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**AGRARIAN — GEOGRAPHICAL RESEARCH WORK IN YUGOSLAVIA
SINCE THE CONFERENCE IN BUDAPEST IN 1964**

Conception

The contemporary socio-economic transformation of the industrial society is determined by the interaction of a series of factors some of which are not always easy to recognize. The one element which is essential in this transformation is certainly the agrarian one. In different countries the agrarian element goes through different phases of adaptation, determined by the local economic and political circumstances as well as by the general degree of socio-economic development.

In Yugoslavia the transformation of the agrarian economy is running along two different lines. On the one hand, the role of the agrarian economy is being increased in the social sector; and on the other, in the private sector its role is being weakened. Both processes have a definite character because they are going on gradually but constantly and have a given goal: the goal of socialization and of increasing specialization. These processes differ from one region to another since they are determined by the natural and social circumstances of the individual areas. This means, they differ from one republic to another, and also from one region to another within a given republic.

In view of the complex nature of the process which is bringing about different developments in the agrarian economy, we have since the Budapest conference considerably modified our agrarian-geographic research work in relation to the conceptions in our earlier research presented in the papers submitted.¹

The research into the agrarian economy continues to remain our objective; but now the agrarian economy is being studied from the point of view of its evolution which makes it imperative to study all those elements and factors which the revolution in the agrarian economy is bound up with. Our research is accordingly not of the agricultural, but of a general agrarian character. Our interest in the agriculture is continued but in the agriculture as an element within the frame of the general socio-economic transformation of an agrarian area.

¹ Klemenčić V. — Crkvenčić I.: The mapping of land utilization in Yugoslavia; Land utilization in Eastern Europe, Akademiai, Budapest 1967.

Although in the development of the agrarian economy we are faced with two opposite processes, our research is mainly oriented towards the study of the transformation of the agrarian economy in the private sector — because the transformation of this is of a more complex nature and because on this transformation the fate of most of our agricultural families depends.

The weakening of the role of the agrarian economy in the private sector is occurring mainly through the processes of the de-agrarization of agrarian households; the process of de-agrarization being the dominant feature of our agrarian regions. Hence, our agrarian-geographical research pays full attention to the examination of this process.

We have endeavoured to make a study of the de-agrarization process within the frame of the whole of Yugoslavia so as on this basis to be able to establish the types of various transformational trends of the agrarian economy. This is why we applied to the Federal Fund for Research Work for financial support and got it to pursue the project: De-agrarization and the Map of Land Utilization in the Socialist Republic of Yugoslavia. The work on this project is shared by the Institute of Geography of the University of Ljubljana, Institute of Geography of the University of Zagreb, and by the Geographical Institute »Jovan Cvijić« in Belgrade. The first two institutes were successful in their application for additional financial support from the republican funds for research work.

It has been agreed that a final synthesis of the work on the basis of research in the whole of Yugoslavia will be given by the authors of the present article. In accordance with the contract with the Federal Fund for Research Work, this piece of research has to be concluded by the end of 1970.

In the way of organization, our work is being complemented by the cooperation of a wide circle of geographers from the whole of Yugoslavia who cooperate in various ways. In 1965 we organized the first Federal Agrarian-Geographical Symposium, at which active participants from the whole of Yugoslavia illustrated various agrarian geographical problems from various aspects. The work was extended to include geographical seminars in the faculties, seminar works, diploma works, as well as post-graduate and doctoral theses. A great deal of that work has already been published or is on the point of being printed. A number of works is still in manuscript or not yet completed. Of the huge number of prepared maps, unfortunately only a few have been printed, and even these in black-and-white. In *Geographica Polonica* 5 a few maps in colour were printed; these show land utilization in some of the Yugoslav villages and came about as a result of the cooperation between Polish and Yugoslav research teams.

The same series of maps, but slightly incomplete, was published in the publication *Mitteilungen für Agrargeographie, landwirtschaftliche Regionalplanung und ausländische Landwirtschaft, Nr. 17, Halle 1967*, together with the papers presented at the agrarian-geographical symposium in 1964. A map of land utilization for Serbia (in colour) has been published, and another map in colour — for the smaller area of Bistriška ravnina (between Kamnik and Ljubljana) was published as appendix to the study »The Transformation of Bistriška ravnina«. Recently, another three maps on land use in the highland pastures in the Slovene Alpine territory have been published as appendix to the book »Highlands Pastures

in the Slovene Alps», thanks to Prof. Ruppert in Munich. All the studies so far, however, may be more or less still characterised as tests or samples. Their results are based on very detailed research carried on by means of mapping and of questionnaire work with an element of the total complex of the geographical transformation of one, two, or three settlements. These are the results of investigations of smaller regions and of definite elements which have — as a factor or as a phenomenon — a dominant role in the process of land utilization and of agrarian households. The objects of these investigations were the villages and regions in all of the Yugoslav geographical zones: Pannonian, Alpine, Dinaric, Coastal, and Rodopic. Within these natural geographical zones we have been investigating regions with more dense population, regions with a higher degree of urbanization, agrarian over-inhabited regions, and regions in the process of depopulation. We have selected regions in which agriculture is in its structure combined with other non-agrarian economic activities, regions where agrarian economy is combined with forestry, tourism, industry, or with a bigger number of activities at the same time. Further, we have investigated agrarian regions partly depending on demogeographic processes, on emigrating trends of various types and various intensity (daily migration, seasonal migration) as well as regions in which private and social agrarian households are combined.

All these investigations of the agrarian utilization of land of the agricultural households according to the different types of regions still await a more detailed synthetic, methodological, and theoretical treatment; yet they also reveal certain common features and specific factors influencing the changes in the land utilization and agrarian households in Yugoslavia. This represents a solid basis for the next step — the preparation of a unified methodology of the agrarian land utilization and agrarian economy for the requirements of the analysis of the present state and the planning of the prospective development.

What has been done so far?

Since 1964, work on the agrarian-geographical investigations has been considerably intensified in Croatia. The reason is partly in the new organization of geographical research in this republic. The former Geographical Institute PMF has been replaced by the new Institute of Geography of the University of Zagreb. This has brought together all the research-workers — geographers from this republic. The new Institute has also made it possible to concentrate the financial means and to keep closer contacts with the students' practical work.

Within the frame work of the above mentioned project, De-agrarization and the Map of Land Utilization in the Socialist Republic of Yugoslavia, research work in the agrarian geography in Croatia is being carried on in two ways: 1) investigation for the whole of the republic, and 2) more detailed investigations concentrating on samples. The work on the whole of the republican territory consists in the analysis of those statistical facts for the years 1960 and 1961 which indicate the rate and the character of de-agrarization dependent on a series of other socio-geographic processes.

In this way, some 20 maps of Croatia have been produced. These are:

I) *Maps illustrating the trends of the demogeographic character*

- 1) Types of communes according to the rise-fall of the number of population during 1948—1961
- 2) Types of communes according to types of moving of the population during 1953—1961
- 3) Types of communes according to the degree of the development of daily migration
- 4) Types of communes according to the percentage of immigrated population and according to the individual periods of immigration
- 5) Types of communes according to the percentage of immigrant population from a settlement in the same commune, from a different commune or republic
- 6) Types of communes according to infrastructure
- 7) Types of communes according to the structure of school education
- 8) Types of communes according to the degree of literacy

II) *Maps illustrating the trends of the economic development*

- 9) Types of communes according to the source of income for individual households
- 10) Types of communes according to the percentage of the population of industrial agricultural households with permanent of occasional employment of their members outside the household
- 11) Types of communes according to the percentage of population of ind. agricultural households with up to 1 hectare or no land
- 12) Types of communes according to the number of active livestock
- 13) Types of communes according to the percentage of various categories of land
- 14) Types of communes according to the percentage of high-quality wheat on the wheat-sown surfaces in agricultural households
- 15) Types of communes according to the percentage of maize and wheat on the cereals-sown surfaces in agricultural households
- 16) Types of communes according to the percentage of the hybrid maize on the maize-sown surfaces in agricultural households
- 17) Types of communes according to the percentage of agricultural households in cooperation

III) *Maps illustrating the trends in the standard of living*

- 18) Types of communes according to the percentage of households owning radio and television sets
- 19) Types of communes according to the percentage of households with electric light
- 20) Types of communes according to the percentage of households owning cars

By confronting these maps it is possible to identify the regions of varying rate and character of de-agrarization, or rather of various trends in the contemporary socio-economic transformation of individual areas in Croatia. But in order to get an insight into the specific nature of the de-agrarization process and into the whole complex of the socio-economic transformation inside individual bigger areas of various trends, more de-

tailed investigations are being made on the basis of the so-called samples, consisting of 1—3 connected cadastral parishes. The investigation is based not solely on the existing statistical facts but also on questionnaire work and mapping — for this seems to be the only way of obtaining the data about contemporary social geographical processes, i. e. those done after verified statistical censuses.

Accordingly, the Institute of Geography of the University of Zagreb is pursuing research in the following sample regions inside the republic of Croatia:

A) The Adriatic Croatia

1) The region of Vinodol; 2) Kaštelansko primorje and Trogirski Zagor;
3) Omiško primorje.

B) The Continental Croatia

4) The surroundings of Varaždin; 5) The surroundings of Novska; 6) The surroundings of Vinkovci.

The investigations at Vinodol comprise the entire area between Bakar and Novi Vinodolsk: the agrarian problems have been studied to a greater detail on the example of the cadastral parish of Kamenjak, which lies in a formerly markedly agrarian flagged zone between the coastal ridge and the high rock in the interior. This is a place of old emigration of population which was already formerly reflected in the de-agrarization, but the process of de-agrarization was given a new impetus by the development of tourism on the coastal zone of Vinodol in the recent years. The agrarian population has come to comprise only 8 0/0 of the entire active population here, and this means that the agrarian economy has left its role over to other branches of economy which have now concentrated on the coastal zone.

This investigation was not done by the Institute of Geography of the University of Zagreb but was done by Dr. G. Bauer, a student of Prof. Hartke, as his doctoral thesis. The Director of the Institute of Geography of the University of Ljubljana, however, was the supervisor of works which in their conception correspond to other sample-works of ours, and accordingly this research has contributed to the understanding of the de-agrarization process in Croatia. Some results of this investigation have already been published², while others are ready to be printed.³

The process of de-agrarization is treated here from the point of view of the influence of tourism and industry on the naturally geographical region and is treated within the complex of the following problems: the structure of the population, daily migrations of labour, the development of tourism (particularly week-end tourism), or rather the development of tourism on the social structure of the population, the influence of the social structure of the population on the natural reviving and building of the individual parts of the town's areas of Bakar and Novi Vinodolsk. In the chapter on agriculture the following question have received special treatment: the phases of the earlier emigration of (agrarian) population,

² G. H. Bauer, Sozialgeographische Untersuchungen zur Entwicklung des nord-westlichen Primorje (Jugoslawien) unter dem Einfluss von Fremdenverkehr und Industrialisierung, K. N. A. G. Geografisch Tijdschrift III (1969) Nr. 2.

³ U. Radovi geografskog instituta 8. Zagreb.

changes in the land utilization over the last 100 years, problems of contemporary structure of the population, and the utilization of land.

The investigations in Kaštelansko primorje and Trogirski Zagor aim at showing the adaptation of the agrarian economy within the complex of the contemporary socio-economic transformation on the profile: the coast — the fields on the rocks. For this reason these investigations are being done through investigating three interconnected cadastral parishes situated along the coast (the cadastral parish of Kaštel Stari and Kaštel Novi) but leading into the rocky interior (the cadastral parish of Radošić).

Attention is accordingly paid to agrarian valuable space along the coast and to agrarian, less valuable and trafficwise isolated, space in the rocky hinterland. The coastal zone has additionally town centres, industry, and increasingly strong tourism. We wish to establish the manner of adaptation of agriculture to regions which are naturally different and different also in the conditions of their development.

The region of Radošić is the place of de-agrarization while the coastal area is one of more complex development of agriculture. Because of the influence of industry and tourism, some households on the coast are abandoning agriculture while others that are retaining it become increasingly specialised for the production of goods for the market (fruit, vegetables, wine). On the contrary, the de-agrarization at Radošić is leading towards a decay of the village because here there are no chances of earning one's living outside agriculture. A process of emigration is going on and so it is only old people who remain in the village. The remaining labour daily travels to work, mostly to Split. The coast, on the other hand, represents an area that brings the population together, partly from the interior (Radošić and its surroundings) or from other parts of the republic. An intensive process of social and professional restratification of population is under way, which is being reflected in the changes in the way of life and in this way indirectly in the development, or rather in the directing of agricultural production.

These investigations are conducted by I. Crkvenčić and I. Baučić. Part of the result is already shown in the maps, the electronic processing of data prepare an even more detailed treatment of this area.

It should be pointed out in this connection that the first investigations of this sample region was started by the Institute of Geography of the University of Ljubljana as early as in 1965. Questionnaire work and mapping was done within the frame of practical work by the students of the Geographical Institute PMF of Zagreb, with the participation of the students from Ljubljana. Late on, in 1965 a group of Polish geographers, headed by Professor Kostrowicki, stayed here and with the cooperation of the Ljubljana and Zagreb geographers pursued the investigations into the typology of the agrarian economy. Because of a very strong process of emigration in the rocky part of this area, the Institute of Geography of the University of Ljubljana conducted at Radošić supplementary investigations with the students of the Geographic Institute PMF of Zagreb. The object of the supplementary investigations was to study not only the transformation of agriculture but also the overall geographical problems of this depopulating area.

Omiško primorje in the region of the cadastral parish of Jesenice is the third sample area in the Adriatic Croatia. The investigations started

first in 1963 in the organization of the Institute of Geography of the University of Zagreb and were realised through an international cooperation between Yugoslavia and Poland. The results of these investigations have been published⁴. These investigations were oriented exclusively to agrarian problems which can be seen from the work mentioned. Beside the introductory chapters (the conditions of natural environment, overview of the development of the settlement and the economy), it is mainly the agrarian problems that receive due treatment and this is in the chapters: demogeographic relations, agrarian structure and the ways of the utilization of land, plant production, and global production of agriculture.

Omiško primorje is different from Kaštelansko primorje in several respects: in the structure of agriculture and in the characteristics of the area. Omiško primorje has only a narrow coastal flagged belt which directly finishes off with high rocks. The conditions for agriculture are less favourable than those in Kaštelansko primorje.

Yet Omiško primorje also witnesses a complete socio-economic transformation. The old zone of settlement on the meeting point of the high rocks and the flagged zone is practically wholly abandoned; the population has either emigrated or it has descended into the relatively new settlements along the coast which is increasingly representing the area where both population and functions come together. Parallel to the transfer of population runs the economic reorientation of the population, since some of the households become oriented in the work in industry and tertiary activities. The households retaining agriculture orient themselves to the production of fruit and vegetables. Almost all the households are engaged in tourism as additional source of income.

The whole transformation outlined above has made it necessary to continue the investigations, and so the Institute of Geography of the University of Zagreb has organized within the framework of the students' practical work additional questionnaire work and mapping. This supplementary research work comprised the whole complex of the geographical problems of the area. The data collected have been electronically processed and partly published in various papers⁵. The largest part of the remaining material will serve as basis for a bigger study on the transformation of agriculture on the coastal area of Croatia.

In the continental part of Croatia, the sample region near Varaždin has received a more detailed treatment. This investigation was intended to show the developmental trend in the agriculture in the surroundings of a central settlement which is at the same time an agrarian over-inhabited place. As examples, the cadastral parish Vidovec near Varaždin and the cadastral parish Druškovec, farther on from Varaždin, were chosen. It became clear that the area of Vidovec is one of re-agrarization orienting towards specialization to agricultural production for the needs of the market in Varaždin, while the area of Druškovec represents an area of marked de-agrarization.

⁴ I. Baučić, W. Biegajlo, I. Crkvenčić: Socijalno-geografska obilježja sela Jesenice, *Geografski glasnik* 28, Zagreb, pp. 23—114.

⁵ Referat I. Baučića na Simpoziju o socijalnoj geografiji u Omišu 22.—26. IX 1969 pod naslovom: Metode istraživanja transformacije obalnog područja Hrvatske na primerima iz srednje Dalmacije.

This investigation was done by Assistant Mr. Milan Vresk in his post-graduate thesis. In order to explicate the present circumstances and the conditions of development, the author has presented an explanation and evolution of the agrarian economy and of the agrarian countryside in the past.

The contents of the findings are indicated by the titles of the following chapters: fundamental geographical characteristics, characteristics of the agrarian economy social ownership characteristics of economy, categories of land utilization, ways of land utilization, raising of livestock, global agricultural production), agrarian evolution from the 19th century and its significance for the present agrarian structure, the tendencies in the present-day changes. Part of the material outlined here has been published⁶.

The second sample region in the Continental part of Croatia comprises three cadastral parishes in the surrounding of Novska, 100 kilometres from Zagreb, in the Sava basin. The object of the investigation is to reveal the trend of the contemporary transformation in the surroundings of a central settlement of lower rank, in an area of different natural conditions, different agrarian structure, and unequal influence of the socialist agricultural relations.

The treatment comprises the cadastral parish Košutarica (along the Sava), Gabrovec (a transitory zone between the Sava lowland and the neighbouring hills) and Subocki grad (tertiary hills) — hence three specially interconnected parishes on the average profile of the Sava.

Investigation in this area is being done by Stanko Beber as the thesis of his post-graduate work. The research is to be concluded by the end of this year and is conducted along the same lines as that in the surroundings of Varaždin.

The third sample region in the Continental part of Croatia is the cadastral parish Vodinci, not far from Vinkovci in Eastern Croatia. This investigation aims at disclosing the post-war transformation of the agrarian economy in an area which is traditionally agrarian and which has suffered big changes in its population plus a strong influence of the socialist agricultural ownership.

The investigation was organized by the Institute of Geography of the University of Ljubljana within the frame of the students' work (in 1968). So far only a part of the collected data has been gone through and this was sent to the printers by Assistant Mr. Milan Vresk⁷.

The results achieved so far have shown that the development of agrarian economy is assuming dimensions that may well make us worry. The autarkic village households are in the process of strong de-agrarization; households still working on fields are becoming weaker and weaker. This is partly due to the emergence of the socialist agricultural sector which purchased considerable areas of what was formerly privately owned by the village people. Immigrant population for the most part does not have any land, or very little. Part of the labour is employed in the socialist sector, but in order to employ the remaining labour which is not necessary

⁶ M. Vresk, *Tendencije suvremene evolucije prenaseljenog agrarnog kraja*, *Geografski glasnik* 30, Zagreb 1968, pp. 143—155.

⁷ M. Vresk, *Vodinci — prilog proučavanju socijalno-geografskih promjena kolonizacijskih naselja Istočne Hrvatske*, *Geografski glasnik* 31, Zagreb 1969 (u štampi).

in agriculture, non-agrarian jobs would have to be found. The social and demogeographic structure of the old native population is highly varied.

The de-agrarization is a condition for the migration of population from agrarian regions into towns. In order to establish the influences of the de-agrarization of the agrarian regions on the social structure of the town population we have carried out an analysis of the fringes of the town area of Zagreb. Part of that material has already been printed⁸. In view of the fact that individual parts of the Zagreb suburbs have different structure (since the population gathers according to places it has come from) we have expanded the investigation. Postgraduate research worker Ilija Globarević is engaged in this research for his post-graduate thesis. Part of the work done by I. Crkvenčić and I. Globarević was read in a paper presented at the 8th Congress of the geographers of the SR of Yugoslavia and will be published in *Zbornik radova VIII. kongresa geografa SFRJ, Skopje*⁹. In the summer of 1969 the investigation on the fringes of Zagreb have been expanded to include the old village settlements which formerly had an agrarian character but are now undergoing a process of strong transformation. The work was done within the frame of the students' practical work and will be published in *Geografski glasnik* 32.

In addition to the work conducted within the frame of the Institute of Geography of the University of Zagreb, a certain number of other agrarian geographical investigations has been prepared within the complex of large-scale regional studies. These are mainly doctoral or post-graduate thesis¹⁰, but there are also a few smaller articles on these problems.

It should be added that there is a whole series of other works currently done by the post-graduate students at the geographical Institute of PMF of Zagreb. These works are partly from the republic of Croatia, or from the republic of Bosnia and Herzegovina and the autonomous district Kosovo. These works are currently in preparation.

In Slovenia I. Vrišer¹¹ has prepared a study, accompanied by a survey map, entitled *The Systems of Agrarian Land Utilization in the SR of Slovenia*, basing it on the statistical facts about the standing crops for the years 1960 and 1961. The map clearly shows that in Kras and in the Alps there is a predominance of the system of fodder plants; that in the Ljubljana basin, in Ptujsko polje and in Dravsko polje we get a system of hoeing crops; that in the Pannonian Pomurje the system of cereals is combined with that of hoeing crops; and that in the remaining regions at smaller distances various systems are being changed or combined. In his study *The Problems of the Mixed Structure of Households and Farmsteads in Slovenia* V. Klemenčič¹² outlines the problems of the decline of classical agrarian farmsteads with purely agrarian households to farmsteads with semi-agrarian or non-agrarian households. By means of detailed maps

⁸ I. Crkvenčić: Die Folgen der Urbanisierung in Jugoslawien am Beispiel der sozial-ökonomischen Struktur der Pendler und des Stadtrandes von Zagreb, Münchner Studien zur Sozial- und Wirtschaftsgeographie 4, Zum Standort der Sozialgeographie, München 1968.

⁹ I. Crkvenčić:

¹⁰ Cit. Kurte, Dorofejev, Pepeonik and Kulešić.

¹¹ Vrišer Igor: Sistemi agrarnega izkoriščanja tal v SR Sloveniji. Ekonomska revija XVIII/1967 Nr. 2, p.p. 190—211.

¹² Klemenčič Vladimir: Problemi mešane strukture gospodinjstev in kmečkih gospodarstev v Sloveniji — *Geografski vestnik* XL/1968, pp. 19—52.

Klemenčič has shown the movement of agrarian farmsteads with agrarian, semi-agrarian, and non-agrarian households in Slovenia during the period 1961—1966 and the structure of the households during the same period. This phenomenon is analysed in his work according to cadastral parishes and communes, a study of the structure of the agrarian households in general is given, and the whole of Slovenia is stratified according to the dynamics of the decay of the farmsteads with purely agrarian households.

Slovenia has only 40 % of agrarian farmsteads with purely agrarian households, and of these a good half has old age labour (over sixty years of age). In the central urbanized part of Slovenia the process of the decay of purely agrarian farmsteads is already in its concluding stage. Most of the communes have less than 10 % of agrarian farmsteads with purely agrarian households. In the north-eastern part of Slovenia the decay of the pure agrarian structure is slower because of the slower urbanization, and more than half of the agrarian farmsteads have purely agrarian households. In the western part of Slovenia, near the Italian border, the decay of the pure agrarian structure is quicker than elsewhere in Slovenia — the percentage of pure agrarian households being under the Slovene average.

In his study *Alpine Pastures and their Economy* M. Vojvoda¹³ gives a detailed analysis of the changes in the land utilization in the Slovene Alps, of the decay of the highlands and of the increasing role of tourism and forestry in the economic life. M. Vojvoda has shown what were the consequences of the decline of the agrarian structure in the valleys at the foot of the Alps, where only a few decades ago villages and their livestock existentially depended on the utilization of pastures. Utilization of forest in the sense that forest is used for getting wood as well as pastures had died out. Compared with the situation before the World War II, it is only two thirds of the pastures that are utilized now as such. The number of herdsmen has decreased by half, and the remaining half are either people over 50 years of age or children who still have to go regularly to school. The number of livestock for the production of milk is in retrogression and the production of milk and of cheese is in retrogression too.

In their study *Elements of the Transformation of the Bistrica Plain* Klemenčič and Jeršič¹⁴ have shown the processes and the structure of land utilization on the example of a densely populated, economically very highly developed area. They have shown the ways of economy on socially-owned and on private land, the systems of mono-crop, modern, commercialised, and technically developed agrarian farming on big rounded-off complexes as well as the large differences in the utilization of privately-owned land. They have shed light on the different social and economic dependencies of the landowners, owing to various occupations and incomes. In their treatise they have outlined the extensification of the utilization of private land with the increasing spreading of poorly utilized meadows on former fields. The map appended to this work represents an attempt of presenting the land utilization in social as well as private sector which is both densely populated and open to uncontrolled urbanization.

¹³ Vojvoda Metod: *Almgeografische Studien in den slowenischen Alpen*. Münchner Studien zur Sozial und Wirtschaftsgeographie, Band 5. 1969.

¹⁴ Klemenčič Vladimir in Matjaž Jeršič: *Elementi transformacije Bistriške ravnine*. — Kamniški zbornik XI/1967, pp. 3—46.

Most intensively and very systematically studied are the agrarian systems and the land utilization in the north-eastern Slovenia. J. Medved made a detailed study of the Alpine regions of Karavanke, Strojna, and Pohorje;^{14a} and M. Pak¹⁵ the plains of Dravsko polje, south-east of Maribor. V. Bračić studied the vine-growing Haloze¹⁶, and B. Belec the western section of the vine-growing Slovenske gorice.¹⁷ Zgonik started on an intensive examination of the hilly region in the Drava basin between Mežiška dolina and Maribor; Kert studied the vine-growing eastern part of Slovenske gorice, while Olas examined Prekmurje.

J. Medved has published the results of his research in the study entitled *The Degrees and the Kinds of the Decay of Mountainous Farmsteads in Mežiška dolina*; here he has outlined the changes in the role of natural and social geographical factors which exerted their influence on the decay of the mountainous agrarian farmsteads during the individual periods of last century. In an analysis of three settlements he has given us the present-day structure of land utilization as a transitory form in the process of the decay of the mountainous agrarian farmsteads. His interpretation is continued by giving a special study of first Košenjak and then of Ojstrica, in which he especially analyses the role of the physical-geographical factors and emphasizes the role of the morphological forms and the inclination of the terrain in the various phases of the introduction for technology into the agrarian economy, the way of processing wood, and the influence of social non-agrarian factors — of industrialization and mining.

M. Pak illustrates the transformation of land use in Ptujsko polje, the development of land-ownership circumstances of agrarian land in the upper sector of Dravsko polje, he shows us the effects concerning the changes in the land-ownership structure and the consequences of the expansion of the gravitation area of daily migration of labour (to Maribor and Ptuj), which are related to the changes in the social structure of the population and the manner of land utilization in various regions.

In his study *The Vine-Growing Haloze* Vladimir Bračić analyses the remains of the past as significant factor in the present agrarian geographical development. On the example of three cadastral parishes he has shown the development of the land utilization and agrarian economy as the result of the mutual influence of factors of varying natural and economic environments, with good conditions for economy in the valleys and unfavourable conditions for vine-growing (in spite of the vine-growing tradition), and then an area in which the natural traffic geographical and social geographic conditions for the development of agriculture are unfavourable.

The economic and socially similar vine-growing area in the western part of Slovenske gorice is treated in detail by Belec in three of his studies. In the first, *A Contribution towards the Land Ownership Structure in Ljutomersko-ormoške gorice in 1824 and 1961*, he gives an interpreta-

^{14a} Medved Jakob: *Socialno geografski razvoj Mežiške doline zadnjih 100 let*, Mladinska knjiga, Ljubljana 1968.

¹⁵ Pak Mirko: *Družbeno-geografski razvoj Zg. Dravskega polja*. (Doktorska disertacija). Ljubljana, Inštitut za geografijo univerze v Ljubljani 1965.

¹⁶ Bračić Vladimir: *Vinorodne Haloze, Maribor*. Založba Obzorja, 1967.

¹⁷ Belec Borut: *Ljutomersko-ormoške gorice*. Agrarna geografija. Maribor. Založba Obzorja. 1968.

tion of the differences in the development of the land-ownership circumstances among areas variably suited for vine-growing. Next, in a special study he gives a detailed analysis of the cadastral parishes Plešivec, Kog, and Gresovščak. The example of Gresovščak is particularly valuable for the illumination of the consequences of the socialization of land, which has introduced new technique in the cultivation of vineyards on terraces and entirely transformed this area suitable for vine-growing.

During the last years, the research was concentrated on the karstic and littoral regions of Slovenia. B. Ingolič¹⁸ made a detailed study of the demogeographic and general economic circumstances as well as of the land utilization in the village of Kobilje in the Karstic area near the Italian border and showed the ways and tendencies in the changes in land utilization. He made a very clear presentation of the demogeographic decay of the related gradual abandoning of agrarian land utilization on the fringe of the village territory towards the village — a process that was under the influence of the economic development of Trieste started as early as in the middle of last century. The remaining negligent part of the more intensively cultivated land around the village lake is a sign of the concluding phase of the decay process of the old agrarian economy in Kras.

In the analysis of the karstic village of Rakitna¹⁹, south to Ljubljansko barje, Klemenčič and Pak have outlined the consequence entailed by the changes in the way of land utilization as affected by the emergence of a settlement of weekend cottages, by the expansion of the gravitation area of labour from Cerknica and the neighbouring settlements and the related aging of the agrarian population, the decline of agrarian households, and the abandoning of cultivated land. They have described the abandoning of numerous crops characteristic of the polycrop system and the restriction to the production of potatoes as the most important food plant and of fodder necessary for the raising of livestock and the production of milk.

The examination of the coastal area around Koper shows agriculture losing its labour to tourism, industry, and the sea port.²⁰ Although the climatic conditions are favourable, the modernization of the production is impeded not only by the development of the non-agrarian activities but also by the fact that the cultivated land lies on the narrow terraces of the hilly land.

By regular field work, questionnaire-work and mapping, members of the Institute of Geography of the University of Ljubljana trace the changes in the land utilization and agrarian economy on land exposed to strong urbanization at Podgorje at the foot of the Alps near Kamnik; at Sereborci in Prekmurje where land is very favourable for economy, here the influence of the urbanization is coming from Murska Sobota but agriculture hardly suffers from it because of the very good natural conditions; at the settlements Trebijovi in Herzegovina near Trebinje, which settlement

¹⁸ Gams Ivan, Borut Ingolič, Franc Lovrenčak: *Krajna vas — Študija prirodnih pogojev in agrarnega izkoriščanja krasa*. Ljubljana, 1969. (V tisku za Geografski zbornik).

¹⁹ Klemenčič Vladimir, Mirko Pak: *Nekateri elementi gospodarsko geografskega razvoja Rakitne*. Ljubljana, 1969. (V tisku za Geografski vestnik.)

²⁰ Ilesič Svetozar, Vladimič Klemenčič, Mirko Pak: *Transformacija obalnega področja Slovenskega Primorja s posebnim ozirom na socialno-geografske procese v k. o. Sečovlje*. Ljubljana. Univerza — Filozofska fakulteta. 1968.

owing to the unfavourable traffic position and poor natural conditions in the middle of karstic land is slowly dying out. The Institute of Geography of the University of Ljubljana has through cooperation with institutions from Sarajevo and Skopje expanded the study of land utilization and of the transformation of agrarian farmsteads to Macedonia and Bosnia.

In Bosnia, Zubić²¹ has made a study of the agrarian transformation in some villages of almost exclusively agricultural (mostly livestock breeding) region up in the Dinnaric karst, Kupreško polje. In his study he shows the decay of the old, classical forms of livestock breeding — of cattle and small cattle, the decline of the less profitable crops by introducing fodder plants and potatoes.

In Macedonia, two markedly agrarian regions have been investigated: the area of the lake Prespansko jezero²² where the polycrop agrarian economy is being replaced by livestock breeding and agriculture is being specialized into the production of high quality apples; and the valley of the Topolka²³ south-west to Skopje, where the poly-crop system is being replaced by the raising of livestock and the agriculture specialized to the production of rice. The new orientation of the agriculture in these areas is accompanied by underdeveloped technology of the production, the abandoning of less favourable land, the erosion which over a relatively short period changes cultivated fields into unproductive surfaces.

In Serbia, the Institute »Jovan Cvijić« has investigated land utilization and agrarian farmsteads in the valley of the river Morava in connection with the general regional geographic studies. This region has recently been getting urbanized, agriculture is being intensified and modernized both in the socialist and the private sector: natural conditions are favourable indeed, and there is plenty of labour available, and so the production is being specialized for the market. Because of the needs to utilize land, agrarian production in this densely populated region with fine natural conditions is not in retrogression (in contradistinction to the north-western Yugoslavia) and only seldom we meet with cases of land being abandoned. The utilization of land for agrarian purposes, together with tables showing the intensiveness in livestock breeding and agriculture, is the subject of a study by Milojević²⁴ entitled *Utilization of Land for Agrarian Purposes in the Commune of Svilajnac*. The same author has prepared a map of the land utilization in Serbia.

Moritsch of Vienna has examined the transformation of land utilization and agriculture extending over 200 years in the wider and narrower hinterland of Trieste. He has analysed different cadastral data, and made questionnaires in the settlements on the flagged and karstic land, also using the available statistical data. He has employed various methods of social geographic investigation. Paul Alexander from the U. S. A. used in

²¹ Zubić Novak: Transformacija i iskorištavanje agrarnog prostora na Kupreškopolju (sa specialnim osvrtom na k. o. Malovan i Rilić.) Ljubljana. Inštitut za geografijo univerze. (Tipkopis)

²² Gramatnikovski Vasil: Vlijanije na novite socialno ekonomski odnosi v promenata na agrarnata struktura i agrarnoto proizvodstvo vo Severna Prespa. (Magistrska naloga.) Ljubljana. Univerza — Filozofska fakulteta. 1968.

²³ Pak Mirko, Vladimir Klemenčić: Katastrska občina Golozinci v okolici Titovega Velesa o Makedoniji. (Ljubljana. Tipkopis 1968.)

²⁴ Milojević Miroslav: Iskorištavanje zemljišta za poljoprivredu u komuni Svilajnac. Zbornik radova knj. 19/1964 pp. 121—141.

his study of the transformation and land use in the Upper Pivka a special method developed by Prof. Kostrowicki.²⁵ The manner in which land is utilized and the agricultural types in Yugoslavia are the result of the socio-economic and regional transformation under the conditions of the production for the market.

Agrarian land utilization and agriculture within the production for the market depend on a number of factors of agrarian and non-agrarian economy, on the demogeographic development and on the international commercial relations.

Private agrarian farmsteads in Yugoslavia are in a process of the decay of old, classical system and of the establishing of new forms of the production for the market. In the degree of the decay of old poly-crop agrarian farmsteads, the agrarian regions significantly differ one from another. The different phases of the decay of the old poly-crop system and of the introduction of the elements of commercial agricultural system are establishing different systems and types of land utilization and of agrarian economy. The phases of the agricultural development are accordingly the current result of a definite process which is reflected in the type of land utilization. The process of the agricultural development depends on the cooperation of various natural, economic, and social factors.

As regards her physical geography Yugoslavia is highly heterogenous. According to such geographical units and inside these we get still more heterogenous social geographical processes, hence we get in Yugoslavia a very large number of essentially different but hardly definable types of land utilization and agrarian farmsteads.

The conditions for the decline of the old classical system of agriculture are different for Eastern and Western countries. In most of the socialist countries, the process is carried on in the framework of the socialist agriculture, but in the western countries the process is conditioned by the incessant restructuring of the land-ownership circumstances as demanded by the economic circumstances of the production for the market.

In Poland and in Yugoslavia the process of the decline of the old classical structure is developing in conjunction with the agrarian production on private and socialist holdings, but the conditions in the development of private agrarian farmsteads in Yugoslavia and in Poland are again different. In Yugoslavia most of the holdings are restricted up to 10 hectares of land; this upper limit is in Poland rather higher. According to the estimates of experts, 10 hectares of land cannot represent a rational agrarian production unit which would have a sufficient basis for appropriate economy within the frame of the production for the market and also have conditions for the modern technology of the production. On the other hand, the restriction of most of the holdings to 10 hectares in all kinds of natural geographical regions determines in some respects similar tendencies of the agricultural development in Yugoslavia. And these tendencies are further modified by the elements of demogeographic, social, and regional development, particularly in the land utilization and in the ways of the production for the market.

²⁵ Aleksander Paul: Land Utilization in the Karst Region of Zgornja Pivka, Slovenia, *Studia Slovenica* 6. New York.

A feature common to all regions with private agrarian farmsteads is the tendency of the members of agrarian farmsteads to earn additional income outside agriculture. These changes in the structure of the occupation of the agrarian population are connected with the work on the family-owned agrarian farmsteads and lead to the forming of semi-agrarian population. Members of agrarian households are employed outside agriculture in various jobs, differently paid and also differently remote from their home. The loss of energy on the way to work and in the job itself is varying. In this way we get different groups of members of agrarian households who are employed outside agriculture and differ in the time they spend outside home, in the energy they spend outside home, and also in the income.

A special group of members of agrarian households employed outside agriculture is represented by the seasonally employed workers who work abroad. Each of these groups of varying land-ownership structure and in different natural environments responds in its own to the process of the decay of the classical agrarian structure, to the utilization of land and to agrarian economy. In our research done so far these phenomena and processes are only in the initial phase of a definition. Nevertheless, in our further studies, and particularly if wishing to cooperate in the economic planning, the research done so far can serve as a fine basis.