was then transmitted to Spain in the eleventh century where the style was adapted from Islamic style to what we know today as the western style of papermaking.

Materials and Equipment



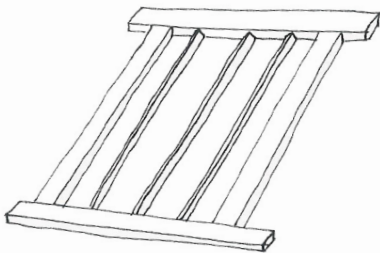
Sanchi (Deckle sticks)

Two sticks are used on either side of the *chabri* to contain the pulp on the surface. These are removed after the sheet has drained and is ready for couching.



Chabri

Flexible mat used as mould surface. Traditionally this was made using reeds growing along the riverbank. These were woven using horsehair.



Firma or Sacha (Frame)

The frame serves a support for the *chabri*. The wooden supports are placed at an angle to support the flexible mat that sits on top of it. It is made from Oak as it is more water resistant.

Raw materials

Traditionally hemp and flax rags were fermented and beaten in huge manually operated wooden trip-hammers (called *dhenki* or *jhandar*) with an iron or stone pounding end. With technological advancement, came the use of the Hollander beater. Hemp was and is still used, but by recycling old hemp papers in combination with its raw natural form.

Vat set-up

Traditionally the vats were dug into the ground, and the papermaker for sheetforming action assumed a comfortable squatting position. This is still the case today, but the vats aren't dug out, rather built in cement above ground. The squatting position is still used. We will be simulating this technique by angling the vat on a table.

Process

Traditionally the hemp fibers were fermented in a lime solution to facilitate breakdown of the cell walls. This softens the fibers and shortens the cook and beat times.

After fermentation, the hemp fiber is cooked in a lime solution for about three hours. It is then rinsed and beaten. To prepare the vat, the fiber is added to water and the vat is readied for sheet forming.

Traditionally, the sheet forming is a two-stage process. The mould, chapri, and deckle sticks are assembled and dipped into the vat. This is the first pull. Once the pulp has settled on the surface, the entire assembly is then lowered carefully back into the vat and pushed gently into the surface of the water. The freshly formed sheet lifts slightly, after which the pressure is released so that the sheet rests again on the surface of the chapri. The mould is once more dipped into the vat for a second pull.

After draining, the sheet is ready to be couched. The chapri is lifted off the frame and carefully laid face down onto a piece of interfacing, and lifted off again in one smooth motion, leaving behind a freshly formed sheet.

All the sheets are couched this way on interfacing, and the finished post is pressed either in a screw press or hydraulic press (at 5500 psi). Traditionally weight was added to the post slowly over time. You could even stand on your post to squeeze the water out.

Traditionally, after pressing, the sheets are brushed onto a treated wall surface for drying. After the sheets have dried, they are brushed with *ahar* or sizing. Sizing can be prepared using either wheat starch or egg whites. After it has dried, the paper is burnished to high shine using an agate stone. Bone, or glass can also be used for this purpose.

Resources

Papermaker's Tears by Legacy Press (2019)
Hath Kaghaz: History of Handmade Paper by Masatoshi Konishi (2013)
Papermaking by Hand in India, film by Timothy Barrett (1995)
Gift of the Conquerors by Alexandra Soteriou (1999)
Paper Before Print by Jonathan Bloom (2001)
The Continuing Kagzi Tradition of India, article by Radha Pandey,
Hand papermaking Magazine (Winter 2012)
<http://www.zakariya.net/>

Paper Suppliers

shop.paperconnection.com/products/sunn-burnished-hemp-paper
<http://www.hussainpapers.com/>