

## EVIDENCE OF THE LAND USE IN CZECHOSLOVAKIA

### I.

Czechoslovakia has both a well-established and long-standing evidence of the land use. Thanks to the mapping which has already, been carried out in the year 1824—1843, the so-called land-register maps, having the scale of 1 : 2.880, were made almost for the whole territory as a cartographical part of the above-mentioned evidence. Each site is registered according to its owner as well as to the class of the farm land. In the coming years the land-register was completed still further and revised (the revised land-register of 1869, the Slovak land-register of 1856 and the so-called evidence of 1883) and newly and uniformly adjusted for the whole republic by the law of 1927, etc. Most of the countries in Europe and no other country outside Europe have such an exact, well-established and long-term evidence of the land use including the cartographical presentation. Having such sources in our possession, we can follow quite well the changes concerning both the extent and the division of land. The author tackled this problem in one of his works. We can see that in the second half of the last century, i. e. in the years 1845—1896, the arable land increased by 250.000 hectares, this being above all the consequence of giving up the fallow system. Since the beginning of this century, however, there appears a decrease in arable land, and until 1929 this amounted (in comparison with the situation in 1896) to more than 100.000 hectares. Such phenomenon is quite normal in the highly developed capitalist countries. The yields of the agricultural produce are being increased and in order to do so it is necessary to have more capital than to have larger crop areas. However, we are not going to write about all these and other conditions which were in effect till the year 1945. Fact remains that after the war a decrease of arable land appeared. Over 300.000 hectares of this arable land were changed, mainly owing to the lack of man power, into meadows and forests or remained uncultivated. By the development of the national economy in the years which followed, several tens of thousands of hectares were lost, either by erecting buildings or by open-cast mines, etc. As to the decrease of the arable land about the year 1945 (mainly in the regions of Plzeň, Ústí n. L., České Budějovice and Ostrava) the author wishes to add a very interesting note. If we follow the development of the crop areas in individual parts of Czechoslovakia, we see great differences in comparison with the situation which may be regarded as normal for the respective period. So we have followed especially the development of the crop areas in the mountainous regions (about 10.000 sq. kilometres) in the year 1896—1929. Here appeared the decrease of more than 10 % of land (in favour of meadows and forests), which was relatively far higher than in whole Czechoslovakia. And, of course, an especially high decrease can be mentioned in the coming years, namely, during the war and in the early years after the war. It would be an uncorrect oversimplification, too, to regard, as the only cause of the above mentioned facts, the decrease of inhabitants in the mountains, which was rather high during these years. However, the decrease of the arable land was to be seen even before and the fact that in the Carpathian Mountains the arable land had decreased, too, in spite of the fact that otherwise the situation in the Eastern half of the State was different both in the past and

in the year 1945, when the number of inhabitants did not decrease, but had in fact increased.

In the mountains the changes in the distribution of land according to its use were carried out mostly as indicated by the plan and within the framework of the precautions against the erosion and, as measures for improving the water regime and as further modifications of nature. Generally speaking, we understand by mountainous regions usually areas situated 700—800 metres (or 900 metres) above sea level (the line increases in the Eastern direction). Only the decrease of the arable land in lower regions is not welcome, for the lowlands have shown naturally the greatest decrease, which, to a great extent, was caused by the decrease of man power in agriculture in 1945. In 1954, in accordance with the order of the government, the official circles carried out the research concerning the land use in the whole Czechoslovak republic and any respective changes which have recently taken place. The results of this research made further measures possible, which ended in ploughing up of the land lying fallow since the end of war. The difficulties with regard to both the revision and the new evidence of the land use were further enhanced by the fact that at the same time the Czechoslovak agriculture was going through a difficult social as well as organizational rebirth. However, at present almost 95 % of the land belong to the cooperative farms and the State and the process of socialization was thus carried out in practice. This successful process of socialization of agriculture enabled the creation of large continuous plots and, to a lesser extent, the revision of the geographical lay-out, too. By the revision of the lay-out we understand, the ploughing up of pasture lands, especially in the lowlands of the Easter regions of the State, the winning over of the arable land by regulating the rivers, the afforestation or the growing of grass on the fields situated high in the mountains. But the decrease in losses of arable lands about the year 1945 was caused above all, by the cultivation of land which was not cultivated for several years.

At present both the extent of the agricultural land and its lay-out as the lines with regard to the forests have already been settled. On the other hand the changes were not so great as might be inferred from our information if not correctly understood. Czechoslovakia has almost 5½ million hectares of arable land (including orchards and vineyards) and about 2 million hectares of other agricultural land which include more meadows than pasture lands. The area of forest lands has somewhat increased and it represents just one third of the total surface of the State.

## II.

The Czechoslovak geographers received the reports about the establishment and the programme of the activities of the Commission on a World Land Use Survey attached to the IGU somewhat later, this was caused by then existing insufficient relations between the countries of different political systems. These reports were accepted with a great satisfaction as reports concerning an action showing the importance of geography for practice (the purpose being the planning and securing of the nourishment of all peoples in the world), further they were accepted as reports enabling the development of methods of the economic geography and finally as an important political action, too. This requires an international collaboration and aid of the European and American geographers to less developed countries and with regard to its consequences and results it

will deal a blow to the neo-malthusian unscientific 'theories'. However, the elaboration of new maps concerning the land use in Czechoslovakia seemed to be quite superfluous owing to the above-mentioned reasons. And besides, in Czechoslovakia there is such division of labour, in the broadest sense of the word, regarding the question of geography, that it can by far be regarded as a branch of agricultural sciences, whereas the geographers are mostly engaged in the agricultural geography of foreign countries. Before the mapping of the land use, intended for large scale maps and for acquiring necessary experiences, was started, we got acquainted with the wonderful results of the Polish geographers. It is possible for Czechoslovakia to take over the theoretical principles for the conditions are similar, but the distinguishing of the arable land owing to the types of rotation seems to be rather superfluous (according to their unsteadiness) and the same can be said about some further details. The differences, as far as the ownership is concerned, do not practically exist. And the obvious impossibility of getting such new and detailed maps for the larger part of the state territory in the near future causes hesitation from the part of the geographers, as far as the starting of concrete work is concerned. There exists the detailed evidence both statistical and cartographical and the survey of today's conditions in the land use is also given by new topographical maps.

Quite different question arises in connection with the main task of the Commission on World Land Use Survey, i. e. the creation of map having the scale of 1 : 1 000 000 and intended for the whole world. The necessity of publishing such a map is quite obvious for Czechoslovakia and, it is regarded as a point of honour of the Czechoslovak geographers in the face of other colleagues geographers from various foreign countries. We in Czechoslovakia are working at present on a large scale representative National Atlas, which is going to express cartographically the successes of both the economy and the science of a socialist state. It has been decided to enclose the map, with regard to the land use, having the scale 1 : 1 mil., too. While working on this map it will be possible to use new topographical maps. Of these maps, the one having the scale of 1 : 5 000 has not been elaborated for the whole Czechoslovak territory yet, but those having the scale of 1 : 25 000 and 1 : 50 000 (as well as that of 1 : 100 000) cover the whole territory already. The map 1 : 25 000 and 1 : 50 000 shows the arable land, meadows, pasture lands, forests (according to the structure) built-up and barren land and besides this other data, too. In our opinion, the existence of these maps, the content of which covers the recent years, stresses more and more the convictions (having the exact and detailed evidence as mentioned above at hand) that new large scale maps concerning the land use in Czechoslovakia are no more necessary. The central administration of both geodesy and cartography and the military geographical institutions, too, started, by the generalization of the topographical maps, having the scale of 1 : 50 000, i. e. their agricultural contents, a work on a 1 : 1 mil. map which is going to contain mainly the arable land, meadows and pasture lands, forests and built-up and barren lands.

Czechoslovakia can boast of a whole series of agricultural maps of recent time, the aim of which is far more practical than to represent a mere cartographical evidence of land use. We have not enough space to describe all of them. However, we wish to draw attention above all to the so-called „rayon-maps“, having the scale of 1 : 200 000 which are of greatest interest to geographers. Being based on a very detailed and all-round research-work they show the possibi-

lities for each of the more important agricultural plant, i. e. where to grow it and how to get the best, very good or still good results.

The maps being mentioned in this report (1 : 2 880, 1 : 5 000, 1 : 25 000, 1 : 50 000, 1 : 200 000 and others) will be exhibited at the National Atlases and Thematic Maps Exhibition of the Stockholm Congress.

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#### EVIDENCE VYUŽITÍ PŮDY V ČESKOSLOVENSKU

Československo má dlouho a dobře vedenou evidenci půdy. Díky mapování již z let 1824 až 1843 byly pořízeny tzv. katastrální mapy v měřítku 1 : 2880. Je zachycena každá parcela podle majitele a zemědělské kultury. V dalších letech byl katastr doplňován a revidován jak v části statistické, tak kartografické až do doby nedávné. Při takových pramenech můžeme sledovat změny v rozsahu i rozmístění půdy. Vidíme, že za druhou polovinu minulého století (1845—1896) přibýlo přes 250 000 ha orné půdy (opuštěním úhorové soustavy). Potom již nastal úbytek orné půdy; do roku 1929 o více než 100 000 ha. Takový zjev je ve vyspělých kapitalistických zemích normální. Zvyšují se výnosy zemědělských plodin a k zvětšení sklizní je třeba více kapátálu, nikoli větší plochy. Krátce po roce 1945 bylo přeměněno 300 000 ha orné půdy pro nedostatek pracovních sil na louky a les. V horách byl tento vývoj proveden plánovitě v rámci boje proti erosi. Rozvojem národního hospodářství v posledních letech bylo ztraceno několik desítek tisíc ha zastavěním a při povrchovém dolování uhlí. Ale revize rozmístění půdního fondu, rozorání pastvin v nížině a meliorace, zejména na východě, zabránily dalšímu úbytku, hlavně orné půdy. Přivodily naopak zmenšení ztrát z let kolem roku 1945. Dnes jsou jak rozsah zemědělské půdy, tak její rozmístění a hranice vůči lesům již ustálené. Československo má skoro 5½ miliónu ha orné půdy a kolem 2 miliónů ha ostatní zemědělské půdy. Rychlý postup socialisace půdy (dnes skoro 95 % půdy náleží družstvům a státu) umožnil vytvoření větších souvislých celků a zčásti umožnil i revizi rozmístění.

V dlouho a dobře vedené evidenci využití půdy máme vysvětlení (zčásti podobně působily změny v posledním období), proč v Československu nebyla dříve odezva na akci IGU a World Land Use Survey.

Kartograficky zachycují poslední stav půdního fondu československého zemědělství nové topografické mapy. Ona v měřítku 1 : 5 000 nepokrývá ještě celé státní území, mapy v měřítku 1 : 25 000 a 1 : 50 000 však ano. Uvádějí ornou půdu, louky, pastviny, lesy (podle skladby), zastavěnou a neplodnou půdu, vedle ovšem jiné náplně. Zdá se nám, že vcelku vyhovují představám detailních map užití půdy, neboť ve způsobu obdělávání orné půdy (rotace) nejsou v Československu rozdíly takové, abychom je mohli zachytit v kartografickém elaborátě a v majetkových poměrech prakticky žádné. Ale především tyto topografické mapy (1 : 50 000) dobře umožní vydání miliónové mapy užití půdy (je zařazena do Národního atlasu), která bude sestavena generalizací jejich zemědělské náplně. Tak se Československo zhostí úkolu, který akci IGU připadl zeměpisům všech pokročilých zemí a přispěje k evidenci využití půdy na světě.

Československo se může chlubit celou sérií zemědělských map z nejnovější doby; z nich uvádíme především tzv. mapy rayonisační (1 : 200 000). Na základě velmi detailního a všestranného výzkumu ukazují, které plodiny kde pěstovat při předpokladu nejlepších výsledků.

## УЧЕТ ИСПОЛЬЗОВАНИЯ ЗЕМЛИ В ЧЕХОСЛОВАКИИ

Учет земли в Чехословакии хорошо поставлен и производится уже давно. Картографические работы в 1824—1843 гг. создали основу для так наз. кадастральных карт в масштабе 1:2880. Эти карты изображают все земельные участки с точки зрения землевладения и распределения земледельческих культур. В дальнейшем учет земли дополнялся и пересматривался как со статистической, так и картографической точек зрения вплоть до последнего времени.

Имея подобные материалы, мы можем следить за изменениями в размерах и размещении земельных участков. Оказывается, что в течение второй половины прошлого века (1845—1896), вследствие отхода от паровой системы, прибавилось 250 000 га пахотной земли. Позже имеет место уже уменьшение размеров пашни — более чем на 100 000 га до 1929 г. В развитых капиталистических государствах подобное явление считается нормальным. Растут сборы сельскохозяйственных культур и для увеличения урожая требуется не увеличение площадей, а более высокие капиталовложения. Вскоре после 1945 г. 300 000 га пахотной земли было из-за нехватки рабочей силы отведено под луга и лес. В горных районах этот процесс протекал планомерно, в рамках борьбы с эрозией. С развитием народного хозяйства в последние годы, вследствие застройки и открытых угольных разработок, произошла потеря нескольких десятков тысяч га. Но пересмотр распределения земельных фондов, распашка низменных пастбищ и мелиоративные мероприятия, особенно на востоке страны, приостановили дальнейшие потери пахотной земли. С их помощью, наоборот, убытки 1945-х годов уменьшились. В настоящее время как размеры сельскохозяйственной земли, так и ее размещение и границы по отношению к лесным участкам, являются уже стабильными. Чехословакия имеет в своем распоряжении почти 5,5 млн га пахотной земли и почти 2 млн прочей сельскохозяйственной земли. Быстрое развитие социалистической земельной собственности (в настоящее время почти 95 % земли находится в руках кооперативов и государства) сделало возможным создание более обширных участков и до некоторой степени также и пересмотр их размещения.

Хорошо организованный учет земли в течение длительного времени объясняет (в подобном направлении действовали отчасти также и изменения в последнее время), почему Чехословакия не откликнулась на кампанию IGU и World Land Use Survey.

Современное состояние земельного фонда чехословацкого сельского хозяйства показывают новые топографические карты. Карты масштаба 1:5 000 не охватывают пока всю территорию государства, как это имеет место у карт в масштабе 1:25 000 и 1:50 000. Все они, наряду с прочими явлениями, изображают пашню, луга, пастбища, леса (по их структуре), застроенные участки и пустыри. Можно считать, что в общем данные карты отвечают представлению подробных карт использования земли, так как различия в способах обработки пашни (ротация) в Чехословакии не настолько велики, чтобы можно было изобразить их на карте и имущественных различий практически нет. Эти топографические карты (1:50 000), прежде всего, хорошо обеспечивают издание миллионной карты использования земли (карта включена в состав Национального атласа), которая будет создана путем генерализации их сельскохозяйственного содержания. Таким образом и Чехословакия выполнит задание, которое кампания IGU поставила перед географами всех развитых стран и внесет свой вклад в учет использования земли на земном шаре.

Чехословакия может гордиться серией сельскохозяйственных карт самого последнего времени; из них надо отметить прежде всего карты сельскохозяйственной районизации (1:200 000). Они показывают, на основании очень подробного и всестороннего исследования, где и какие культуры надо выращивать, чтобы достичь наиболее эффективных результатов.