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CHANGES IN THE LAND USE IN SOUTHERN ANATOLIA

The research conducted by Stanisław Leszczycki in 1936 covered rural settlement, particularly built-up areas. This is reflected in the majority of notes and questions contained in a detailed questionnaire. Issues related to agriculture were less frequently tackled, and land use was of the least interest to Leszczycki. Therefore, the description of changes in its structure is more difficult, also because the currently available statistical data on the organisational, technological, production, structural, social and ownership features of agriculture is very fragmentary and hard to compare. For this reason, the comments and remarks made in this paper are the outcome of direct, short-lasting field observations, interviews conducted in the villages under research, and, primarily, of the interpretation of aerial photographs. For the areas in question, there exists coverage from the years 1956–1960 in the 1:35 000 scale, and from the years 1987–1992 in the scale 1:40 000; for some areas, there exist also larger-scale photographs (1:15 000 and 1:20 000) from the surveys made in early 1970s. These materials allow to attempt defining changes which took place over the 30-year period, to the extent that is possible on the basis of typical panchromatic aerial photographs.

The comparison of data outlined in Leszczycki's work with the aerial photographs and direct observations leads to the following conclusions:

- » the overall pattern of the structure of land use has undergone little change, with the exception of largest localities (towns of Burdur, Mut, Karaman); their development in space was accompanied by a definite enlargement of farming land and orchards, often having a patchwork layout, and frequently connected with the neighbouring isolated households or, now increasingly suburban in nature, population centres. As regards other areas, it can be assumed that the increase in land cultivation occurred primarily or solely in those areas where the conditions, particularly with respect to irrigation, were the most favourable. At the same time, the number of large, crop fields in extensive use diminished;



Fig. 1. Keklicek. A tent settlement.



Fig. 2. Askeriye. The area between the village and lake Burdur broken up into small plots, under intensive cultivation; numerous fruit trees.



Fig. 3. Hollows made in the ground for sowing on the plateau near Gökçe.



Fig. 4. Vast cereals fields in the valley nearly Keklicek.

- » the relationship between the change in the intensity of land cultivation (understood as a percentage of farming areas in the total area) and the changes in population (population density) is not always manifest. An increase in the population does not have to entail an increase in the area of farming land (in the vicinity of Burdur where it was most distinct, it might have been due to the overall increased activity of the region). On the other hand, in places where the population decreased, it normally was not followed by a decrease in the farming land area;
- » an increase in fruit tree growing was observable everywhere. In places where 30 or 40 years ago trees were scanty, now they make up orchards; they also grow in the fields or their proximity or in farmsteads. In typical villages, the variety of fruit trees is astounding, including apple, pear, pomegranate, orange, lemon and olive trees. Large monoculture orchards can be found mainly in the vicinity of bigger settlements, primarily along the Eastern Route (e.g. olive groves south of Karaman). Mixed fruit orchards, mentioned by Leszczycki, are less common;
- » similarly, the vegetable gardens area increased, which was probably due to the development of irrigation;
- » the process of breaking up fields (plots) is very well visible. The average farm area being approximately 5 hectares, their number often exceeded 20; in some areas, it increased by 30–50 per cent in some regions. Not only the size of the plots, but also their pattern and orientation were sometimes subject to change, although Leszczycki's remark that they are "rectangles, locally distorted due to local conditions" generally remains valid;
- » the size, pattern and orientation of fields (plots) insignificantly depend on the distance from the village (built-up area), therefore it is difficult to discriminate the arable land. On the other hand, differences in the structure of crops are often marked (single fruit trees, orchards and vegetable gardens are situated close to the villages). Sometimes the discrimination can be made on the basis of the differences between the location of irrigated and non-irrigated fields (however, this is not always possible to observe on an aerial photograph). the overall division into the lower-situated arable land and orchards and the higher-situated pastures and forest complex is clearly visible, particularly on the Eastern Route;
- » finally, it is difficult to find any relationship between the fields' area and the ownership structure. Very little data about the latter is available. Wherever it was possible, however, efforts were made in order to define the relationship between the farming landscape and the commonness of land tenure or the occurrence of landless farms; no regularities in this respect were discovered.



Fig. 5. Agricultural landscape in the Göksu valley nearly Karğıcak. Olives and other fruit trees in the fields of barley and wheat.

Aerial photographs of six villages shown below were selected as an illustration of the area under research. To make the comparison easier, the photographs from 1980s and 1990s in the 1:40 000 scale were enlarged to the 1:35 000 scale, used for 1950s and 1960s photographs*. Four of them pertain to the area of the Eastern Route: one village is relatively small, with diminishing population (Kaplanlı), one medium-sized, with little population increase (Gökçebağ) and two relatively large ones, with a distinctly growing number of inhabitants (Askeriye with the neighbouring settlement of Kışla, and Bozova); two situated along the Eastern Route: the expanding settlement of Karğıcak, and one lying far off the main transportation route, the small and depopulating village of Gökçe.

* The photographs were made available by the Turkish Main Cartography Office; they cannot be reproduced, in part or in whole, without its prior permission.

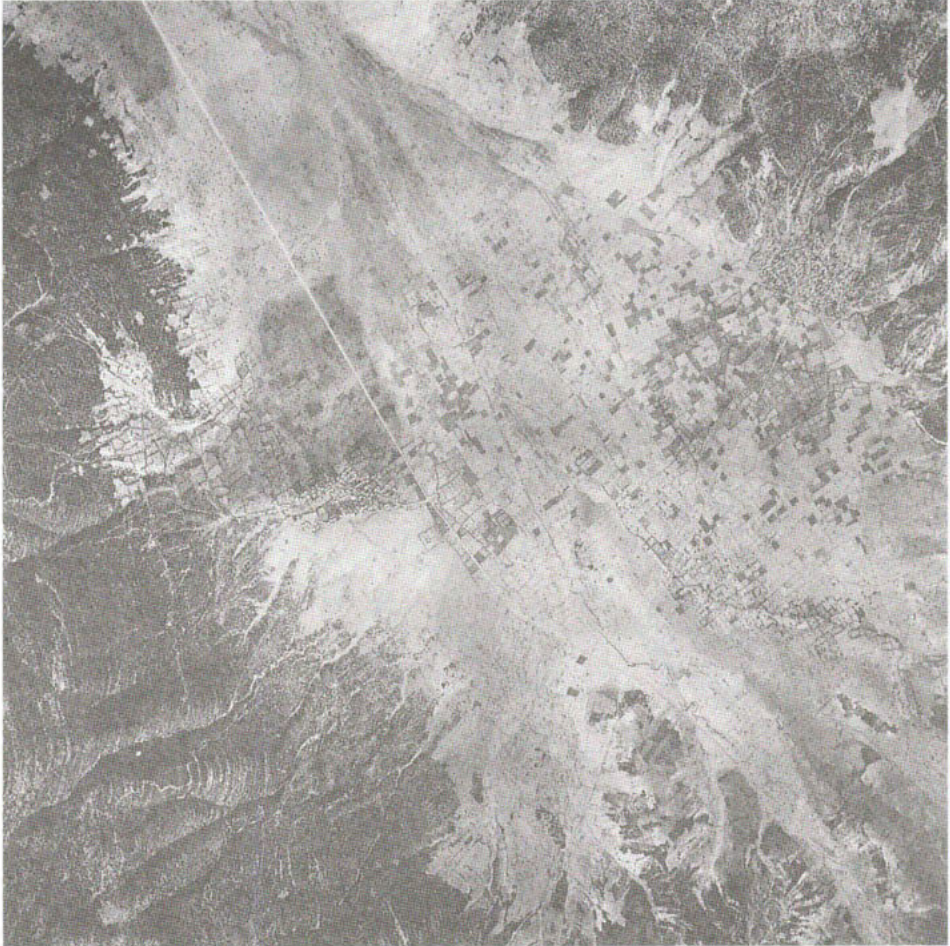


Fig. 1. Kaplanlı, 1960, 1125/40, 1:35 000

KAPLANLI. The village lies north of lake Burdur, near the main road from Dinar to Antalya (in the western part of the photographs), at an altitude of 1000–1030 metres, on the alluvial cone descending in the north–eastern and eastern direction to the valley of the Kozluca river. Leszczycki describes it as a wooded, irregularly built-up street village, and it is so until this day. In comparison with other villages, land cultivation was supposed to be at "the highest level", done on very small plots of land "resembling plots of the Carpathian villages", supposedly using irrigation. Nowadays, apart from few farmstead areas, irrigation is not visible. A comparison of 1960 and 1992 photographs demonstrates that the changes in land use have been insignificant. In Kaplanlı, particularly west of the road, the farming landscape has remained unchanged. The area of the fields has remained the same, just as the overall division into the small and scattered farming fields in the north (about 500 hectares, wheat and barley growing and numerous fruit trees) and pastures in the south (about 83 hectares). Over 32 years, the boundaries of arable land have remained the same; particularly in the north–western area, the 1992 range of cultiva-

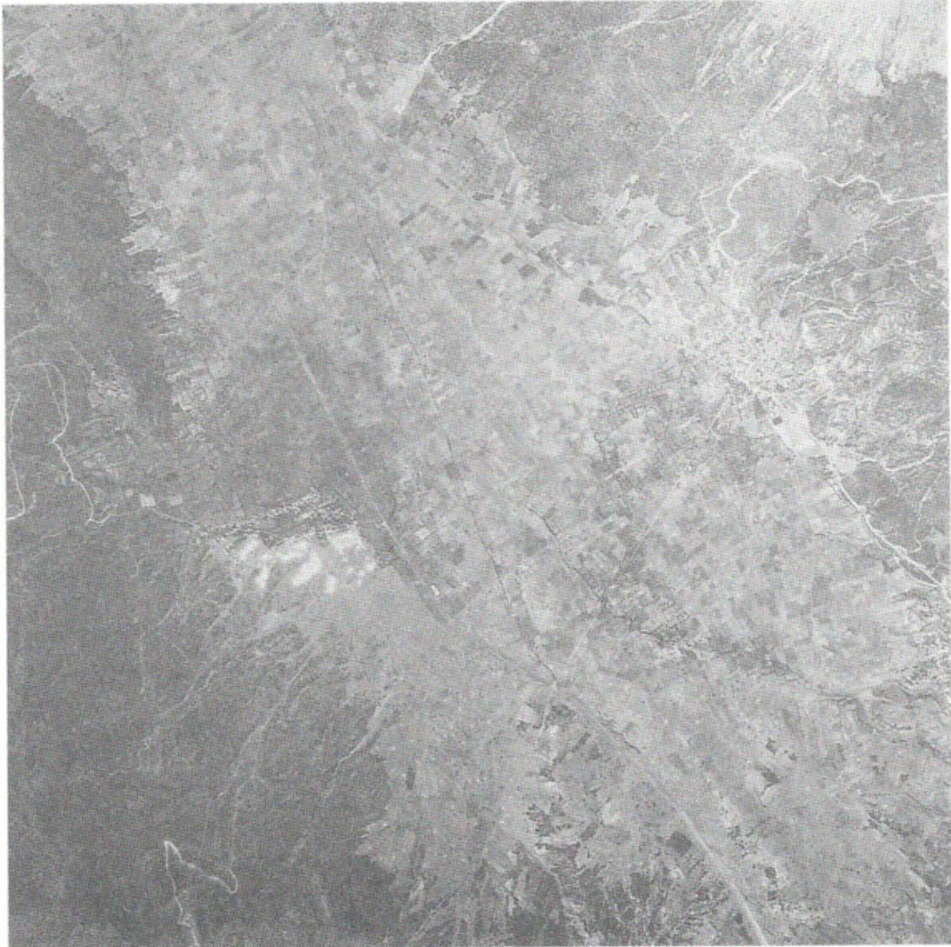


Fig. 2. Kaplanlı, 1992, 4232/9534, 1:35 000

tion reaching the hills is equal to the 1960 range. The number of homesteads (207 in 1997) is similar to the one in 1960 and 1992. Additionally, the outline of the built-up area is similar; it has increased only by a dozen or so farmsteads in the higher parts of the slope, towards the south-west.

As we can see, Kaplanlı can be regarded as an example of lack of change in the overall structure of land use and in its intensity. It is, however, a village suffering from depopulation processes. Of all the villages we visited, this one noted the highest decrease in population (30 per cent between 1955 and 1992, from 685 to 478 inhabitants). In 1997, only 13 children lived in the village; the school had been closed in 1993. Maintaining the current level of land use, despite the decline in labour force, may require a high (higher than in the other villages) level of available farming machinery and equipment. In 1980, there were 80 tractors, 70 threshers and 25 corn harvesters. Bigger changes are noticeable in the remaining area (covered by the photograph), especially in the north, where in 1960 the areas of intensive cultivation were divided into small plots (0.2–0.5 hectare). The same applies to the vicinity of a large village called Aydoğmus, located in the north-east.

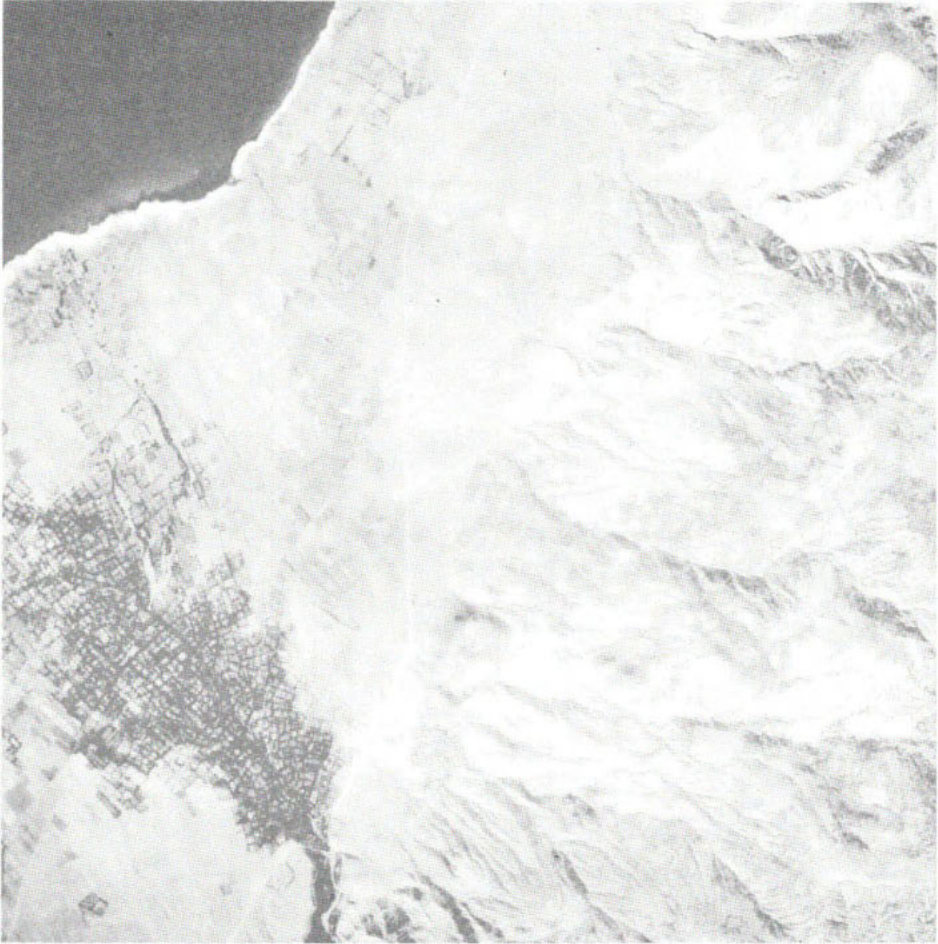


Fig. 3. Gökçebağ, 1956, 764/368, 1:35 000

GÖKÇEBAĞ. A middle-sized village, located at the bottom of the fault block depression of lake Burdur, at an altitude of approximately 950 metres. The area between the border of the lake and the first, steep slopes in the east and south-east has been in full use. A sequence of small fields watered from the Çerçin stream and other streams flowing down from these hills, with characteristic live fences of fruit trees, which in 1960 ran in the north-western direction, in 1992 photographs is less visible, probably because almost all the fields are at present irrigated from a reservoir built in the mountains. The fields are considerably broken up (in 1997, the average number of plots per one farmstead neared 20).

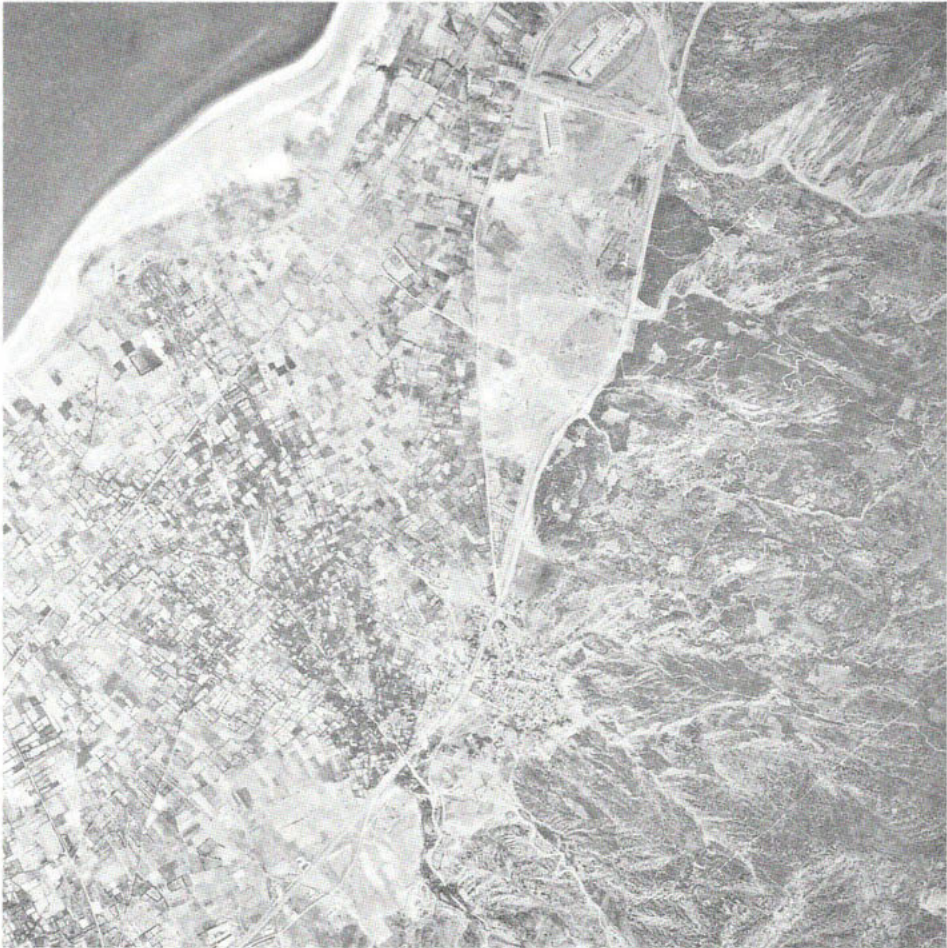


Fig. 4. Gökçebağ, 1992, 4231/9431, 1:35 000

The intensity of land cultivation is higher, and the border with the areas of the neighbouring village of Askeriye in the south-east has almost disappeared. The built-up area was expanded, despite insignificant changes in the population (1060 inhabitants in 1955, 1172 in 1990; that is, barely 11 per cent more). In 1956, it was definitely a village with compact architecture, while in 1992 there were many buildings located far from its centre. Roads have definitely been modernised, and in 1992 photographs new industrial facilities (a textile plant and a tractor assembly plant, currently closed) are distinctly visible.

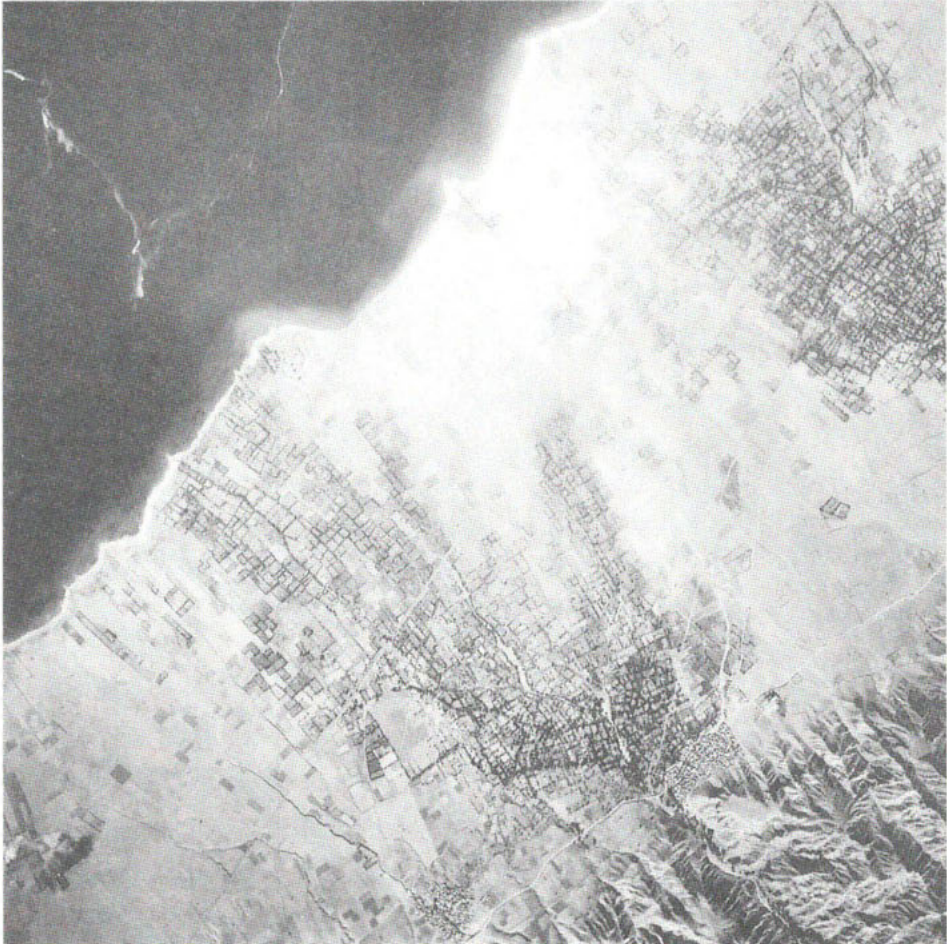


Fig. 5. Askeriye-Kışla, 1956, 764/363, 1:35 000

ASKERIYE-KIŞLA. Two big villages, also located in the vicinity of lake Burdur, at an altitude of approximately 930 metres, at the foot of steep slopes rising in the east. The photographs testify to full, intensive cultivation of land on gently sloping westward slopes, between the lake border and the hills. They are occupied by arable land and orchards. In all, the overall pattern of land cultivation has not changed, while the changes within the built-up area are quite distinct. Apart from a visible increase in the intensity of land cultivation, related to the expansion of irrigation systems (it might be mentioned that there are two grain crops a year in some areas), the process of breaking up the fields continued. Many fields in 1956 photographs are elongated, rectangular shapes, whereas in 1992 photographs they constitute a patchwork of plots descending towards the lake. Leszczycki referred to a

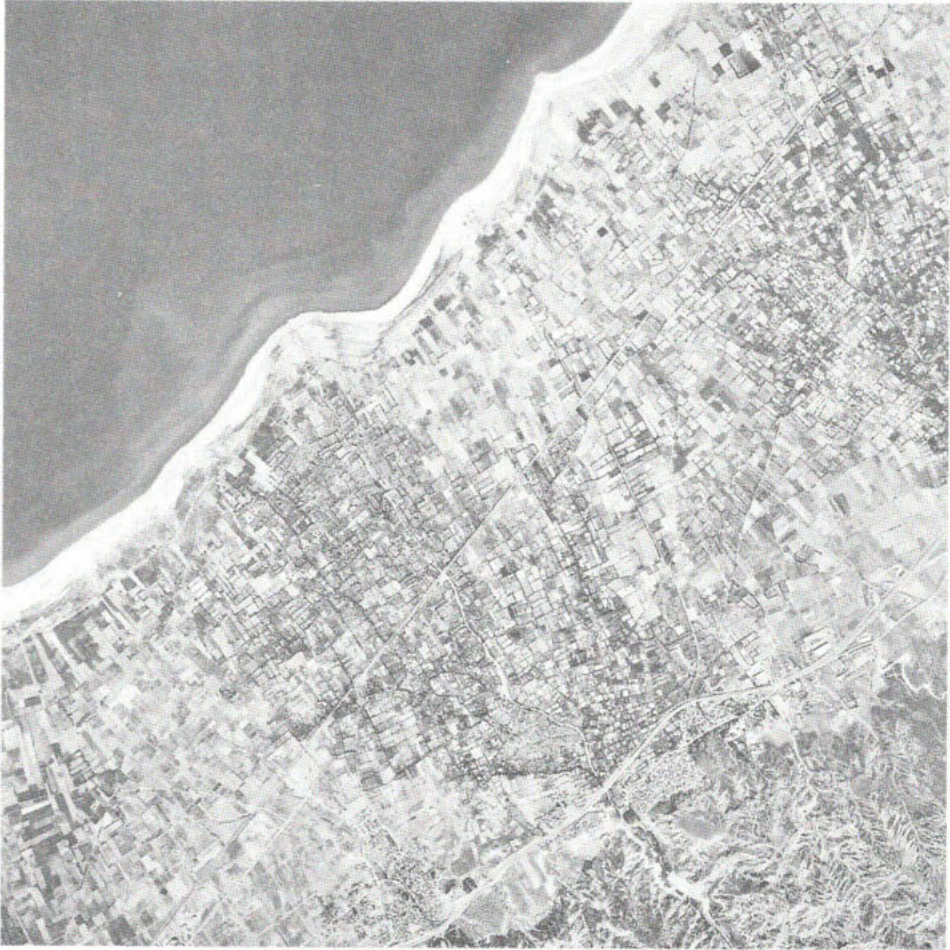


Fig. 6. Askeriye-Kışla, 1992, 4331/9431, 1:35 000

"kind of gallery forest" along the streams flowing down towards the lake. Although stretches of fields surrounded by trees (especially in the central part, along the Lengüme stream) can be noticed in 1956 pictures, by 1992 they had shifted sideways, forming not only live fences, but veritable groves of various fruit trees.

Additionally, distinct enlargement of built-up areas can be observed (in 1956 housing was very compact), mainly along the well developed and modernised road network, primarily along the principal route from Antalya to Dinar. Kışla, situated along this route in the south-east, has already been engulfed by Burdur, an important administrative centre. Between 1956 and 1997, its population increased by approximately 80 per cent (from 954 to 1700 inhabitants), while the population of Askeriye grew by 58 per cent (from 1267 to 2000).



Fig. 7. Bozova, 1957, 904/774, 1:35 000

BOZOVA. A village situated at an altitude of about 850 metres on a flat plateau, one of the biggest along Leszczycki's route, described as an elongated street village. As it can be seen from the photographs, currently this elongation is no longer visible. The Circassian village lying nearby referred to by Leszczycki has also lost its distinct features (Çerkes, south-west of the centrally visible village in the 1957 photograph). By 1997, Bozova had developed into a town with a separate centre and greatly expanded built-up area. The intensity of land cultivation is of particular interest; it reaches 100 per cent after the sloping hillsides in the south-east were brought into cultivation. The majority of fields are broken up into plots. In 1957, plots in the central part were separated with live fences (probably fruit trees). In

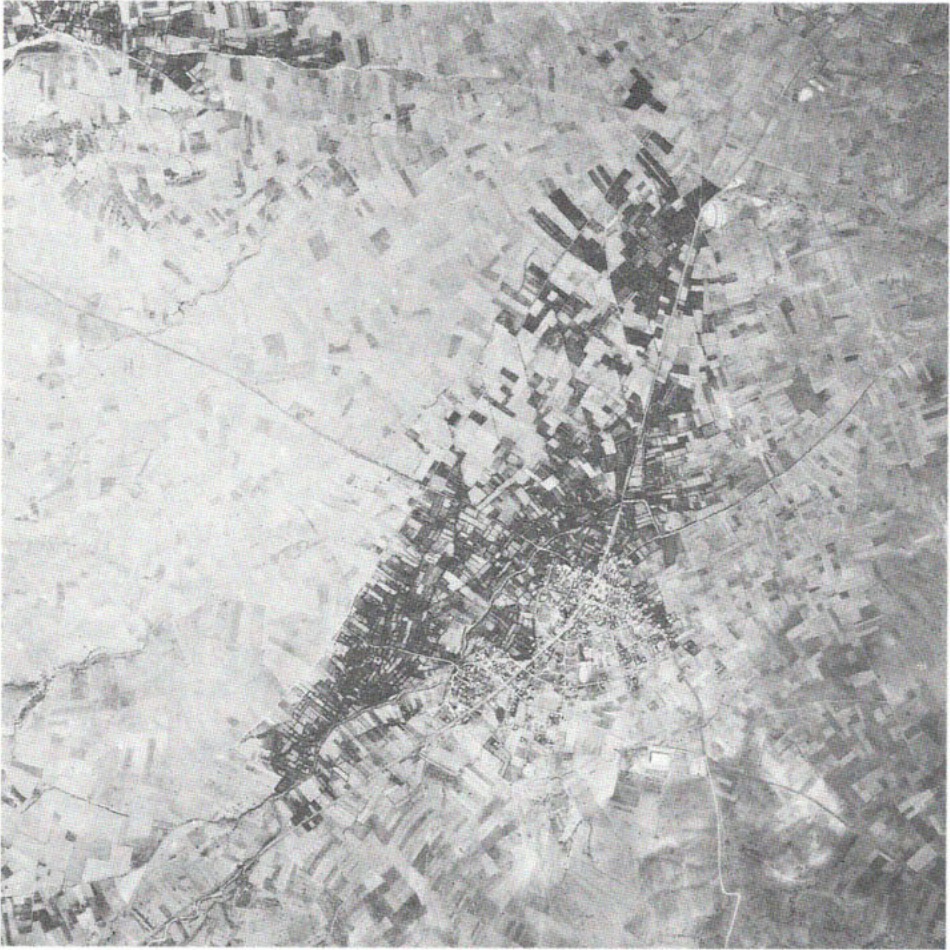


Fig. 8. Bozova, 1992, 4226/9794, 1:35 000

1992, due to the impact of irrigation, they were largely turned into orchards (more and more often compact in nature) and vegetable gardens. A similar situation can be observed in the neighbouring village of Belen, the fragments of which can be seen in the north-west.

Bozova is an example of most intensive land use in a flat area, with a high percentage of irrigated fields. It is not only one of the biggest villages; it is also one where the population increase was one of the highest in comparison to the remaining ones: 66 per cent in the years 1957–1990 (from 1486 to 2465 inhabitants). Leszczycki estimated the number of homesteads at 100; in 1997, it was about 600.

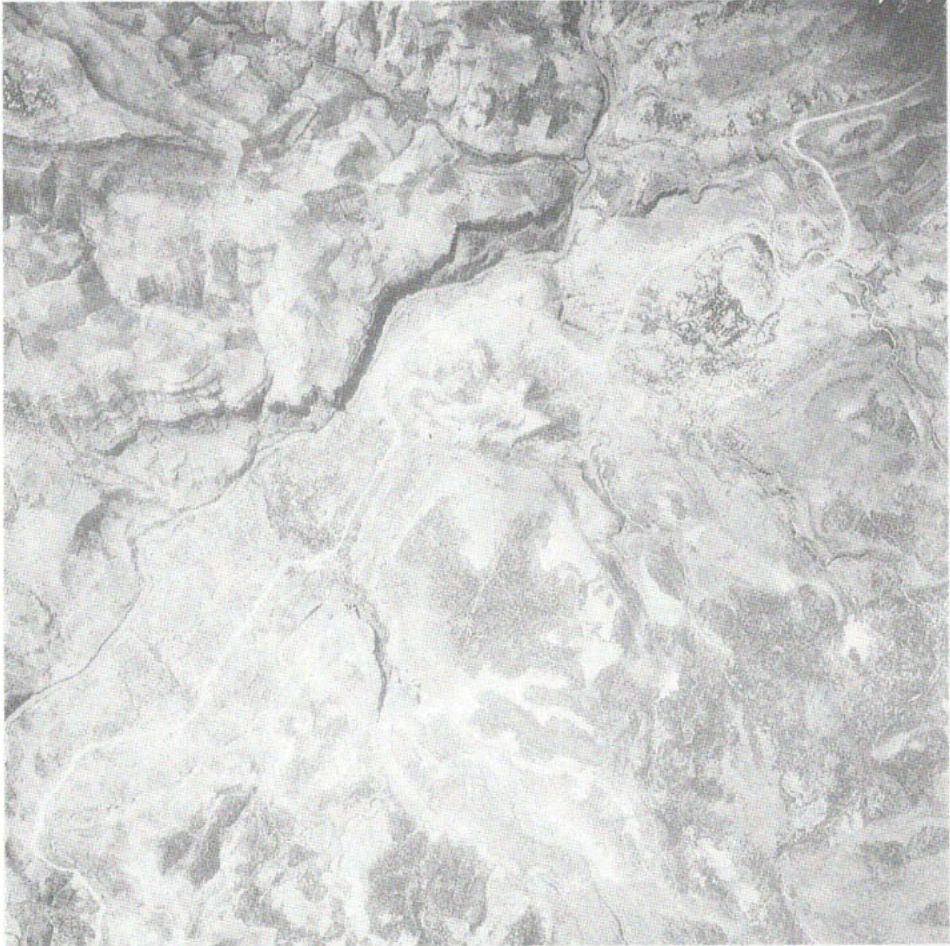


Fig. 9. Karğıcak, 1960, 1125/40, 1:35 000

KARĞICAK. A village situated on a slope with north-western aspect, strongly sloping towards the Göksu valley. Most of the village's buildings are located at an altitude of 250–280 metres (height difference in the village's territory exceeds 100 metres). The scattered buildings, shaded by the numerous trees and bushes (mainly fruit — olives, pomegranates, lemons, oranges, figs, kaki persimmon, apples, grapevine) are barely visible on both photographs. It can be said therefore that the contemporary village is similar in character to the one described by Leszczycki in 1936 as: "hamlets of 3–4 farmsteads lying in clearings, among olive and pine groves". The differences in land use in 1956 and 1987 are nevertheless quite dis-

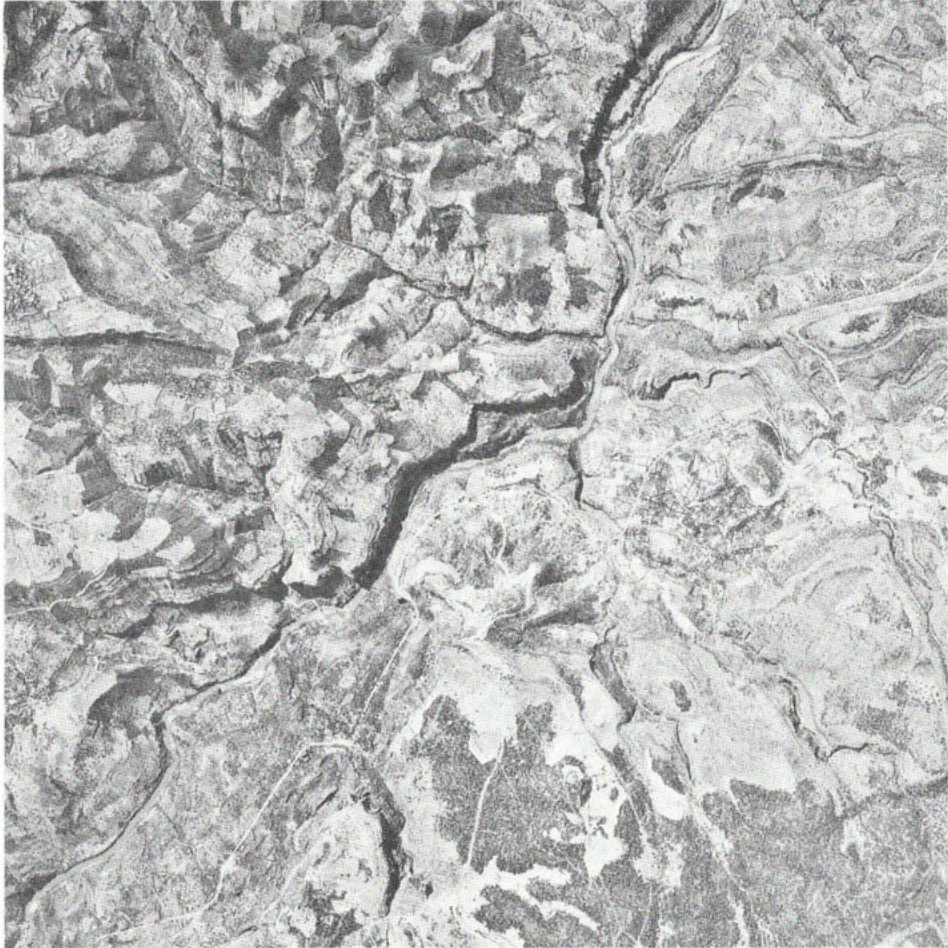


Fig. 10. Kargıcak, 1987, 3906/5859, 1:35 000

tinct. The built-up area was enlarged, and a small but compact centre appeared near the main road Silifke-Mut. The number of orchards and vegetable gardens within the village boundaries increased, and farming fields (cereals) almost reached the river. In general, however, apart from the areas of the farmsteads and slopes in the western part, intensity of land cultivation did not significantly increase. Field boundaries in many places remained the same. Thus, a relatively high population growth (by 49 per cent in the years 1955–1990, from 419 to 626 inhabitants) was primarily reflected in the intensification of farming within the village boundaries and in its proximity.



Fig. 11. Gökçe, 1959, 1040/53, 1:35 000

GÖKÇE. A small Circassian village about 12 km south of Karaman, on a flat slope at an altitude of 1350–1400 metres (north–eastern exposure), lying above 50 metres above the bottom of the Eskikişla valley. It is occupied by a compact sequence of rectangular fields (which is visible on both pictures, likewise in Leszczycki's description). Their reach on the slopes in the upward direction is also similar in 1959 and 1987 photographs, while the cultivation of land in the valley increased, which was probably due to the construction of a dam built in 1980 for irrigation purposes. The area of fields east of the village diminished; elsewhere, on the plateau, they are scanty, randomly scattered, visible as light patches of extensive, non-irrigated crop growing. Cereals are also grown in depressions and dry valleys, where also large pastures for grazing sheep are situated. It might be concluded that only the areas which are the easiest to irrigate are of interest to the local farmers.



Fig. 12. Gökçe, 1987, 3906/5598, 1:35 000

It is difficult to observe any changes within the village boundaries in the 28-year period; several houses were built, less trees grow in farmsteads, and the areas of the nearest fields remained the same. If compared to the 1936 description, the village is definitely less compact in housing, because then "the houses mingled with the gardens and the courtyards into one". Summing up, no changes occurred in the intensity of land cultivation (except for the areas which are easy to irrigate) despite a decrease in population (from 186 in 1955 to 139 in 1990).

