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CARPETS XII. PAHLAVI PERIOD

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xii. Pahlavi Period

Throughout the 14th/20th century carpet manufacturing has been, from the point of view of both employment and domestic and foreign market demand, by far the most important Persian industry after oil refining. Although it had been to a large extent organized by foreign capital in the 13th/19th century (see xi, above), after World War I it was gradually taken over by Persian entrepreneurs as a result of the Iranization policy instituted by Reżā Shah. The carpet market did remain largely geared to exports, however, and therefore it was affected by worldwide economic cycles. For example, exports grew after World War I but dropped sharply after the stock-market crash of 1929; the industry also suffered from technical, organizational, and commercial inadequacies. The technical problems included low productivity in spinning, preparation of warps and wefts, and knotting and beating operations, owing to the use of outmoded equipment and lack of quality control. The industry was organized in such a way that weavers were dependent upon a large number of middlemen, which led to confusion and inefficiency. On the commercial side, the use of chemical dyes and the lack of novelty in design after World War II had intensified foreign resistance to Persian carpets, and there was a need for strong market development through promotion of exports. In the 1350s

Š./1970s there were improvements in all these areas, owing to installation of modern equipment and some reorganization of production.

Development of the carpet industry. Established production centers like the Solṭānābād area and Tabrīz have remained important in the present century, and, in addition, several cities like Kermān, which had been of secondary importance in the 13th/19th century, rose to prominence in carpet manufacturing and trade. Sir Percy Sykes (*History of Persia* II, p. 537) claimed that, while serving as consul at Kermān, he had convinced local manufacturers to export carpets via Bandar-e ʿAbbās instead of Tabrīz, thus reducing their costs by 50 percent. He also (1902, p. 199) persuaded them to produce only traditional Persian designs, rather than European ones, which made it possible to capture a larger share of the existing market, as well as to open new ones. In 1327/1909 Nearco Castelli & Brothers and the Eastern Rug and Trading Company, both with headquarters in New York, began to invest in the Kermān carpet industry (Edwards, p. 202). In the next decade they were followed by other large British and American firms. As a result, by 1329/1911 about 10,000 people were employed in the carpet industry in Kermān alone. Between 1326/1908 and 1329/1911 the output of the Kermān carpet industry doubled, and by 1308 Š./1929 about 5,000 looms were in operation; 90 percent of the output was destined for the American market. By that time the original contractors from Tabrīz had been almost entirely replaced by European companies (Dillon, pp. 292-94). After the stock-market crash of 1929 the Western firms left Kermān; when they returned later it was as buyers, rather than as contractors, owing to Reżā Shah's Iranization policy. One of the largest firms sold its interest to the Iran Carpet Company (Šerkat-e Farš-e Īrān), which had been created in 1314 Š./1935 to produce quality carpets (see below). To that end it had been given a monopoly over carpet exports (Edwards, p. 202).

Starting in about 1300 Š./1921 Isfahan also became a major center of carpet production, a latecomer to the trade focused on the European and American markets (Soltani-Tirani, pp. 75-76). This new development resulted from economic pressures in the region, generated by natural disasters like drought and loss of former industries; for example, at nearby Nāʾīn the production of *ʿabā*'s (traditional cloaks), a major source of employment, had been discontinued. Many villages in the Isfahan area did have carpet-weaving traditions, which could be adapted to commercial production. The new carpet industry at Isfahan suffered especially severely, however, from the loss of foreign markets during World War II, and recovery began only when

entrepreneurs turned to the Tehran market, which had greatly increased (see Edwards, p. 308).

Aside from Kermān and Isfahan, the major carpet-manufacturing areas in the 1350s Š./1970s were largely the same as those in the 13th/19th century: Kāšān, Kermān, Tabrīz, Qom, Arāk, Isfahan, Nāʾīn, Malāyer, Bījār, Yazd, Ḵᵛānsār, and some parts of Khorasan, Fārs, Baluchistan, and Gorgān (*Iran Almanac*, 1973, p. 311). These areas still lead the industry, each with its own characteristic designs, commercial practices, and production methods.

Organization of carpet production. Weaving in factories, defined as single-story buildings housing twenty looms, twenty to sixty weavers, and administrative personnel, has always been marginal in Persia. This type of organization has the advantage of permitting better quality control, but it is also more subject to enforcement of the labor laws (see below). Most carpet production is in the hands of subcontractors, who supply labor from their own families or other local sources. Only about 20-30 percent of weavers work for themselves (Soltani-Tirani, p. 95; Bazin, n.d., p. 73); lack of market information, contacts, and capital militates against such independence. Most contract weavers have their own workshops, usually in their homes, but some may rent working space. There are also weavers who have workshops but no looms. A loom consisting of two roller beams that fit into sockets in the side walls of the workshops (see iii, above) represents a significant investment. Wooden beams cost 300 tomans the pair before 1339 Š./1960, when cheaper iron beams were introduced (Dillon, p. 318); the latter cost 100 tomans in 1350 Š./1971.

The demands of the export market impose certain standards on contract work. For example, American buyers prefer “large areas of plain, light colored background. Uniformity of color, especially the background, is important. In view of variability of dyeing, a large quantity of dyed wool needs to be bought at the outset. A weaver usually does not have that kind of money. Also, carpet making requires some 6 months of labor cost; he cannot advance this either, while credit is hardly available” (Dillon, pp. 304-10; cf. ILO, surveys; Soltani-Tirani, pp. 108-15). Because of the need for quick turnover and payment, smaller carpets predominate, a phenomenon that was already apparent at the beginning of commercial carpet production in the early 1300s/1880s (Ehlers, p. 248). Economic necessity also makes it difficult for weavers to sell carpets themselves, for they can rarely support themselves while they are waiting for buyers. One option open to the independent weaver, however, is *amānat-forūšī*, selling carpets through an agent at a commission of 5-20 percent of the

price (Soltani-Tirani, p. 96).

In rural areas weaving is organized by middlemen (*dallāl* "broker," *ḥāmel* "agent," *ostād(-e) kār* "master of work," *maḥaḷčī* "representative") who supply all necessary materials, by heads of families who buy materials in the *bāzār*, or by the Iran Carpet Company (Ehlers, pp. 233, 235). Three types of middleman can be distinguished, all based primarily in urban centers: those who work only for carpet dealers; *pīlavars* (itinerant traders), who supply the general needs of the rural population as well; and teachers, government officials, and others who trade in carpets on the side.

The marketing structure is thus heavily dependent upon intermediaries; whether a weaver is independent or works as a subcontractor, he or she must deal with such intermediaries, particularly for the sale of medium-sized carpets (primarily 2.5 x 3.5 m), which are subject to considerable price elasticity in importing countries (Ehlers, p. 230; ILO, surveys). The extreme fragmentation of the contracting system has led, paradoxically, to concentration of the wholesale carpet trade and ancillary activities in a few large enterprises with oligopolistic market features. Wholesalers in the carpet and wool trades, operating mostly out of the *bāzārs*, play an essential role in the carpet industry. They buy carpets directly or indirectly from villagers and nomads and also from dealers and colleagues in the *bāzār*s; they also supply wool and yarn to weavers, take care of having the wool dyed, and engage in other processing activities (Ehlers, p. 231). Although there are several hundred carpet dealers in, for example, Arāk, the bulk of the trade is controlled by only twenty or thirty. They supervise the weaving through *dallāl*s or *ḥāmel*s. Tehran wholesalers also leave purchasing and manufacturing arrangement to such middlemen. In addition, local wholesalers may sell in Tehran or to agents of Tehran firms (Ehlers, p. 235; Dillon, p. 321; Edwards, p. 211).

Among middlemen the bigger operators combine several functions: They own flocks of sheep; have the sheared wool washed, spun, and dyed; and supply it with other necessities to "their" weavers. Usually, however, the situation is more fragmented, especially when a household hires workers or when two or more households pool their resources. Some raw material is locally available; for example, local sheep herders provide wool, which can also be bought in neighboring towns and major provincial centers. Raw materials can also be obtained from local or itinerant traders; their prices are higher, but they give credit. Weavers who do their own dyeing buy their colors from retailers (*saqat-forūš*), but most dyeing is done in small establishments located in large

towns; the dyes are purchased from *tājer-e rang*s (dye merchants) or in large quantities directly from Tehran. Specialists, for example, warpers, are often required in preliminary stages of production; the cost of having the warps laid is the weaver's responsibility. New designs may be prepared by the *naqšakaš-eqālī*, though they are not necessary where traditional patterns persist. Designs can be purchased from middlemen or rented at 15-20 percent of their purchase price (Soltani-Tirani, pp. 82-91). The middlemen keep records of good weavers, which means that the latter find it easier to obtain advances. Discipline is also relatively easy, as alternative work is difficult to find.

In the Isfahan area the *ostād(-e) kār* supplies the bulk of raw materials for cottage weavers, but the old system of *pīšforūš* ("presale"), in which he had a prior right to the carpets produced, no longer exists there. Weavers owe him money, but they may sell their carpets as they wish. Nevertheless, the weaver is at a great disadvantage, especially in villages where the *ostād(-e) kār* is simultaneously the main (or sole) source of credit, the supplier of consumer goods, and the carpet dealer (Soltani-Tirani, p. 91). The situation is somewhat similar in Arāk, where middlemen known as *maḥalčī*s supply all raw materials to weavers in exchange for the right to purchase the finished carpets at fixed prices. They buy the wool ready-made or arrange to have it carded, washed, and spun. They also supply credit for up to six months either at interest or with the right of *piš-ḵarīd* (prior purchase); the weavers thus become economically dependent on them. The middlemen, who control the weaving through their monopoly of credit, raw materials, and the carpet trade, constitute a kind of "informal union" (Ehlers, pp. 232-34).

In Qom the industry is organized by the municipality, which supplies all materials and designs. Pay is determined according to the size and complexity of the work. About 30 percent of the weavers are independent and concentrated in a few villages. They purchase additional services and raw materials from elsewhere and sell their carpets in Qom. Estimates for 1348 Š./1969 indicate that 1,000-1,500 tomans, or 20-40 percent, of annual family revenues came from carpet weaving (Bazin, 1973, pp. 73-74; idem, n.d., pp. 85f.). In fact, these revenues were more important for many rural families than their incomes from agricultural activities (Bazin, n.d., pp. 85f.; Costello; Ehlers, p. 241).

Urban capital and organization have also played a role where the carpet industry was still relatively undeveloped, as in Kurdistan in the 1350s Š./1970s. Wool was either sold in raw form in the Sanandaj market or collected from the

villages by agents for outside traders; the finished carpets were sold at Sanandaj or Kermānšāh, largely by people from outside the region. In as many as twenty-five villages it was mentioned that marketing was a serious problem; lack of buyers had discouraged weavers from enlarging the scale of their operations (ILO, Sanandaj report).

Carpet weaving in tribal areas is still relatively independent, for the subcontracting system has made few inroads. City investors do not risk capital among the tribes, which are always on the move and themselves own the necessary raw materials (Dillon, p. 301). In the territory of the Baḵtīārī, for example, there is hardly an *ostād(-e) kār* to be found, though carpets are sold to *pīlavar*s and other middlemen. The same is true in the Najafābād valley, which was formerly dominated by *ostād(e) kār*s

(Soltani-Tirani, pp. 95-97). Owing to the absence of contractors in the Kermān tribal area after 1327 Š./1948, however, the quality of carpets (determined by the foreign importers) declined; because of high prices for wool cheaper cotton warps were substituted for traditional woolen ones. Also natural dyes were increasingly replaced by chemical colors; the small tribal carpets were thus mostly destined for the domestic market (Dillon, p. 302). The opposite effect was noted in the Ardabīl area, where the quality of carpets has suffered from the commercialization of production (ILO, Ardabīl survey), part of a general decline that began in the 13th/19th century (Ehlers, p. 248).

The Iran Carpet Company was founded in 1314 Š./1935 to oversee the export of carpets and to guarantee certain standards of quality, though, because of declining foreign markets (see below), restrictions on exports were lifted after only a year. Subsequently the Company came to serve as guarantor for credit extended by the Agricultural Bank (Bānk-e Kešāvarzī) to village cooperative societies for the purchase of raw materials to be used in carpet production. The finished carpets were to be bought by the company, which would then repay the loan from the Agricultural Bank. The importation of machinery to make carpets was forbidden (*Iran Almanac*, 1963, p. 246). The Iran Carpet Company also established an inventory of carpet designs, in order to copyright them and to prevent machine-made carpets from usurping the market for hand-woven carpets (*Iran Almanac*, 1965, p. 646). To improve quality control the Company set up six factories for washing and combing wool, three dye factories, and one each for wool carding and spinning. It also announced that 80 percent of its profits would be set aside to improve the lot of rural weavers through creation of cooperatives. The company planned to help them

purchase looms, raw materials, and other necessities and to insist on higher wages, elimination of child labor, better working conditions, and higher standard of output. These measures were expected to increase carpet prices 25 percent (*Iran Almanac*, 1971, p. 311). The experience in Zābol (see below) is evidence that the Company achieved at least some of these objectives.

Since 1354 Š./1975 the Company has operated in eight provinces (Tehran, Tabrīz, Mašhad, Kermān, Isfahan, Kermānšāh, Hamadān, and Arāk); in 1356 Š./1977 it controlled 2-3 percent of the total national output of carpets. In the Isfahan area the Company owns about 1,000 looms (Soltani-Tirani, p. 93). Before 1353 Š./1974 the Arāk office had produced all its own raw materials, but since then it has been supplied with dyes by the Company's factory at Karaj; whereas before it used 100 dye shades, it now uses only thirty-seven standardized colors. The Company also supplies all inputs; its agents, known as *ḥāmel*s are often village headmen (*kadḵodā*s). The Company enforces higher quality requirements than do the *maḥaḷčī*s of the free market, but it employs only a limited number of designs (Ehlers, p. 236).

Although data on employment are based on estimates and are not always reliable, it is possible to discern three general trends during the 14th/20th century. First was a steady growth in overall employment in the carpet industry linked to the steady growth of the industry itself. Second, the proportion of rural workers in the labor force increased, so that by 1309 Š./1930 75 percent of all carpet workers were located in rural areas. Third, women and girls have always played a predominant role in carpet weaving and now represent almost 80 percent of the labor force.

Growth in employment. At the end of the first decade of this century about 65,000 people were working in the urban carpet industry; the number in rural areas is unknown. An estimate by Abdullaev (p. 212) for the second decade puts urban employment in the Persian carpet industry at 60,000; this figure remained fairly steady until 1319 Š./1940 (Floor, 1985, pp. 5, 27-28), when it was approximately matched by the number of people employed in rural areas (Abdullaev, p. 84). A more detailed estimate by C. A. Edwards (based on extensive personal contacts in the industry over many years) put the total (rural and urban) employment at more than 250,000 in 1319 Š./1940. His figure tallies generally with those of Abdullaev if it is assumed that each loom was operated by three or four people, the *ostād*, or master weaver; the *naqšanevīs*, or design supervisor; and one or two *šāgerd*s, or apprentices (Edwards, p. 99).

According to the *Iran Almanac*, in 1335 Š./1956 there were 103,492 looms for weaving carpets and cotton druggets in eighty-eight towns in Persia. Approximately 166,000 workers operated these looms. In 1338 Š./1959 the industry employed about 231,000 workers, 5,000 of them in government-owned workshops (1963, pp. 246, 300, 302). Almost a decade later, in 1347 Š./1968, there were approximately 400,000 people engaged in carpet weaving, operating about 120,000 looms. In that year the Persian government established the Center for Cottage Industry (Markaz-e Ṣanāyeʿ-e Dastī-e Īrān) to develop handicrafts in rural areas (1971, p. 311), and by 1354 Š./1975 there were about 500,000 weavers working for 3,000 employers. The figures published by the Institute of Social Studies (Moʾassasa-ye Moṭālaʿāt-e Ejtemāʿī) in Tehran differ slightly: 748,000 weavers in 1344 Š./1965 and 800,000 in 1354 Š./1975. These estimates also include nonprofessional weavers, however (*Iran Almanac*, 1976, p. 209). The most recent estimates are that there were 2 million carpet weavers in Iran in 1367 Š./1988 and that the total number of people directly or indirectly involved in the carpet industry was five million (*Iran Yearbook*, p. 432); these figures seem rather high.

Progressive concentration in rural areas. Before 1309 Š./1930 carpet weaving appears to have been primarily an urban industrial activity, but in that year it began to change sharply. The numbers of looms in the most important production centers ten years later are shown in Table 48.

In an important carpet-weaving center like Arāk the urban industry still plays an important role. In 1354 Š./1975, for example, of 9,233 business establishments in the town 45 percent, or 4,181, were related to carpets (carpet repairmen, cutters, designers, etc.); 3,440 were weaving establishments. Most of them were household workshops (Ehlers, p. 224). Nevertheless, the production of carpets in urban Arāk, as elsewhere, has declined in comparison with the 1310s Š./1930s. A similar situation prevails in Kermān. In 1327 Š./1948 there were 4,000 looms in operation there. In 1345 Š./1966 32,000 weavers were employed in the Kermān area, operating 11,000 looms, mostly in home workshops. The number of looms in the city itself, however, had fallen by about 35 percent since 1316 Š./1937 (Dillon, pp. 279, 299).

On the other hand, after World War II thriving carpet industries developed in rural areas where they had previously been nonexistent. In 1327 Š./1948, for example, only eleven villages in the Qom area were producing carpets, probably for local and personal needs. In the 1335 Š./1956 census only 730 people were listed as engaged in carpet production, whereas in the census of

1345 Š./1966 3,671, or 36 percent, of 10,036 households were engaged in carpet production. The total number employed was about 5,000, mostly women and girls. A field survey in 1348 Š./1969 confirmed the steady growth and continued spread of carpet production in the Qom area (Bazin, n.d., pp. 70, 73). In Ardabīl, another important center, the carpet industry employed about 5,500 weavers, 60 percent of whom were men, in 1351 Š./1972. There was, however, a steady shift of the industry to the villages in order to circumvent laws related to the employment of minors (defined as under twelve years old; ILO, Ardabīl survey). Even the government-owned Iran Carpet Company circumvented the laws by signing weaving contracts with parents in full knowledge that it was mostly minor children who would do the weaving (Rist, p. 152). An additional inducement to move production to rural areas was villagers' acceptance of lower wages.

Many other cities produced almost no carpets at all; instead the industry was concentrated in surrounding rural areas. For example, according to both the 1335 Š./1956 and 1345 Š./1966 censuses there were only twenty-three carpet-weaving establishments in the town of Kermānšāh, 2.5 percent of the enumerated household workshops, reflecting a general decline in home industry there. On the other hand, in 1347 Š./1968 fifty shops handled pile carpets and *gelīm*s (see v, above) in the *bāzār*, where they were brought from the countryside to be sold to agents from the Tehran carpet market (Clarke and Clark, pp. 62-63, 75). In Shiraz, according to the 1335 Š./1956 census, only 15.9 percent of urban household workshops made carpets and related products, whereas in the surrounding area 53.4 percent of household workshops were so engaged (Clarke, p. 38). In 1344 Š./1965 the manufacture of rugs was proportionately even more important in the neighboring villages and among the tribes (especially the Qašqāʾī). In the Isfahan *ostān* (administrative region) at the end of the 1350s Š./1970s urban weaving occurred only in Isfahan itself, Qomša (Šahreżā), Homāyūnšahr, and Ḵᵛānsār (Soltani-Tirani, p. 82).

Not all rural carpet production was for the market, however. According to a 1350 Š./1971 survey of forty-five villages in the vicinity of Qazvīn, about 8 percent of the total, most weaving was for domestic use. The weavers used chemical dyes and produced inferior work. The once famous Qarabāḡī design was still being made but by only two professional weavers. The explanation for such backward conditions so close to the major Tehran carpet market was an absence of promotional and technical support (ILO, Qazvīn survey). There

was a similar problem around Sanandaj, where weaving on small looms with throw shuttles took place in most households. Carpets of medium and coarse quality with traditional folk motifs and designs were produced: "*jainajaj*" of "*kaškūla*" (begging bowl) design, *mūj* (blanket of four large pieces sewn together), narrow *jājīm*s in simple striped patterns, *gelīm*s (see v, above), and so on. Yarn was spun from local wool by the villagers, but facilities for dyeing, cutting, and the like were not available in the seventy-three villages surveyed. Dyeing was done in Sanandaj (ILO, Sanandaj survey).

In Semnān even rural carpet weaving was of little importance in the 1350s Š./1970s (Connell, p. 66, 82). In southeastern Persia at the end of the decade more than 80 percent of carpet production was concentrated in the vicinities of Zābol (71 percent, based on a sample survey) and Bam (12 percent), yet in the former area the production of carpets was insignificant and mainly for the villagers' own use (Ital Consult, chap. 8). In fact, before the Iran Carpet Company was established there in 1348 Š./1969, as part of a program to develop the region, there had been no carpet production at all, either public or private. Even in 1355 Š./1976 there were only forty-five looms and ninety carpet workers around Zābol. Kermāni weavers were brought in to train Sīstāni women, who naturally adopted Kermāni designs. The entire production process remained under the control of the Company (Rist, pp. 150, 153, 187).

The latest reliable figures on the size and distribution of rural employment in the carpet industry are from 1350 Š./1971, when the International Labor Organization conducted an extensive survey of Persian industries. At that time most farm families were engaged part time in nonagricultural occupations; of a total of 1.2 million engaged in manufacturing 300,000 were carpet weavers. "The bulk of rural manufacturing consists of carpet and cloth weaving. Population centers with fewer than 5,000 inhabitants account for 72% of employment in the carpet industry and 70% of the employment in cloth weaving. Both male and female workers are employed in carpet and cloth weaving, where part-time employment and low wages are frequent. Workers are highly dependent on the middlemen who provide credit by making advance payment for the product. In the carpet industry there is ample room for development of the market through export promotion, reorganization of production and improvement of equipment and marketing" (ILO, 1973, pp. 46-47).

Labor force and working conditions. Weaving is an almost exclusively female

occupation, mainly for young girls; men purchase the raw materials, prepare the warps, and sell the finished products (Soltani-Tirani, p. 91). Female workers account for as much as 67.5 percent of total employment in the carpet industry and for more than 75 percent of the rural sector alone (ILO, 1973). Working conditions among women and children in the carpet workshops of Kermān led to the first attempts at labor legislation in Persia. Crouching over their work in subterranean areas like caves—badly lit, cold, humid, and unventilated—many women and children were crippled for life. Workers were often afflicted with ankylosis of the pelvis and lower spine, with resulting difficulties in childbirth (Floor, 1987, pp. 101-02). Even as recently as the 1350s Š./1970s there was evidence that disproportionate numbers of female children in rural areas of Persia suffered from rickets and other diseases caused or aggravated by the conditions under which carpet weaving took place (Rašīdīān, pp. 25-26, with illustrations).

In 1331/1913 the deputy governor of Kermān province attempted to introduce some regulation of working conditions into the carpet-weaving industry. He was believed, however, to have been motivated primarily by the desire to extract more money from employers, and under pressure from the British and Russian consuls in Kermān he was forced to withdraw the regulations. The consuls proposed that improvements be introduced where necessary, especially to ameliorate overcrowding, poor ventilation, and cruelty to children (Floor, 1987, pp. 82-84). After World War I the International Labor Organization, the British government, and Christian missionaries in Kermān pressed for voluntary improvements by employers, which were adopted in 1300 Š./1921. In Dey 1302 Š./December 1923 the governor-general of Kermān decreed a compulsory eight-hour working day, an age limit for workers, gender separation, and better working conditions; fines were established for violations. As a result it was widely acknowledged that the situation improved greatly over that of 1332/1913. By 1307 Š./1928, however, reports indicated that there had been a relapse to earlier conditions. The resulting publicity forced the Persian government to issue new regulations for the entire carpet industry, including the forty-eight-hour work week, abolition of child labor, and improved working conditions. These regulations were apparently never enforced, however. According to a report by the United States legation in 1313 Š./1934, “no such reforms have been made and probably were never a matter of serious consideration” (Floor, 1987, pp. 86-93; cf. Edwards, p. 206).

Because of the decentralized structure of the carpet industry (see above), it has

been difficult to apply the various labor laws that have been promulgated by the Persian government since 1325 Š./1946. Furthermore, a flexible labor policy, for example, toward the hiring of minors, allows entrepreneurs to react more quickly to fluctuations in the market (Soltani-Tirani, p. 93). The labor laws were thus still not being enforced in rural areas as recently as the late 1350s Š./1970s. The mainly female labor force still put in long hours without holidays or overtime pay (*Iran Almanac*, 1976, p. 210), especially those working on piece-rate contracts. In areas where demand for carpets was low, however, underemployment was a greater problem than exploitation. Around Sanandaj, for example, where 48 percent of those employed in crafts were in the carpet industry, female weavers worked an average of only twenty-seven hours a week in 1350 Š./1971 (ILO, Sanandaj survey).

In the early part of this century European contractors tried to exercise strict control over their labor force, for example, locking up a defaulting weaver in a stable until his relatives came forward with guarantees that the carpet would be finished or the advance returned (Edwards, p. 136 n. 1). When Persian contractors came to dominate the industry in the 1310s Š./1930s such measures were replaced by more indirect controls. Contract work was based on piece rates, which meant that the problem of disciplining labor was transferred to the head of the family, whose income depended on output. It also increased competition among weavers. The latter tried to countervail this trend by cutting corners, particularly using the *joftī* knot (see iii, above) and "*kimanshi*" weaving, which reduce the amount of labor required. These methods spread in the late 1310s Š./1930s, when production for Tehran companies and foreign trade intensified. Currently such methods are universal, abetted by employers, because consumers do not easily recognize their hallmarks. Pieces of high quality are therefore produced only under direct supervision by company foremen (Dillon, pp. 313-17; Soltani-Tirani, p. 92) or as a result of manipulation by middlemen. For example, in Golpāyegān the *ostād(-e) kār* owns all factors of production and pays his weavers by the *ḏaṛʿ* (cubit; see iii, above), though he prices carpets by the meter for sale. He may also provide thicker yarns for weaving and knotting, which, because the dimensions and knotting density of the carpet are fixed, force the workers to weave more tightly and thus to produce better quality at lower cost (Soltani-Tirani, p. 92).

Under the contract system weavers are paid subsistence wages at best, often less. Particularly in Sīstān and Baluchistan, where unemployment was a

serious problem in the 1350s Š./1970s, peasants were at the mercy of middlemen. Because of large-scale migration to other, more prosperous areas, fewer sheep were raised locally, and the peasants could thus not produce sufficient wool for weaving carpets. As there were no credit facilities to allow purchase of materials, middlemen from nearby towns provided them. The middlemen also usually handled the sale of the finished carpets, with half the price going to the weavers. The International Labor Organization estimated, on the basis of standard carpets and prices, that a weaver's wages averaged about 18 rials a day, whether paid as a percentage of the sale price or as a piece rate (ILO, Sīstān report). In the Marvdašt area rural female weavers were making about 20 rials a day in 1350 Š./1971 (ILO, Marvdašt report). The same types and levels of remuneration also prevailed elsewhere in Persia (Momeni, p. 182; Šafaqī, p. 8). Urban weavers received more, an average of 90 rials a day in 1347 Š./1968, compared to 20 rials for rural weavers (Šafaqī, p. 8), but still barely at subsistence level (wages are usually paid by the piece but have been converted to daily rates here for comparison with other branches of industry). Furthermore, these low wages were eroded by rising inflation. During 1345-50 Š./1966-71 carpet prices rose by 11-20 percent a year, which was blamed partly on higher production costs, while weavers' wages rose only about 5 percent (ILO, "The role"). According to a report in 1354 Š./1976, wages absorbed about 60 percent of the cost of carpet production. They had risen by a total of 250 percent in the preceding decade but nevertheless remained low in relation to the overall Persian wage structure. Whereas in 1343 Š./1964 it cost 8,000 rials to weave a carpet, in 1354 Š./1976 it cost 28,000 rials; in the latter year the same carpet would sell for 60,000 rials (*Iran Almanac*, 1976, p. 210). Wages for urban weavers in that year ranged between 120 and 240 rials a day (the higher rate for master weavers), whereas the average daily wage for unskilled urban laborers was 300 rials (*Iran Almanac*, 1976, p. 210). In 1357 Š./1978 beginning girl weavers in Isfahan were paid 10-50 rials a day for a ten-hour day, experienced weavers 60-150 rials, and highly qualified weavers 200-400 rials. Comparable wages were even lower in rural areas (Soltani-Tirani, p. 108). It is unlikely that the situation has changed in subsequent years.

Only the Iran Carpet Company issues formal written contracts. Whether written or oral, the contract stipulates design, colors, dimensions, and knotting density of the carpet, as well as rate of pay, date of completion, and conditions for payment of a bonus for particularly good work (Dillon, pp. 318-21; cf. p. 322 for the wording of such a contract; Rist, p. 152). Both factory and rural workers

are paid by the piece. The rate depends on intricacy of design, tightness of weave, and type of knotting, as specified in the contract. Piece rates for factory and other hired workers in the Kermān area are based on the *sad-nešān* (100 *nešān*s: a *nešān* = 160 knots along the weft, or *pūd*, of the carpet) and a theoretical daily output of 1,600 knots (one tenth of a *sad-nešān*), though few workers tie that many knots in one day. For contract weavers the base unit is the *gaz*, which equals 1,280 *nešān* (Dillon, p. 312). In the Arāk area the *čārak* (*čahārak*, lit. "one fourth"; 4 *čārak* = 1 *ḏaṛ*ʿ of 104 x 104 cm) is the basic unit of measure for piece rates (Ehlers, p. 239). In the villages two to four weavers usually work at one loom. Younger, inexperienced weavers (*porkon*) work on the background areas, while the more experienced women execute the pattern. The density of the pile depends on the number of knots (*raj*) per unit of length and the number of knots (*rīša*) per unit of set up on the loom, in a consistent ratio of 2:1. There are four standards: 70/35, 80/40, 90/45, and 100/50. The 80/40 ratio is export quality, the 70/35 for cheaper carpets; the other two standards are for very fine carpets (for breakdown of production costs, see Dillon, pp. 312, 322, 339-48; for Arāk, Ehlers, p. 239; for Zābol, Rist, p. 152; for Isfahan, Soltani-Tirani, p. 109). The weaver often receives a month's pay in advance, after which pro rated payments follow every thirty-five days; there is no pay during the final month of work because of the advance. Monthly inspections can lead to disputes over the rate of progress; the weavers are always at a disadvantage in such disputes.

Exports. For the early part of the 14th/20th century the data on carpet exports are not entirely reliable. The customs administration did not check the declared values of exports because duty was charged only on carpets in which yarns dyed with aniline had been used. Trade expanded considerably up to 1308 Š./1929, owing primarily to demand in Germany for cheap and medium-grade carpets after the reduction of German import duties in July 1927. Traditional American demand had begun to fall even before the Great Depression reduced it further. European demand for antique carpets also declined (Lingeman, pp. 14, 32). More important than the Depression were American tariffs on cheap carpets, which Persian exporters regarded as prohibitive. They were then faced with the choice of making carpets of higher quality or halting exports to the United States altogether. At the same time increased use of aniline dyes had harmed the reputation of Persian carpets. Finally, the carpet industry suffered from Russian competition in the Persian wool market. Although trade did improve somewhat after export controls were lifted and the Iran Carpet Company imposed higher levels of quality

control (Gray, p. 20; see above) and although carpets remained the most important Persian export commodity after oil (cf. Table 49), there was a steady decline, aggravated by higher tariffs, quotas, and exchange restrictions in former markets. As a result carpet-manufacturing firms in Iran either restricted their activities or, in some instances, closed down. Before World War II the chief export markets were the United States, the United Kingdom, Turkey, and Iraq (Simmonds, p. 28).

For most of the period after World War II carpets were also Persia's leading export commodity after oil, though in some years they fell to second place behind raw cotton. In 1327 Š./1948 production rebounded from wartime lows, though quality (as viewed by US importers) had deteriorated (Dillon, p. 302). In 1339-40 Š./1960-61 carpet exports totaled 1,930 million rials, second only to oil; the following year they reached 2,192 million rials but were surpassed by cotton.

Despite declining quality, competition from machine-made carpets, and protective tariffs abroad, woven carpets generally retained their value and market (for major markets in 1330-42 Š./1951-1963, see Dillon, p. 301). Since 133l Š./1952 West Germany has been the main customer for Persian carpets, followed by the United Kingdom, the United States, and Switzerland. The Swiss prefer expensive carpets with delicate designs. Americans prefer thick carpets; for that reason those woven for the American market have long stems. They are predominantly in pastel colors, especially light blue and pink, with less intricate patterns. Kermān is still the main supplier for this market (*Iran Almanac*, 1963, pp. 300-02). Toward the end of the 1340s Š./1960s, however, low standards of quality (referring to dyes, knots, etc.) began to affect exports adversely. In 1350-51 Š./1971-72 only $73 million worth of carpets were exported (*Iran Almanac*, 1973, p. 247). This decline led to improvements, and as a result exports and prices soared in the first half of 1352 Š./1973; in the second half they dropped sharply again, owing to the impact of the international oil crisis on the main carpet markets. Many factories lowered output, and in some carpets were even left half finished on the looms (*Iran Almanac*, 1974, p. 323). The slump was of short duration, however, and both quality of production and volume of exports increased in 1353 Š./1974, partly as a result of better marketing (*Iran Almanac*, 1975, p. 250).

Rising prices and increased competition from Indian and Pakistani carpets were nevertheless having a long-term effect on demand in both the domestic and world markets, and Persian carpets dropped to third place among exports

(*Iran Almanac*, 1976, p. 210); the industry also suffered enormously as a result of the 1357 Š./1978-79 revolution in Persia and the ensuing war with Iraq. In 1358-59 Š./1978-79 carpet exports had amounted to only $84 million, reflecting uncertainty about the future of the Pahlavi regime and the direction of the Islamic Republic of Iran. In 1359 Š./1980-81, however, exports reached a new high of 30.2 million rials ($425 million), partly owing to the lifting of previous government restrictions. With the outbreak of the war with Iraq in 1360 Š./1981 and new government trade restrictions carpet exports dropped again to the 1357 Š./1978 level. Especially the obligation to sell all foreign-currency receipts to the government at the official exchange rate not only caused carpet exports to drop to 5.6 million rials in 1361 Š./1982-83 and 7.14 million rials in 1362 Š./1983-84 but also led to a fall in production and employment (see xiii, below). With the costs of war rising and the concomitant growing need for employment and revenues both at state and household levels, the government began to provide incentives to exporters, as a result of which the carpet industry regained strength. In 1365 Š./1986-87 there was an upsurge in carpet exports to 28,217 million rials. It is expected that, with better marketing and improved quality, the Persian carpet industry can regain the markets lost to Indian, Pakistani, and Afghan carpets and can even pass 1 billion rials in the near future (*Iran Yearbook*, p. 433; *Iran Times*, 8 Ābān 1366 Š./30 October 1987; 12 Esfand 1366 Š./2 March 1988).

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