



DUNG

DUNG, human and animal excrement (*pehen*, *pehīn* “cow, horse dung,” *sargīn* “cow dung” [for etymology, see Emmerick], *peškel* “sheep, goat dung,” *čalgūz* “bird dung,” *madfūʿ*, *borāz* “human dung,” *kūd* “natural fertilizer”), widely used in Persia and Afghanistan for fuel and fertilizer.

Fuel. In most parts of Persia wood is scarce (see [CHARCOAL](#)), and it is probable that throughout history the principal fuel has been dried dung (Adams, p. 135). In the Safavid period there was a dung market in Isfahan, where prices were competitive with those for wood and charcoal. In Tabrīz, too, dung from the stables, rather than expensive firewood, was used as fuel (Membrè, 1969, p. 59; idem, 1993, p. 52). According to the Dutch painter [Cornelis de Bruin](#), who visited Isfahan in 1113/1701, dung was used for cooking; its market price was the equivalent of 30 pence for a load of 220-30 pounds (tr., I, p. 228). A year later Fransz Casper Schilliger (p. 238) reported that the rich in Tabrīz used wood as fuel but the poor dung cakes sold by villagers and brought to the city on camelback. In the 19th century in both town and village whatever animal droppings were not consumed by dung beetles (*sūsk-e sargīnkor*) or collected by *kannāses* (lit., “sweepers”) for fertilizer (*kūd*) were used for fuel. They were first mixed with water and straw, [camel thorn](#) (Wilson, p. 273), or ashes, then kneaded with the hands or feet, formed into round cakes, pressed flat against a wall to dry in the sun, and stored or sold (Wilson, pp. 268-69; Höltzer, p. 77). In the cities the *kannāses* themselves may have done this work; in Isfahan, for example, a group of men made and sold dung cakes in a [caravansary](#) in the Jewish quarter (Höltzer, p. 77). In the villages the work was done by women,



who molded the dung into cakes and into bowls and covers for ovens and skylights, in the latter instance perhaps to keep out the snow (Wilson, pp. 268-69). There was a pile of dung cakes on the outskirts of every Persian village (for a photograph, see Powell, opposite p. 225). They were used for baking bread, burning limestone or brick, and heating baths (Wilson, p. 273). As recently as 1301 Š./1922 M. A. Hall (p. 191) reported a manure pile just outside the hotel room in which he was staying. Fuel for public baths could also be purchased from caravansaries or, if there was none in the neighborhood, in dried form, in sacks weighing 15 *mans* (ca. 80 kg) for 10 *šāhīs* each, from the stables of wealthy people in the cities (Mostawfī, *Šarḥ-e zendagānī* I, p. 169; Bird, p. 383). There were thus both commercial and domestic markets for dung fuel, which persisted into the 1960s and probably still function, at least in villages.

Fertilizer. Until the development of the petrochemical industry in Persia in the early 1960s animal manure was the most common and in many areas the only fertilizer used in Persia. According to a popular belief, animal manure fertilizes the soil for seven years, but it has always been in short supply, owing to the great demand for dung fuel. After the harvest fields are either thoroughly cleared of stubble, which is used for feed or fuel, or left to sheep and goats to graze, in which instance the land is fertilized by their droppings. Almost no other measures have been taken to increase soil productivity. “The growing of crops as green manure specifically for soil improvement is uncommon” (Overseas Consultants, III, p. 29). Furthermore, some parts of the country are too arid to permit natural decomposition of manure (Lambton, *Landlord and Peasant*, p. 362 and n. 1). In Semnān, for example, manure was still the fertilizer most commonly used in 1349 Š./1970, but its rapid oxidation in the hot climate limited its effectiveness (Connell, pp. 97-98; Overseas Consultants, III, p. 29).

Available historical data suggest that Persian farmers and landowners have long been aware of the value of dung as fertilizer. For example, in *Ketāb al-ahyā’ wa’l-āṭār* (Book of living creatures and monuments), a lost treatise on practical matters by the Il-khanid vizier Rašīd-al-Dīn (ca. 645-718/1247-1318), chapter 10 was entitled “On the use of dung, its different kinds, its usefulness, and its various properties” (Rašīd-al-Dīn, p. cxiii). The many pigeon towers around Isfahan, most between 9 and 13 m tall, have supplied bird dung for cultivation of melons and pear trees (Lambton, *Landlord and Peasant*, p. 362; Polak, p. 135; Wills, p. 130) since at least as early as the 17th century (see [BORJ](#)



i); the use of pigeon towers in Persian agriculture seems to date from much earlier times, however (see, e.g., Naršaḳī, p. 41; tr. Frye, pp. 29, 125 n. 134). Traditionally the dung is removed once a year from the central well in each tower (Landor, I, p. 352; cf. de Bruin, tr., I, p. 228). In the 17th century a special dung tax was levied on the more than 3,000 pigeon towers in Isfahan (Chardin, III, p. 386; for various kinds of dung, its preparation, and use for agricultural purposes, see IV, pp. 103-04).

In the 19th century, whenever it was economically feasible, agricultural lands were fertilized with dirt collected from old buildings, manure, ashes, and human refuse (Wilson, p. 274; Fraser, II, p. 65; Forbes, p. 171). In particular ashes from dung that had been burned as fuel were used as fertilizer (Adams, p. 135). On the outskirts of towns higher-quality manure was available from night soil and other sewage. In towns the *kannāses* cleaned the cesspools of private houses, as well as of public [bathhouses](#) and mosques. The contents were mixed with ashes and stored in fields until they decomposed into an odorless manure that could be sold as fertilizer (see, e.g., Taḥwīldār, p. 121; Wills, p. 365). Around 1276/1859-60 there were 150 *kannāses* in Isfahan (Höltzer, p. 23). Some mosques had very large public toilet facilities. For example, in the late Qajar period the Masjed-e Šāh in Tehran had forty toilets in a space covering more than 1,000 m². The “key money” (*sar-qoflī*) to operate these toilets was 30,000-40,000 tomans, and the revenues were 10-12 tomans a day. The twelve public toilets at the congregational mosque in the same city earned 4 tomans a day in rent (*ejāra*), and those in other mosques earned from 5 *qerāns* to 3 tomans (Šahrī, p. 29). The dung beetle was also an important sanitary “worker”: “Through the activity of these insects very little horse-dung, save that which is trodden, is seen on the roads” (Wills, p. 216). With the development of modern views on sanitation, the *kannās* has largely disappeared, though advanced sewage systems and sanitary public latrines are still lacking. On the Persian plateau deep latrines seem to meet sanitary standards (Overseas Consultants, II, p. 56).

In Kermān manure and other fertilizers are still widely used on summer cash crops but, because of the need for fuel during the cold months, much less often on winter cereals. In winter “only sheep and goat manure and night soil are available for the fields. Mountain villagers sell manure to agriculturalists on the plains in the spring, after the underground shelters in which the goats and sheep are housed during the winter have been cleaned. Privy cleaners sell night soil the year round. Chemical fertilizers are used mainly on the estates of



landed proprietors” (English, pp. 122-23).

Afghanistan. The situation in Afghanistan is not much different from that in Persia. As recently as the 1970s dung cakes and brush were the most common fuels (U.S. Government, p. 112). Dung is used as a fertilizer in areas like eastern Afghanistan, where sufficient wood for fuel is still available in the mountains. Even there, however, dung is used for fuel in the lower valleys. Higher in the mountains, where there are also more animals, dung is kept in compost heaps (also including plant residues and soil) near the farms and in the fields (Wald, p. 39).

Central Asia. Dung cakes have also been widely used in Central Asia, beginning in early times and continuing to the present (Naršaḳī, p. 41; tr. Frye, pp. 29, 125). For example, in Kirghizia 88 percent of rural households used dung cakes as their main cooking and heating fuel in 1994 (World Bank).

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