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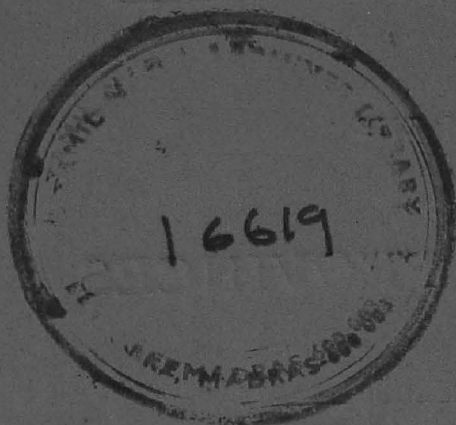
A MONOGRAPH
ON
PAPER MAKING AND
PAPIERMACHE
IN THE
CENTRAL PROVINCES

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MONOGRAPH

ON

“ PAPER MAKING AND PAPIERMACHE. ”

I.—HISTORY.

There are only two places in the Central Provinces where paper-making industry is carried on: these are (a) Panchamnagar in the Damoh District and (b) Zainabad in Nimar.

Panchamnagar is situated on the bank of the Bewas river at a distance of about 30 miles west of Hatta the head-quarters of the tahsil of the same name. It is said that Panchamnagar was founded and named after Rani Pancho, wife of (Hirde Shah) the Raja of Garha Mandla. There is, moreover, an inscription on a *sutti* shrine there in Devnagri character which bears Asadh (Badi) 11 Sambat 1788 as its date. People suppose that the Jain temple to the west of the *Basti* is older than the shrine. These facts lead one to think that Panchamnagar has been in existence since the 16th century.

Paper makers, it is said, migrated to Panchamnagar from (Dhamoni) once a very important place but now only a village in the Saugor District. It is not known whether Rani Pancho brought them there or whether they were attracted there by the natural facilities which that place afforded for their industry. The latter seems to be more probable, though nothing can be said with any definiteness.

The history of Zainabad is, however, very convincing and so connected with Asseer that it is but meet to say a word about it here. Asseer is a well-known fortress on the (summit) of a high hill about 14 miles north of Burhanpur. It is said to have been built by Assa Ahir, a herdsman, who was one of the principal land-holders of the tract. He had enormous cattle, wealth and influence and was ever willing to render help to anybody that wanted it against the Bhils of the mountains and the Rajputs of the plains who made depredations so often. He successfully resisted for a long time all the efforts of the Khandesh

Kings to master his country. Later on, however, he was treacherously killed by the 2nd Faruki King—(Mulluck Nassur) *alias* Naseer Khan of Khandesh about the year 1405 when the latter made friendship with him and begged of him in confidence the help of giving shelter to the ladies of his household in his fort. He represented to Assa Ahir that he meant to wage war against his own brother. Assa Ahir therefore readily consented to shelter the ladies in his fort. He therefore allowed a number of *Doolis* said to contain females to come into the fort. These *Doolis*, however, contained armed men who took Assa Ahir by surprise and killed him and all his people. They took possession of the fort then. According to Farishta the historian Sheikh Zenuddin, the tutelary saint of the Faruki family, started to congratulate Nasser Khan on his success in taking possession of Asseer, along with a number of his disciples. He was encamped on the eastern bank of the Tapti river and the King who had marched out to meet the holy saint on the western bank of it. When both of them met the King begged of the saint to accept an estate in Khandesh, but he (saint) replied him saying that *Darweshas* (saints) had no occasion for estates. He, however, requested Naseer Khan to build a town on the site on which he was encamped and to name it after him. He wished him also to build another town on the site where he (the King) was encamped and to name it after Burhanuddin Aolia of Dowlatabad. The King readily consented to carry out the wishes of the saint and Zainabad and Burhanpur were thus founded. It was during the 1st half of the 15th century, *i. e.*, in the reign of the Faruki Kings that Burhanpur and the surrounding country attained great magnificence. The 5th King of the Faruki dynasty of Khandesh, Adil Khan also called Adilshah Faruki, saw the Badshahi Killa of Burhanpur built and sent for paper makers called *Kagzis* from Ajmere, Lucknow and Dowlatabad. Before the introduction of paper, letters were written and notes taken on *Bhojapatra* (leaves of Bhoj-trees). It is said that 22 *Khwajas* or Aolias invented paper making through sheer dint of industry, perseverance and native intelligence. Khwaja Indalwali of Ajmere was the 1st and the foremost among them. Khwaja Fakruddin Khwaja Baisharin Khwaja Khakdas Haiyat of Dowlatabad and Khwaja Syed Suleman were some of the other prominent *Khwajas*. The *Kagzis* of

Zainabad trace their descent from Khwaja Indalwali of Ajmere on paternal side and from Khwaja (Khakdar) Haiyat of Dowlatabad on maternal side. About 400 years back as tradition goes the *Kagzis* came as desired by Adil Khan Faruki and settled in Burhanpur. They took up residence in Jadiawada near the Shikarpura gate, but the Amirs, Nawabs and other Sardars were put to great inconvenience by the *Kagzis* commencing their work from 3 A. M. every day with their lifts (lever) called *Dhekis*. They therefore arranged to have *Kagzis* shifted to the other side of the Tapti river having similar advantages, viz., to Zainabad. It is from that time that *Kagzis* make paper there; they wanted airy place, flowing and clear water and rocks to carry on their business.

II.—NOMENCLATURE OF DIFFERENT KINDS OF PAPER MADE.

The Panchamnagar paper is Saiya (साईया) or Kusaiya (कुसाईया) according as the Rehua stuff of which it is made has received the requisite number of showers alternate with sunshine or not. Saiya paper is of three classes, viz., 1st *Kuarseni* (कुअरसेनी) which sells from Rs. 6 to Rs. 8 per *gaddi*, 2nd *Gotaseni* (गोटासेनी) which sells at Rs. 5 per *gaddi* and 3rd *Mohradar* (मुहरादार) or *Kharchi* (खरची) which sells at Rs. 3-8-0 per *gaddi*. Kusaiya paper is inferior to *Mohradar* paper even and sells at Rs. 2 per *gaddi*. The difference in the three classes of Saiya paper is in size, thickness and polish only and for a given quantity of pulp the outturn of three different classes thereof is in the proportion of 10: 12: 20. Paper made in Zainabad is of three kinds, viz.:—(1) Ordinary *Zainabadi* (मामुली जैनाबादी), (2) *Shastra Khani* (शास्त्रखानी) and (3) *Bahadarkhani* (बहादरखानी) and the difference in these also consists in size, thickness and polish. *Mamuli* paper sells at Rs. 3-12-0 per *gaddi*, *Shastrakhani* at Rs. 5 and *Bahadarkhani* at Rs. 6-4-0. Samples of these are attached. *Mamuli* papers were used in all public offices till Burhanpur formed the Scindhia's territory, i. e., till 1860. It is inferior to *Shastrakhani* paper which is used in preparing *Kachi Bahis* and *Fothis* (religious books). *Bahadarkhani* paper is still superior and used in preparing *Khatas* and *Roznamchas*.

III.—MATERIAS USED IN THE MANUFACTURE OF PAPER.

Panchamnagri paper is made of old *Tat* made of hemp (सन) which is generally available in the shape of *Gons* (गौने) and *Gendis* (गेंडिये) used in loading pack bullocks, ponies, &c., and of *Pattis* like those used in schools. Sometimes it is made of the waste-paper of its kind also. Panchamnagar is an out-of-the way place and the wages that side do not seem to have risen much. Similarly, there has been very little change in the price of *Tat*, which can be had at 35 seers per rupee if purchased in adjoining Native States and at 20 seers or more if purchased locally from Banias. Besides though the trade of the village has fallen considerably, sufficient *Tat* is yet available from the simple reason that the country adjoining it is not opened and tradesmen are obliged to carry on their business with the help of pack animals as carts cannot move freely, there being no good roads and the country being rocky and hilly. *Tat* being so easily available there, paper continues to be made of it. The old *Tat* or waste-paper is cleaned and turned into pulp after the use of lime, sajji and country soap.

In Zainabad very different conditions prevail now and the *Kagzis* cannot afford to prepare paper of *Tat*. They prepared paper out of *Tat* some 30 years back when *Banjaras* carried their goods and grain from and to different places on pack animals, the road communications being bad then. With the opening of the Great Indian Peninsula Railway line within four miles of Zainabad and improvement of roads the pack animals gradually disappeared. *Tat* therefore became rare and consequently dear. The wages of labourers also rose about cent per cent. *Tat* paper does not therefore repay the *Kagzis*, who gave up making paper of *Tat*. They prepare very little paper now and that too of waste-paper and of a coarse description. Panchamnagri paper, waste or refuse, is sold at Rs. 5 and Zainabadi at Rs. 6 per maund. The former is not generally available and does not make good paper, but the paper made out of the latter, which is also available with some difficulty, is as good as of *Tat*. Lime is either had locally or imported: the other things can be had from local Banias, who get their supply from abroad: they are sajji and soap.

IV.—PROCESSES AND APPARATUSES EMPLOYED IN THE MANUFACTURE OF PAPER.

(a) The operations commence about Jeth every year in Panchamnagar and in the month of Kuwar (September) in Zainabad where they remain closed during July and August as the river water is turbid and muddy. Clear water is wanted for washing the pulp in. The processes employed in the two places are a bit different. I therefore propose to give the details of each separately. In Panchamnagar, the *Pattis* of *Gons* or *Gendis* are to begin with separated: these are about a foot in width, and of different lengths. Each *Patti* is next rolled up from one end called *Aureb* (औरेब) and cut into small pieces of an *angul* width with an axe on a wooden log driven into the ground like an anvil of a blacksmith. As soon as sufficient quantity of the cut up pieces of *Tat* is ready they are dipped in water and beaten up with an instrument worked by a foot-lever and called *Jantur* (जंतर). The beaten up stuff is termed *Gown* (गौन). This *Gown* is washed in the river in a Khadi dhoti called *Bodar* (बोदर) which two men standing in water waist-deep tie to their waists and in the middle of which *Gown* is spread and washed with hands. The washed *Gown* is treated in lime-water and allowed to stand that way the whole night (7 Chawthias of lime is used for 2 maunds 20 seers of gown (water besides). This process is called *chunai* (चुनाई). The following morning this stuff is mixed up with 7 *Chawthias* of lime and 8 seers of *sajji* and again beaten up in the instrument in small quantities. It is taken to the river for the second washing. This washed stuff is called *Rehua* (रेहुआ). It is then taken to the jungle where it is mixed up with water kept in earthen *Nands*. This semi-liquid stuff is spread on rocks for drying in sunshine and receiving 4 showers of rain alternately with it. Sides are then changed. The stuff is in the form of cakes which when dry are called *Dhaporis* (धपरी). They are taken home, broken to pieces and reduced to dust or powder by means of sticks by two men. This powdered substance is termed *Bhurra* (भुरी) which is strained through a twine woven cot known as *Ajwani Charpai* (अजवानी चारपाई) with a view to free it from sand and such other extraneous substance. This strained

substance is again treated with lime and *sajji* as before, beaten up in the instrument thoroughly and taken to the river for the third washing. The stuff (thus) washed is called *Sajya* (सजया) and made into small balls (गोला) or *Baris* (बड़ी). These balls when half dry are broken and pounded. The pounded stuff is for the third time treated with lime and *sajji* and then called *Karia Sajya* (करिया सजया). This substance is beaten up in the instrument as before and then rubbed well on stone slabs and dried. When dry the stuff is again strained through the cot aforesaid and treated with *sajji*-water alone. The substance is then called *Kariyaki Jarish* (करिया की जरीश). It is then again beaten up in the instrument and taken to the river for the fourth washing. The washed substance is formed into balls again and dried. When quite dry the broken balls are again treated with *sajji*-water and this substance is then termed (करिया की बड़ी या इकहरो) (*Kariaki Bari* or *Ikahro*). It is beaten up in the instrument and taken to the river for the fifth washing. The washed *Ikahro* is made into balls which are dried. When dry these balls are again broken and treated with *sajji*-water. This stuff is then called *Duharo* (दुहरो). It is mixed with *sabun Guteti* (साबुन गुटेटी) or soap balls about a seer in weight and again beaten in the instrument. The stuff is rubbed and dried and strained through the same cot again. It is then called *Sabunariya* or *Sabunki Jaris* (साबुनया, या साबुनकी जरीश). It is again beaten in the instrument and taken to the river for the sixth washing. As soon as it is washed it is taken to the paper making reservoir in the form of pulp. The process of preparing pulp in Zainabad from *Tat* was much easier as will appear from the description I give below :—

The *Pattis* of gons were separated: they were one foot in width. These *pattis* were cut into small pieces of a span each. These pieces were then rolled up and cut into bits of four anguls each with an axe on *Kundas* made of *Babul*, *Kahu* or *Sadra* wood. I attach to this the ground plan of the paper factory in Zainabad. On entering the factory one finds a reservoir marked *A* and called *Dheki Kund* to his right. This *Kund* has a lever-

arrangement in it for pounding *Tat* bits. The longer arm rests on a fulcrum beside the *Kundi* and the shorter on the bottom of it. The shorter arm is much heavier than the longer one having been adjusted to one end of it. This *Dheki* (lever) is worked by six persons who stand on the longer arm and thus raise the shorter one which acts as a pestle. This *Kundi* has got a stone ($2' \times 3'$) adjusted in the middle at its bottom in lime-mortar water. The shorter arm is called *Khaltum* (खलतुम) which has got an iron rim adjusted at its end. In the bottom of *Khaltum* there are four pieces of iron fitted there: these are five inches long, but they are so fitted that each is only $2\frac{1}{2}$ inches out. Each of these pieces is four seers in weight and called *Dant* (tooth). The iron rim is about 2 inches in (width) and called *Shiam*. The diameter of *Khaltum* is about a foot. One man sits in the *kundi* or reservoir to one side of the *Khaltum* and his duty is to place the stuff which he keeps by him on the stone on which the *Khaltum* works. Thus seven men are wanted to work at one *Dhekli* or lever.

24 *paseris* of *Tat* is divided in 3 *ghans*. Each *ghan* requires two hours for beating it. The man in the *kund* keeps one maund of *Tat* pieces to one side with 20 *ghadas* of water poured in the *kund*. As the 6 persons raise the *Khaltum* the man in the *Kundi* puts *Tat* pieces under it: as they get down from the long arm the *Khaltum* by its fall on the stone pounds the *Tat* pieces between.

Three *ghans* thus take 6 hours for pounding. The beaten stuff which is called *gon* (गोन) is kept on the platform *D*. Thence it is taken to the river in baskets and kept on rocks by seven persons. Four of these stand in flowing water in pairs facing each other. Each pair ties a *khadi dhoti* called *Bodal* (बोदल) to their waists and wash the beaten stuff twice which is then carried by the other three men to the factory.

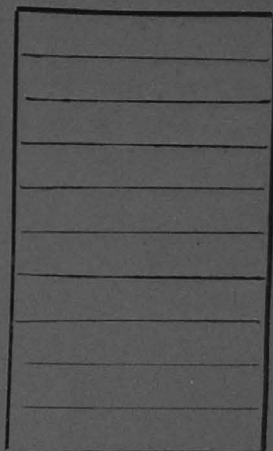
This washed stuff (गोन) is mixed in two ghadas of lime-water (20 seers of lime mixed with water) and then called *Choba* (चोबा). It is taken out and heaped on the platform *B*, where it is allowed to remain in that condition for eight days. On the 9th day this *Choba* is put into the *Dheki Kund* being mixed with eight ghadas of water. It is pounded from morning till noon in that kundi when it is taken to the river for washing. The stuff is again brought to the factory and kept in the *Kundi*. (Then) three seers of (Sajjikhar) is finely pounded and mixed up with it. The stuff is then called *Kharkha* (खारका) and this *Kharkha* is beaten for two days under the *Khaltum*. The third day it is taken to the river at about 2 P. M. and washed. Clean *Kharkha* then remains over and is taken to the *Kundi*, where five seers of soap is mixed up with it. The stuff is then called *Bakhar* (बखर) and pounded under the *Khaltum* for three hours. Balls are made of it and kept on the open platform outside. In the afternoon the balls are put in the kundi for pounding which continues for a day. The following day *Bakhar* is washed in the river and thence taken back to the *Kundi*. Five seers of soap is again mixed and the pounded *Bakhar* is kept out in sunshine. It is again taken to the kundi where it is pounded. The same processes are repeated and the oftener you wash soap-mixed *Bakhar* the whiter will the paper be. Generally eight to ten washings are given to the *Bakhar*. As soon as it gets finely pounded it is kept in balls (गोला), which are generally 80 in number. The gola or ball stuff is called *Banda* (बंदा) and the golas are taken to the paper making reservoirs.

(b) *Paper making in itself*.—The process of making paper out of pulp is very nearly similar in Panchamnagar and Zainabad. Four *Banda* balls are broken and put in the reservoir *C* which is circular like a *nand* and close to the paper making reservoir *B* on (the) plan which is kept full up to the brim with water. About two *ghadas* of water is taken from the reservoir *B* and poured on the pulp in reservoir *C*. A man gets into reservoir *C* and tramps the pulp well and keeps it churning. When the pulp is well mixed up and thus becomes semi-liquid it is taken out and poured in the reservoir *B* by which a man sits with stick in his hand. He goes on churning the semi-liquid of

reservoir *C* with the water in reservoir *B* for about an hour, *i. e.*, till such time that fine particles of pulp become separate and suspended in water. The stick is called *Tandari* (ढंडारी) and the process of churning *Chhedai* (छेडाई). The churned liquid is allowed to stand undisturbed for one night and the pulp precipitates, *i. e.*, the fine particles of hemp settle down at the bottom of the reservoir, leaving clean water above.

The following morning the *Kagzi* takes his *Rachh* (रछ) called *Khasi* (खासी) in Panchamnagar and *Chhapri* (छपरी) to make the papers with—*Rachh* or *Khasi* is a rectangular wooden frame having nine parallel bars in the space enclosed. The diagram *E* on the margin roughly gives the idea of *Rachh*. *Chhapri* is made of knotless and smooth stalks of grass called *Urai* (उरई) *Arkush* (अर्कुश) or *Gonchi* (गोनछी) in Panchamnagar and *Sarala* (सारोला) in Zainabad woven together with horse-hair like a *Chik*. On two opposite sides of this *Chhapri* there are two circular wooden rods stitched into them with thread: these are meant for rolling or turning the paper made, a bit, when necessary: they are called *Goradas* (गोराडे). Rectangular bar called *Hichkas* (हिचका) also made of wood are adjusted on the remaining two sides of the *Chhapri* when placed over the *Rachh*. These prevent the pulp solution once taken on the *Chhapri* from running out. *Sagon* wood is used in making *Goradas*, *Hichkas* and *Rachh*. The bars of *Rachh* or *Khasi* when placed on the reservoir are vertical and the grass (stalks) of the *Chhapri* (fitted) over *Rachh* horizontal. It will be seen from the Zainabad paper factory plan that there are three paper-making reservoirs (*B*) with seats for three men and platforms for spreading paper on by them. Three men can thus simultaneously prepare paper there. The *Kagzi* sits on the seat beside the reservoir *B* and gently stirs the pulp (sediment) surface with his rod called the *Tandali*. The surface pulp then gets mixed up with the water above it. He then dips the *Chhapri* with the *Rachh* into this liquid a bit from the *Hichka* side in an inclined position and takes over this *Chhapri* as much liquid as he considers necessary for making one paper. He shakes the *Chhapri* a little with a view to distribute the liquid evenly on it and keeps it in a horizontal position resting it on the

E



Tandali on one side and the side of the reservoir on the other. The *Tandali* is kept in the middle of the two opposite sides of the reservoirs. The *Chhapri* is like a sieve through which the water of the liquid is drained off and over which the paper substance settles evenly. *Hichkas* are then removed and a *Gorada* is rolled a bit to give the paper a little fold at one side. This fold is called *Jham* (झम). The side opposite to the *Jham* side is called *Khapri* (खपरी). When the *Chhapri* is placed in a horizontal position the *Khapri* side is nearer to the man than the *Jham* side. The *Kagzi* keeps an old *Chhapri* all wet—on the lime-plastered platform by his side. He holds the *Khapri* side of *Rachh*—*Chhapri* with his left hand and the *Jham* side with the right hand and places the new *Chhapri* with paper on it on the old wet *Chhapri* on the platform. Thus the paper gets between two *Chhapris*. The *Kagzi* passes his hand over the new *Chhapri* and the paper moves on to the old one. The new *Chhapri* is then removed and kept on the *Rachh*. A second paper is similarly made and kept on the first paper over the old *Chhapri*, which has not got *Hichkas* or *Goradas* attached to it. 120 papers are thus made out of four balls of pulp and kept one over the other. A wet cloth is covered over them on all sides and a much bigger teak plank placed above. A stone slab about six *Paseries* in weight is placed over this plank and the papers are allowed to remain in this condition for two or three hours. One man then gets over this slab and presses it on all sides. The water in the papers is thus pressed out. Two men then get over this slab and similarly press the paper below. They then move on one side of the slab raising the other side. One of them (feels) the papers with his hand and if (he) finds them sufficiently dry both of them get down remove the stone and the plank and keep the latter in a slanting position against a wall. By the *Jham* side all the 120 papers are taken up together and placed by the plank in inclined position—the old *Chhapri* now being the first thing on them. This *Chhapri* is removed and the papers are taken out one after the other and pasted over the wall in the factory close to each other. The papers being wet stick to the wall and a brush of grass called *Diwalband* (दिवालबंद) is passed over their ends to keep them stuck up fast to the wall for drying. As soon as these papers dry up they are collected. In this form they serve as blotting papers

because they are not yet sized or polished. Exhibit X is a specimen of this kind of paper. 2,400 or 10 gaddis of such paper are made out of a ghan of three maunds.

(c) *Sizing*.—The dried up papers are collected and arranged one over the other on a wooden plank in 3 batches of 40 each. Another wooden plank is placed above them and papers of required dimensions are then cut with the help of a sharp knife. Each of these papers is next taken off and rubbed on both sides with a porous substance called *Jhama* (झमा) in Panchamnagar and *Jhawan* (झावां) in Zainabad. This *Jhama* or *Jhawan* is made of hard-baked brick or tile, of earthen capsules or crucibles used by goldsmiths in smelting gold and silver or of the knee (cup) bone of camels. The *Jhawan* surface is made smooth before use. *Jhawan* when rubbed on paper removes dirt from it and makes its surface a little rough and therefore fit for sizing. Sizing is done by the wheat-flour paste with the help of a brush of blanket of whatsoever color. This paste is made in the following manner.

Kathia wheat is said to be a little better than *Pissi* for sizing purposes. About two seers of wheat is kept in water for two days. The third day this wheat is pounded in a mortar by a pestle water being constantly added. The essence of wheat called its milk becomes mixed up with water. This mixture is strained in a ghadra through a piece of cloth over which the chaff remains. Fresh water is boiled in a separate vessel and as much of the strained substance as is wanted to make paste is put in the boiling water. This paste when ready is taken out in a dish in which the *Kagzi* dips his brush. One side of the papers is first sized and when this side is dried the other side is taken up.

(d) *Polishing and shaping*.—The papers are polished after they are sized. Polishing is done with a portion of shell adjusted into a lump of earth mixed with cotton in Panchamnagar or with a piece of pure *Gar* (stone) of whatever color and found generally in the river bed. This *Gar* (गार) is made smooth by rubbing it for about a month or so on *Karanjkapathar* (कारंज का पत्थर) or some hard black stone and then for about eight days on *Tat* by applying oil to it as often as necessary. This *Gar* or stone is fixed or set in an earthen mould which can well be handled, but if it is sufficiently big, it is used as it is. There is a curved *Patti* or piece of wood over which the papers are rubbed with the shell or stone

on both sides. Rubbing is evenly done and continued till the paper assumes a gloss. They are then folded and the edges thereof properly cut off with a sharp knife. A quire of papers are thus shaped at a time.

V.—COST OF MANUFACTURE.

In Panchamnagar male workers get on an average of Re. 0-1-6 and female ones Re. 0-1-3 per day, whether they are engaged in Tat-cutting, pulp-making, rubbing or anything else. The Panchamnagri paper is sold most in Nagpur where the cost price of $12\frac{1}{2}$ gaddis of paper, including carting charges, comes to Rs. 37-10-0, the details whereof are given below :—

	Rs.	a.	p.
(a) Price of 2 maunds and 20 seers of <i>Tat</i> at 20 seers per rupee.	5	0	0
(b) <i>Tat kutai</i> at 4 maunds per rupee	0	10	0
(c) All processes subsequent to <i>Katai</i> and prior to paper-making at Rs. 4-8 per maund.	11	4	0
(d) <i>Lime</i> 20 seers at 1 maund per rupee	0	8	0
(e) <i>Sajji</i> 25 seers at 5 seers per rupee	5	0	0
(f) <i>Soap</i> one seer at 3 seers per rupee	0	5	3
(g) Price of <i>Bodal</i> , pitcher, basket, etc.	0	8	0
(h) Price of twine, khasi chhapri, etc.	1	0	0
(i) Charges of paper-making	2	8	0
Sizing	0	11	9
Polishing of $12\frac{1}{2}$ gaddis of paper	2	8	0
(j) Price of $18\frac{3}{4}$ Chauthias of wheat at $6\frac{1}{4}$ seers per rupee	3	0	0
(k) Carting charges from Panchamnagar to Nagpur at 6 annas per gaddi.	4	11	0
Total	37	10	0

Panchamnagri paper sells at Rs. 3-8 per gaddi and $12\frac{1}{2}$ gaddis of it is made out of a ghan of 2 maunds and 20 seers. Thus there is a profit of Rs. 6 on a capital of Rs. 38, or of Re. 0-2-9 per rupee.

In Zainabad 10 gaddis of paper was made out of *Tat* 24 paseries or 3 maunds in weight. Each gaddi (would) contain 10 quires or 240 papers and cost Rs. 50, the details being :—

	Rs.	a.	p.
(a) 3 maunds of <i>Tat</i> at Re. 1-8 per maund	4	8	0
(b) Cutting charges at Re. 0-4-0 a maund	0	12	0
(c) Wages of 7 men for the Dhekli or lever for 15 days.	15	0	0
(d) <i>Chuna</i> 6 paseries	0	8	0
(e) <i>Sajji Khar</i> 4 seers	0	12	0
(f) <i>Sabu</i> (soap) 5 paseries at one paserie per rupee.	5	0	0

	Rs.	a.	p.	
(g) <i>Ghulai</i>	...	0	8	0
(h) Charges of paper-making per 10 gaddis	...	5	0	0
(i) <i>Diwal Chadhai</i>	...	1	4	0
(j) Kalaf-making (sizing)	...	5	0	0
(k) <i>Ghutai</i> (polishing)	...	10	0	0
(l) Miscellaneous	...	1	12	0
				} For 10 gaddis.
Total	...	50	0	0

One *gaddi* was sold to Beparis for Rs. 10. Thus the Kagzi used to make cent per cent profit about 40 years back and prepared 10 gaddis in 20 days with only one Dheki or lever working. During the last 20 years prices of materials and rates of wages have gone very high as will be noticed from the details given below. If paper be made in Zainabad from *Tat* now it will cost Rs. 80 as follows:—

	Rs.	a.	p.
(a) Three maunds of <i>Tat</i> at Rs. 2-8 per maund	...	7	8 0
(b) <i>Tat</i> -cutting at Re. 0-8-0 a maund, a man taking 6 days to cut.	...	1	8 0
(c) Seven men at the Dhekli for 15 days. Man [in kundi getting more than others.	...	28	4 0
(d) Sabun for 5 washings 5 seers each time at 2½ seers per rupee.	...	10	0 0
(e) Sajji four seers	...	1	8 0
(f) <i>Chuna</i> 6 paseries	...	0	12 0
(g) <i>Ghulai</i>	...	1	0 0
(h) Paper-making	...	6	4 0
(i) <i>Diwal Chadhai</i>	...	1	4 0
(j) Kalaf-making	...	7	8 0
(k) <i>Ghutai</i>	...	12	8 0
(l) Miscellaneous	...	2	0 0
Total	...	80	0 0

The Zainabadi paper is on the other hand sold very cheap now as will be noticed from the rates given in paragraph 2 above. The Kagzis suffered great losses in paper they made of *Tat*, since prices

and wages rose high. They consequently gave it up entirely and the little *Zainabadi* paper that is now available is made from the waste or refuse paper called *Raddi* and purchased from Sahukars and Mahajans in Zainabad and Burhanpur. This *Raddi* sells at Rs. 6 per maund. The *Kagzi* buys three maunds of it and puts it in the *Dheki Kundis* with 24 ghadas of water in them. When this *Raddi* is fully drenched the *Kagzi* tramps it to pulp. He takes it to the river, washes it there and brings it back to the same *Dheki Khundi* or he engages a labourer to do this. Five seers of soap is mixed up with this pulp which is exposed to the sun. It is again brought to the *Kundi* and a ghada or two of water is poured over it. The pulp is trampled well with the feet and 4 seers of soap mixed with the hands. It is taken to the river for the second washing. It is brought back and three seers of *Sabun* is mixed with it similarly. After the third washing the pulp is free from dirt and fit for making paper from. The paper-making process is the same as described in paragraph IV (b) above. In making paper from *Raddi* there is no necessity of *Dheki* (lever), *Sajji* or *Chuna* (lime). The cost of preparing 12 gaddis of paper from *Raddi* is Rs. 52-8-0, the details being :—

		Rs.	a.	p.	
(a)	Three maunds of <i>Raddi</i> at Rs. 6 per maund ...	18	0	0	
(b)	Soap ...	5	0	0	
(c)	Ghulai ...	1	0	0	
(d)	Paper-making ...	6	0	0	
(e)	Paper-Chadhai ...	1	8	0	at annas 2 per gaddi.
(f)	Kalaf Chadhai ...	9	0	0	at annas 12 per gad- di.
(g)	Ghuntai ...	12	0	0	at Re. 1 per gaddi.
Total		52	8	0	

A gaddi of *Zainabadi* paper now fetches Rs. 5 or Rs. 6-4-0 according as it is of *Shastrikhani* or *Bahadarkhani* paper. It is the little profit that is keeping only one family in Zainabad engaged in the craft.

VI.—CASTES ENGAGED, THEIR SOCIAL STATUS, AND CUSTOMS OBSERVED.

The proprietors of the four paper factories now working in Panchamnagar are Hindus—one *Barai* and three *Badhais*.

Formerly when the industry was in a flourishing condition and as many as 80 or 90 factories were working all classes of people carried it on. For instance, Brahmins, Jats, Sonars, Banias, Musalmans, Kayasthas and Rajputs also were proprietors of factories. It is said that about 1,500 persons found work in these factories there. Zainabad has got only one factory now owned by a Muhammadan Mir Nawab. Here the business has all along been carried on by Musalmans only. About 20 factories were working here some 40 years back and each factory gave employment to 16 persons on an average. It is not considered derogatory to carry on the industry: as a matter of fact the proprietors of these factories were persons of good social status, but with the decline of industry they have fallen in the world, and are gradually (leaving) it for other avocations. In Panchamnagar Luqman Hakim is propitiated by the *Kagzis*. He is considered a *Pir* and *Lobhan* (incense) is burnt in his honor at the beginning of the season as he is supposed to be the inventor of the art and the general belief is if he were not so propitiated paper would be spoilt. Besides *Darubs* (prayers) are offered in his honor through local *fakirs* at the *Dewali* time. In Zainabad, however, Luqman Hakim is considered to have been born after the 22 Khwajas mentioned in paragraph I above. These Khwajas are propitiated on every 22nd day of *Shalum* or *Jamadiussani*. Lobhan is burnt in their honor on that day, sweets are partaken and *Fatihās* offered in their honor. There is no other custom observed by the Khagzis there.

VII.—PROSPECTS OF INDUSTRY.

It will be seen from what I have said above that the situation is disappointing and the prospects are gloomy still. The Panchamnagari and the Zainabadi papers were formerly used in public offices and there was a great demand for them from Bankers also, who used them in preparing their account books. They have still the reputation of being

very durable, but the superior Sheorampuri papers, the finely polished French and foolscap papers and the Morad-Shashi and the Sahebhkani papers have driven them out of market as they are much cheaper and almost equally durable. Of the four factory proprietors of Panchamnagar two are Badhais who are not in good circumstances and therefore expected to take to their own profession within a year or two. Behari Barai has two levers working in his factory, but as the paper-making business is not paying he has begun agricultural work also in addition. He prepares paper worth about one thousand. The fourth proprietor is also not doing well. These factory proprietors send all their outturn to Nagpur where two shop keepers purchase it. They have to sell this paper to them at whatever prices they choose to purchase.

During the last 15 years there were seven factories working in Zainabad, but as the proprietors suffered great losses they gradually gave up paper-making business, and took up agriculture or other profession. Mir Nawab alone prepares about Rs. 400 worth of papers out of Zainabad *Raddi* and supplies it to the Banias and Mahajans of Zainabad and Burhanpur. He is also in bad circumstances. The Secretary of the Industrial Exhibition, Central Provinces, Mr. Low, approved of the Zainabad paper and thought that it was very good for letter-writing and typing purposes. Mr. Panalal, the Tahsildar of Hatta, commends the Panchamnagri blotting paper to the favourable notice of the Government, saying that it is as good as that used in Government offices.

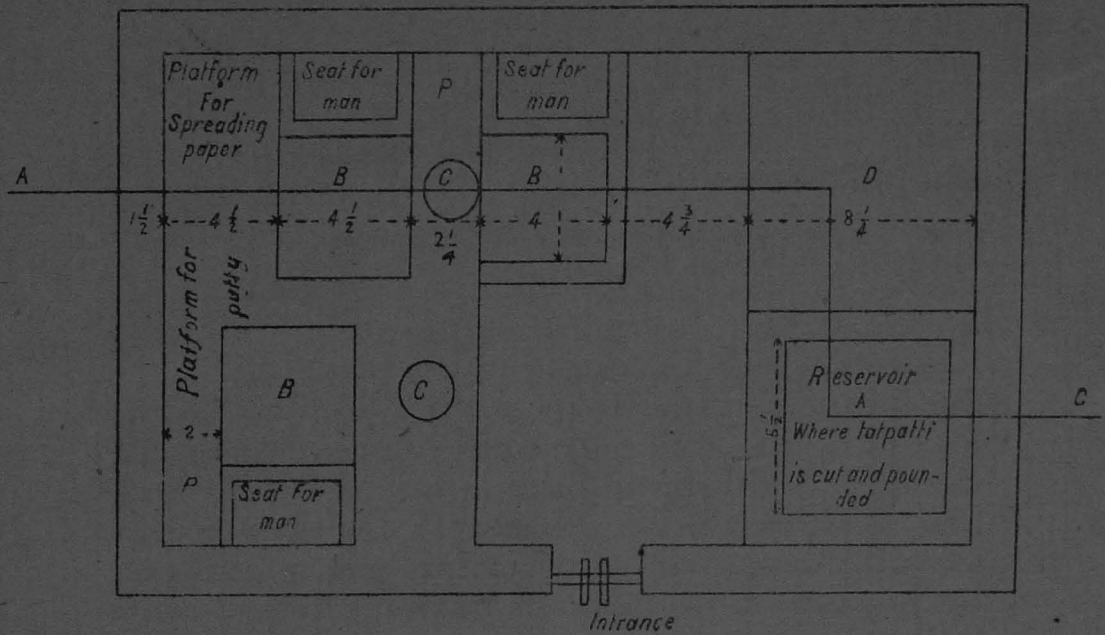
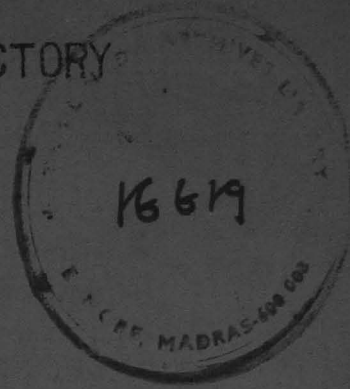
It will thus be seen that in Central Provinces the paper industry is gradually dying. There is keen competition in the market and the law of the survival of the fittest holds good everywhere. The paper industry in the Central Provinces has been in a crude (form) all the time of its existence. There have been no improved methods introduced by the Kagzis and the hand-made papers compare most unfavourably with the machine-made ones in almost every respect. The Bengal Paper Mills are supplying papers (yellow) for use in all public offices in Central Provinces. If the Government patronize the industry in Panchamnagar and Zainabad by purchasing the paper from those factories for use in the public offices at some loss of course, then alone is there any chance for the industry to revive: otherwise it is bound to die out entirely sooner or later.

No other articles are made of pulp in the Central Provinces.

GROUND PLAN OF PAPER FACTORY

AT ZAINABAD

Scale 6=1



SECTION ON A.B.C.

Roofing Flat Tiles

