

Sedentarization and Nomadization

This is a detailed archaeological site plan of the Acropolis in Athens, Greece. The plan shows the layout of various structures including the Parthenon, Propylaea, Erechtheion, and Temple of Athena Nike. It also includes a grid system with labels like F23, G6, 870, 880, 890, 860, and 850, and a vertical line labeled 'TH AXIS'. The plan is oriented with North at the top.

HESBAN

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SEDENTARIZATION AND NOMADIZATION:

FOOD SYSTEM CYCLES AT
HESBAN AND VICINITY
IN TRANSJORDAN

by

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Chapter Seven

Configurations of the Food System During the Islamic Centuries: Ca. A.D. 661 to 1870

Introduction

During the centuries between the end of the Greco-Roman millennium and today, a cultural synthesis prevailed throughout the Middle East which blended the interests of rural tribesmen, the ambitions of literate townsmen, and the exhortations of a spiritual messenger, namely the prophet Muhammad. This new blend of institutions and peoples resulted in the emergence of dynasties in Arabia, Syria, North Africa, Mesopotamia, Persia, and Asia Minor which advanced significantly upon the accomplishments of the Greco-Roman millennium while, at the same time, it strengthened "a spirit of independence which conflicted with the forms of servitude demanded by the bureaucratic states of antiquity" (Hess 1985: 33).

In Transjordan the Islamic cultural synthesis was experienced at its creative, turbulent center in the sense that its inhabitants had to cope with competing factions of Islam, conflicting dynastic ambitions, and shifting flows of communication and commerce. The history of Transjordan during the Islamic centuries, therefore, is a history of human resilience in the face of constantly changing winds of political dominance and economic opportunity. This situation is reflected at the level of material existence in widely fluctuating conditions of settlement and landuse. What predominates in Islamic Transjordan are those modes of livelihood found toward the middle and low points of the food system intensity continuum (see Chapter Four), for these are the modes which have resonated the best with the survival instincts of the inhabitants in this turbulent corner of the Islamic world.

Tell Hesban and vicinity offer proof of this, for although there is evidence of a wide range of configurations of livelihoods during the Islamic cen-

turies, the predominant ones are those between the medium and low intensity points of the food system continuum. Thus, on the local level, the political center of gravity appears to have been in the domain of independent tribal cultivators and pastoralists for many more centuries than it was in the domain of literate townsmen under the protection of rulers in Egypt, Mesopotamia, or Syria.

The Sociopolitical Context

The Wider Sociopolitical Context

A New Cultural Synthesis

The emergence, on the Arabian peninsula, of a spiritual message with the power to blend the aspirations of independent tribesmen of the desert with the ambitions of cosmopolitan townsmen in their towns and cities along the trade routes of the ancient world was by no means an accidental development. To begin with, the pre-Islamic inhabitants of the Arabian peninsula consisted of both groups. Whereas those who inhabited the south "had a highly developed urban civilization, with great temples and palaces, a highly organized and stable social system, and an advanced economy based partly on agriculture and partly on sea trade from the Orient," those who inhabited the north were, for the most part, nomadic pastoralists of various types (Jeffery 1952: 90). Furthermore, to the extent that the interests of these two groups converged and conflicted, the search for solutions and new opportunities was particularly intense among the sedentarized Quraysh clans of Mecca, the leading tribesmen of that oasis-town and the group of kindred in whose midst Muhammad was born and raised. This was because, to a greater degree than was the case among the people living in the south-

ern coastal settlements of the Arabian peninsula, the way of life of these Meccan clans depended upon their ability to maintain a balance between these two groups.

A son of the Hashemite family of the tribe of the Quraysh, Muhammad proclaimed a message which sought to (Polk 1980: 19)

transcend the limits of kinship and neighborhood of the tribe and village by creating a sense of community which would embrace rival groups of kindred, men of different hamlets, and even men separated by the frontiers of religion.

As his message was initially rejected by the establishment of Mecca, Muhammad was forced to retreat to the oasis-town of Medina. From there he summoned those who would listen to abandon their pagan ways and to join his new political community (*umma*).

The emergence of the Islamic state was an "organizational breakthrough of proportions unparalleled in the history of Arabian society until modern times" (Donner 1981: 269). Among the elements which, according to Donner, account for the integrative power and durability of this new state were

the prevalence of an overriding concept of law, the focusing of political authority in God, the *umma*, and Muhammad, the systematization of taxation and justice, the establishment of a network of administrative agents to supervise member groups (1981: 75).

Given, on the one hand, the integrative power of the early Islamic state, and given, on the other hand, the exhaustion of both the Sassanian and the Byzantine civilizations due to prolonged war, and the rising tide of feeling against Hellenism and the Byzantine Greeks among the peoples of Syria, Egypt, and other provinces, the reasons for the rapid expansion of Muhammad's community become evident (cf. Donner 1981: 269). Thus, by means of a series of holy wars and astute political maneuvers, Muhammad and his followers eventually succeeded not only in subduing Mecca, but also in bringing into the new political community the vast majority of the population of western Arabia and the Fertile Crescent (cf. Spuler 1960; Polk 1980; Donner 1981). The specific events which led to Transjordan's subjugation by the Muslim army (ca. A.D. 636) have been recounted by Salibi (1977: 18) and Donner (1981: 91-155).

To a degree far greater than any previous system of beliefs to emerge out of the ancient Near East, the religion of Islam succeeded in blending

the aspirations of desert tribesmen with those of the agricultural communities and cosmopolitan trading centers of the Near East. In the long run, however, the consequence of this assimilation of the desert tribesmen was that "the weight of the pastoralist weakened the ability of central government to conduct its affairs in the manner of previous regimes" (Hess 1985: 33). Thus, even though the ruling elite that emerged in the wake of the conquests were to survive for many centuries, the Arabian-Islamic state soon began to disintegrate (Donner 1981: 273; cf. Crone 1980).

It is in light of this insight that the political story of Islamic civilization must be understood. This story is a tale of shifting political centers of gravity between the north and the south, between the town and the steppe, and between proponents of competing definitions of Islam. For our purposes here, it is convenient to divide this history into four periods: 1) Caliphate Period (ca. A.D. 661-1055); 2) Seljuq Period (ca. A.D. 1055-1200); 3) Ayyubid-Mamluk Period (ca. A.D. 1200-1456); and 4) Ottoman Period (ca. A.D. 1456-1870). A brief overview of each of these periods, with particular reference to the Levant, follows.

The Caliphate Period (ca. A.D. 661-1055)

The first Muslim empire to emerge in the wake of the Prophet's death (in A.D. 632) was that of the Umayyads in A.D. 661. From their capital in Damascus, Syria, the Umayyad caliphs expanded the domain of the Muslim empire to Spain in the west and to the Indus Valley in the East. Although politically they were organized along Arab tribal lines, they retained, for the most part, the administrative bureaucracies they inherited from the Byzantines and Persians in their respective provinces. This did not prevent them, however, from embarking on an aggressive program of Arabization. Thus Arabic was adopted as the official state language throughout the empire and a new Arabic coinage was introduced. Where Greek and Persian personnel had served in previous administrations, they were replaced by Arabs.

An important consequence of the Islamic conquests and the ensuing program of Arabization was that it facilitated the movement of goods, people, and technology which made possible what has been called the "Arab agricultural revolution" (Watson 1974; cf. 1981; Ashtor 1981). This revolution, which took place over the first four centuries of Islam,

involved the introduction into the lands of the Arabs of a number of new crops and farming practices originating mainly in India. Among the crops involved in this diffusion were "sixteen food crops and one fiber crop," including the following: "rice, sorghum, hard wheat, sugar cane, cotton, watermelons, eggplants, spinach, artichokes, colocasia, sour oranges, lemons, limes, bananas, plantains, mangos and coconut palms" (Watson 1974: 9). Also involved in this revolution was the introduction of a new agricultural season. Writes Watson (1974: 10):

Hand in hand with the new crops came changes in farming practices. For one thing, a number of the new crops led to the opening of a virtually new agricultural season. In the lands of the Middle East and Mediterranean the traditional growing season had always been winter, the crops being sown around the time of the autumn rains and harvested in the spring; in the summer the land almost always lay fallow, usually even in irrigated regions where at least some of the crops available to the ancients could, with special care, have given satisfactory yields. Those crops mentioned as summer crops in the classical Roman manuals—barley, *trimestre* wheat, sesame and various legumes—played a minor role in some parts of the northern Mediterranean, where the summer was relatively cool, though even there they seem to have been little used and were not integrated into any systematic rotation. But in the southern and eastern parts of the Mediterranean they were practically never grown, at least not as summer crops. There the summer season was to all intents and purposes dead. Since, however, many of the new crops originated in tropical regions of India, Southeast Asia, and Central Africa, they could be grown only in conditions of great heat. In particular, rice, cotton, sugar cane, eggplants, watermelons, hard wheat and sorghum were all summer crops in the Islamic world, though rice and hard wheat could also be winter crops in certain very warm areas. Several other important new crops which we have not been able to study in detail, such as indigo and henna, were also grown in summer. Through the introduction of summer crops on a wide scale, therefore, the rhythm of the agricultural year was radically altered as land and labor which had previously lain idle were made productive.

Along with this opening of a summer season of sowing and harvesting came other practices which were needed in order to "combat exhaustion and even improve the soils," such as "extensive use of all kinds of animal and green manures, each with its special qualities and uses, as well as ashes, rags,

marl, chalk and crushed bricks or tiles" (Watson 1974: 11). Also intensified was the extent to which artificial irrigation was practiced. In addition to embarking upon extensive programs of repairing ancient irrigation works to which they fell heir, the Muslim conquerors introduced "a profusion of devices, borrowed rather than invented by the Arabs, for catching, storing, channeling and lifting water" (Watson 1974: 13). Among the more important of these borrowed devices were the underground canals or *qanats* and "a variety of wheels turned by animal or water power and used for lifting water—sometimes to great heights—out of rivers, canals, wells and storage basins" (Watson 1974: 13). The cumulative outcome of this diffusion of irrigation technology has been summarized by Watson (1974: 13-14) as follows:

The result was to bring much more water to much more land; to irrigate lands which in earlier systems were not, and often could not have been reached, and to improve the quality of irrigation, that is to increase the flow of water on many lands watered by more primitive techniques in earlier times. So great indeed was the progress made that it would be only a slight exaggeration to claim that by the eleventh century there was hardly a river, stream, oasis, spring, known aquifer or predictable flood that went unused. Many were fully or almost fully exploited, though not always by irrigators, who had to compete with other users. The combined effect of all these advances was to create across the Islamic world a patchwork of heavily irrigated areas, great and small, into which the new agriculture could move, to transform an environment fundamentally hostile to many of the new crops into one in which, for a time at least, they were grown with astonishing success.

But the agricultural revolution was by no means confined to heavily irrigated and fertile areas where multiple cropping on the Indian model could be introduced. On the contrary, though the impact of the revolution was greatest in such areas and though they may perhaps be regarded as the spearheads of agricultural advance, the new agriculture overflowed their bounds to affect the whole spectrum of land types—from best to worst—that the early-Islamic peasant tilled. Virtually all categories of land came to be farmed more intensively. In part, this spillover was made possible by the fact that there was no sharp break between irrigated and unirrigated lands. Rather the various advances in irrigation had endowed the early Islamic world with a gradation of artificially watered lands: at one end of it were those which were under heavy,

perennial irrigation and could support the Indian system of cropping; in the middle was a wide range of lands watered less heavily through the year or only parts of the year; and at the opposite end were lands watered only once or twice in a season through the capture, for instance, of a flash flood or through sparing use of small amounts of water stored in a cistern. The possibilities which partial irrigation opened up for intensifying land use were compounded by the fact that the authors of the Arab farming manuals identified far more types of soils than are mentioned by the ancients. By taking into account structure, temperature and moisture of the soil, they were able to see much more clearly than their predecessors the potential of each soil type. They assumed that all soils would be used to their full capacity—even inferior and downright bad lands, which the ancient writers did not deign to consider.

As a consequence of this agricultural revolution, urban growth—particularly involving inland cities and towns—ensued throughout much of the Islamic world. Some well-known examples include Cordoba, Seville, Damascus, Aleppo, Baghdad, and Cairo. Significantly, however, neither the Arab agricultural revolution, nor the urbanization which it facilitated, appears to have noticeably impacted central Transjordan, at least not during the first four centuries of Islam. Several explanations can be advanced to account for why this was the case.

To begin with, when the Umayyad caliphate, with its seat at Damascus, came to an end in A.D. 750, Transjordan, along with the rest of Palestine, was caught in the middle of a long-lasting strife between rival powers—one centered in the Tigris-Euphrates valley and the other in the valley of the Nile. On the one hand, there were the Abbasids (A.D. 750-1258) who, with their seat of power at Baghdad and with their generally eastward orientation, had a difficult time holding on to and administering their western provinces in Syria, Palestine, and North Africa. Indeed, they may even have subjected Syria and Palestine to intentional neglect, as it had been the Umayyad's base of power (Donner personal communication). On the other hand, there were the Tulunids (A.D. 868-905), Ikhshidids (A.D. 935-969), and Fatimids (A.D. 969-1200) with their power base in Egypt, whose expansionist policies and, in the case of the Fatimids, whose competing definition of Islam, led to repeated confrontations, many of them on Transjordanian soil, with the rulers of the Abbasid dynasty

in Baghdad. Thus, while the fruits of the Arab agricultural revolution were enabling urban growth and the development of highly sophisticated urban cultures in valleys of Egypt and Mesopotamia, the Levant was undergoing an extended period of unstable governance due to the inability of these rival powers to sustain their hold upon the region for more than a few decades at a time (Salibi 1977).

Contributing to this process of political fragmentation and general decline in Levantine provinces during the first four centuries of Islam were a number of factors of which two will be briefly mentioned. The first was the decline of commercial traffic along the trade routes of Transjordan and Syria because trade between central Asia and eastern Europe passed into the hands of merchants in Iraq and Persia, while "the Red Sea which carried the eastern trade directly to Egypt and Syria was to a great extent replaced as a maritime highway by the Persian Gulf" (Salibi 1977: 35).

The second was the ascent of rival tribal confederacies within the Levantine provinces in the wake of the impoverishment which followed from the loss of commerce and the failure of both the Egyptian-based and Mesopotamian-based dynasties to develop effective administrative structures for governing them (cf. Crone 1980). Thus, throughout most of the period of caliphate reign in Transjordan and Syria, feuding persisted between tribesmen belonging to the Kalb (also known as Yaman) Confederacy and those belonging to the Qays (also known as Mudar) Confederacy (Salibi 1977: 25). Of these two groups, the Kalb were the more settled, having existed in Transjordan and Syria as tribal peasants (*ashair*) since before the conquest. Among their numbers could be found those who were primarily agricultural in their way of making a living and those who practiced some form of transhumance (Salibi 1977: 10-11).

The Qays, on the other hand, appear to have arrived in Transjordan and Syria with the conquest. Although fewer in number than the Kalb, they were an aggressive tribe of Bedouins (*qabail*) whose demands had to be taken seriously (Salibi 1977: 11, 25). Indeed, so widespread and persistent was the feud between these two groups that it appears to have been a major factor in the collapse of the Umayyad caliphate and in accounting for the failure of subsequent caliphs to establish effective administration in Transjordan and Syria (cf. Salibi 1977).

Toward the end of Abbasid rule in Transjordan, in the year A.D. 968, another tribal confederacy, that of the Tayy Arabs, rose to political prominence in Palestine and Transjordan. Being closely allied with the Fatimids of Egypt, their chiefs actually became, for a time, the representatives of Fatimid authority in this region (Salibi 1977: 91).

Seljuq Period (ca. A.D. 1055-1200)

Beginning in the 11th century, the Islamic world and what remained of the Byzantine Christian empire in Asia Minor and Europe were confronted by invasions of Turks, many of them led by the Seljuq family. Having begun their conquests in the east, in Iran and Iraq, the Seljuqs, who had recently converted to Islam, began their domination of the Muslim world by establishing, in A.D. 1055, a protectorate over the Abbasid caliphate in Baghdad. A similar arrangement was soon to follow in Fatimid Egypt where, in A.D. 1073, the caliph yielded his power to Badr al-Jamali, an army commander.

In due course, the Seljuqs moved westward into Syria and Palestine, where they occupied Damascus and Jerusalem, meeting little unified resistance due to the fragmented and largely autonomous state of the Fatimid provinces in central and southern Syria. In northern Syria and Asia Minor they also encountered the Byzantines, who were forced to turn to the pope in Rome for assistance in resisting them. This appeal triggered the organization of the First Crusade to reconquer the Holy Land by European Christians (cf. Spuler 1960: 89).

Seljuq occupation of the Levantine region turned out to be brief, lasting only from A.D. 1071-1097 (Salibi 1977: 122-160). Because of their staunchly Sunni convictions, their track record as capable administrators, and their zeal in reviving commerce in their provinces, the Seljuqs were generally well received by the urban population of Syria. They failed, however, to capture the loyalties of the heterodox inland tribal peasants, many of whom were Ismailis, and therefore sympathetic with the Fatimid regime in Egypt. Consequently, except for in such urban centers as Damascus and Aleppo, the Seljuqs failed to bring an end to the anarchy which had persisted in the rural hinterlands of Syria and Transjordan since the fall of the Umayyad caliphate in A.D. 750.

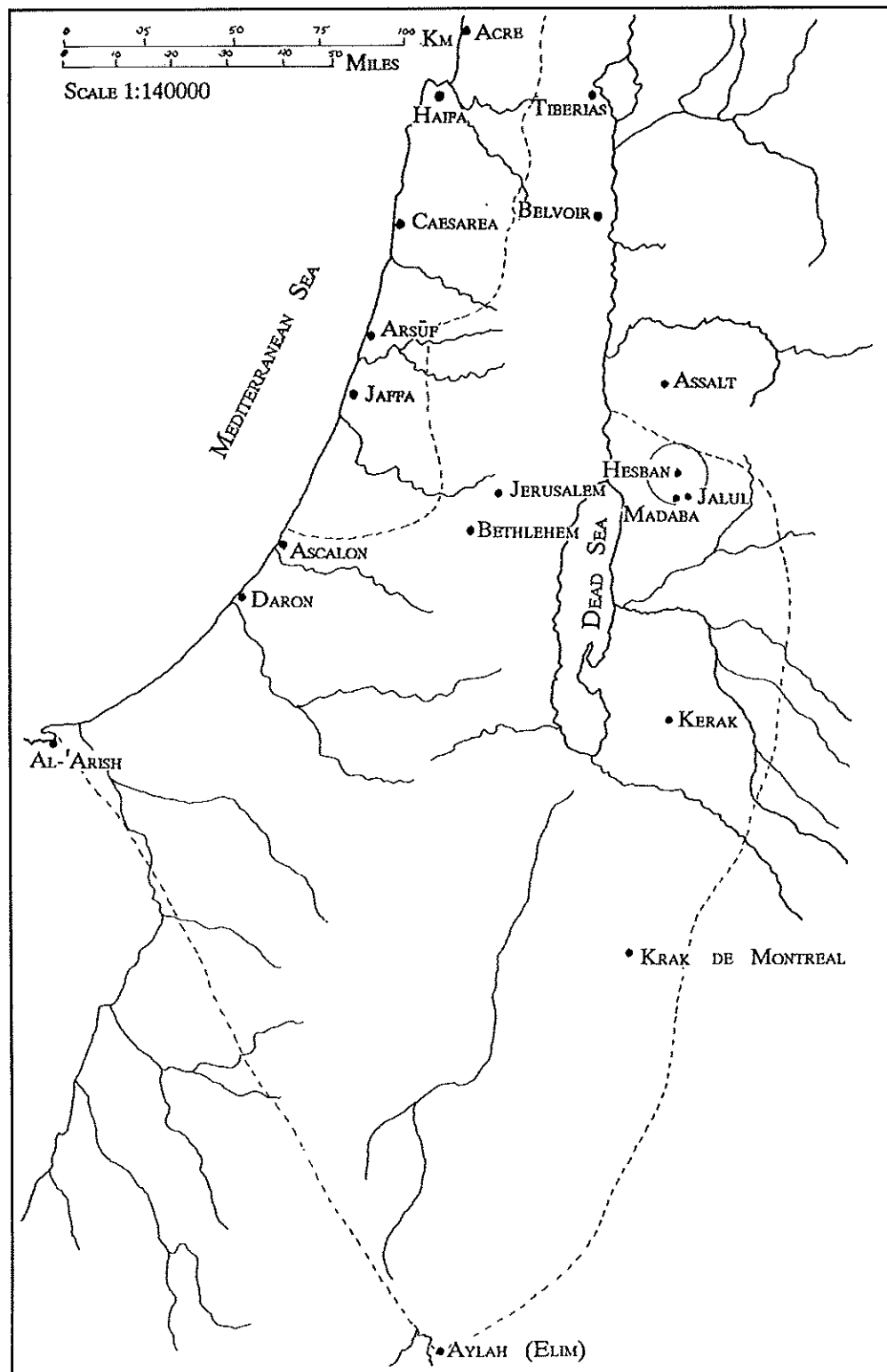
The capture of Jerusalem and Antioch by the Seljuqs was the event which ultimately catalyzed the first march of crusaders, whom the Muslims referred to as the "Franks," to Palestine (Perowne and Prawer 1987: 359B). With this first crusade, the period of Seljuq domination in Syria and Palestine came to an end and the Kingdom of Jerusalem, which lasted from A.D. 1099 until 1187, came into existence (cf. fig. 7.1). Attached to this kingdom were several Christian feudal principalities located northward along the coast—Antioch, Edessa, Tripoli, and others (Spuler 1960: 90). With the exception of Transjordan, the Franks rarely penetrated far into the interior and could maintain their territorial domain only as long as the surrounding Muslim community remained divided.

Ayyubid-Mamluk Period (A.D. 1200-1456)

The emergence of the Ayyubids in the late 12th century as a major unifying force in the Levant was a direct result of the invasions of the Franks. First under the leadership of Nur al-Din of Damascus, then later, in Egypt, under Salah al-Din, or as the Franks called him, Saladin, a unified Muslim front against the Franks was created (cf. Ziadeh 1953: 3; Spuler 1960: 92). After encircling the Kingdom of Jerusalem, Saladin led a holy war against the Franks which culminated in the capture of Jerusalem in A.D. 1187. The decisive confrontation was the Battle of Hattin, near the Sea of Galilee, where the Franks lost most of their army. Also recovered by the Muslims in the wake of this battle were most of the other crusader strongholds along the coast and in Transjordan. This victory was short-lived, however, for in their Third Crusade, the Franks were able to recover many of these strongholds and hold on to them for nearly a century. This crusade did not succeed in recovering the city of Jerusalem itself, however, although its gates were again opened to Christian pilgrims after a treaty negotiated between Saladin and Richard I the Lion-Hearted in 1192 (Baldwin 1987: 887).

After Saladin's death in A.D. 1193, the Ayyubid dynasty (which was named after his father, Ayyub) was divided between members of his family. Thus principalities were established in Aleppo, Hamah, Homs, Damascus, Baalbek, and Transjordan. Disputes between the rulers of these principalities weakened Ayyubid solidarity, however, resulting in restoration of Jerusalem to the Christians and renewed unrest among the Arab tribal peasants.

Fig. 7.1 Kingdom of Jerusalem (after *Encyclopædia Britannica* 1987, vol. 16)



Their decline was ended by Mamluk accession to power in A.D. 1250.

Although the practice of using slave soldiers in the service of the state was not a new phenomenon among the Muslims, having come into existence already in the 9th century under the Abbasid caliphs in Baghdad, it had evolved by the 13th century to where a dynasty ruled by Mamluks, which means "slave soldiers," could rise to power in Egypt (cf. Crone 1980). After annexing the Ayyubid principalities of the Levant to Egypt, the Mamluk sultans proceeded to strengthen their position in the eyes of their Muslim subjects by undertaking a series of raids against the Franks between A.D. 1261 and 1291 which culminated in the complete expulsion of the crusaders from Palestine (cf. Ziadeh 1953: 5-7). Their success at thwarting the Mongol threat to the security of Egypt and Syria was also a significant achievement.

The revival of commercial activity in Palestine and Syria which began in the 10th and 11th centuries under the Fatimids and Seljuqs continued under the Franks and under the Ayyubid-Mamluk sultans. While along the coast maritime trade had been encouraged by Italian and other European entrepreneurs, including the Franks themselves, inland, along the fringes of the desert in Transjordan, the trade route between the Red Sea and Damascus was being revived, partially as a consequence of the Franks occupying the coastal routes (cf. Ziadeh 1953: 58; Salibi 1977: 87; Russell 1989). Along with this increase in trade and communication came advances in agriculture and manufacturing industries. Among the ones which apparently thrived were those which had sprung up around the production of sugar, textiles, glassware, and paper (Ziadeh 1953: 132-133).

The decline of the Mamluk Sultanate was caused by a number of different factors. To begin with, toward the end of the 14th century, a policy emphasizing ethnic affiliation rather than proven skill in the art of war was instituted as a criterion for advancement within the Mamluk administration. The result of this was a general weakening of the central administration. This, in turn, led to loss of solidarity in the task of protecting agriculture and trade from the predation of Bedouins and from ambitious Mongol warlords. When finally Damascus and other Syrian towns were devastated by the Mongol invader, Timur (Tamerlane) in A.D. 1401, the damage was too severe for the weak

Mamluk administration to repair. Thus famine and pestilence followed, and in their wake came the plague, which in the 14th century decimated a large percentage of the population (Dols 1977). To these already severe blows must be added yet another, namely the assault on the Red Sea trade which followed the discovery, by the Portuguese, of a direct sea route linking India and Europe. The end of the Mamluk Sultanate came in A.D. 1517 when they were defeated in battle by the Ottomans in both Syria and Egypt.

The Ottoman Period (ca. 1456-1870)

At the time of its conquest of Syria and Egypt, the Ottoman empire was already in its heyday, having undergone a period of almost continuous expansion since the beginning of the 14th century. In Syria, as elsewhere in their empire, the Ottoman sultans established provinces, each under a governor. The system of taxation which they instituted "continued in principle to be that of Muslim law—land tax, poll tax on Christians and Jews, and customs duties" (Hourani and Irvine 1975: 955).

Throughout most of their rule, the Ottomans left the governance of their provinces to their governors. In parts of Syria, where the governors paid attention to agriculture, it flourished and was particularly the case in parts of central and northern Syria during the 16th and 17th centuries. Consequently commerce and trade revived some in this region during these centuries. During the 18th and 19th centuries, however, things did not fare as well. Because of a weakened central administration in Istanbul, the Ottoman standard of administration declined. Thus rather than protecting the farmers from Bedouin predation, the Janissaries, the elite army of soldiers of the sultan, began themselves to exploit the farmers. This led to rapid decrease of sedentary agriculture and to a new ascendancy of tribalism. It also opened the door wide for sedentarization in Transjordan and Syria of northward-pushing tribesmen from the Hejaz.

The Local Sociopolitical Context

Since an in-depth history of central Transjordan during the Islamic centuries has yet to be written, the following attempt to sketch the local sociopolitical situation which prevailed in the immediate vicinity of the project area since the Islamic conquest can at best be regarded as a first approxima-

tion. What follows is a mere outline, a synthesis based entirely on secondary sources such as those cited already in the previous section. It is intended more as a vehicle for launching discussion and further research on this important subject, than as a completed piece of in-depth research.

As was noted in our discussion earlier, following the collapse of the Umayyad dynasty, Transjordan (along with the rest of Syria) was caught in the midst of the rivalry between the Abbasids in Mesopotamia and the Fatimids and their successors in Egypt. Rather than benefiting from the economic and cultural gains which were made in the vicinity of each of these centers of early Islamic civilization, the region entered a period of shifting and elusive dynastic domination. One consequence of this was that neither caliphate managed to establish viable administrative bureaucracies within the region. Its inhabitants, therefore, were forced to turn back upon their own resources, which meant a return to less capital-intensive, more self-reliant forms of food production. These strategies, in turn, were facilitated by increased emphasis on migration and tribal forms of social organization.

Throughout the Caliphate Period, the population of Transjordan was made up of peoples whose modes of livelihood represented varying degrees of sedentarism/nomadization. The predominant group, according to Salibi (1977: 10-11), were the *ashair* or tribal peasants, some of whom were primarily village-based cereal farmers and some of whom were transhumants. Also occupying the country on a seasonal basis were various Bedouin tribesmen whose original homeland was the Hejaz. As in former and subsequent times, these Bedouin tribesmen presented a constant threat to the older, more established population of tribal peasants. Over time, however, they too tended to settle, only to experience themselves the oncoming of new tribes of Bedouin.

About the fact that tribal peasants and Bedouin representing varying degrees of sedentarization/nomadization continued to occupy Transjordan throughout the Seljuq, Ayyubid-Mamluk, and Ottoman periods there can be little doubt. The extent to which they dominated the sociopolitical scene appears to have abated considerably during Ayyubid and Early Mamluk times, however. As has already been noted, during these periods, Transjordan (along with the rest of Syria) experienced a temporary return to widespread

sedentarization, to more intensive and market-oriented forms of agriculture, and to a modest degree of cosmopolitanism. In Late Mamluk times, however, this trend appears to be reversing itself. Thus, in the ensuing Ottoman Period, the population of Transjordan is again gradually turned back upon its own resources, to the hands of its most resilient residents—its independent tribal peasants and Bedouin.

In the following paragraphs a brief overview is offered of some of the political and ethnic entities which have been identified as having existed in central Transjordan throughout each of the major Islamic periods. Mention will also be made of the extent to which the archaeological record from each period attests sedentary occupation. The dates to which each period is assigned below are those which are commonly used with reference to central Transjordan (*cf.* Sauer 1982). They are therefore not always the same as those which apply for a particular dynasty from its original rise to power to its collapse.

A.D. 661-750 (The Umayyad Period)

For about a century and a half after the Islamic conquest, Transjordan continued to prosper because of its proximity to Damascus, the seat of Umayyad power and the center of political and commercial activity in the emerging Muslim world. Under the Umayyads, Syria and Transjordan were divided into four (and eventually five) military provinces (*jund*). These included the *jund* of Hims to the north of Damascus, the *jund* of Damascus which included most of central Syria, the *jund* of Jordan which included the territory to the west and east of the Sea of Galilee, the *jund* of Palestine which included the territory to the west and east of the lower half of the Jordan River and the Dead Sea (*cf.* Salibi 1977: 23). It was to the *jund* of Palestine that the project area belonged during the Umayyad Period.

Judging from the archaeological evidence, sedentary occupation in Transjordan during the Umayyad Period appears to have abated somewhat when compared with the preceding Late Byzantine Period (Sauer 1982). That the region continued to prosper, however, is clear from the size and quantity of settlements and from the impressive architectural accomplishments of the period (*cf.* Almagro and Olavarri 1982; McNicoll and Walmsley 1982; Sauer 1982; Tell 1982; Russell

1989). Particularly well known are the so-called Umayyad "palaces," many of which were converted from old Roman buildings and forts by elites emulating their caliphs. That these were not merely, in the words of Grabar (1955: 7) "places for high princely living and entertainment, but also centers for agricultural exploitation" is a point to which we shall return later.

Prominent among the Arab tribes which occupied Transjordan during the Umayyad Period were the Ghassanids, who in the 6th century had existed as a vassal kingdom of the Byzantine empire, helping to protect the spice trade and serving as a buffer against the desert Bedouin. While their kingdom had been weakened by the Muslim conquerors, some of its tribal constituents apparently continued to play a part in Transjordan's affairs during the Umayyad Period (Salibi 1977: 14-15; cf. Crone 1980: 34-36). According to Donner (1981: 103-105), the Belqa region was occupied by the Beni Irasha, a section of the Bali. Also living in this region were tribesmen belonging to the Judham and Lakhm (cf. Rotter 1982: 126-133). Both of these tribes were apparently allies of the Byzantines at the time of the Islamic conquest.

A.D. 750-969 (Abbasid Period)

In contrast to the relatively orderly and prosperous Umayyad Period, the Abbasid Period in Transjordan was a time of elusive dominion by the caliphs of Baghdad and Egypt. Consequently many of the major cities and towns of Transjordan appear to have suffered setbacks, and a number appear to have been abandoned (cf. Sauer 1982). Among the tribes which rose to prominence during this period were several groups of tribal peasants (*ashair*), among whom were the Lakhm and the Judham tribes. These were apparently among the more sedentarized of the tribes which inhabited Transjordan (Salibi 1977: 43-47, 74). Less sedentarized, and considered as being newcomers to the region during the 9th century, were the Tayy Arabs. In A.D. 883, a revolt by this tribe against representatives of the Tulunid Dynasty in Transjordan led to the cancellation of the annual pilgrimage from Damascus to Mecca for three years in a row (Salibi 1977: 47).

A.D. 969-1071 (The Early Fatimid Period)

The domination of central Transjordan by tribal peasants and Bedouins which had taken hold dur-

ing the Abbasid Period continued unabated throughout Early Fatimid times. Just as in the preceding Abbasid centuries, the cities and towns of the earlier Byzantines and Umayyads continued to lie in ruins. Where archaeological signs of sedentary occupation occur, they suggest a "rural character, with smaller villages rather than major cities" (Sauer 1982: 333).

During the Early Fatimid Period, the power of the Tayy chiefs in southern Syria and Palestine appears to have reached new heights. Indeed, for a time, they came to represent Fatimid authority in Palestine and Transjordan (Salibi 1977: 85, 91). Also apparently still in the vicinity were the tribal peasants of the Yaman Confederacy, many of them probably settled, to varying degrees, in small cereal villages and hamlets in the highlands of Transjordan (Salibi 1977: 85-86). Numerous lesser clans were also in existence, but not much is known about them.

A.D. 1071-1200 (The Late Fatimid Period)

About the Late Fatimid Period in central Transjordan, which overlaps both with the Seljuq conquest of Syria (A.D. 1071) and the Franks' (Crusaders) arrival in Palestine (A.D. 1099), very little is known either archaeologically or historically. Two events, both of which were mentioned earlier, bear repetition in this context, however. One was the establishment of a principality of the Latin Kingdom of Jerusalem in Transjordan known as Oultre Jourdain. At Kerak and at esh-Shoubak two fortresses were built (Musil 1907: 45-64, 324-327; Brunnow and Domaszewski 1904: 113-119). The former was built on the site of an ancient Moabite fortress. It fell into Muslim hands in A.D. 1188, the year after the Battle of Hattin. These strongholds served to protect the crusader states in vulnerable positions in southern Transjordan.

Also noted earlier was the revival of the eastern caravan route which was stimulated, in part, by the expansion of trade between the Fatimids and the Europeans; in part, by the Seljuqs' restoration of law and order in Damascus and other cities in Syria and Palestine; and most important perhaps, by the Franks' occupation of the regions of western Palestine and Syria through which the western routes passed. These events created new opportunities to prosper for the Tayy, Yaman, and other tribal peasants and Bedouin occupying the highlands and deserts of Fatimid Transjordan.

A.D. 1200-1456 (Ayyubid-Mamluk Period)

With the establishment of an Ayyubid principality in Transjordan following the Battle of Hattin in A.D. 1187, the gains made during the Late Fatimid Period were consolidated. Thanks, in part, to a new system of land tenure whereby grants of rights over land could be obtained in return for military service, security improved along the trade routes and in the rural countryside (Hourani and Irvine 1975). This, in turn, stimulated further development of commerce and the revival of more intensive forms of agriculture. In due course these improvements led to increases in the growth and prosperity of villages and towns, a fact which is well attested by the archaeological remains from the period (Sauer 1982). The lingering presence of the Franks throughout this period is particularly evident, however, in the amount of energy which was devoted to the construction of fortresses. A good example is the Qalat er-Rabad, an Ayyubid castle near Ajlun "which was constructed during the time of Saladin to counter the Crusaders" (Sauer 1982: 334).

With the arrival of the Mamluks, the Levant was reorganized into *mamlakas* or "kingdoms" (cf. fig. 7.2). According to information provided by Ziadeh (1953: 13), the project area belonged to the *Mamlaka of Dimashq* (Damascus) which "extended from the north of Hims to the north of al-Karak." Each *mamlaka*, in turn, was divided into several sections and subsections called *wilayas*. According to the same author (1953: 13) Hesban and vicinity belonged to what is known as "the southern section." Its "administrative center" was Busra with "smaller centers" at the *wilayas* of "Sarkhad and Ajlun (Niyabas) and Baysan, Banyas and Subayba, Shaara, Idhraat, Husban and Salt."

Under the Early Mamluks, central Transjordan reached another peak in its multimillennial history. Among the factors which no doubt played a role in stimulating the attainment of this peak were one, Transjordan's role as a communication and transportation corridor linking Egypt and Syria; two, the gains of the Arab agricultural revolution which now could be capitalized upon; and three, the demand for agricultural products stimulated by the rapidly growing urban centers of the empire and beyond.

That conditions may have been particularly prosperous during this period at Hesban has been suggested by Russell (1989). Not only was it the

capital of Belqa during Mamluk times, it also "served as a rest stop on the postal route from Damascus to al-Kerak" (Russell 1989: 29). Furthermore, the status of the Karak district as a more or less independent kingdom may also have contributed somewhat to Hesban's prosperity during Mamluk times (Russell 1989).

An idea of the extent of sedentary occupation which existed during Early Mamluk times is provided by contemporary Arab geographers. According to Ziadeh (1953: 71), who has studied some of the pertinent accounts, the town of Hesban, which functioned as a "smaller center," had a total of 300 villages attached to it. When regional survey results from Transjordan in general are taken into account, they, too, give support to the conclusion that sedentary activity was intense during this period (Sauer 1982).

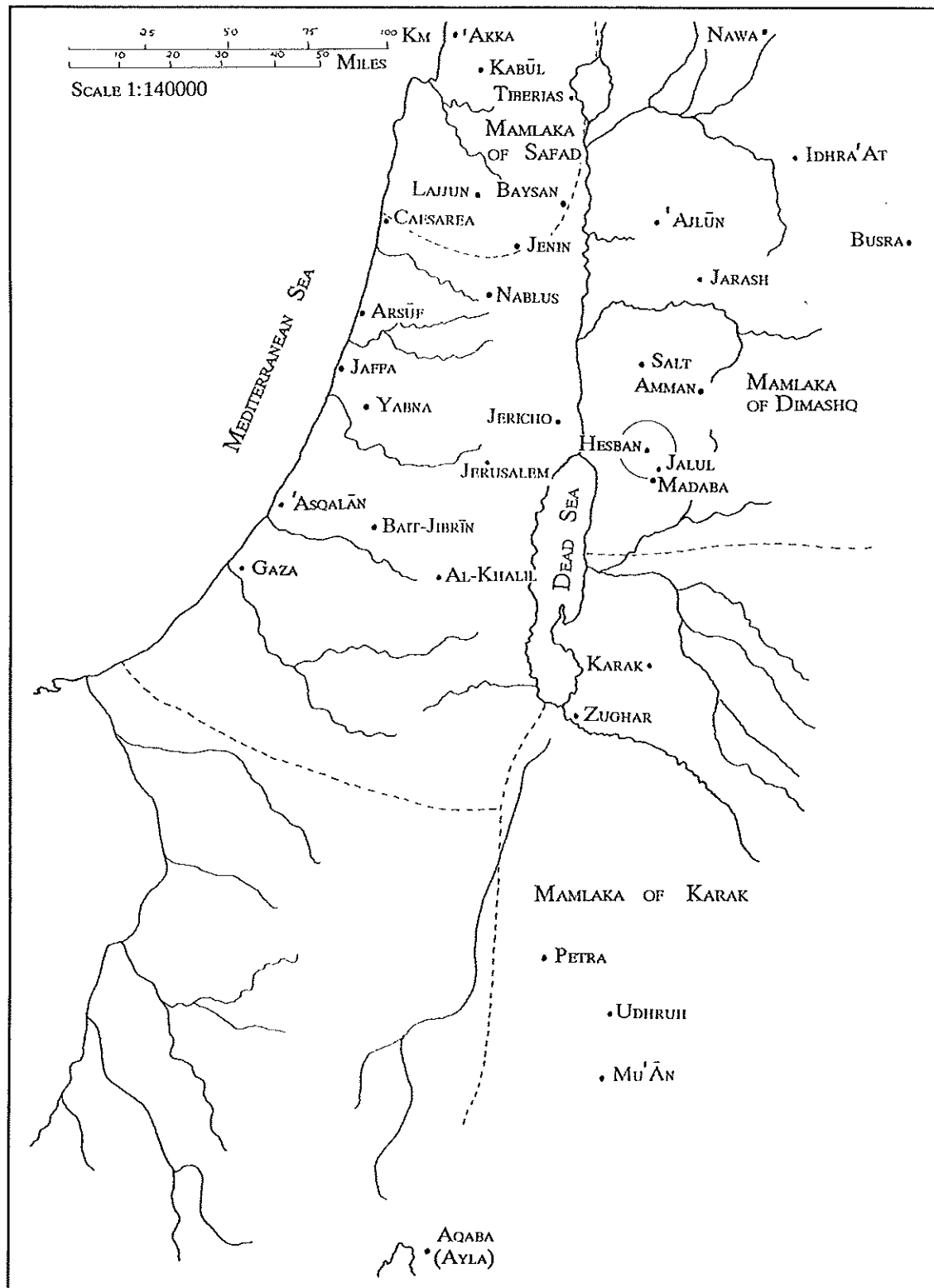
An example of how the gains of the Arab agricultural revolution could be capitalized upon during this period is the sugar production industry. Being one of the crops introduced into Western Asia by the Arabs, sugar cane was apparently being produced in the Jordan Valley even before the arrival of the Franks (Ziadeh 1953: 132). Seeing that its production was profitable, they continued it, as did the Ayyubids and the Mamluks after them. In order to obtain sugar from the sugar cane, the Mamluks operated numerous water-driven sugar mills in the Jordan Valley, many of which have been found by archaeologists (Sauer 1982: 334; cf. Ashtor 1981). That some of these mills had been constructed even as early as Late Fatimid times is possible.

That tribal peoples continued to make up a significant portion of central Transjordan's population throughout Ayyubid and Mamluk times is not to be doubted. Ziadeh (1953: 45), for example, has examined the pertinent contemporary accounts which, he claims, mention the Batn Mahdi tribe as "the masters of al-Balqa" and the Batn Zubayd as another important Bedouin tribe of the period. It is also very likely that many of the older, more established tribes of central Transjordan in the 19th and 20th centuries also were known during Mamluk times (cf. Al-Bakhit 1982).

A.D. 1456-1870 (The Ottoman Period)

Throughout most of the Ottoman Period, central Transjordan belonged to the province of Damascus. This province, in turn, was divided into

Fig. 7.2 Syria under the Mamluks (after Ziadah 1953)



several "sanjaks." In Transjordan there were three such sanjaks, one headquartered at Kerak, another at Salt, and a third at Ajlun. The project area belonged to the region which was administered from Salt (cf. Hutteroth 1975).

Recently attempts have been made to reconstruct, on the basis of census and tax information recorded by Turkish government officials, the cultural landscape of Palestine and Transjordan during the Ottoman Period. An example is Hutteroth's (1975) research which focused on conditions prevailing during the last quarter of the 16th century. The settlement map he prepared shows that, in Transjordan, villages clustered around the administrative headquarters of Kerak, Salt, and Ajlun. Of the three regions (sanjaks), Ajlun appears to have been the most densely settled. The Salt region was settled mostly by nomadic tribes, while the Kerak region was inhabited by an even mixture of villagers and nomads.

That a gradual process of nomadization was under way in central Transjordan already in the 16th century is evident from the data in Hutteroth's study. He notes, for example, that "progressive decay" was especially evident in the case of the ten villages attached to Salt, for in the tax record were "entered the remark that either no taxes could be collected from them or that their peasants had run away" (Hutteroth 1975: 8).

By the 17th century, this process of abatement in sedentary occupation had further reduced the number of villages and towns. By this time central and southern Transjordan, with the exception of Kerak and its nearby villages, had largely reverted to the control of transhumants. Indeed, most of the project area tribal entities included in Peake's *A History of Jordan and Its Tribes* (1958) appear to have had a presence in central Transjordan by this time, including—in the case of Hesban and vicinity—the Adwan, the Beni Sakhr, the Ajarmeh, and the other tribes discussed in Chapter Three.

Changes in Environmental Conditions

Some years ago, Reifenberg (1955) expressed the view that since the demise of the Byzantine civilization, an unabated process of environmental degradation has occurred in Palestine. More recently, the same view has been repeated by Naveh and Dan (1973: 375). According to these authors, starting after the Muslim conquest a

period of "increasing agricultural decline and landscape desiccation" occurred in Palestine which lasted for more than 1,300 years. To what extent do our findings from Tell Hesban and vicinity support this view?

To answer this question, notice will be taken of two pertinent lines of evidence. On the one hand, as was discussed in the previous chapter, there is what is known from literary sources about environmental conditions in the Hesban region during the last three centuries of the Greco-Roman millennium. On the other hand, there are the zooarchaeological and other environmental data generated by the Heshbon Expedition. When these two lines of evidence are examined, the suspicion that the above appraisal is altogether too sweeping, and even misleading, is strengthened.

To begin with, as was noted in Chapter Six, the process of environmental degradation in Palestine was well on its way already in the 3rd and 4th centuries A.D., judging from the literary information available from these periods. Furthermore, that this process continued unabated, as is implied in the above paragraph, is very unlikely. Thus, as will be seen later on in this chapter, in Ayyubid-Mamluk times there appears to have been great effort made to restore the terraces, embankments, and diversion dams built by earlier inhabitants of the project area.

The presence in the bone finds from this same period of an impressive array of wild birds, most of which are either extinct or rarely seen today in the project area, is another indication of the state of the environmental conditions which prevailed throughout the Islamic centuries. Among the species of wild birds identified in the bone corpus from the Islamic strata by Boessneck and von den Driesch (1978a) are the little owl (*Athene noctua*), stone curlew (*Burhinus oedipnemus*), chukar partridge (*Alectoris chukar*), corn-crake (*Crex crex*), houbara bustard (*Chlamydotis undulata*), palm dove (*Streptopelia* sp.), white stork (*Ciconia ciconia*), flamingo (*Phoenicopterus ruber*), dotterel (*Eudromias morinellus*), kestrel (*Falco tinnunculus*), and lesser kestrel (*Falco naumanni*).

When the zooarchaeological evidence from the Islamic strata at Tell Hesban is reflected upon, along with the accounts of environmental conditions in Moab provided by travelers such as Tristram (1873, 1880; see Chapter Three), alternatives to the "unabated degradation hypothesis"

come to mind. For example, the possibility must be considered that in Jordan, as in other developed and developing countries, the degraded state of the natural environment today may be due, to a larger degree than generally acknowledged, to more recent events and causes. In other words, rather than attributing these conditions primarily to "centuries of neglect" by ignorant pastoralists and tribal cultivators, the devastating impact of unbridled development, accompanied by unprecedented rates of sedentarization and intensification of agriculture, must also be reckoned with in assigning blame. There exists, in any case, very little to support the unabated degradation hypothesis in the data from Tell Hesban and vicinity. As in pre-Islamic and modern times, there have been periods of intensive management of the natural environment, and periods of little such management during the Islamic centuries as well. Whether the Islamic centuries witnessed a greater degree of neglect and mismanagement than previous centuries is still an open question. The answer to this question depends in part, of course, on the extent to which low intensity use of the land by Bedouin and tribal cultivators is to be equated with neglect and mismanagement.

Changes in Settlement and Landuse Conditions

Caliphate and Seljuq Periods

Having offered an overview of the sociopolitical and environmental conditions which prevailed throughout the Islamic centuries in Transjordan as a whole, we return again to consideration of the food system conditions attested by the archaeological remains from these centuries at Tell Hesban and vicinity. To begin with, when attention is focused on changes in settlement and landuse conditions during the Caliphate and Seljuq periods, it is apparent that what is known of conditions in central Transjordan as a whole is generally affirmed by the empirical evidence from the project area. Thus, as happened elsewhere in central Transjordan, while life in villages and towns within the Hesban project area persisted into the Umayyad period, it ebbs considerably with the coming of Abbasid rule and remains at a low intensity level for over four hundred years until it again flows throughout Ayyubid-Mamluk times.

This pattern is evident, first, in the results of the Hesban Survey. Significant with respect to the Umayyad Period sites (*cf.* fig. 7.3) is their location and quantity when compared with the preceding Byzantine Period (fig. 6.6) and the succeeding Abbasid Period (fig. 7.4). In quantity, the number of sites where pottery from these three successive periods was found decreases from 107 (Byzantine), out of a total of 148 sites surveyed, to 23 (Umayyad), to 5 (Abbasid). Along with this abatement in intensity of settlement was a retreat of sedentary occupation away from the eastern plain and western descent regions into the northern hills and plateau ridge. During the Umayyad Period, the quantity of sites in each of these four subregions numbered 2, 4, 10, and 7 respectively. In the ensuing Abbasid Period sedentary occupation was further reduced to five sites, three in the northern hills (Sites 132, 144, 145), one on the plateau ridge (Tell Hesban), and one in the eastern plain (Tell Jalul).

An even closer view of the transition from Byzantine to Early Islamic times is provided by the results of excavations at Tell Hesban. To begin with, there is a noticeable reduction in the quantity of archaeological loci assigned to the Early Islamic strata—210 assigned to Stratum 6 (Umayyad Period) and 56 assigned to Stratum 5 (Abbasid Period), compared with 909 from the earlier Byzantine strata (*i.e.* Strata 10-7). This decline in occupational activity is also evidenced by the fact that one excavation area, namely Area B, was devoid of Umayyad remains altogether throughout the five seasons of excavations.

During the 1968 campaign, Phyllis Bird (1969), who served as the field supervisor for Area D, attempted to ascertain whether the transition from the Byzantine to the Arab Period was one of basic continuity or radical change. On the basis of careful consideration of the accumulated evidence from her field, she reached the conclusion that it "was one of basic continuity, involving the reuse of earlier structures, rebuilding and adaptation of others and some new building within the older structural framework" (Bird 1969: 193). This "continuity of construction" thesis remained unchallenged by the field supervisors who continued the work in Area D during the subsequent four campaigns.

As has already been indicated, very little was unearthed at Tell Hesban from the Abbasid Period (Stratum 5). Apart from a fire pit in Area A

Fig. 7.3 Umayyad Period sites

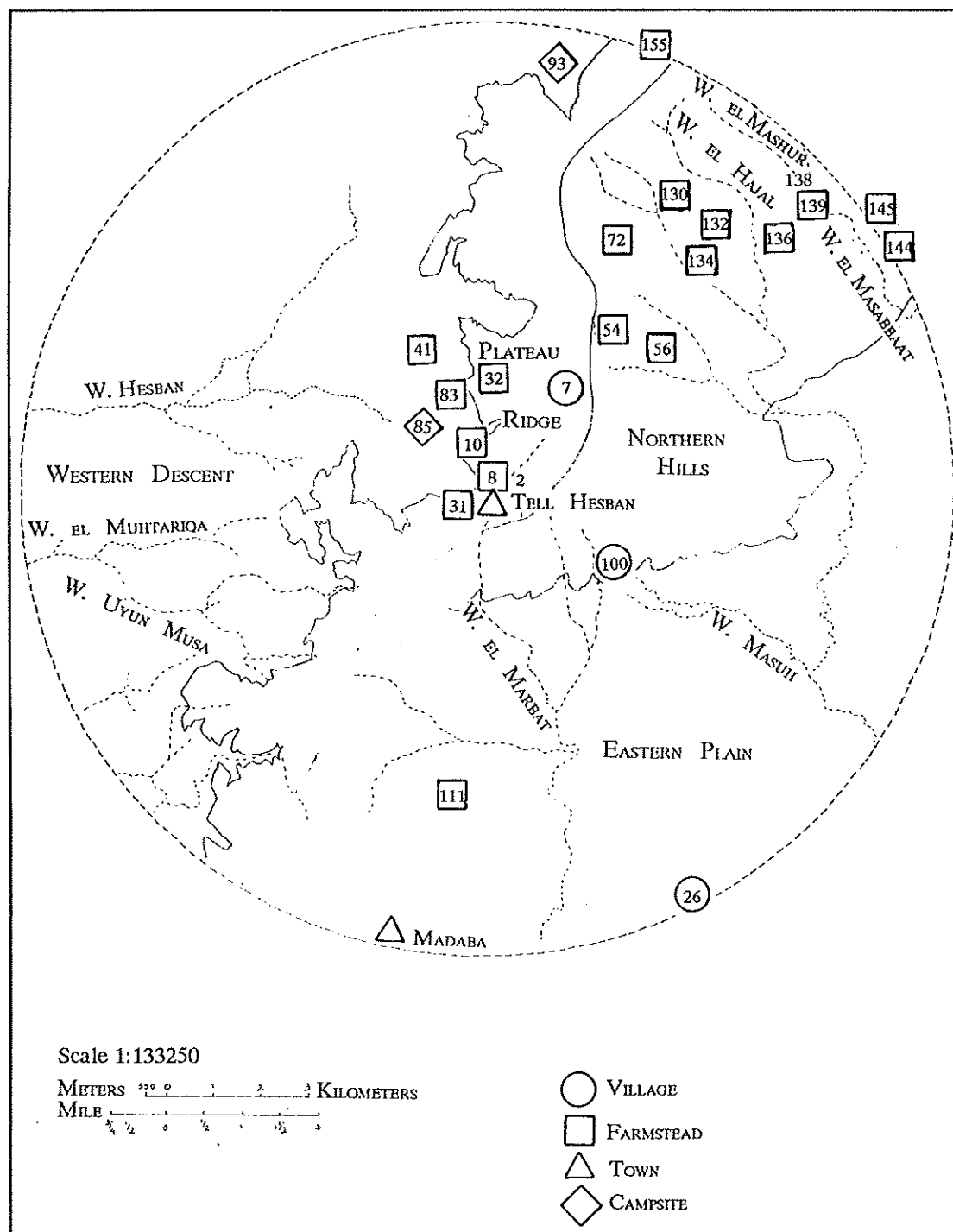
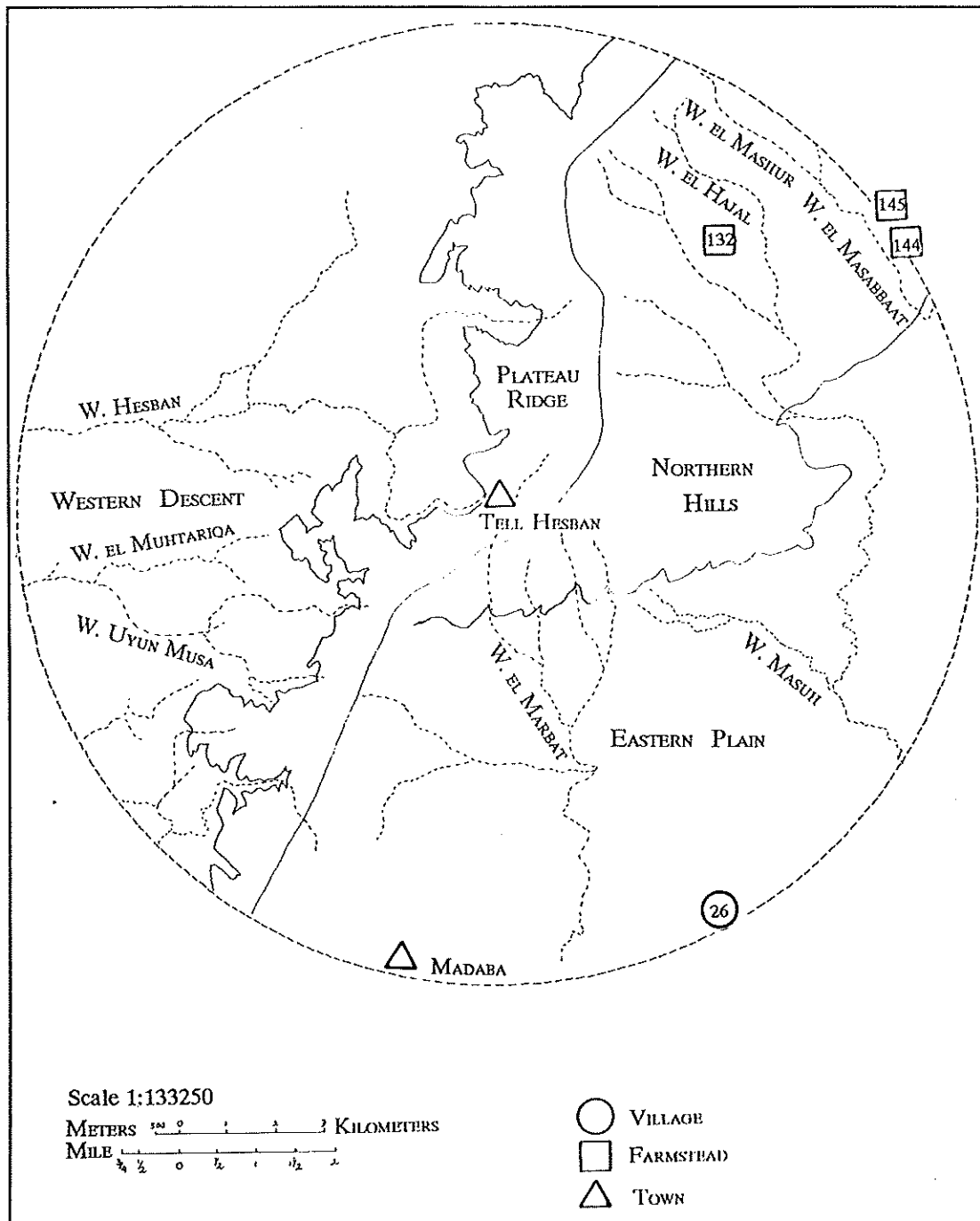


Fig. 7.4 Abbasid Period sites



(A.9:80), a pit in Area B (B.6:2), and an enclosure wall in Area D (D.1:4c), the remains from this period consisted mostly of layers of soil, fill, tumble and *huwwar* containing Abbasid pottery mixed in with sherds from earlier periods. No evidence was found on the tell itself of buildings or other installations associated with permanent settlement. That seasonal use was made of the tell and its environs during the Abbasid period is a good possibility, however (see discussion under Changes in Operational Conditions below).

No signs were reported indicating permanent occupation of the tell and its environs during the Fatimid and Seljuq periods. As in the case of the Abbasid Period, however, some sort of seasonal settlement may have existed at Tell Hesban also during these centuries. Until the problems of distinguishing pottery from these periods are overcome, however, this suggestion must obviously be taken not as fact, but as a reasonable conjecture based on ethnohistorical analogy.

Turning next to consideration of landuse changes during the Early Islamic centuries, the story which is suggested by the available evidence is about a gradual change away from the high intensity configuration of the Byzantine centuries toward a medium intensity one during the Umayyad Period followed by a low intensity one during the Abbasid, Fatimid, and Seljuq centuries. The principal basis for this story is the changing pattern of settlement discussed above. Thus, the retreat of the sedentary population, during the Umayyad Period, away from the western descent and the eastern plain into the northern hills and plateau ridge is indicative, for reasons discussed in chapters Three and Four, of a return to mixed farming involving cereals and pasture animals. The further retreat, in turn, of towns and permanent villages during the Abbasid Period, and their continued sparsity during the Fatimid and Seljuq periods, would suggest further abatement during these periods in the intensity of the local food system in the direction of pastoral nomadization. This interpretation of the evidence is, of course, consistent with the literary evidence discussed above which indicates that the project area was under the control of tribal villagers, such as the Kalb Arabs, and Bedouins, such as the Tayy, during this part of the Caliphate Period.

Closer examination of the number of specimens of animal bones from the Umayyad and Abbasid

strata provide further clues to the changes in patterns of landuse during these periods (table 7.1). To begin with, the relative importance of cattle appears to drop from 12.5% in the Byzantine strata to 3.9% in the Abbasid stratum. At the same time the importance of the camel seems to increase slightly over the same time span, from 1.1% to 2.4%. Concurrent with these changes is an increased interest in sheep and goat production, from 71.6% in the Byzantine Period to 91.7% in the Abbasid Period. Taken together, these changes suggest a gradual shift away from the intensive plow agriculture, involving teams of oxen, which prevailed during Byzantine and early Umayyad times toward greater emphasis on herding of sheep, goats, and camels during Abbasid times.

Ayyubid-Mamluk Period

The increased prosperity of life in villages and towns, documented with regard to the Ayyubid-Mamluk periods elsewhere in central Transjordan, is an undisputable occurrence also within the Hesban project area. This is attested, first, by the results of the Hesban Survey (fig. 7.5). Pottery from these periods was found at 47 sites, of which 18 were located along the plateau ridge, 13 in the northern hills, 9 in the western descent, and 7 on the eastern plain. Significantly, every one of these sites had been settled before, *i.e.* none were settled for the first time during Ayyubid-Mamluk times.

To gain further understanding of how sedentarization intensified, then abated during these periods, it is necessary to turn to the results of the excavations at Tell Hesban. To begin with, there is the measure provided by the quantity of archaeological loci assigned to each of the three Ayyubid-Mamluk strata: specifically 126 to Stratum 4 (Ayyubid, ca. A.D. 1200-1260), 787 to Stratum 3 (Early Mamluk, ca. A.D. 1260-1400), and 379 to Stratum 2 (Late Mamluk, ca. A.D. 1400-1456). The most intensively built-up and sedentarized of these three periods, then, was the Early Mamluk Period.

Closer examination of the architectural remains from these three strata yields additional evidence suggestive of this process of intensification and abatement. Thus, whereas the purely Ayyubid stratum consisted primarily of soil layers, a number of pits, a few floor surfaces, and one significant installation, namely a *tabun* (Area A), the subsequent Ayyubid-Mamluk strata were made up of a

Fig. 7.5 Ayyubid-Mamluk period sites

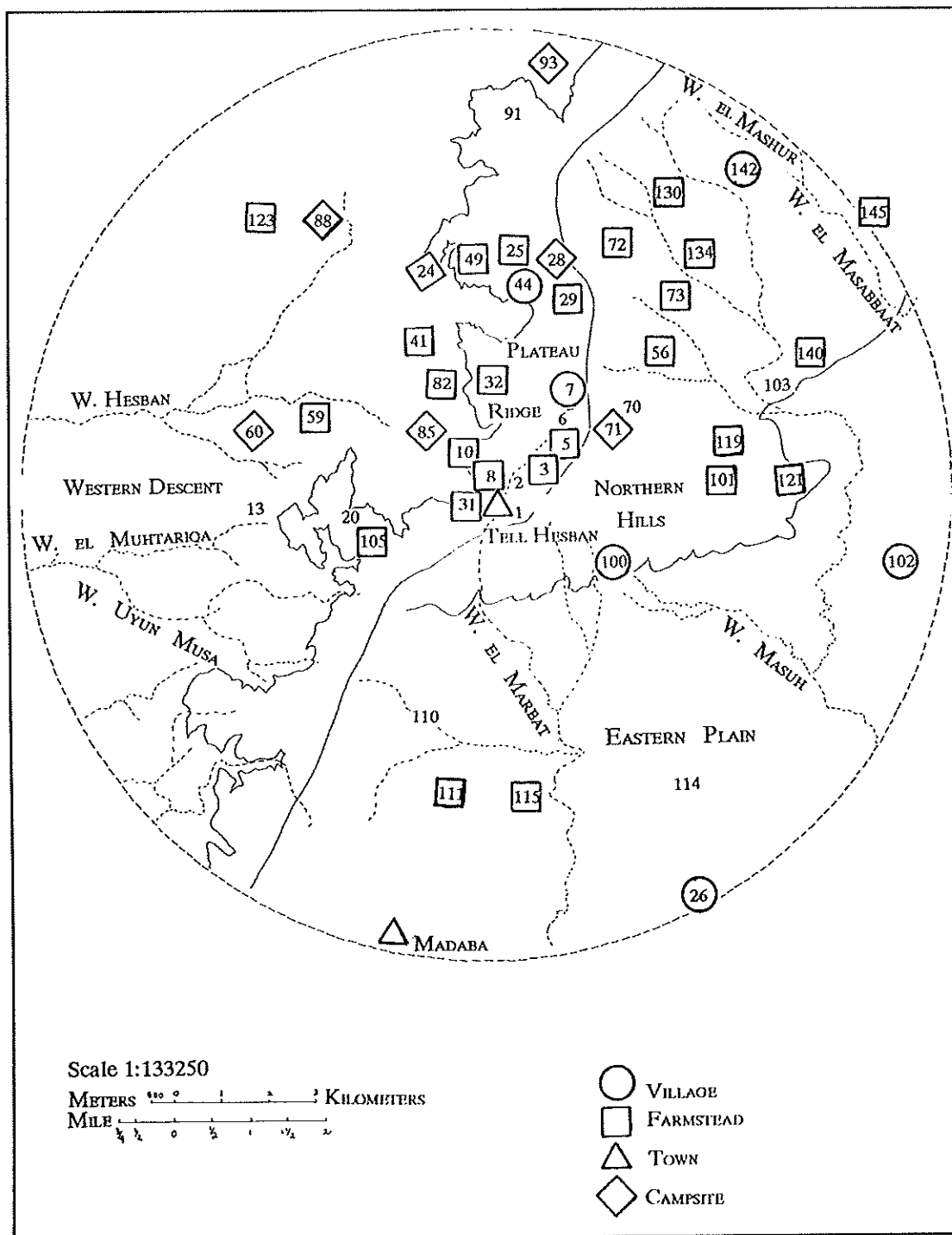


Table 7.1 Number of identified specimens of principal domestic animals from Islamic strata

Strata	Period	Cattle		Sheep/Goat		Sheep		Goat		Pig		Camel		Equids		Horse		Donkey		Total		Accumulation Rates
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	
1	Modern	60	5.7	908	86.0	36	3.4	52	4.9	25	2.4	9	0.9	54	5.1	5	0.5	19	1.8	1,056	5.7	9.96
2-3	Mamluk	1,117	13.3	6,901	81.9	353	4.2	402	4.8	139	1.6	215	2.6	57	0.7	6	0.1	14	0.2	8,429	45.3	43.00
4	Ayyubid	9	10.7	71	84.5	4	4.8	6	7.1	--	--	2	2.4	2	2.4	--	--	--	--	84	0.5	1.40
5	Abbasid	8	3.9	188	91.7	14	6.8	11	5.4	2	1.0	5	2.4	2	1.0	--	--	--	--	205	1.1	0.73
6	Umayyad	68	10.4	494	75.3	47	7.2	33	5.0	80	12.2	8	1.2	6	0.9	--	--	3	0.4	656	6.5	7.80
7-10	Byzantine	162	12.5	932	71.6	58	4.5	48	3.7	130	10.0	14	1.1	63	4.8	5	0.4	10	0.8	1,301	7.0	4.39
11-13	Late Roman	286	11.7	1,892	77.6	140	5.7	115	4.7	183	7.5	17	0.7	58	2.4	2	0.1	6	0.2	2,436	13.1	10.36
14	Early Roman	131	15.0	682	78.1	67	7.7	36	4.1	43	4.9	7	0.8	10	1.1	--	--	3	0.3	873	4.7	4.12
15	Late Hellenistic	136	12.0	977	85.9	135	11.9	75	6.6	6	0.5	15	1.3	4	0.4	--	--	1	0.1	1,138	6.1	2.60
16-18	Iron 2	256	14.3	1,406	78.5	137	7.7	83	4.6	94	5.3	5	0.3	29	1.6	--	--	9	0.5	1,790	9.6	3.58
19	Iron 1	145	22.2	460	70.6	38	5.8	29	4.4	31	4.8	3	0.5	13	2.0	--	--	6	0.9	652	3.5	3.26
Sum	All	2,378	12.8	14,911	80.1	1,029	5.5	890	4.8	733	3.9	300	1.6	298	1.6	18	0.1	71	0.4	18,620	100	5.81

Table 7.2 Number of identified specimens of carbonized seeds from Islamic strata

Strata	Period	Oats		Barley		Wheat		Lentil		Pea		Bitter Vetch		Broad Bean		Olive		Grape		Garden Heliotrope		Total	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
1-6	Modern-Arabic	--	--	29	15.3	91	48.1	15	7.9	--	--	36	19.0	7	3.7	6	3.2	5	2.6	--	--	189	28.5
7-10	Byzantine	--	--	4	7.5	9	17.0	3	5.7	--	--	8	15.1	--	--	14	26.4	15	28.3	--	--	53	8.0
11-14	Roman	1	0.9	62	58.5	5	4.7	1	0.9	--	--	2	1.9	--	--	--	--	35	33.0	--	--	106	16.0
15	Late Hellenistic	2	1.0	12	5.9	43	21.3	8	4.0	1	0.5	126	62.4	2	1.0	6	3.0	2	1.0	--	--	202	30.4
16-19	Iron	5	4.4	6	5.3	14	12.3	2	1.8	--	--	--	--	--	--	82	72.0	3	2.6	2	1.8	114	17.2
Sum	All	8	1.2	113	17.0	162	24.3	29	4.4	1	0.2	172	25.9	9	1.4	108	16.3	60	9.0	2	0.3	664	100

complex, site-wide assemblage of foundation trenches, walls, floors, pits, *tabuns*, caves, channels, and cisterns, along with massive quantities of tumble and fill. Among the remains of buildings recognizable in this assemblage of ruins was an elaborate bath complex (in Area A; see pl. 7.1) which included both hot and cold water tanks (de Vries 1986); several instances of buildings with vaulted rooms surrounding a courtyard (pl. 7.2)—the one in Area D large enough to qualify as having once been a caravansary; several large cave-complexes (Area B, G.4) that appear to have served as permanent residences; and in Area A, a large baking facility. In Area B, a large kiln was dated to the Ayyubid-Mamluk period as well. When, precisely, most of these buildings and installations were constructed—whether in Ayyubid or Early Mamluk times is not certain, because of difficulties in distinguishing the pottery and the mixed contents of most of the loci from these periods. The excavators, however, believe that the most active period of construction and habitation

at Tell Hesban during these centuries was the Early Mamluk Period (Geraty 1976: 47).

Along with the build-up of sedentary occupation during the Ayyubid-Mamluk centuries came significant intensification of landuse. To begin with, this intensification is reflected in the expansion of villages and farmsteads along the plateau ridge and into the northern hills. There is also limited expansion into the western descent and the eastern plain. Judging from the modest increase in the total number of settlements during these periods, and from the location of most of the sites along the plateau ridge and northern hills, a medium-intensity food system appears to have been achieved during these periods.

Consonant with this interpretation are the animal bone finds from Tell Hesban. As can be seen in table 7.1, which presents number of bone specimens of the principal domestic animals, there is an increase again in the relative importance of cattle, from 3.9% during Abbasid times to 13.3% in the Mamluk Period. A corresponding decrease

Plate 7.1 Southern half of Islamic bath complex (Squares A.7, A.8). From right: entrance hall, lounge, access hallway, bath room; view east

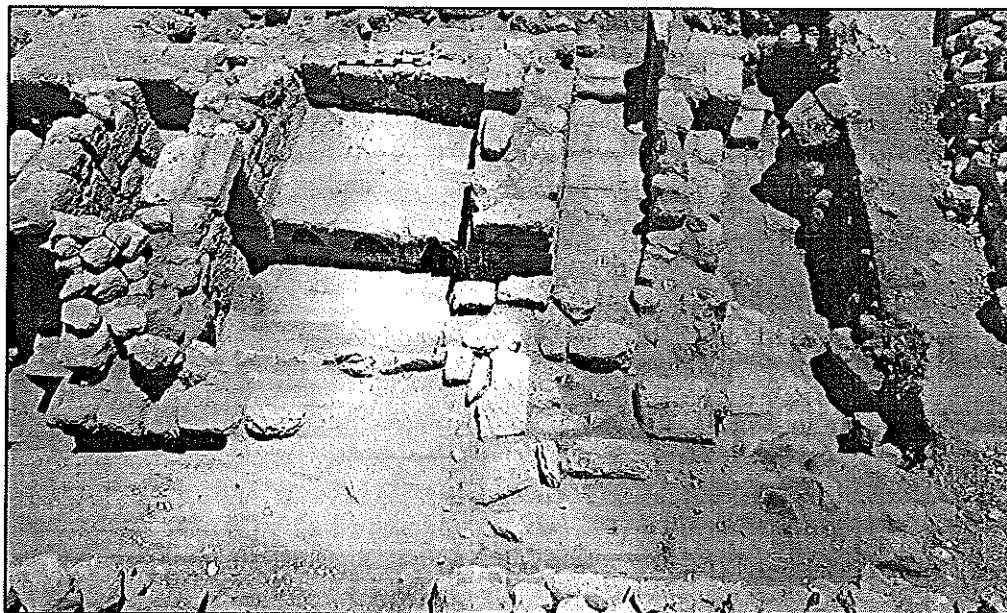


Plate 7.2 Mamluk courtyard (Squares A.7-10) surrounded by rooms with arched entrances to left and bath complex to right; view north



in the relative importance in sheep and goats is also noticeable over the same time span, from 91.7% to 81.9%. These changes are what one could expect, given the above-mentioned changes in settlement patterns; namely an increase in the proportion of cattle for use in plowing the fields and a corresponding decrease in the proportion of pasture animals as grazing lands are again returned to cereal cultivation. While vegetables and tree crops no doubt also were raised in significant quantities, they probably did not contribute as much to the local economy during the Ayyubid-Mamluk period as they had during the previous Roman and Byzantine periods.

The presence in the bone finds from Ayyubid-Mamluk times of zebu or humped-back cattle is noteworthy (Boessneck and von den Driesch 1978a: 264). Although these drought-resistant draft animals had been introduced to Palestine several centuries earlier, perhaps during Roman or Byzantine times, their numbers very likely increased in the rural regions in wake of the Arab agricultural revolution discussed earlier. This, at least, is a possibility suggested by their presence at Hesban during these centuries.

Ottoman Period

The decline in the number of permanent villages and towns which had begun during the Late Mamluk Period continued unabated into the Ottoman Period. This decline is attested by the drop in the number of survey sites (fig. 7.6) attesting Ottoman pottery and by the sparsity of occupational debris from this period. On the tell, for example, all that was unearthed from this period was a cave/cistern complex found in Area G.4. containing "probable" Ottoman pottery (Wimmer 1978: 150). Had more caves been investigated, it is likely that a better picture would have been obtained of the village, which according to Ottoman tax records (Hutteroth and Abdulfattah 1977) existed at Hesban in A.D. 1596. The fact that this settlement was one of only two villages located in the Transjordanian highland between Salt in the north and the Wadi Mujib in the south is noteworthy. Being entirely surrounded by nomadic tribes, it is not surprising that, although mentioned in the records as a village, it yielded no taxes on the basis of which agricultural production statistics could be obtained.

During the Ottoman centuries, therefore, the center of gravity, in terms of landuse, tended to remain on the side of pastoral pursuits by seminomadic tribesmen (see Chapter Three for a more detailed discussion of landuse during the Late Ottoman Period). While wheat, barley, and other field crops were no doubt planted to varying degrees by most of these tribesmen on the fertile slopes and wadi bottoms surrounding Hesban (*cf.* Hutteroth and Abdulfattah 1977, Agricultural Production Map), the extent to which this was done from one year to the next no doubt waxed and waned as local political and economic winds encouraged or discouraged it.

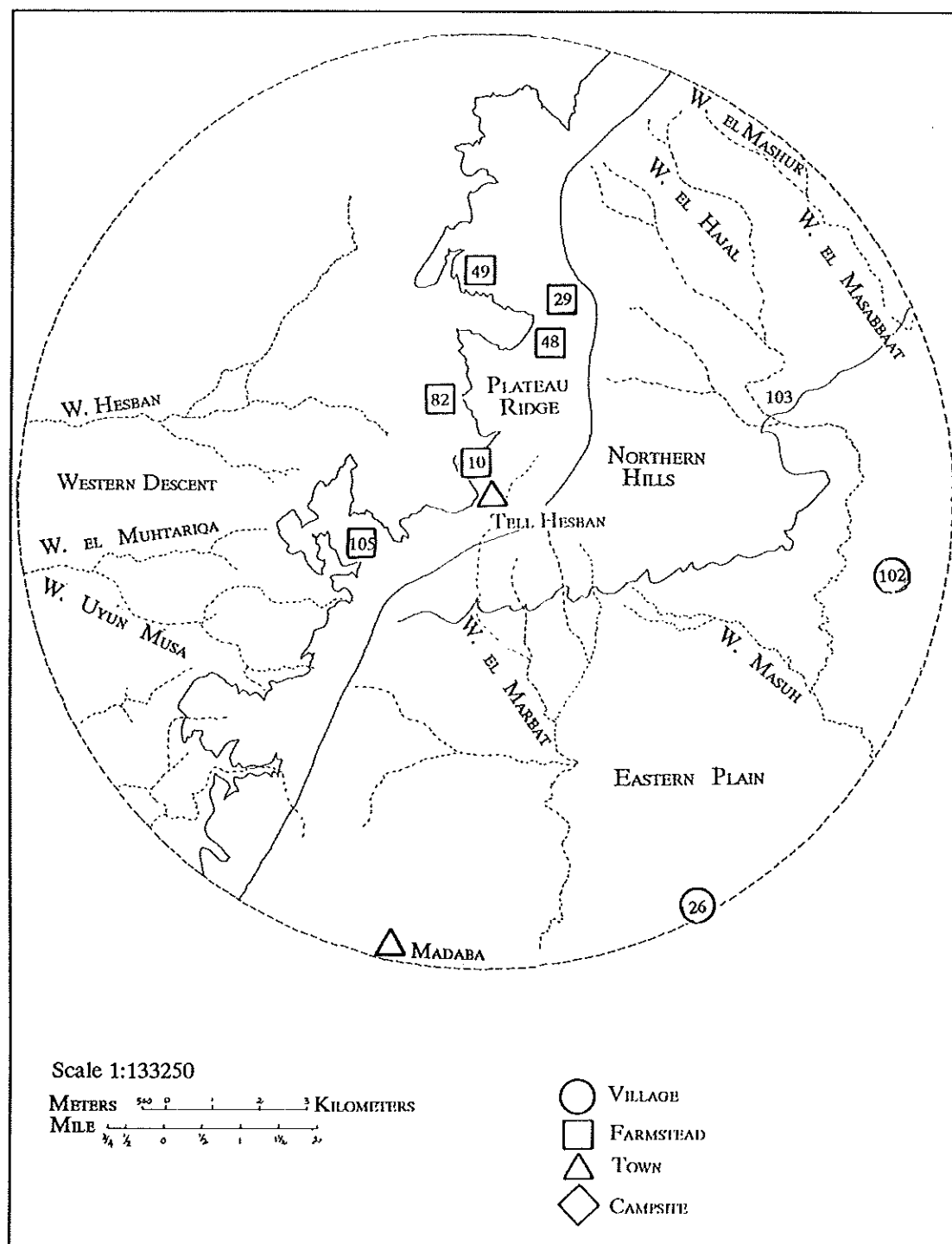
As was discussed in Chapter Three, the most pastoral of the tribesmen who inhabited the project area during the Ottoman Period were the camel-breeding Beni Sakhr. By contrast, the sheep-and-goat-breeding Ajarmeh tribesmen were widely known for their wheat which they cultivated in the slopes and valleys surrounding seasonally-inhabited villages (see below). These villages could be found along the northern highland, along the plateau ridge and in the valleys of the western descent. As was discussed in Chapter Three, both the Beni Sakhr and the Ajarmeh, whose ancestors have utilized the project area since the earliest decades of the Ottoman Period, have over the past two centuries gradually abandoned their nomadic ways in favor of a more sedentary existence. The same also is true with regard to other Ottoman Period residents of the project, such as the Adwan, the Belqawiya, and the Beni Hamida (Glubb 1938; Peake 1958).

Changes in Operational Conditions

The Qasr or Fortified Farm Compound

One of the most distinctive architectural features of the rural landscape of the Islamic centuries was the so-called *qasr* (plural *qusur*). As a background to the following discussion of *qusur* at Tell Hesban and vicinity, note will be taken of Conrad's article on the subject of "The Qusur of Medieval Islam" (Conrad 1981). Conrad begins his article by dispelling the idea that the Arabic term *qasr* always is used with reference to luxurious or fortified places, such as castles, palaces, or fortified mansions of various kinds (*cf.* Grabar 1955). This, he argues, is a meaning that has been "imposed on

Fig. 7.6 Ottoman Period sites



the term" and which has led to "substantial misunderstanding" in our interpretation of it.

Contrary to views advanced by several medieval Arabic lexicographers, Conrad sees "no justification" for viewing the term *qasr* as an instance of Arabization of some Latin or Greek word. Instead, he prefers to view the word as "a perfectly regular Arabic" term meaning "enclosure, confinement, or restriction" (Conrad 1981: 7-9).

Indeed, when careful attention is paid to the actual usage of the term *qasr* by the Arabs themselves, a wide range of meanings and connotations is found to exist. For example, among the Rwala Bedouins, "*qasr* is the name of any house built of stone or mud brick" (Musil 1928: 160 as quoted in Conrad 1981: 11). A similar usage for the term was noted by Canaan (1933), whose lifework was focused on documenting the construction techniques of the fellahin of Palestine (Conrad 1981: 13). In other instances, the term is used with reference to agrarian installations, such as permanent structures for storing or guarding garden crops. In still other cases, the term is used with reference to "substantial agricultural compounds" or "fortified farms" (Conrad 1981: 14-15; cf. Musil 1927: 370).

The term *qasr*, then, connotes the opposite of "ephemeral structures" such as tents and reed houses. In terms of its social context, it reflects "a direct response" to the problem of "endemic insecurity" faced by permanently settled members of the Islamic rural landscape. As Conrad (1981: 18-19) explains:

Our Near Eastern *qusur* were not outposts garrisoned by imperial troops or allies acting on their behalf. They were the preserves of powerful local clans or tribal leaders, and in many towns and villages there were multiple *qusur* controlled by separate and sometimes rival groups. We would not expect to find such a phenomenon in a society organized as a single harmonious entity, and the fact that we do find it so prominently at so early a date indicates, again, how profoundly urban and village life in many parts of the Near East was affected by the realities of tribalism.

It is important to note that these fortified residential compounds or *qusur* did not always exist as isolated entities. As was pointed out in the previous paragraph, clusters of *qusur* could be found which together made up a village or a town. Individually, most of these compounds were usually "much less than a fortress or a palace," yet they

represented "a vital social institution," given the constant exposure of the sedentary population to attacks by marauding tribesmen. For warding off such threats the *qusur* were well suited. Written Conrad (1981: 10):

The compound was generally small and simple, and in its construction groups of families or related clansmen would have encountered no difficulty in the way of expense or technological requirements. The enclosure wall was but a slight obstacle to an organized attack by trained troops, but was sufficient to deter marauders who had neither the time nor the patience for a siege. In time of danger, the villagers withdrew to the *qusur*, drove their livestock into the courtyard, and barred the gate against the raiders. The latter, though unable to penetrate the *qasr*, could still force the settlement to come to terms by threatening to burn or trample crops, cut down trees, fill wells, and smash irrigation works. Usually an arrangement was reached whereby the intruders agreed to spare the exposed fields and facilities of the settlement, and to leave peacefully in exchange for money or goods.

Perhaps the most distinctive architectural feature of the *qusur* of Transjordan is the "vaults and barrel roofs" construction. While this construction technique predates the Islamic era, it appears to have been used widely throughout the villages and towns of the Ayyubid-Mamluk period, judging from the frequent association of this type of architecture with pottery from this period throughout the project area. Among the project area sites which contained ruins of this type are: Jalul (Site 26; pls. 7.5 and 7.6), Beit Zira (Site 56), Masuh (Site 100), Kefeir Abu Khinan-west (Site 111), and east (Site 115), Dubaiyan (Site 134), Umm es Summaq (Site 154), and Sites 130 and 145 (Ibach 1987: 192-193). To varying degrees, all of these villages and towns were made up of clusters of fortified residential compounds, or groups of *qusur*.

Whether one or more *qusur* existed at Tell Hesban throughout the early Islamic centuries is not certain. Excavation results from the Early Mamluk Period at this site, however, suggest the presence of several. The most impressive of these, "the acropolis building complex," was a structure, built upon the ruins of the Byzantine church, containing a courtyard surrounded by interconnected rooms (cf. pl. 7.2). These rooms were constructed using the vault and barrel roof method noted earlier. Arranged in a U-shape, they "formed a large open courtyard in the middle, which

Plate 7.3 Ayyubid-Mamluk Vault G.6:9 made of rough hewn blocks of *nari* and biomicrite; view east



Plate 7.4 Ayyubid-Mamluk vaulted Room D.4:24 with Bedrock D.4:25 in left foreground; view southeast

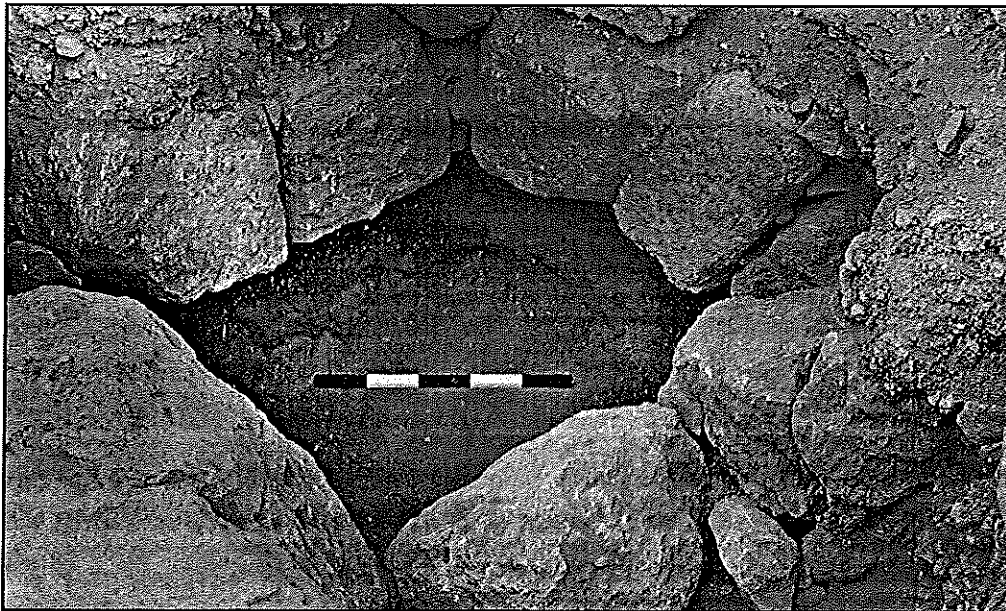


Plate 7.5 Islamic architecture at Tell Jalul (Hesban Survey Site 26); view southwest

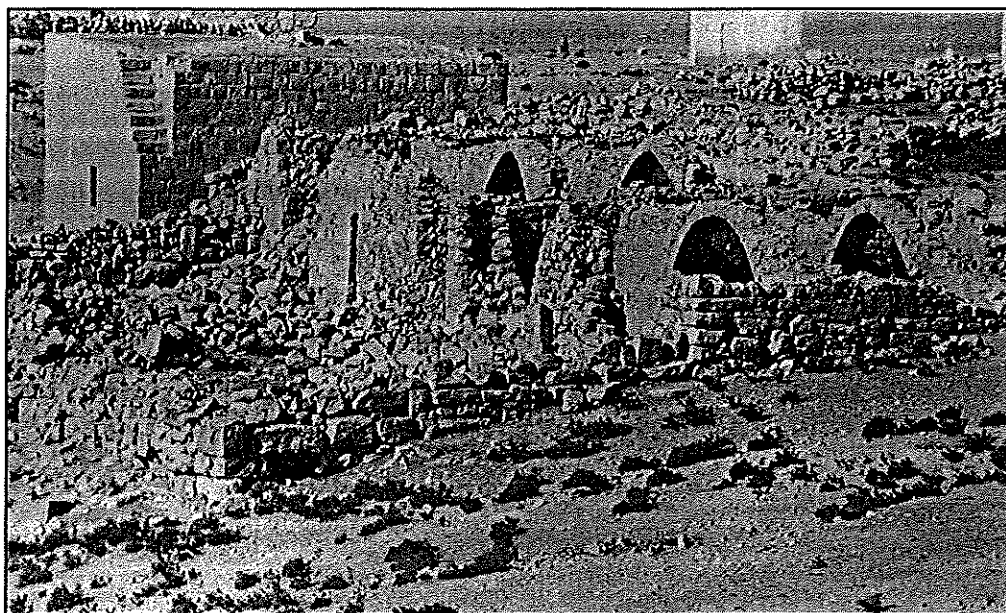
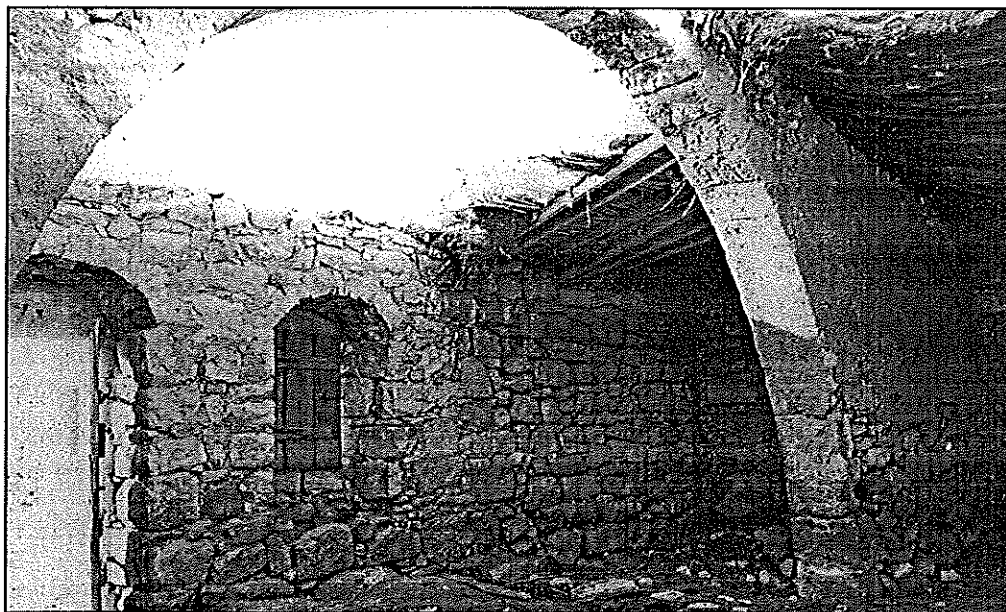


Plate 7.6 Close up of Islamic architecture at Tell Jalul (Hesban Survey Site 26); view south-southeast



appeared to have been open on the east side" (van Elderen 1978: 20). A perimeter wall sealed off the top of the U. Also included within this compound was an exceptionally well-preserved bath complex (de Vries 1986; cf. Grabar 1955: 13; pl. 7.1).

To the west of this acropolis *qasr* several smaller "domestic houses" were uncovered, all of which conform to the basic pattern of the *qasr* noted above. These "houses" had been constructed using the same vaulting method as was used in the acropolis *qasr* and each consisted of a cluster of rooms around a central open court. Unlike the town which had existed during the Roman-Byzantine period, the "houses" were placed haphazardly in the available space without any street apparent."

These finds suggest the presence during Early Mamluk times at Tell Hesban of a classic medieval *qasur* town, complete with a *qasr* of mansion proportions on the acropolis summit itself, and a cluster of less imposing residential *qasur* surrounding it in a more or less haphazard fashion. Associated with all of these compounds were numerous reused cisterns, water channels, baking ovens, and storage and habitation caves. The large reservoir east of the tell along the Wadi el Marbat was also in use.

The existence in the midst of the present-day village of Hesban of a building which the villagers call the *qasr* should also be noted. While the building is today used only as a store house for agricultural products, villagers say that it used to be the residence of the landowner who "owned" the village and the fields cultivated by its inhabitants. Unfortunately, no attempt was made to ascertain the building's construction date, nor was its use-history investigated. What was determined, however, was that it had been constructed on top of walls dating back at least to the Ayyubid-Mamluk period (Brown 1978: 181-183; cf. Conder 1889: 210).

Habitation Caves

Another noteworthy feature of the Ayyubid-Mamluk settlement at Tell Hesban is the presence on and surrounding the tell of numerous habitation caves (Geraty 1976: 47; Ibach 1987: 192). The largest of these was discovered at the end of the 1976 season. It measured 100 m in length and was, in some places two stories high. Too large to excavate in the final season, it was only explored;

from off the surface came two large, beautifully glazed Mamluk bowls—one patterned in brown and yellow, the other in black and green (Geraty 1976: 47).

That such habitation caves were widely in use throughout project area villages in Ayyubid-Mamluk times is quite certain. Indeed, as Ibach (1987: 191-192) has noted, Ayyubid-Mamluk sites may be recognized by their "sharply undulating surface" and by the presence of "small mounds" "interspersed with depressions and cave entrances." These features "are caused by several architectural features of the period, namely, arches, vaulted buildings, semisubterranean rooms and caves. In some cases these have collapsed, forming depressions." Nearly all of the Ayyubid-Mamluk period sites mentioned above exhibit these features.

Seasonal Villages

Another type of rural settlement which existed in the project area throughout the Islamic centuries was the seasonal "village." These were villages in which people lived for part of the year in caves and for part of the year in tents. What made them seasonal was the fact that their populations fluctuated significantly on a seasonal basis.

An example of this is provided by the Ajarmeh. During the winter months, they would move out of their tents in the vicinity of fields and pastures and into caves nestled in depressions and slopes of ancient tells. From here they would come forth daily to concentrate their efforts on plowing and planting wheat in the fertile valleys surrounding their "village."

But not everyone would move into caves in the winter. Others would migrate to the Ghor or into the eastern desert in order to spare their flocks of cattle, sheep, and goats from the worst of the winter weather. These members of the tribe would return in time to assist with the wheat harvest and to graze their flocks on the stubble. Later in the summer, the flocks would again need to be taken to distant pastures, which resulted in another fluctuation of the village population.

Typically seasonal villages flourished during periods when villages, in the traditional sense of clusters of permanently occupied stone buildings, were abandoned. That the populations of these villages were capable of completely abandoning them, if need be, was a source of considerable frus-

tration to Ottoman tax collectors. Thus, efforts at collection were frequently blunted by villagers moving out on hearing of the arrival of tax authorities (*cf.* Hutteroth 1975).

While the most important feature of these villages was their habitation caves, each of which typically had a masonry entrance, other distinguishing features can be pointed to as well. For example, all of them had a threshing ground, a primary water source such as a well or one or more cisterns, several animal corrals, and a burial ground. Significantly, they also had names, as in the case of the Ottoman seasonal villages of Hesban and Masuh, both of which were known by those names before they were rebuilt at the end of the 19th century.

That Hesban itself was used as a seasonal village site by members of the Ajarmeh tribe during the Ottoman Period has already been suggested. Evidence for this is the existence of numerous caves throughout the village. Most of these have black ceilings and contain the remains of some sort of fire pit. At least one of them was still in use as residential quarters for humans in 1976, although such use of caves was by then the exception. Much more common today are instances where these caves are used as storage places and animal shelters.

Only one of these Ottoman habitation caves, G.4, was explored by the archaeological team. It turned up "probable" Ottoman pottery along with an interesting array of objects, including a large key, a stirrup, a small iron horseshoe, a Turkish clay pipe, a bronze bracelet, an iron hook, a machine part, a plastic comb, a loom weight, and a piece of worked flint (Wimmer 1978: 150-151).

In Chapter Three it was suggested that transhumant pastoralism was the prevailing form of landuse within the project area throughout the Ottoman Period. The extent, however, to which this subsistence pattern involved a commitment to cultivation of field crops is reflected in what has already been stated previously about the nature of the seasonal village. Indeed the *raison d'être* of the seasonal village was to allow people to concentrate their energies on cultivation during the wheat growing season. The maintenance of such villages by the Ajarmeh, therefore, is consonant with their reputation as being skillful agriculturalists known for outstanding wheat harvests (see Chapter Three).

Sacred Stone Circles

Another important feature of the rural landscape of the project area during Islamic times is, as was noted briefly in Chapter Three, the sacred stone circle. In essence, these were burial sites which also served as tool and equipment depots for storing plows and other articles used by tribesmen in this area. Such places were noted by Conder (1889) at Ain Hesban (1889: 6-7), El 'Al (1889: 16-19), Butmet et Terki (1889: 93-94), Hesban (1889: 104), El Jereineh (El Jureina) (1889: 110), Kabr 'Abdullah (1889: 113), Khurbet el 'Amriyeh (1889: 146), Khurbet Umm el 'Akak (1889: 156-157), Rujm Saur (1889: 207-208), and Umm el Hanafish (1889: 246-248). All of these sites are located within 10-km radius of Hesban (see Ibach 1987: 201-232).

The iconography associated with these sacred circles provides some insight into what the tribesmen considered to be valued attributes of individual members. Carved in relief on one of the stones at Ain Hesban, for example, were the tribal marks of the Ajarmeh, along with "rude designs representing a bow, a coffee-mortar and pestle, and finally a man on a horse with a sword and a bow above him." On another stone at this site were carved "representations of a coffee-mortar and pestle, four coffee-cups, or finajin, and a spoon (Mihmasah) for roasting, and a little jug or pot for boiling the coffee." Similar representations were noted on stones at Kabr Abdallah (Conder 1889: 6-7; 113). Concludes Conder (1889: 7): "These designs are modern Arab work, and are interesting . . . because they are intended by an illiterate people to be symbols of the warlike valor and of the hospitable character of the chief here buried."

Changes in Dietary Conditions

The information available regarding the dietary practices which prevailed during the Islamic centuries comes primarily from the animal bone finds and carbonized seeds excavated at Tell Hesban. These finds, it will be recalled, stem primarily from the Umayyad and Ayyubid-Mamluk periods, as these were the times during which the tell was extensively settled on a year-round basis.

In comparison to other periods, none is better represented in the faunal assemblage from Tell Hesban than the Mamluk Period. For example,

Table 7.3 Weight of principal meat-yielding species from Islamic strata (in kg)

Strata	Period	Cattle		Sheep/Goat		Pig		Camel		Total		Accumulation Rates
		kg	%	kg	%	kg	%	kg	%	kg	%	
1	Modern	1.4	27.45	3.0	58.82	0.2	3.92	0.5	9.80	5.1	4.65	0.05
2-3	Mamluk	14.2	30.67	25.2	54.43	0.8	1.73	6.1	13.17	46.3	42.21	0.24
4	Ayyubid	0.1	33.33	0.2	66.67	--	--	--	--	0.3	0.27	0.01
5	Abbasid	0.2	16.67	0.8	66.67	--	--	0.2	16.67	1.2	1.09	0.01
6	Umayyad	1.6	33.33	2.4	50.00	0.6	12.50	0.2	4.17	4.8	4.38	0.06
7-10	Byzantine	2.3	31.51	3.7	50.68	1.1	15.07	0.2	2.74	7.3	6.65	0.02
11-13	Late Roman	4.4	31.43	7.6	54.28	0.9	6.43	1.1	7.86	14.0	12.76	0.06
14	Early Roman	1.9	33.33	3.3	57.89	0.3	5.26	0.2	3.51	5.7	5.20	0.03
15	Late Hellenistic	3.1	46.27	2.8	41.79	--	--	0.8	11.94	6.7	6.11	0.05
16-18	Iron 2	4.6	40.00	6.3	54.78	0.3	2.61	0.3	2.61	11.5	10.48	0.02
19	Iron 1	3.1	45.59	2.9	42.65	0.3	4.41	0.5	7.35	6.8	6.20	0.03

Table 7.4 Number of identified specimens of fish from Islamic strata

Strata	Period	Family Cichlidae Combs		Family Clariidae Catfish		Family Cyprinidae Minnows		Family Mugilidae Grey Mullets		Family Scariidae Parrot Fish		Family Scombridae Drums & Croakers		Family Scombridae Mackerel-like Fish		Family Serranidae Bass		Family Sparidae Sea Breams		Total	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
1	Modern	1	50.0	1	50.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	0.3
2-3	Mamluk	18	12.3	33	22.6	5	3.4	4	2.7	84	57.5	1	0.7	--	--	--	--	1	0.7	146	19.5
4	Ayyubid	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5	Abbasid	--	--	3	75.0	--	--	--	--	1	25.0	--	--	--	--	--	--	--	--	4	5.6
6	Umayyad	25	59.5	8	19.0	--	--	1	2.4	7	16.7	--	--	--	--	1	2.4	--	--	4	0.5
7-10	Byzantine	8	33.3	8	33.3	--	--	--	--	5	20.8	1	4.2	1	4.2	--	--	1	4.2	24	3.2
11-13	Late Roman	1	1.2	1	1.2	--	--	--	--	1	1.2	--	--	79	96.3	--	--	--	--	82	10.9
14	Early Roman	1	1.4	1	1.4	--	--	--	--	1	1.4	62	89.9	4	5.8	--	--	--	--	69	9.2
15	Late Hellenistic	--	--	1	0.3	--	--	--	--	--	--	--	--	372	99.7	--	--	--	--	373	49.8
16-18	Iron 2	--	--	--	--	--	--	--	--	1	14.3	--	--	--	--	1	14.3	5	71.4	7	0.9
19	Iron 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sum	All	54	7.2	56	7.5	5	0.7	5	0.7	100	13.3	64	8.5	456	60.9	2	0.3	7	0.9	749	100

the combined weight of bones of cattle, sheep-goat, pig, and camel from the Mamluk period accounts for fully 42% of the bones of these species from all periods. This large assemblage of domestic species is also accompanied by a large quantity of fish, poultry, and game.

What the diet might have consisted of during the low intensity times which prevailed throughout the Abbasid, and later on throughout the Ottoman Period, is a question about which little can be said on the basis of the faunal remains on hand. An idea of what it might have been like, however, is suggested by the discussion of diets during the transhumance phase in Chapter Three.

Domesticated Mammals

As in all previous periods, the principal source of meat for the inhabitants of Hesban was sheep and goats. However (see table 7.3), there appears to have been considerable variation in the extent

to which these animals were eaten from one period to the next. They played, for example, a more important role in the diet during the Abbasid and Ayyubid periods than they did in the Umayyad and Mamluk periods. Of the two species, goats may have played a proportionately larger role in the Mamluk diet than in previous times (von den Driesch and Boessneck forthcoming).

Another significant source of meat was cattle and camel, especially during Mamluk times. Together, these two species contributed over 44% of the red meat, compared with 54% for sheep-goat. In no other period, except for the Abbasid, does camel play as large a role in the diet as here. During Abbasid times camel account for almost 17% of the red meat consumed.

As could be expected with the coming of Islam, there is a marked drop in the consumption of pigs, especially in Mamluk times. Compared to Byzantine times, when pigs accounted for over 15% of the red meat, they accounted for 12.5% during

Umayyad times and for less than 2% during Mamluk times. Evidence for the consumption of horse or donkey meat is also very sparse from the Islamic periods.

Fish

According to Johannes Lepiksaar (forthcoming), who analyzed the fish bones from Tell Hesban, species of fish attested during the Islamic millennium at Hesban came primarily from the Jordan River and the Red Sea. Fish (table 7.4) from the Jordan River or its tributaries include one species (45 out of 56 specimens) belonging to the order *Cypriniformes* or catfish (*Clarias lazera*), two species (44 out of 54 specimens) belonging to the family *Cichlidæ* or combs (*Tilapia galilæa* or *Tilapia nilotica*, *Tristramella sacra* or *Tristramella simonis*) and two or possibly three species (5 out of 5 specimens) belonging to the family *Cyprinidæ* or minnows (*Barbus longiceps*, *Barbus canis* and *Varicorhinus damascinus*).

Fish from the Red Sea include two species (92 out of 100 specimens) from the family *Scaridæ* or parrotfishes (*Sparisoma* sp. and *Pseudoscarus* sp.) Fish which may have come from either the Red Sea or the Mediterranean Sea include two species (5 out of 5 specimens) belonging to the family *Mugilidæ* or grey mullets (probably *Mugil labrosus* and *Mugil ramada*).

Striking because of its poor representation in the Islamic corpus are fish from the Mediterranean Sea. For example, only one out of 64 specimens from the family *Sciaenidæ* or drums and croakers is represented (found in the Mamluk strata); only one specimen out of seven from the family *Sparidæ* or sea breams is represented (also found in the Mamluk strata). Completely absent from the Islamic strata is the family *Scombridæ* or mackerels and tunnies. As noted above, fish belonging to the family *Mugilidæ* or grey mullets is found only in the Islamic strata, as is the family *Cyprinidæ* or minnows.

The fact that such a large proportion of the remains of the order *Cypriniformes* (catfish) and of the families *Cichlidæ* (combs) and *Scaridæ* (parrotfish) come from the Islamic strata, and the fact that the families *Sciaenidæ* (drums and croakers), *Sparidæ* (sea breams) and *Scombridæ* (mackerels and tunnies) are so poorly represented in these strata, very likely is indicative of changes in trade

routes which resulted from the Islamic conquest. Whereas in the Roman and Byzantine periods contact with Mediterranean ports was very likely more frequent, such contacts appear to have decreased during the Islamic centuries, and instead, contact with ports on the Red Sea increased. One reason for this shift may be the fact that the Mamluks systematically destroyed coastal forts on the Mediterranean coast to prevent the return of the Franks. This would also have dislocated the local fishing industry centered in these towns (Donner personal communication). Also, especially during the Mamluk Period, fish from the Jordan River and its tributaries became more important in the diet.

Poultry

Poultry, especially chicken, played a greater role in the diet of the Ayyubid-Mamluk inhabitants of the tell than it had in any previous period (table 7.5). Thus, the number of bones of chicken from the three Ayyubid-Mamluk strata was 1566, compared with 231 from the four Byzantine strata and 410 from the four Roman strata. Compared with these earlier periods, significantly more young chickens were eaten during Ayyubid-Mamluk times. Other poultry included the domestic goose and domestic pigeons, although the remains of these species are too few to allow any general statement of their relative importance during the various Islamic periods.

Strata	Period	# of Bones		Min # of Individuals		% Young
		#	%	#	%	
1	Modern	---	---	---	---	---
2-4	Ayyubid-Mamluk	1566	65.83	128	58.44	22.0
5-6	Umayyad-Abbasid	127	5.34	13	5.94	8.0
7-10	Byzantine	231	9.71	27	12.33	11.5
11-14	Roman	410	17.23	41	18.72	14.2
15	Late Hellenistic	41	1.72	7	3.20	14.6
16-18	Iron 2	3	0.13	2	0.91	---
19	Iron 1	1	0.04	1	0.46	---
Sum	All	2379	100	219	100	---

Table 7.5 Number of identified specimens of chicken from Islamic strata

Game

As in previous periods at Tell Hesban, the most commonly hunted species of game during the

Islamic centuries were gazelles. Other species which appear to have been hunted for the table include red deer and wild boar. The most commonly hunted game bird appears to have been the chukar. Other birds which very likely were hunted and eaten during the Islamic centuries include sand partridges, ostriches, and bustards. A much more detailed discussion of the wild animals and birds which may have contributed to the diet during the Islamic centuries will be included in a separate volume in this series (see Appendix B).

Cereals, Legumes, Vegetables, and Fruits

Collected from the Umayyad and Ayyubid-Mamluk strata at Tell Hesban were a total of 189 carbonized seeds (see table 7.2). Cereals identified include wheat and barley. Legumes identified include lentil, bitter vetch, and broad beans. Fruits identified include olive and grape.

Sedentarization and Nomadization

One of the challenges of attempting to reconstruct long-term changes in Hesban's food system during the Islamic centuries is the large "gaps" in the archaeological data from the tell and surrounding region. These gaps, which were noted in Chapter Four, both preceded and followed the prosperous Ayyubid-Mamluk period. The factors to which these gaps are attributable are at least three, two of which have been noted earlier. They include, first, the expedition's research strategy which was primarily tell-oriented and hence not sensitive to lighter forms of permanent and semipermanent occupation as exemplified by seasonal cave villages; second, the limited extent of knowledge of how to date pottery from the Islamic centuries in the late '60s and early '70s when this project was in the field; and third, the fact that settlement and landuse during these "gap" periods actually, and in reality, were comparatively lighter than during the heavily occupied Roman-Byzantine and Ayyubid-Mamluk periods.

In this chapter, an attempt has been made to create a picture of how people lived at Hesban and vicinity during these "gap" periods. To this end, the role of the fortified residential compound, or *qasr*, and of the seasonal cave village was discussed. While both of these forms of settlements very likely were in use throughout the entire Islamic

Period, they represent a lighter form of occupation and landuse than do villages and towns of the kind that prospered and exploited the hinterlands during the Ayyubid-Mamluk period. Furthermore, the existence of this form of settlement in central Transjordan should serve to caution against the impression that there were no permanently settled people in this part of Jordan during, for example, the Abbasid or Ottoman periods. Indeed, Hesban itself very likely was occupied more or less permanently in this way throughout these "gap" periods. This statement, however, is made with the benefit of the hindsight which comes from a food-system oriented, rather than a tell-oriented examination of the finds from Tell Hesban and vicinity.

Another important by-product of this attempt to understand how people lived during the "gap" periods at Hesban is the insight it provides into the settlement pattern and social structure of periods when villages and towns prospered. For example, during the Ayyubid-Mamluk period, residents of Hesban not only lived in clusters of enclosed residential compounds or *qusur*, there is evidence that many also lived in caves. As was the case at Hesban in the early part of this century, very likely those who could afford to build and move into the *qusur* compounds were relatively wealthier than those who remained in caves. Further examination of this proposal would be desirable and would involve comparisons of pottery, objects, and bones from the caves with those of the residential compounds to ascertain the extent to which differentiation into rich and poor is noticeable.

This research on the Islamic centuries at Hesban also raises interesting questions about what happens to the rich and the poor when a town ceases to prosper and begins to be abandoned. Presumably, the greater adjustment must be made by the rich, many of whom would have had to abandon their comfortable residential compounds and either move away, or adopt a simpler form of life involving a return to living in caves and tents. To the extent that the poor were already living this way, they could go on with their lives, although very likely, their lives too would be disrupted to some degree. Furthermore, it is significant to note, in this context, that it is those people who have persisted in living in caves and tents, even during times of prosperity, that have preserved, by their total way of life, the know-how by means of which survival is possible during periods of abatement.

The examples of long-term residents of the project area, such as the Ajarmeh, provide some insight into structural arrangements which traditionally have enabled people in central Transjordan to cope during times of political and economic uncertainty. In their case five strategies can be pointed to. These include one, maintaining the ability to be mobile when necessary; two, maintaining—by means of tribal organization—access to a variety of natural resources; three, combining livestock production with limited cereal cultivation; four, knowing how to hunt and gather wild roots and plants; and five, being satisfied, and knowing how, to make their homes in tents and caves. By these means, the Ajarmeh minimized their exposure to exploitation by tax authorities,

capricious townsmen, and hostile tribesmen throughout the Ottoman centuries.

Finally, this analysis of the Islamic centuries adds further to our general understanding of the processes of sedentarization and nomadization in the vicinity of Hesban. Since prehistoric times, these processes have involved gradual changes at the level of the individual household which, in turn, resulted in a spectrum of slightly different food procurement and residential arrangements within a given tribe or village at any given point in time. It is as the center of gravity of this spectrum has shifted, either in the direction of nomadization or sedentarization, that changes in the intensity of the local food system have oscillated over the centuries between the low and high ends of the continuum.