

Seeking for opportunities: livelihood strategies in the challenge of peripherality

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Abstract

One of the main objectives of rural households is economic development, i.e. sustainability and efforts to improve their income situation. The number and type of livelihoods may affect the level of family income. This paper discusses changes in livelihood strategies of rural families living in 5 selected villages located in peripheral areas in Poland. It identifies the most widespread strategies and indicates the most income-efficient ones. According to the findings, due to the enhancement of the overall economic situation after Poland's accession to the European Union the share of families treating farm income as a vital component of their livelihood strategies has been on the decline, whereas paid employment has been gaining in importance. At the same time, direct payments have considerably contributed to an increased proportion of benefits from agricultural land in the livelihood structure.

Keywords:

Income diversification, livelihood strategies, rural areas, Poland

1.Introduction

Descriptions of various aspects of social diversity frequently focus on the dichotomous division into the centre and the periphery. Such characteristics usually apply to the spatial dimension and overlap other distinctions, the categorisation into urban and rural areas being essential. With regard to the latter, peripherality usually concerns a significant part of rural

areas in many countries, irrespective of their economic development levels. Even high-income countries face problems of poor regions, difficult of access, distant from development centres (Illeris, 1995; Dijkstra, Poelman, 2008). Their peripheral nature is frequently related to complex factors, often historically embedded, and overcoming such conditions has long been a challenge to both public authorities and research (Dijkstra, Ruiz, 2010).

Difficulties such as accumulated social problems, poor technical and social infrastructure, limited access to suitable public services and traditional local economic structures are characteristic of rural areas in developing countries and those which have long been undergoing economic reforms. A number of authors have paid particular attention to various ways of resolving the problem of their unfavourable location (Bryden, Munro, 2001; Benneworth, 2004; Doloreux, Dionne 2008). In most general terms, the need to strengthen links with relatively better developed regions or relying on economic support from wealthy centres (top-down development) are seen as remedies for the issues of peripheral rural communities (Evans, 1990; Tacoli, 2007). There are numerous examples, however, demonstrating that inclusion in the area under the influence of the centre is not always successful (Cohen, 2011; Satterthwaite, Tacoli, 2003; Harris, Todaro, 1970). More intensive relations may lead to taking advantage of the peripheries, a deterioration of their unfavourable situation or their dependency. It seems an even greater challenge to overcome the problems of residents of peripheral rural areas in a manner relatively autonomous, using local human, natural, social resources (bottom-up development). Therefore, the low valuation of their assets poses a crucial barrier to their development. The literature describes various examples of improved living conditions of communities as a result of bottom-up development (Turner, 2009; Squazzoni, 2009). However, they continue to be merely spectacular exceptions.

Whether specific peripheral villages are under the influence of developed urbanised centres or are the subjects of self-reliant growth, efforts made by families themselves are of critical

importance. A common characteristic of rural families residing in such areas is living with limited economic and social opportunities. One may distinguish a number of factors determining the shortage of opportunities, for instance in comparison with urban households (Copus, 2001). Those comprise:

- less access to strategic resources (information, capital);
- less developed local markets, including the job market;
- low quality and insufficient supply of public services;
- weak links with the surrounding areas (few means of transport);

Owing to such unfavourable circumstances, families develop a variety of strategies for the achievement of their goals (Chambers, Convey, 1991). It must be assumed that economic survival constitutes one of the most important (fundamental) objectives of each family. Regardless of multiple goals, livelihood strategies are aimed at income maximisation or at obtaining satisfactory income. In this context, the choice of optimal measures for implementing such strategies is of particular significance. For each household, the implementation of its livelihood strategy depends not only on external conditions, rather unfavourable as has been mentioned above, but also on its own assets (Scoones, 1998). The number of family members, their various characteristics making up the household's intangible capital, e.g.: the level of educational attainment, qualifications, the state of health, outlook on life, attitudes and orientations, determine the possibility to implement a given strategy as well as influencing the choice of one of them. No less important is the family's endowment with tangible capital (funds, natural resources, entitlements, tangible property).

Surveys of the diversification of rural incomes emphasise a growing importance of non-agricultural livelihoods also among farmers (European Commission, 2010) and point to the efficiency of the specialisation strategy, i.e. the family's focussing on a single livelihood such as agricultural production or paid employment (Fałkowski *et al.*, 2011).

Simultaneously, it is stressed that the possibilities to diversify livelihoods increase as rural areas become more developed. According to McInerney and Turner (1991), limited diversification of livelihoods concerns the most backward regions.

The problem of peripherality affects a significant number of rural families in Poland. Irrespective of the beneficial economic changes observed in the countryside as a result of economic transformation and Poland's joining the European Union, it is estimated that more than 50% of the Polish territory inhabited by 30% of its population can be regarded as peripheral regions, i.e. areas offering limited livelihood opportunities to local families (Komornicki, Śleszyński, 2009). Income surveys mainly cover the total population of rural families, whereas there are insufficient studies of household behaviour in the context of the peripherality of the area concerned.

This paper seeks to identify the most vital livelihood strategies and their changes observed in rural households located in Polish peripheral villages between 2000 and 2011. It indicates the main sources of income for such families and changes in the livelihood structure. Livelihood strategies encompass not only income from economic (agricultural and non-agricultural) activities or paid employment, but also unearned income (welfare benefits, various allowances). Furthermore, the paper attempts to establish the most efficient livelihood strategies of families living in peripheral areas.

1.1 Defining the Problem

This article aims to identify livelihood strategies of families living in peripheral rural areas in Poland. It also examines the role played by factors determining the implementation of specific strategies. Such determinants were related to the attributes of the surveyed families and

household behaviour as well as to their environment concerning endogenous characteristics of their villages, local development policies and macro-scale socio-economic developments.

2. Methods

The assumptions involved adopting a particular research approach to take account of local and supra-local aspects and carrying out research activities in a specific sequence. The research approach used in this study combines perceiving a family (household) as a key environment for implementing livelihood strategies on the one hand, and recognises the vital importance of a village, constituting a system of socio-economic relations between persons living in the administrative area concerned, on the other hand. Such an area also includes endogenous resources (labour resources, environmental resources, the prevailing forms of economic activity, the landscape, space) and interacts with a broader environment – supra-local determinants. The main components of the environment were considered to be primarily the local development policy, the impact of urbanised centres (situated in the proximity of the village or more remotely, e.g. at home and abroad) as well as the socio-economic situation at the macro level and its changes over time.

At the first stage, certain areas in Poland were categorised as peripheral rural areas and peripheral villages. The following two databases were used for that purpose: the database of rural and rural-urban municipalities in Poland maintained by the Central Statistical Office – GUS (Local Data Bank), including 2,172 observation units and the IAFE-NRI village database, covering 76 villages situated across Poland.

The peripheral rural areas were identified on the basis of selected economic peripherality indicators describing demographic features of the population, the nature of the local economy and labour market, the gravity of social problems and the state of technical, economic and

social infrastructure. Thus, a peripheral rural area (municipality) was defined as one characterised by a low population density, an upset demographic structure of the population, a major role played by agriculture in the local economy, a relatively high unemployment rate, the occurrence of social problems and poor technical and socio-economic infrastructure.¹ Since peripherality is an ambiguous concept, defined by a number of descriptive components, it was measured using the method of multidimensional statistical analysis². For each unit, a composite peripherality indicator was calculated. The higher its value the more peripheral the municipality concerned was.

At the next stage, 5 villages located in the municipalities characterised by the highest degree of peripherality (347 units) were selected out of the 76 included in the IAFE-NRI sample³. Information on the 5 chosen peripheral villages was obtained from field surveys conducted in 2000 and 2011 on the basis of village questionnaires (observation sheets) and from semi-structured direct interviews with local representatives (head of village, member of the rural municipality council from the surveyed village), carried out in 2012. The aforementioned research tools allowed to obtain information on the state of local social and technical infrastructure, the specific characteristics of the village concerned (location, institutional links, the local job market).

The livelihood strategies of the families living in those peripheral villages and their determinants were identified using the method of descriptive statistical analysis. The data

¹ The aforementioned data on municipalities concerned the period 2002–2009.

² The peripherality of a municipality was determined on the basis of the following variables: the percentage share of the post-working-age population; the rate of registered unemployment (stimulant); the percentage share of household members in receipt of social assistance (stimulant); the percentage share of persons in the municipality using the sewage system (destimulant); the percentage share of children aged between 3 and 6 years in pre-school education (destimulant); the percentage share of agricultural holdings with an area of 1 to 5 ha of agricultural land UR in the total number of farms in the municipality (stimulant).

³ The 2000 and 2011 surveys covered 8,643 households and 8,471 families respectively.

sources were the findings from the 2000 and 2011 surveys carried out among all the families and family members living in the 5 peripheral villages (selected at the previous stage)⁴.

The surveyed villages and the external conditions for their development in the context of livelihood strategies of residents of peripheral villages were characterised using qualitative analysis (direct interviews with representatives of the municipal authorities according to a pre-determined scenario) and the examination of a variety of existing sources (information)⁵.

It allowed to describe the differentiation of the features and development conditions of the villages covered. Further, the whole set of the families dwelling in the 5 selected villages were analysed in terms of diverse livelihoods and levels of income obtained by the resident families.

The most frequent livelihood strategies were identified for specific years and the most income-efficient ones were indicated. The analysis also pointed to changes in the efficiency of selected livelihood strategies of the rural families affected by peripherality. The prevailing livelihood strategies were then chosen for examination. The selection of variables followed the procedure proposed by Gruszczyński (2002). Owing to the binary nature of specific covariates, the Yule's phi-coefficient method was used to analyse the relationships between the selected explanatory variables. The model was estimated in accordance with the method of least squares. The model estimated met the following conditions: the absence of heteroscedasticity, normal distributions of residuals (Breusch-Pagan test), the model was also tested using the Ramsey RESET test.

⁴ The research tools utilised comprised two questionnaires: one for farming families (Family and the Farm) and one for other households (Non-farming Family). Both questionnaires contained detailed questions concerning economic activities, sources of income, geographical mobility, family composition, socio-demographic characteristics of specific persons. The survey was intended for families with agricultural holdings, it also included various questions regarding agricultural activities.

⁵ Those mainly were as follows: municipal development strategies, land development plans, rural municipality council resolutions, municipal budgets, websites and other information materials.

3. Poland's background

Rural areas in Poland account for 93% of the country's territory and have 15 million inhabitants, i.e. 39.2% of Poland's total population (GUS 2012). As at the end of 2012, the rural employment rate was 50.8%. At the same time, every tenth economically active person had difficulties with finding employment and remained jobless. If we only consider the economic activity of the working-age population, which must be regarded as a more correct approach from the point of view of job-seeking problems, 65.4% of the rural population of the statutory working age were in work, a value comparable to the respective figure for the urban population. Importantly, local markets are closely linked with the economic situation of the neighbouring urban areas and the related demand for labour. According to the recent survey, 59.8% of those with non-agricultural jobs were employed in urban areas and the rate was higher for members of landless families.

Changes in rural livelihoods were triggered by the economic transformation after 1989. A difficult economic situation and the winding-up of state-owned enterprises contributed to a rising importance of agricultural activities as sources of income for rural families (Sikorska, 2001). That situation and the agrarian structure did not improve until Poland's accession to the European Union and the inclusion of agriculture in the Community support system. The Polish countryside is becoming ever-less agricultural, although in 2012 the sole or main income source for approx. one-third of the rural population was agriculture, primarily pursued by family farms. The number of holdings with an area of up to 30 ha of agricultural land has been on the decline, but the steepest drop has affected those with an area of 1 to 5 of agricultural land as such farms were usually unable to provide work and income for the average farming family. Different processes have been observed in the group of relatively large agricultural holdings, i.e. those with an area of at least 30 ha of agricultural land;

research suggests that such farms allow to achieve parity consumption as well as generating sufficient funds for further modernisation, which facilitates future growth. Out of 1.4 million family farms, ca. 220,000 are large holdings (Karwat-Woźniak, Chmieliński, 2007). The average farm size in Poland is approx. 10 ha of agricultural land. Agricultural income also increased after Poland's joining the EU but it was largely related to the inclusion of Polish agriculture in the direct payments scheme. Due to the fragmented structure of agriculture, such support is estimated to account for as much as 30% of the income of farming families. It must be emphasised that the EU's financial aid for the Polish countryside contributes to the improvement of rural infrastructure and helps conserve its historical and natural heritage. With regard to livelihoods, however, such assistance mainly supported the farming population as in the development of their livelihood strategies landless families could only rely on favourable changes in the overall socio-economic situation, also in the labour market.

Another characteristic of the countryside is a gradual polarisation of the population structure between villages located in the proximity of urban agglomerations and peripheral areas. Between 2000 and 2010, the net migration rate between urban and rural areas was positive for the latter⁶, whereas previously for more than half a century (until 2000) rural areas had been experiencing net outward migration (GUS, 2012). The positive net migration rate for the countryside stems from the observed trend of relatively young urban dwellers' moving to rural areas. But such migration has mostly concerned peri-urban areas, thus contributing to the urbanisation of villages located in the immediate vicinity. It increases the polarisation of the countryside, which is reflected in an improving economic situation and urbanisation of peri-urban areas and further exclusion of peripheral villages.

⁶ According to GUS (2012) data, between 2001 and 2011 inward and outward migration in the countryside was 2,372,000 and 1,962,000 respectively.

4. Description of the surveyed villages

The villages selected for analysis are located in areas categorised as peripheral, i.e. characterised by a less favourable human capital composition and infrastructure development in comparison with other regions or, in the case of rural areas, by a high share of small and economically fragile agricultural holdings. Peripherality concerns a certain area where villages are situated, characteristics of the geographical space constituting the socio-economic environment for the functioning of a given village. Therefore, individual villages situated in peripheral areas remain widely varied. Furthermore, geographical location determines possible development of specific rural settlements. In Poland significant spatial disparities result in a distinct division into better developed western regions and less advanced eastern parts. It is reflected not only in the level of infrastructure development but also in the economic performance of agricultural holdings and in the degree of entrepreneurship.

One major threat to peripheral areas is depopulation, mostly caused by a fall in the fertility rate, the ageing of the population and permanent outward migrations continuing since the beginning of the economic and political transition, both within Poland and to foreign countries. Such problems were faced by all of the villages under analysis. They are detrimental not only to the local economy and social life, but also to the functioning of public institutions such as primary or lower secondary schools, struggling with a declining number of pupils every year. In addition, the rural population had been evidently ageing. For instance, in Village A it was particularly reflected in a great number of elderly women, mostly widows, living alone (forming one-person households). The depopulation of rural areas could also be noted in a relatively considerable number of abandoned buildings whose owners had died shortly before the survey.

All the villages selected for analysis experienced a decline in population, losing an average of 10% of the inhabitants between 2000 and 2011. In most cases, it was accompanied by a decrease in the number of rural families, only Village B showed a slight growth in their number. As a rule, it was due to the formation of a new household as one of the members of a family residing in the village had changed his or her marital status.

The main reasons for changes in the number of rural families in the villages covered were permanent migrations and demographic factors (deaths resulting in a loss of one-person households).

Table 1. Description of the surveyed villages

		Village A	Village B	Village C	Village D	Village E
population	2000	376	185	88	606	268
	2011	335	156	71	556	243
	change	-10.9	-15.7	-19.3	-8.3	-9.3
number of families	2000	124	50	29	156	98
	2011	122	52	24	140	85
	change	-1.6	4.0	-17.2	-10.3	-13.3
number of farming families	2000	57	28	22	82	26
	2011	43	26	18	59	17
	change	-24.6	-7.1	-18.2	-28.0	-34.6
average farm size (ha)	2000	6.0	14.3	15.9	2.6	10.6
	2011	6.2	14.5	18.2	2.0	11.1
average number of family members	2011	2.7	3.0	3.0	4.0	2.9
average number of income-earners per family	2011	0.7	0.9	0.2	1.6	1.1

From the point of view of livelihood strategies of rural families, their links with agriculture continue to be of major significance. But the number of farming families ceases to determine the agricultural nature of a village. In fact, what matters the most is the number of agricultural holdings with a production potential providing satisfactory income to the family. In Poland it is determined by the physical size of a holding. In the group of the selected villages only 2 (B and C) may be considered to be typically agricultural villages, with a vast majority of families having farms with an area sufficient for commercial production. The crucial importance of agriculture particularly in Village C is corroborated by the modest average number of income-

earners per family, the lowest among the villages under analysis. In the case of Village D, more than half of the families had small agricultural holdings, but those were oriented towards subsistence farming. It is characteristic of the mountain areas in the south of Poland where the village is located. At the same time, it showed the highest average number of income-earners per family, which reflects a major role played by non-agricultural employment (table). As regards the remaining villages surveyed, the significance of agriculture to the population was limited.

The collapse of large state-owned enterprises in the period of transition in Poland consequently affected the patterns of local economic activity, continued until the present day. Those involve temporary job migration to cities, usually for all the weekdays, and then returning home for the weekend. It was primarily observed with regard to men engaged in construction. Such an approach to earning a living was particularly distinct in villages characterised by a high number of farming families and a minor importance of agriculture to the local economy/as a livelihood for the local community (Village A and Village D). Income-earning opportunities were also offered by periodical trips to take up employment abroad. Those were connected with the proximity of the border (as in the case of Village E) or observed in the south of Poland where the phenomenon of job emigration has been witnessed for years. For decades, the inhabitants of Village D have been earning a living in foreign countries. Since, owing to the wage level, potential employment offered no opportunity to improve one's economic and financial situation, as early as the 1980s outward job migration to the USA was popular in such areas. The inhabitants of a village pooled their funds to buy a ticket for one person who then left Poland, worked abroad and sent back tickets purchased for the money earned to further residents of the village⁷. The tradition of outward job migration has been maintained and remains characteristic of the whole southern region of Poland.

⁷ An opinion expressed by the local leader from Village D.

In addition to public institutions, the local labour market supplying jobs to rural residents included establishments mostly situated in the neighbouring urban areas. Only in Villages B and E the number of those employed in the countryside was similar to that of persons with urban jobs.

Entrepreneurship development opportunities remained limited, also on account of the declared lack of capital, a modest outlet and economic monofunctionality.

The level of the development of rural socio-economic infrastructure determines the quality of life for the local population and constitutes the development potential of a village. In most of the villages surveyed, the possibility to use commercial and service establishments involved travelling to another location, usually within a distance of less than 10 km. The limited public transport network posed a common barrier to the accessibility of such establishments, particularly to seniors who had no vehicles of their own. Only Village A, the seat of the local authorities, had public buildings such as a post office, a bank, a primary school, a lower secondary school, a community centre, a rural common room, a healthcare centre, a surgery, a pharmacy and a library. The surveyed set also included villages whose development had been arrested by territorial reorganisation, removing their functions as administration centres.

The 1999 administration reform in Poland had changed the boundaries of units governed by local authorities, resulting in territorial reassignment of a number of villages. As a consequence, Village B, which had formed a municipality with a neighbouring village prior to the economic transition, was included in the territory of another municipality. It was accompanied by an abrupt decline in the number of commercial and service establishments in the area, whereas investment in social and technical infrastructure as well as other construction investment was concentrated in the village representing the seat of the new local authorities. A similar situation had previously affected Village E, before 1975 the seat of the authorities of a municipality composed of eleven villages. Afterwards, 3 of such

municipalities formed one municipality and Village E diminished in importance as an administration centre.

As regards Village D, the change of administrative boundaries and the inclusion in the territory of another voivodship disturbed the traditional relationship between the village and the previous region, including its administration centre. The scope of regional investment in infrastructure was expanded in central areas/the main city of the region, thus contributing to the underdevelopment of peripheral areas.

Peripherality in spatial analyses is treated as a relatively homogenous category, studied in relation to the development of peri-urban and urban areas (Brezzi, Dijkstra, Ruiz, 2011). However, villages located in such areas vary greatly in job opportunities, the degree of their links with agriculture or the level of infrastructure development. Households seek for ways of developing livelihood strategies allowing them to function in a deficient environment created as a result of the peripheral character of the area where they live.

5. Livelihood strategies of families living in peripheral areas

This paper focuses on changes in the most widespread combinations of livelihoods of the families living in the selected peripheral villages as well as on identifying the most efficient one from the point of view of family income maximisation in the context of developments observed in the Polish countryside.

To this end, the population surveyed in 2000 and 2011 was broken down by level of income. The starting point was the distribution of the whole set of rural families in the 76 surveyed villages into four equal parts (quartiles⁸) with regard to the number of observations, in each of the survey years. Thanks to this exercise, it was possible to assess changes in the income

⁸ Specific quartiles were ascribed the following descriptions of the income level: 1 – very low, 2 – low, 3 – medium, 4 – high. For particular years they divide the whole group of the surveyed rural families (2000: n=8,643; 2011: n=8,471) into four sets in terms of income obtained.

situation of the families living in the villages categorised as the most peripheral against the backdrop of the entire group surveyed in 2000 and 2011 as well as comparing the situation over time.

Poland's accession to the European Union contributed to major transformations in rural areas, the most spectacular of which included changes in the structure of agricultural holdings and in the importance of agricultural production to livelihood strategies. It was reflected in the development of livelihoods of households in peripheral villages. Over the decade, there was an apparent decline in the number of the surveyed families whose dominant income source was agricultural production. Simultaneously, the number of families became clearly polarised in terms of level of agricultural income as the main livelihood. As a result, 2011 saw a U-shaped relation since the numbers of families with very low and the highest income levels in that category were the greatest (table 2). On the one hand, the increasingly professional nature of agricultural activities of large farms allows to obtain higher income, and on the other hand, to other holdings farming diminishes in importance as a livelihood in favour of other sources of income.

Table 2. Distribution of families by dominant livelihood and level of income (categories=100)

Socio-economic categories of families	Year	Number	Level of income (share of families)			
			very low	low	medium	high
farming	2000	88	25.6	12.2	32.2	30.0
	2011	46	28.3	15.2	17.4	39.1
income-earning	2000	190	11.6	30.5	42.1	15.8
	2011	234	6.4	28.6	29.9	35.1
receiving pensions	2000	179	46.9	37.9	13.0	2.3
	2011	143	58.0	25.2	10.5	6.3
Distribution of the group surveyed – Total	2000	457	28.0	29.8	28.9	13.3
	2011	423	26.2	26.0	22.0	25.8

There was a considerable increase in the number of the surveyed families whose main livelihood was gainful employment, it also appears that in 2011 the income situation of such

families improved as compared to 2000. This category saw a major fall in the share of very low income families, it was the main livelihood for families of three or more persons.

Since the number of observations concerning non-agricultural activities as the main source of income for the family was too low for drawing any conclusions, the breakdown into paid employment and self-employment was excluded from table 2. It will be utilised at a later stage to analyse strategies of combining specific livelihoods.

The growing livelihood diversification is reflected in the fact that 2011 witnessed was a fall in the number of families deriving income from two sources, accompanied by a rise in the number of those with three or more livelihoods (annex table 1). It was translated into an increase in the share of high-income families. In 2000 slightly more than 13% of the surveyed families had enjoyed high income, whereas in 2011 the respective proportion jumped to nearly 26%, whereas the distribution of the group by level of income was similar to that observed for all rural areas.

The family income level is also determined by the number of family members, which naturally widened the possible diversification of livelihoods. One-person households, usually in receipt of pensions (approx. 75% in both years), most frequently fell into the lowest-income category. At the same time, households with three or more livelihoods relatively most often obtained medium or high income. It was related to the significant share of income-earning livelihoods in the household incomes.

The strategy adopted to diversify livelihoods is crucial to family income. The main determinants are both the number of livelihoods and the actual income components. In the literature those are usually categorised according to the dominant and/or supplementary income profile (e.g. non-agricultural earnings, earnings and agricultural income, agricultural income, unearned income) and compared in terms of income level (Fałkowski *et al.*, 2011). Table 3 shows the most widespread combinations of all the livelihoods. The nine prevailing

income patterns observed in the surveyed households were identified in 2000 as well as in 2011. In both survey years, in families with one livelihood pensions or paid employment invariably dominated. Characteristically, agricultural activities played a declining role for the families choosing not to diversify their livelihood strategies and for those relying on two income sources. At the same time, paid employment and benefits from agricultural land gained in importance. While in 2000 the latter had only included lease income and represented a significant livelihood for a limited number of households, in 2011 it also comprised public support in the form of direct payments. It resulted from the inclusion of Polish agriculture in the EU common agricultural policy.

Table 3. Dominant livelihood strategies of rural families living in peripheral areas in 2000 and 2011 (% of families)

Number of livelihoods in 2000			Number of livelihoods in 2011		
one livelihood (n=190)	two livelihoods (n=176)	three or more livelihoods (n=91)	one livelihood (n=190)	two livelihoods (n=105)	three or more livelihoods (n=128)
pensions (53%)	agricultural production and pensions (30%)	agricultural production, paid employment and pensions, (66%)	pensions (51%)	agricultural production and pensions (41%)	paid employment, pensions and benefits from agricultural land** (19%)
paid employment (20%)	agricultural production and paid employment (27%)	agricultural production, self-employment and pensions (12%)	paid employment (44%)	paid employment and social benefits (19%)	agricultural production, paid employment and benefits from agricultural land** (17%)
agricultural production (20%)	paid employment and social benefits (25%)	paid employment, pensions and social benefits* (10%)		agricultural production and benefits from agricultural land (16%)	agricultural production, pensions and benefits from agricultural land (12%)
					agricultural production, paid employment, pensions and benefits from agricultural land (11%)

* social benefits: unemployment benefit, family/parental benefit

** benefits from agricultural land include lease income and EU direct payments

Each farmer exploiting a farm receives direct payments per hectare of agricultural land. As has already been mentioned, in Poland they greatly contribute to income, whereas in peripheral areas direct payments become a widespread component of livelihood strategies.

In terms of family income, combining several (in this case: three or more) livelihoods is the most effective. However, in specific years the most favourable livelihood strategies differed in structure. Annex tables 2 to 5 illustrate that from the point of view of income efficiency the best livelihood combinations were those characterised by the highest positive regression coefficients. It follows from their analysis that in 2000 the most efficient strategy was to combine agricultural income and pensions with self-employment. A family having adopted the above strategy (*ceteris paribus*) had an annual income more than PLN 19,000 higher than that of families choosing other livelihood strategies. Owing to the fact that in Poland farming families are multi-generational⁹, combining agricultural with unearned incomes, particularly during economic transition, allowed to stabilise income.

Given the limited supply of paid employment in rural areas, agricultural production provided the main income to balance household budgets. Since labour costs are lower in the countryside, it is possible to cut business costs owing to the difficult conditions in local job markets. It facilitated a relatively effective supplementation of household budgets with income from this source, particularly as rural dwellers were faced with difficulties in the labour market. It needs to be highlighted that taking up self-employment by farming families was more favourable on account of the potential exploitation of the existing farm assets (e.g. possible utilisation of the buildings) in carrying out non-agricultural activities.

In 2011 the livelihood strategy to generate the highest level of income for families in peripheral areas was to combine paid employment, pensions and benefits from agricultural

⁹ In the 2000 survey the share of families with agriculture as the main livelihood and four family members exceeded 60%, whereas in 2011 they accounted for a mere 24%. For years, the average number of persons in farming families has been invariably slightly over 4, and the respective figure for non-farming families has been above 3. It must be taken into consideration that pensioners, who have ceased to be engaged in agricultural activities, represent a relatively high proportion of non-farming families.

land. The choice of the above strategy allowed to obtain an annual average of PLN 15,000 more than in the case of other combinations. At the same time, adding agricultural activities to this strategy reduced the average income level.

The least income-effective livelihood strategy among those most commonly adopted by families living in peripheral areas remained that relying on pensions as a single source of income.

6. Conclusion

This paper aims at analysing changes observed in the livelihood strategies pursued by rural families living in peripheral villages between 2000 and 2011. Out of the 76 villages covered by periodical surveys (conducted every 4 or 5 years), 5 of those located in municipalities considered to be peripheral in accordance with commonly adopted indicators were selected and examined. It follows from the analysis of the distribution of families by level of income (quartiles) that in 2011, as compared to 2000, the distribution was similar to that of the whole sample of villages. The largest increase was observed in the group of high-income families (quartile IV: a rise from 13% in 2000 to 26% in 2011). It means that the general economic situation of the surveyed families became more similar to that of rural families in Poland. The families living in peripheral villages showed considerable adaptability by diversifying their livelihoods, with agriculture no longer constituting an effective component of the livelihood strategies adopted by the majority of rural families and playing a major role only in farming families having exploited the possibility to enhance the professional nature of their agricultural activities. As regards the other household budgets, there was an increase in the share of earnings from paid employment and choosing to combine those with pensions and benefits from agricultural land proved to be the most efficient strategy. Considering that the

average number of family members in such households was 4.7, it means that in Poland the tradition of multi-generational rural families continues to be vital to developing family budget strategies.

It must also be emphasised that benefits from agricultural land (lease income and direct payments), independent of any agricultural activity, gained in importance. Milburn (2011) used the example of Canada to show that rural non-farm landowners constituted a separate category of rural dwellers, distinctly different from farmers in socio-economic terms. EU membership supported farm income through additional benefits from holding agricultural land. The income effect of the above contribution was substantial enough to be taken into account in livelihood strategies. Interestingly, at the same time there was no growth in the significance of agricultural production as an income source, it even diminished in importance. It means that a more effective strategy was to focus on non-agricultural income opportunities (mostly earnings from paid employment) while maintaining the benefits from the lease of land and direct payments. Examining whether such a category has been forming in rural areas in Europe might be an interesting follow-up to this study. The analysis results also suggest that pensions continue to be an effective way of increasing economic security and supplementing family budgets.

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Annex

Table 1. Distribution of families by level of income and number of livelihoods

Number of livelihoods in the family	Year	Level of family income			
		very low	low	medium	high
one	2000	53.8	28.9	14.7	2.6
	2011	45.3	29.5	18.4	6.8
two	2000	13.6	36.9	37.6	11.9
	2011	19.0	32.4	24.8	23.8
three or more	2000	2.2	17.6	41.8	38.4
	2011	3.9	15.6	25.0	55.5

Table 2. Correlation statistics for the income-efficiency of livelihood strategies in 2000

Y2000	Estimate	Std Error	t value	Pr(> t)	
(Intercept)	24200.8	2371.8	10.204	< 2e-16	***
D	-13457.2	2942.5	-4.573	6.22E-06	***
B	-5628.5	3682.2	-1.529	0.127075	
A	-10415.7	3740	-2.785	0.005581	**
AD	4790.4	3385.7	1.415	0.157794	
AB	587.7	3474.3	0.169	0.865762	
BE	-6327.4	3557.7	-1.779	0.075998	‘
ABD	6426.3	3310.5	1.941	0.052867	‘
ACD	19680.1	5809.6	3.387	0.000768	***
BDE	3076.4	6046.9	0.509	0.611175	

Multiple R-squared: 0.1756, Adjusted R-squared: 0.159, F-statistic: 10.58; p-value=6.58e-15

Significance: *** P < 0.001; **0.001 < P < 0.01; * 0.01 < P < 0.05; ‘ 0.05 < P < 0.10

Specific livelihoods are denoted as follows: A – agricultural production; B – paid employment; C – self-employment; D – pensions; E – social benefits; F – benefits from agricultural land.

Table 3. Confidence intervals for parameters (2000)

	2.50%	97.50%
(Intercept)	19539.61689	28862.04
D	-19240.12107	-7674.24
B	-12865.05357	1608.011
A	-17765.74996	-3065.59
AD	-1863.43846	11444.26
AB	-6240.39851	7415.707
BE	-13319.19284	664.4437
ABD	-79.85536	12932.45
ACD	8262.5249	31097.71
BDE	-8807.43506	14960.18

Specific livelihoods are denoted as in table 2.

Table 4. Correlation statistics for the income-efficiency of livelihood strategies in 2011

	Estimate	Std Error	t value	Pr(> t)	
(Intercept)	51916	2662	19.502	< 2e-16	***
D	-36162	3676	-9.836	< 2e-16	***
B	-14108	3821	-3.692	0.000252	***
BD	337	4646	0.073	0.942209	
BE	-15455	6186	-2.498	0.012864	*
AF	-33885	6616	-5.122	4.65E-07	***
BDF	15629	5751	2.718	0.006848	**
ABF	2478	5953	0.416	0.677367	
ADF	-9042	6976	-1.296	0.195613	
ABDF	12535	7186	1.744	0.081826	‘

Multiple R-squared: 0.3107, Adjusted R-squared: 0.2957, F-statistic: 20.68; p-value=< 2.2e-16

Significance: *** P < 0.001; **0.001 < P < 0.01; * 0.01 < P < 0.05; ‘ 0.05 < P < 0.10

Specific livelihoods are denoted as in table 2.

Table 5. Confidence intervals for parameters (2011)

	2,50%	97,50%
(Intercept)	46683,066	57148,89
D	-43388,588	-28935,1
B	-21619,394	-6597,24
BD	-8796,613	9470,705
BE	-27615,364	-3294,99
AF	-46890,014	-20879,8
BDF	4325,06	26933,82
ABF	-9222,758	14179,53
ADF	-22754,868	4670,113
ABDF	-1590,041	26659,37

Specific livelihoods are denoted as in table 2.