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BARLEY II. IN AFGHANISTAN

ii. In Afghanistan

Wild barleys (*jaw-e daštī*), including *Hordeum spontaneum* Koch which is regarded as the sole ancestor of all cultivated forms, are widespread throughout northeastern Iran and northern Afghanistan as far as the Hindu Kush (Aitchison, 1890, p. 101; Vavilov and Bukinich, 1929, pp. 292f.). Owing to their sporadic distribution, which is strictly limited to human habitats, it seems, however, impossible to view these areas as an original cradle of barley cultivation (Zohary, 1969, p. 53). The probable western (Fertile Crescent ?) origin of Afghan barleys is moreover underlined by the local name of one of their forms, *jaw-e makkaʾī* (barley from Mecca), which has been recorded in Faryāb (Aitchison, 1890, p. 101).

Barley is widely grown in Afghanistan (Figure 26; see also Toepfer, 1972, for various agricultural surveys at the village level). The cultivated forms (*Hordeum vulgare*) are mainly winter and spring, four- or six-rowed, hulled species, most of them having a yellow grain color. Two-row species are much rarer. Naked varieties with blue grain color have been observed in the easternmost Afghan Hindu Kush (Edelberg and Jones, 1979, p. 52; Sakamoto et al., 1980, pp. 35f.). While hulled barley is grown both as an irrigated and non--irrigated crop, naked barley is always irrigated in Afghanistan.

In total acreage barley comes third after wheat and maize, occupying approximately 310,000-320,000 ha (some 8-9 percent of the whole area under cultivation). The estimated annual production fluctuates between 300,000 and

400,000 tons of grain, with a decennial average of 324,000 tons (1353-62 Š./1974-83). The corresponding yield is thus not far from 1 tn/ha, though more than 2 tn/ha can be expected from the best-irrigated fields (Wald, 1969, p. 43).

No regional statistical breakdown of barley production is available. An estimate of acreages cultivated in 1395 Š./1966 can be extracted only from the results of the agricultural census of the following year (Davydov, 1976, pp. 124f., from which the figures in Figure 26 have been taken). With 177,100 ha (11.5 percent of their agricultural lands) devoted to barley, the eight provinces of northern Afghanistan from Faryāb to Badaḵšān stand as the chief producing area, well above western Afghanistan (72,100 ha: 10.5 percent of agricultural lands). The remaining part of the country, in which barley occupies less than 5.5 percent of all cultivated areas, accounts for only 62,800 ha.

As a fast-growing cereal, barley is coarser and less esteemed than slower-growing wheat and maize. Its place in cropping systems shows, nevertheless, great variations which, on a broad scale of analysis, conforms to a model of three altitudinal belts.

At lower elevations, up to 2,000-2,200 m, barley remains a secondary winter (*tīrmāhī* "autumnal") irrigated (*ābī*) crop, mostly confined to areas too poor, too dry, or too saline to produce a satisfactory wheat crop—hence the former's low yield. Most of the production is used for feeding horses and donkeys, sometimes cows, rarely sheep. As human food, its consumption is restricted to the poorer people, who mix wheat and barley flour to make bread. In the same regions, spring (*bahārī*) irrigated barley may also follow winter wheat after the latter's harvest; it is sometimes sown along with vetch (*šāḵal*) or alfalfa (*rešqa*) and is then always cut green as fodder. Recent improvements in the use of water and fertilizer have brought wheat to the better barley lands and have tended to reduce winter barley cultivation accordingly.

As elevation rises and the growing season shortens, winter barley cultivation increases, as its rapid growth permits double cropping of cereals (e.g., barley and maize or barley and millet) at altitudes where winter wheat does not. The relative importance of barley in mountain irrigated infields is thus one clear indicator of human pressure on the land; the higher the latter, the greater the former. Spring rainfed (*lalmī*) barley appears simultaneously on suitable slopes (outfields).

Finally, spring barley, both *ābī* and *lalmī*, remains the only cereal that can ripen in the cooler conditions and shorter growing seasons of the highest permanent fields. Above 2,900-3,200 m, it is the staple crop for human consumption. Barley fields have been recorded up to 3,450 m in the Hindu Kush (Grötzbach, 1972, p. 160) and even up to 3,700 m in the Pamir (Naumann, 1974, pp. 100), that is, some 300 m above the respective altitudinal limits of wheat but still more than 1,000 m below the absolute altitudinal limit of barley cultivation so far reported in the world (4,750 m in western Tibet, according to Chinese scientists quoted by Uhlig, 1980, p. 305). In high Nūrestān and adjoining regions, spring *ābī* barley is often sown mixed with leguminous plants such as peas (*mošong*) or horse beans (*bāqolī*), both being used to prepare a mixed flour from which bread is made (Scheibe, 1937, p. 112; von Moos, 1980, p. 26).

There is no industrial utilization of barley in Afghanistan.

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