

**ARCHAEOLOGICAL SURVEYS IN ISRAEL AND THEIR CONTRIBUTION  
TO OUR UNDERSTANDING OF SETTLEMENT DISTRIBUTION:  
THE JUDEAN SHEPHELAH – A CASE STUDY**

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***ABSTRACT***

*A regional study carried out in a well-defined homogenous geographical unit integrating archaeological excavations, high resolution archaeological surveys and studies from other disciplines will provide the most reliable basis for analysis of the relationship between settlements and their environment, and a reconstruction of the settlement distribution in any period. The archaeological survey is one of the most important components of a regional survey and the results of the research are directly dependent on the quality and the resolution of the survey, as well as the expertise of the surveyor. In the comprehensive regional study of the Judean Shephelah in Israel, we have developed a consistent survey methodology that incorporates high-resolution coverage, maximal documentation of each site, and a consistent terminology, thus achieving detailed information and in-depth understanding of the region throughout its history.*

**INTRODUCTION: REGIONAL ARCHAEOLOGY**

The increasing number of regional archaeological studies undertaken throughout the world reflects a consensus within archaeological circles concerning the necessity to understand the relationship and interaction of individual settlements with their natural environment.<sup>1</sup> Studies carried out in defined geographical regions using scientific archaeological surveys and excavations enable understanding of the symbiosis between the inhabitants and their environment. The choice of a geographical region with homogenous ecological conditions that did not change drastically throughout the

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<sup>1</sup> Butzer 1964; Flannery 1976:162-1173; Hodder and Orton 1976; Clarke 1977; Vita-Finzi 1978; Roberts 1987, 1996:1-14; Fish and Kowalewski 1990; Renfrew and Bahn 1991:61-80.

chronological sequence provides the most reliable base for such an analysis. In Israel, such surveys have been conducted, some only partially, in the Upper Galilee, Lower Galilee, Menashe Hills, Ephraim Hills, Jezreel Valley, Judean Hills, Negev Desert, Beer Sheva Valley and the Judean Shephelah (Judean Foothills).

While archaeological excavations examine a limited area that comprises a kind of test laboratory for the region as a whole, regional research considers all the environmental data, including the archaeological data. The advantage of regional archaeological research over localized, single-site studies is its potential to examine the individual settlement sites within their environment, as well as the relationship of other types of surveyed sites with settlements uncovered in archaeological excavations. In recent years, the trend towards landscape archaeology and regional research has gained prominence, and one of its important components is the archaeological survey.<sup>2</sup> The surveying of an entire geographical unit is a major scientific challenge as it provides an opportunity to study, in addition to the archaeological features, the social and economic development of the societies that lived in this defined geographical framework.

Modern regional research concentrates on dynamic settlement processes within a defined geographical area, as well as inter-regional processes. These studies integrate the components of the landscape and the cultures within it, with an array of data from the natural and social sciences (soil, water sources, climate, vegetation, fauna, economics, craft specialization, etc.) within the framework of the archaeological research. Analysis of all these components aid in reconstructing the landscape that existed in earlier periods and understanding the extent to which environmental conditions influenced the establishment of individual settlements, and in turn, the founding of groups of settlements in the same environment.

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<sup>2</sup> Gibson 1995; Yron-Lubin 1996

A regional study must include the entire geographical unit, not just a partial survey, otherwise the data may be misleading. However, it must be kept in mind that geographical borders were not necessarily political borders.<sup>3</sup>

Thus we must analyze the geographical framework in each period separately, while considering the political powers in control of the region at that time.

The delimitation of the geographical unit is often defined according to modern geographical terminology, although these definitions do not necessarily correspond with historical borders. In the present article, the study of a “geographical unit” refers to an area that is geographically homogenous, as opposed to a “spatial study”, which may cover a region that is not necessarily homogenous. The Land of Israel can be divided into clearly defined geographical units whose ecological variants are completely different, thus enabling analyses of the archaeological finds over time in a defined area with unique characteristics.

### **THE BORDERS OF THE REGIONAL ARCHAEOLOGICAL RESEARCH: THE JUDEAN SHEPHELAH IN SOUTHERN ISRAEL**

In Israel, in a few short hours one can walk from one geographical region to another. In each region, the different geographical conditions obligated the population to adopt appropriate survival strategies during the seasons of the year. Our regional research project has concentrated on the “Judean Shephelah”, which is one of the most well-defined geographical regions in Israel, extending over ca. 790 sq km. (Fig. 1). The Shephelah comprises an intermediate zone between the southern coastal plain to the west and the Judean Hills to the east, and its ecological characteristics differ from

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<sup>3</sup> A differentiation must be made between borders that developed against a political background and natural geographical borders determined by the ecological conditions in the region under examination. The determination of political borders is a complex process, and research into this topic has attracted scientists and experts from many fields, including history, economy, sociology, law, management, security, etc. For a detailed discussion see Brawer 1988:11-37. Additional studies that have dealt with the subject of borders in Israel during the various historical periods include Hildsheimer and Klein 1965; Safrai 1980; Biger 2001: 3-14.

those of the surrounding regions in many aspects.<sup>4</sup> The area of the Judean Shephelah is homogenous in its geographical formations and components, and there are few sharp transitions in the topographical landscape. Most of the region is consistent in height above sea level, with similar vegetation. Precipitation is similar throughout, influencing the type of crops grown. The homogenous nature of the climatic conditions is a result of the similar distance of all the various sub-regions from the Mediterranean sea coast.<sup>5</sup> The extensive fertile lands of the Judean Shephelah would have attracted settlers with the ability to exploit these optimal conditions. As it can be presumed that the ecological conditions of the Shephelah have not changed significantly over thousands of years, the shifting settlement patterns can be studied in relation to the political history of southern Israel.

The Judean Shephelah can be divided into a number of secondary geographical sub-regions. This division is also reflected in the settlement distribution maps, such as those of the Early Bronze, Late Bronze and Iron Ages. For example, the map of Iron Age II settlements (10th–6th centuries BCE) reveals that the large cities: Tel Beth Shemesh, Tel Yarmuth, Tel ‘Azekah, Tel Zafit (Gath), Tel Goded, Tel Lachish, Tel ‘Erani, Tel ‘Eton (‘Eglon?) and Tell Beit Mersim (Makkedah?) were dispersed according to this internal division. The same situation is also evident in the period prior to the establishment of the State of Israel in 1948, when the Shephelah was divided between the large Arab towns.<sup>6</sup> Comparison of the regions bordering the Judean Shephelah to the north, south and west, indicates significant differences in the settlement patterns and the nature of the settlements between these regions and between them and the Shephelah. Although these differences have not been studied, they can be easily discerned in the scientific discussions, for example in the Judean Hills surveyed by M. Kochavi and A. Ofer.<sup>7</sup>

The incorporation of the data from the archaeological surveys conducted within the borders of the Judean Shephelah and the results of the archaeological excavations conducted at many of the tells and settlements sites in the region, has contributed to the formation of a detailed settlement sequence and has the potential to achieve a complete picture of the entire region.

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<sup>4</sup> Dagan 2004: 2672-2673; 2006: 9-10.

<sup>5</sup> Rubin 1992; Bitan and Potcher 1995:61-81

<sup>6</sup> Amiran 1953:250-260; Grossman 1994:213-224

<sup>7</sup> Kochavi 1972:19-89; Ofer 1993, 1998.

## METHODOLOGY

The main aim of the Judean Shephelah regional study is the creation of comprehensive settlement maps of the different periods, for which we need a data base from which to draw our conclusions. This data base is compiled from two main sources:

1. Archaeological surveys conducted in the framework of our regional study.
2. All the archaeological excavations that have taken place until today at the tells of the Shephelah and at a number of settlement sites (Fig. 2). These include salvage excavations carried out in the framework of our regional study, prior to construction of the new city of Ramat Beth Shemesh in the northeastern sector of the Shephelah.

An archaeological survey extends over a large area and provides a preliminary picture of settlement dispersal in a short period of time. However, the data from surveys must be approached with caution due to the influence of certain factors on the survey results, such as the resolution of the survey, or the researchers' expertise or preconceptions. An archaeological excavation, as opposed to a survey, uncovers the chronological sequence of living surfaces at a single site and creates a typological table of the ceramics of each period with the assistance of the pottery assemblages found in the various strata. However, archaeological excavations are, by nature, limited in area, extend over long periods of time, and are very expensive.

An intelligent integration of these two sources of data, using settlement analysis as the common denominator, will enable the creation of a reliable reconstruction of the settlement distribution within the region being studied.

### *The Archaeological Survey*

An archaeological survey differs in both its nature and its purpose from single-site excavations. It is the fastest, simplest and cheapest tool at our disposal to achieve preliminary information on the extent of the archaeological remains on the surface. A survey is usually conducted over an extensive area containing a wide range of data complexes that can be categorized according to characteristics and periods. The quality of the results of a survey depends on three objective factors: area of the survey, time invested in surveying the area (the degree of resolution), and, of course, the financial support available; and one subjective factor: the experience and expertise

of the surveyors (and sometimes the basic premise of the researchers), which can play a crucial role in the quality and interpretation of the results. The results of every archaeological survey are directly determined by these four factors, which are, in turn, dependent on the aims of the survey. While every new survey is a contribution to scholarship, its value is dependent to a great extent on the separation between the presentation of the data collected in the field, and the interpretation of the researcher. For this reason, the results of an archaeological survey, so dependent on the interpretation of the surveyor, must be approached with caution, and far-reaching conclusions based solely on survey results should be avoided. Consequently, the great importance of the integration of the two sets of data complexes—from archaeological excavations and surveys—to achieve the most comprehensive picture of a region's settlement pattern.

The increasing use of the results of archaeological surveys demands an in-depth discussion of the problems of understanding and defining the survey finds. Dealing with the tremendous amount of data collected during a survey necessitates the crystallization of a consistent terminology for all the types of survey sites. In addition, more sophisticated methods of interpretation of the different types of data collected during the field work must be devised.<sup>8</sup> In general, attention must be concentrated on the various types of settlement sites revealed in the survey, as they provide the key to the chronological attribution of the other surveyed sites dispersed around the settlements, which are usually associated with agricultural activities.

The Society for the Archaeological Survey of Israel, which now operates on behalf of the Israel Antiquities Authority, was founded in 1964 to meet the need for a comprehensive survey of the Land of Israel. Consequently, the entire Land of Israel was divided into 333 survey units of 100 km sq each, with some of them falling only partially within the borders. Each unit is to be surveyed on a scale of 1:20,000 and published in a separate volume.<sup>9</sup> These units are referred to as “maps”, and each is given a specific name according to the largest settlement within it. To date, 50 survey maps have been published, and an additional 39 maps are in the publication process.

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<sup>8</sup> Dagan 2006; Dagan and Sharon forthcoming

<sup>9</sup> Yeivin 1967

The geographical region of the Judean Shephelah falls within seven complete and three partial survey maps (Fig. 3). The archaeological survey of the Shephelah<sup>10</sup> is an on-going project under the direction of the author that began in 1977 in the west of the region with the survey of the surroundings of Tel Lachish (the Map of Lachish),<sup>11</sup> within the framework of the Lachish Expedition. In the second stage, we surveyed the eastern part of the region (the Map of Amazya). Three additional survey maps have been completed (the maps of Beth Shemesh, Kefar Menachem and Gath), and work is continuing on the two final maps (Beth Govrin and Hulda).<sup>12</sup> During the survey of the Shephelah, we developed a consistent survey methodology of maximal coverage, which was applied throughout the field work. The surveyed area was combed on foot to collect all available data. The archaeological remains were fully documented, including measurements and photographs, their extent was estimated, and an attempt was made to determine their nature and status within the geographical unit. Pottery and flints were preliminarily sorted in the field and recorded.<sup>13</sup> Every unit of area that was examined during the survey was termed a “survey site”. If archaeological remains were detected in the unit, it was classified as an “archaeological site”. We divided the archaeological sites into ten site categories: settlements (ST), installations (IN), agricultural activity sites (AA), burial sites (BU), cult sites (CU), water sources (WA), roads (RO), caves (CA), prehistoric sites (PR), and unidentified archaeological sites (UN) (see Fig. 4). Survey units in which no archaeological remains were detected were also documented. In most cases, these empty units comprised the agricultural hinterland of the surrounding settlements. Each category was further subdivided into types (Fig. 5).<sup>14</sup> Until today we have documented 3894 survey sites, of which 3534 have been classified as archaeological sites.

These surveys, together with the results of the excavations at the major tells of the Shephelah and excavations within the framework of the project (see below), provide the data base for all our settlement distribution maps and settlement analyses of the

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<sup>10</sup> Dagan 1979, 1983, 1986, 1992a, 1992b, 2005, 2006, forthcoming

<sup>11</sup> Dagan 1992b

<sup>12</sup> Three additional maps, partially within the geographical unit of the Shephelah: Zahariya, Devira and Kefar Uriya, are being surveyed by other survey teams.

<sup>13</sup> Dagan 2006:15\*-16\*; forthcoming

<sup>14</sup> see Dagan 2004: 2673; 2006:16\*-27\*

region of the Judean Shephelah, as well as our conclusions concerning settlement patterns in the various periods (see, e.g, Fig. 5).

### *The Archaeological Excavations*

Excavations conducted at numerous tells in the Judean Shephelah over the last 100 years<sup>15</sup> revealed a chronological sequence that has aided us in our comparative study of the cities and their individual characteristics. The sequence of settlement strata in the excavated tells is not consistent, however, and some lack strata that exist at other tells. These excavations were concentrated in limited areas and the resulting chrono-stratigraphies apply only to those defined areas.<sup>16</sup> For example, the extent of the settlement dating to the end of the Iron Age II at Tel Lachish (Stratum II) is unclear. Did it extend over the entire area of the tell or only part of it? The archaeological excavations at the tells concentrated on those places where monumental public buildings were located (city gate, palace, temple, fortress, etc.), neglecting the surrounding, extra-mural “city suburbs”, a phenomenon that existed at almost every tell in the Shephelah. The only exception is the study of G. L. Starkey at Tel Lachish, where an attempt was made to locate the cemetery in the proximity of the tell, and thus the existence of dwellings outside the city walls was revealed.<sup>17</sup>

The surveys have revealed residential quarters dispersed around numerous fortified cities in the Shephelah.<sup>18</sup> The reconstruction of the borders of a city, including the extra-mural quarters, has a great significance in reference to any estimates of the

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<sup>15</sup> The first excavations at tells in the Shephelah were conducted in 1898-1900 (Bliss and Macalister 1902). For the history of research, see Dagan 2006: 13\*-15\*.

<sup>16</sup> Aharoni 1962:109-111

<sup>17</sup> Tufnell et al. 1940, 1953, 1958

<sup>18</sup> For example, to the east of Tel Beth Shemesh (Dagan 1992a), around H. Zanoah and H. Aliya (Dagan forthcoming), to the south of Tel ‘Azekah, north and east of H. Sukho, at the foot of Tel ‘Adullam, to the north and south of Tel Zafit, to the west and south of H. Livnin, to the east of Tel Goded, to the south and west of Tel Idna, to the south and west of Tel ‘Eton, at the foot of Tel ‘Erani, and to the north, south and west of Tell Beit Mirsim (Dagan 2006:35\*, Note 21).



extent of the settled area and the size of the population in any given period, and excluding these data will result in erroneous estimations.<sup>19</sup>

## **SUMMARY AND CONCLUSIONS**

The Judean Shephelah was always an intermediate zone between the southern coastal plain and the central hills, which were often controlled by different political powers. At such times, when the Shephelah comprised a buffer zone between two rival powers, significant differences can be seen in the settlement pictures between the Shephelah and the neighboring political entities. Thus, when studying long-term settlement continuity in a homogenous region such as the Judean Shephelah, it is imperative to compare the situation in bordering regions, in order to clarify such questions as what caused the settlement fluctuations in certain periods, are they characteristic to this specific geographical region or are they a result of the appearance of new political entities?

Examination of the settlement history of the Judean Shephelah from the third millennium BCE until the end of the Ottoman period (ca. 1900 CE) reveals an overall trend of gradual increase in the number of settlements from the beginning of the second millennium BCE, reaching an unprecedented peak during the Iron Age II (9-8th centuries BCE), then a decrease towards the end of the period (7th-6th centuries). A recovery in the settlement process can be discerned during the Hellenistic period that continued into the Roman and Byzantine periods. This process reflects peaks in settlement distribution during Iron Age II, the Byzantine period and again during the Ottoman period. The phenomenon of peak settlement on the one hand and a drastic decrease in settlement on the other, characterizes the entire settlement history of the Judean Shephelah.

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<sup>19</sup> For example, Shiloh 1980; Broshi 1980; Broshi and Gophna 1984; Portugali 1988; Broshi and Finkelstein 1992; Zorn 1994. The various methods of population estimate utilized in Israel by some researchers has been criticized by Garfinkel (1985), who claims that settlement areas are exaggerated and lead to inflated estimations, although Broshi and Gophna continue to insist on their calculations (Broshi and Gophna 1985). See also recently Geva 2007. For a different method of population estimation based on data from an excavation in Mesopotamia, see Postgate 1994.

In summary, the Judean Shephelah regional project is one of the most comprehensive regional studies to date, integrating the data from maximum-coverage surveys with the results of excavations of tells and settlement sites. In addition, great importance is placed on the integration of studies from other fields to create a synthesis in which the various components are considered according to their respective importance.<sup>20</sup> This project has resulted in high-resolution settlement distribution maps and an unprecedented understanding of the factors and influences that resulted in the changing patterns throughout the settlement history of this region.<sup>21</sup>

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<sup>20</sup> Marfoe 1979; Butzer 1982; Cherry, Davis and Mantzourani 1991; Barker, Gilbertson, Jones and Mattingly 1996a, 1996b

<sup>21</sup> Dagan 2004, 2006, forthcoming.

## ABBREVIATIONS

*BASOR* - Bulletin of the American Schools of Oriental Research.

*ESI* - Excavations and Surveys in Israel.

*IEJ* - Israel Exploration Journal.

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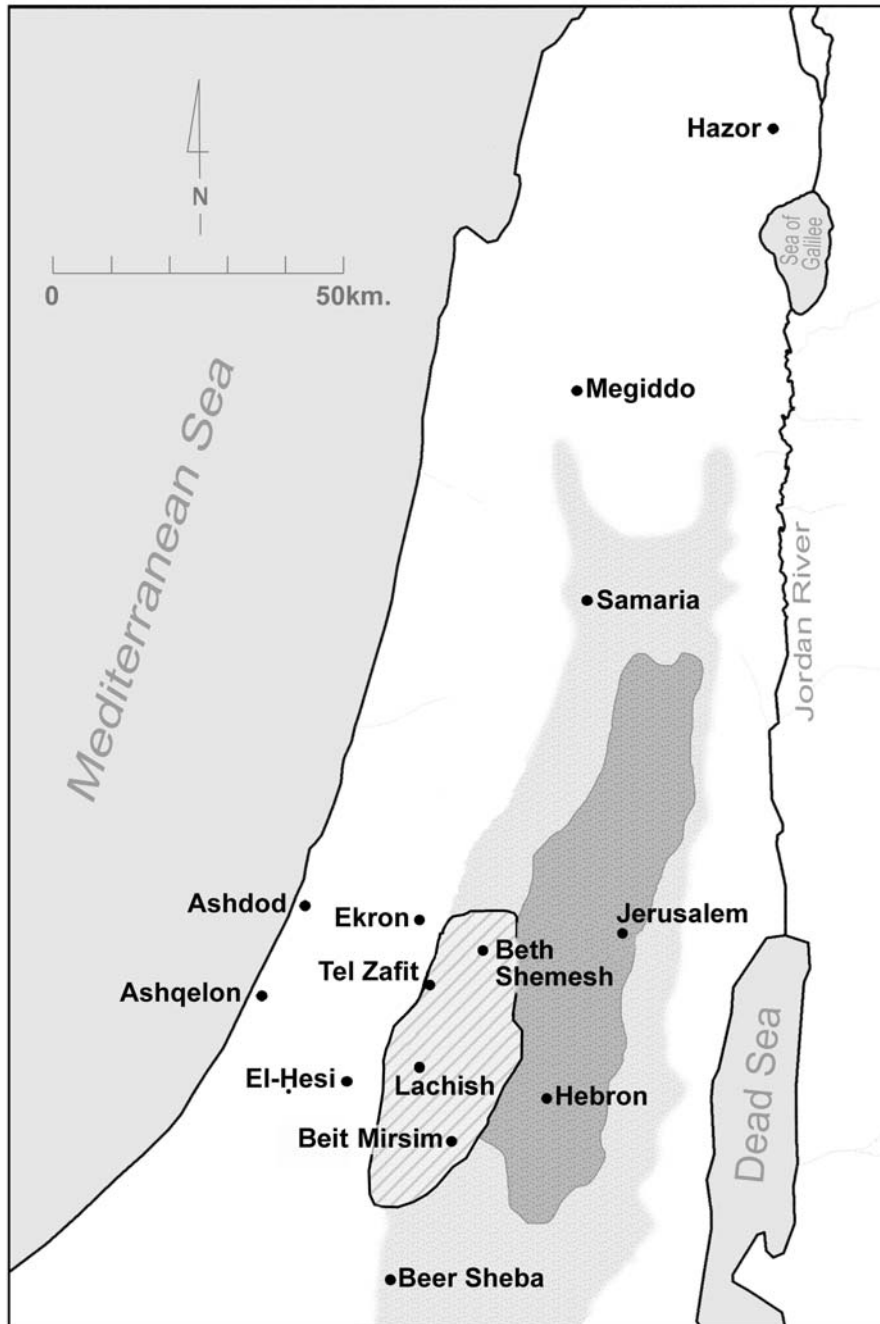


Fig. 1

**Fig. 1. The location of the geographical region of the Judean Shephelah within the Land of Israel**

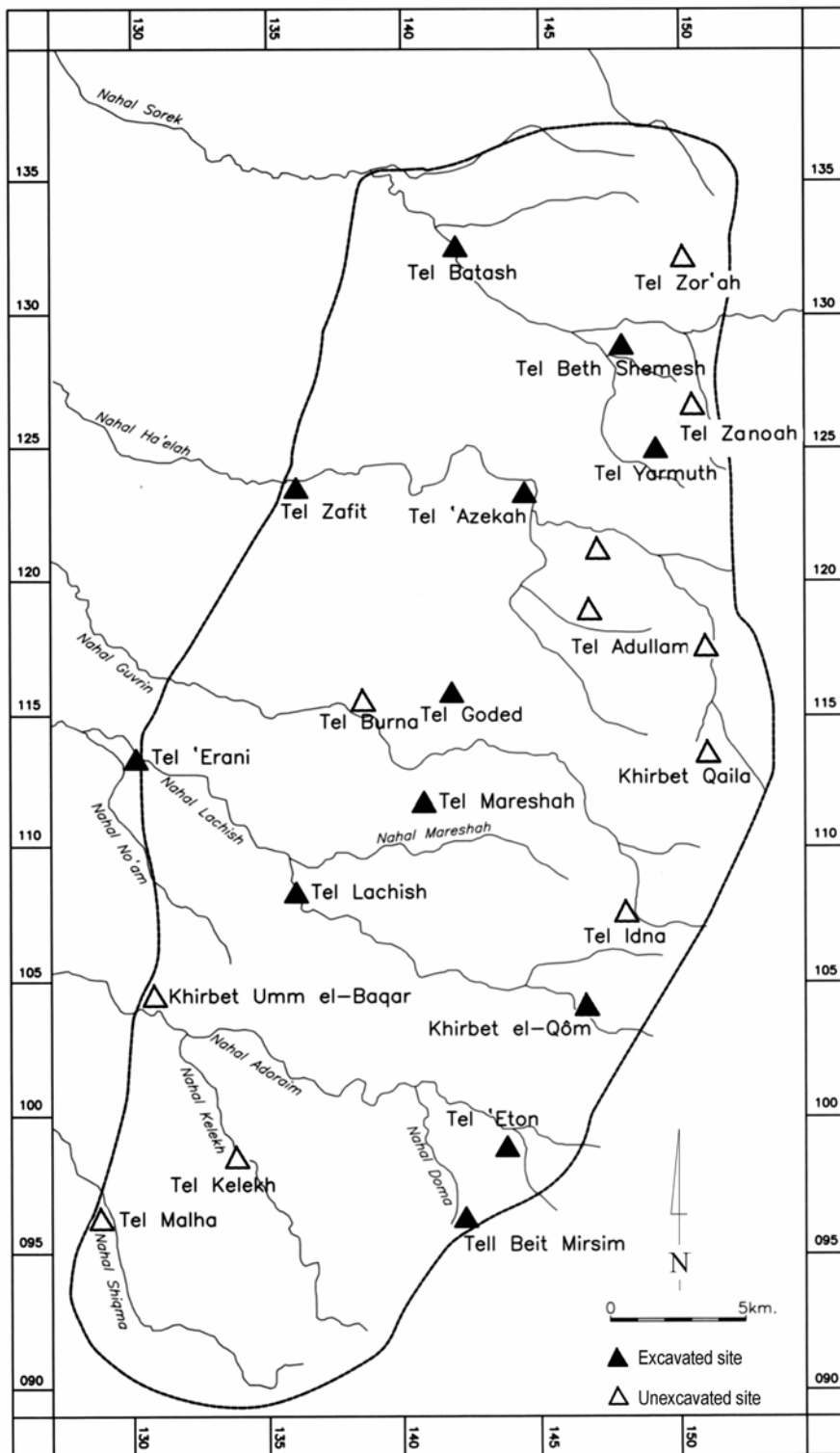


Fig. 2.

**Fig. 2. The area of the survey showing the main tells**



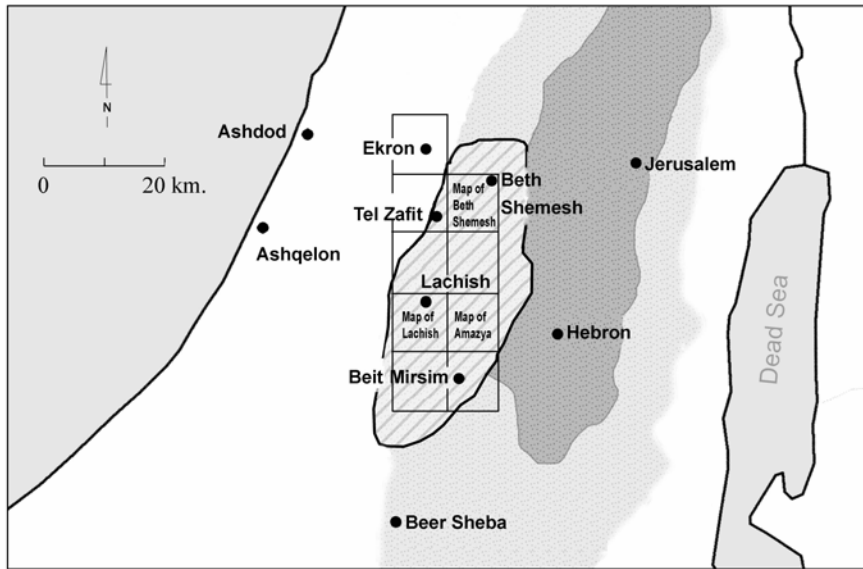
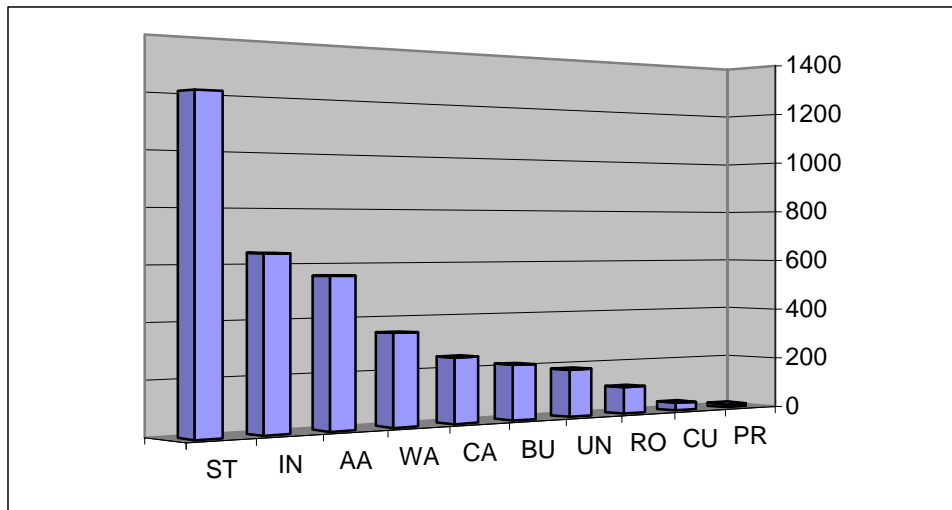


Fig. 3

**Fig. 3. The division of the Judean Shephelah into survey maps**



**Fig. 4. The relative frequency of archaeological survey-site categories in the Judean Shephelah for all periods**

<b>Settlement type</b>	<b>No. identified in survey</b>
Cities (tells)	39
Rural settlements	114
Farmsteads	54
Scattered buildings	29
Isolated buildings	54
Fortresses	2
<b>Total</b>	<b>292</b>

**Fig. 5. Iron Age IIB (9<sup>th</sup>-8<sup>th</sup> centuries BCE) settlement sites in the Judean Shephelah according to types defined in the survey**