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COMPLEX USAGE OF FOREST AS SECONDARY SUBSISTENCE IN THE CARPATHIANS. A CASE STUDY IN ZAWOJA, BARAŃCOWA, SOUTHERN POLAND

Abstract: The purpose of the present study is to analyze the common forest culture in the area of Carpathians through the inhabitants' way of relating to forests. Inhabitants in Barańcowa have turned to complex use of forest resources (wood, fruits, berries), that can complement local farming resources, and developed a dual system that enables them to retain self-sufficiency in face of various uncertainties. The use of forest resources as a secondary means of subsistence is given considerable weight and remains essential in alleviating the pressure of subsistence. Maintaining their traditions, respectful of the natural cycles of forest ecosystems, residents have developed a sustainable way of life, increasingly under the pressure of modernization.

Key words: forest culture, secondary subsistence, Polish Carpathian area, local knowledge, sustainability

1. Introduction

The Carpathians are the mountains stretching in the Eastern Europe from the border between Poland and Slovakia to Ukraine and Rumania. These mountains have been inhabited since ancient times, as mentioned in Caesar's *Commentaries on the Gallic Wars* and Tacitus's *Germania*. The Carpathian countries still preserve some common cultural similarities, such as the raising of livestock. Itoh (1986) indicates that transhumant shepherds with their livestock have seasonally come from Balkan countries. The influence of the culture in Balkan countries has also penetrated the Carpathians.

My research focuses on another cultural similarity of great interest and importance: local inhabitants' reliance on forest. The purpose of the present study is to analyze the common forest culture in the area of Carpathians through the inhabitants' way of relating to forests. By "forest culture" we understand the body of folk knowledge concerning the complex usage of forest by local inhabitants.

One distinctive cultural feature of the Carpathian people is the similarity of their wooden houses. Not only wood, but also other forest products are central to their lifestyle,

providing additional resources, and in fact a means to complement the households' farming output in order to secure subsistence. Through a greater understanding of their reliance on the forest, I hope to understand more thoroughly the traditional way of life of these mountain-dwelling peoples, their forest culture based on traditional ways of relating to Nature.

Regarding environmental usage and subsistence, Shinohara (1973, 1995) and Oka (2001) as ethnographers mentioned that in Japan, inhabitants of the mountainside used spontaneous vegetation to supplement their means of subsistence. Yokoyama (2002), as a geographer, clarified the cultural practice of gathering non-timber products from the forests of the mountainside of Laos. Inoue (2002) an anthropologist, inferred that the range of uses of wild plants from the forest has been widened by the advent of tourism in some remote rural areas of Japan.

Studies done in Japan on Poland have been on the rise recently; however, regarding my research I hardly found any studies of the forest culture that is assumed common in the area of the Carpathians or any monograph of usage of forest products for subsistence in Poland yet. The present study therefore aims to define the way of life of the mountain-dwellers of Poland, providing valuable insights to both Japan and Poland.

The present research focuses on the Barańcowa community within the Zawoja village in the Carpathians, southern Poland, that I chose to study for two reasons. Firstly, because this area is known for its rich vegetation, being adjoined to the Babia Góra National Park. In 1977 the Babia Góra National Park was chosen as a World Biosphere Reserve within the UNESCO program *Man and Biosphere* (The Babia Góra National Park, 2001). The flora of the park includes approximately 700 species of vascular plants and almost 1420 species of lower plants. Among numerous species of typical mountain plants 54 species are subject to protection (Polish National Parks, 2000). Secondly, I chose this area because it has been slow to modernize. Here, traditional events have been well preserved, though some have changed through ages. This suggests that the local inhabitants' way of life has remained basically unchanged until recently.

The present study is based on field surveys, including interviews and questionnaires, conducted in this area from July to August 2001 and from July to October 2002.

2. Overview of the study area

2.1. Geographical situation

Barańcowa, the study area, belongs to Zawoja gmina of the Sucha Beskidzka powiat, the Małopolskie voivodship, in southern Poland. This voivodship is bordered by Slovakia to the south (Fig. 1). In 2001 the Małopolskie voivodship was comprised of 19 poviats, 3 cities with powiat status, 182 gminas (16 urban, 40 urban-rural and 126 rural ones), 56 cities and 2630 rural localities. Zawoja is one of the largest villages in Poland in terms of total area and population number. Nanowski (1974) described Zawoja as a characteristic example of a Beskid village, which in recent years has changed its economic profile from a traditional mountain-farming village into a tourist-recreational centre. Zawoja village spreads 17 km from west to east along the river Skawica. The centre is located in

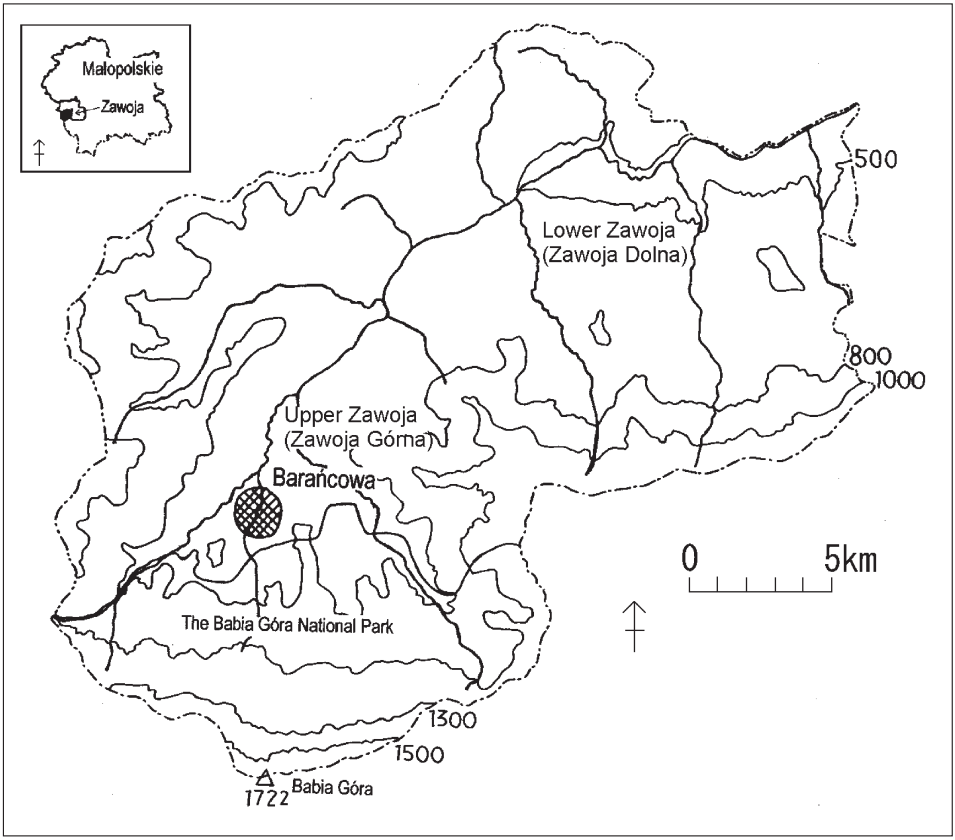

Fig. 1. Site of Barańcowa

Ryc. 1. Położenie Barańcowej

the eastern, lower part, around 500m a.s.l. Zawoja is divided into two parts, Zawo ja Dolna (Lower Zawoja) and Zawoja Górna (Upper Zawoja). The Barańcowa hamlet is situated in Górna Zawoja, close to the border with Slovakia in the South.

Barańcowa's land is on a mild slope, making for easy walking, and its location is about 700m a.s.l. Lamorski (2001) shows that the Babia Góra massif was uplifted in the Tertiary period and it consists mainly of the Carpathian flysh flagstone. The climate is very cool with little rain; rain increases from May to September. The snow season is long, usually from October to April. Relief, altitude and exposition are the three most important soil-forming factors. Existing soil types include regosol, podsolic soil, half-bog-podsolic, podzol, brown, and hydromorphic soils, which are azonal. The connection between the soils and the vegetation belts is very close. The vegetation at Barańcowa is the same as in the lower forest belt of the Babia Góra National Park, which is the base of the massif up to 1,150m a.s.l. The typical vegetation communities

are the Carpathian beech forest (*Dentatio glandulosae-Fagutem*), the fir forest (*Galio-Abietetum*), the mixed fir and spruce forest (*Abieti-Piceetum montanum*), the gray-alder forest (*Caltho-Alnetum*) and the Carpathian gray-alder forest (*Alnetum incanae*) (Lamorski (2001).

2.2. Present social context in the study area

In this chapter, I will describe the social context – population, land use, income, at national, voivodship and local level, since these are factors that influence livelihoods of Barańcowa inhabitants.

Regarding the population balance between urban and rural areas in Poland, the proportion of rural population remained higher than urban population during the first half of the 20th century. But during the 1960's, the balance shifted, and later the proportion of urban population gradually increased to around 60%, in 1988, with little change ever since. In 2001, according to Mały Rocznik Statystyczny Polski (2002), the ratio of urban population is 61.7%, while that of the rural one 38.3% does. These figures are very similar for Małopolskie voivodship: 50.4% and 49.6% respectively in 2000 (Urząd Statystyczny w Krakowie). It is suggested that the proportion of urban population will continue to increase, although very slowly.

Poland is recognized as an agricultural country in Europe, due to the relatively high proportion of rural population, as well as the ratio of workforce active in the primary sector (28% in 1999, *Mały Rocznik Statystyczny*).

In the Sucha Beskidzka powiat, 63% of the people are employed in agriculture, hunting, forestry and fishing. In the Małopolskie voivodship, the ratio of population involved in those remains well above the national average (34%), and most of powiats, except the three greatest cities, share this high ratio.

The inhabitants of the study area subsist mainly through farming: cultivating fields and raising livestock. Even as a socialist country before 1989, Polish citizens were permitted to possess private land within some limits. After 1989, the average farm size remains low (under 5 ha) and high land fragmentation makes modern, highly productive agriculture difficult to practice (Fig. 2).

In Barańcowa, the amount of land possesed by most inhabitants is small (according to local estimates, the average farm size is around 3 ha). Moreover, due to climatic conditions, the land can only be cultivated during the short summer season. The technology employed remains traditional, and the number of livestock is reduced; as a result, the total agricultural output remains low.

Due to geographical isolation and a lack of salaried employment, local inhabitants are forced to rely almost entirely on locally produced food for subsistence. Using a simple calculation:

(Gross agricultural output) – (Market agricultural output) = family use,

I found that in the Małopolskie voivodship most of the local farming product is directly consumed by the farming families themselves (Fig. 3). More than half of the agricultural output is reserved for family use. The ration of animals for slaughter is 35%, and only about 40% of crops are actually sold; more than 75% of vegetables and more than 80% of fruits are in fact consumed by the growers themselves. This suggests

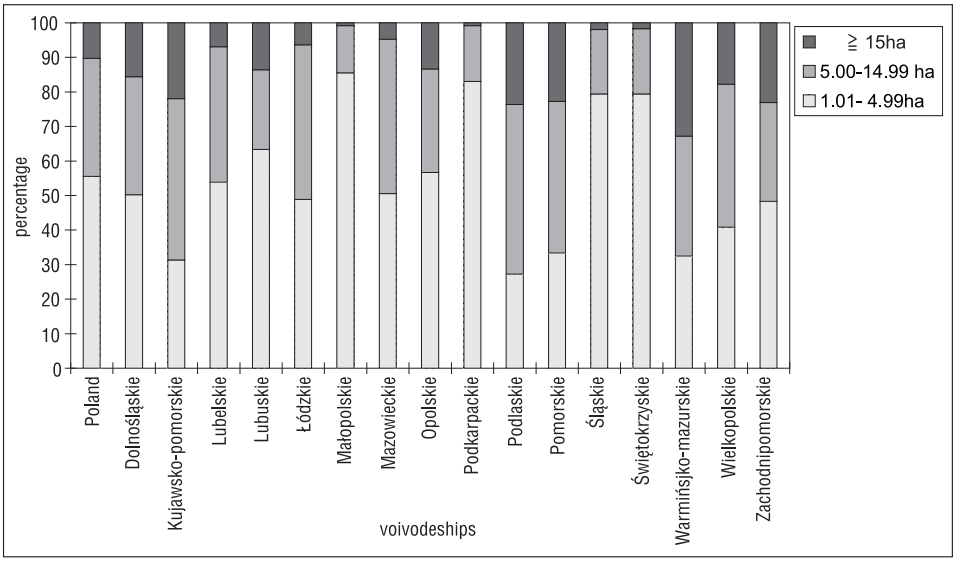

Fig. 2. Private farm size in Poland by voivodeships (June 2001)

Ryc. 2. Struktura wielkości prywatnych gospodarstw rolnych w Polsce według województw (stan w czerwcu 2001 r.)

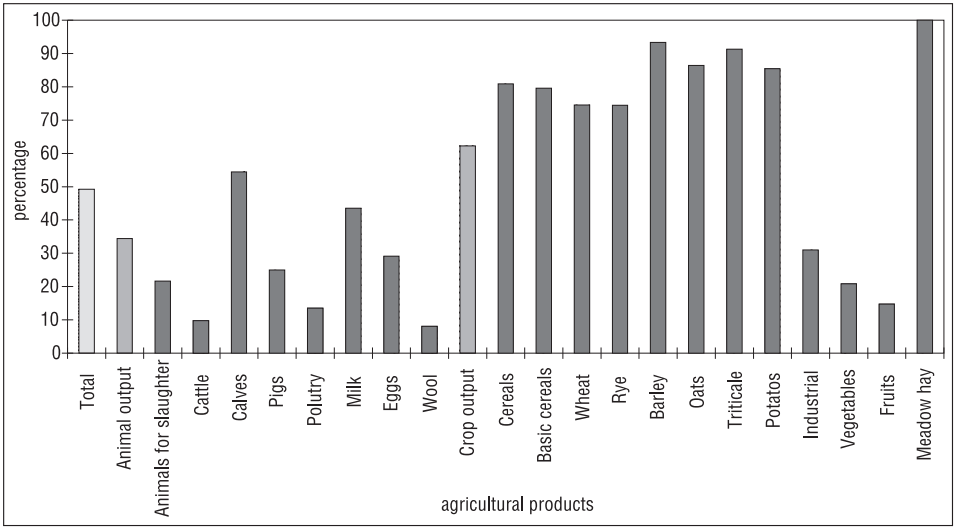

Fig. 3. Ratio of family use of agricultural products in the Małopolskie voivodeship (1999)

Ryc. 3. Udział spożycia rodzin rolniczych wybranych produktów rolnych w woj. małopolskim w 1999 r.

that farmers sell what can be sold for a profit, and use the remainder of the crops for family consumption.

As a consequence, besides farming, local inhabitants have to rely on some additional way of subsistence, necessary in order to support their livelihood. The present study found out that without complex usage of the forest as a secondary subsistence, Barańcowa's population self-sufficiency would be limited.

The local money flow originates mainly in the revenues of the members of each family working outside the village (either in Cracow or abroad); however, these revenues do not manage to cover the whole of a household's necessities, therefore the need to continue the traditional ways of life.

It has been officially declared that Poland as an agricultural country will be a member of the enlarged EU in 2004. In anticipation of this, Poland tries to modernize her antiquated farming systems; however, modernization has not yet reached Barańcowa. Recently Zawoja has been developing as a tourist area. Some tourist events are sponsored by public support in central Zawoja; however, most tourists do not travel the 10 km from the center of Zawoja to Barańcowa, so the area remains scarcely affected by recent developments.

3. Complex usage of the forest as secondary subsistence

In 2001 and 2002, I interviewed residents and distributed questionnaires to all households in Barańcowa in order to better analyze the contribution of secondary subsistence to the locals' livelihood. Interviews were conducted in Polish and English using illustrated guidebooks of plants and mushrooms. The questionnaire was written in Polish, and residents were asked to fill in the blanks.

Through interviews, I came to understand the residents' annual work schedule in the forest (Fig.4). The survey reveals that inhabitants go to the forest to gather firewood, fruits or mushrooms all year round except snow season.

Men prepare firewood for winter stock from the beginning of September until the beginning of October, before the first snowfall. They sometimes have irregular work

men or women	product	April			May			June			July			August			September			October		
		B	M	E	B	M	E	B	M	E	B	M	E	B	M	E	B	M	E	B	M	E
both	wheat/oats	△	△	△	●	●	●	●	●	●	●	●	●	◎								
	potato		△	△	●	●	●	●	●	●	●	●	●	●	●	●	●	◎				
women	jam							○	●	●	●	●	●	●	●	●	●	●	●	●	●	◎
	pickles																○	●	●	●	◎	
men	fire wood																○	●	●	●	●	◎

Note:
B First 10 days
M Second 10 days
E Last 10 days
△ Starting time but flexible by snow season
○ Fixed starting time
◎ Harvest time or finishing time

Fig. 4. Annual work schedule at Barańcowa

Ryc. 4. Kalendarz prac rolnych i leśnych w Barańcowej

in the forest in the Babia Góra National Park, as well. Women, take part in lighter work, like gathering mushrooms and fruits from the forest during summer months (from July till the end of October) and are involved in the preparations for winter: preserves, dry food. Since this is not a gender-based work, men usually join during these preparations.

4. Relationship between residents and forests at Barańcowa

In this chapter, I hope to reveal the relationship between residents and forests at Barańcowa. I found there are two main aspects of forest culture, namely a physical one and a spiritual one. Both of these aspects reflect a complex attitude toward and usage of forest resources as secondary subsistence.

4.1 Physical relationship between residents and forests as secondary subsistence

Using the information gathered through questionnaires, I created three categories: wooden goods (used inside and outside of house), tree species mentioned in questionnaires and forest produce for gathering, that will be examined separately.

4.1.1. Wooden goods

Questionnaires filled out by 26 households listed 123 wooden goods, used both indoors and outdoors. Some names of goods were too old to be found in *Wielki Słownik Polsko-Angielski*, *the greatest Polish-English diction*ary. Some other objects have been only mentioned by their regional name, so they could not be found in a dictionary. It is suggested that the inhabitants have continued using traditional, old, and regional terms in this area, proving their relationship with the forests is a long and complex one. Moreover, I very often recognized household hardware, various tools and utensils (dead stock) seen in museums, still in use for daily work at Barańcowa.

The residents listed 35 different wooden parts for house-building, as futryna (door-frame), krokiew (rafter), odrzwia (door-frame). They know the details of house-building so well because some of them have built their houses by themselves.

According to the surveys, the number of wood craftsmen in Barańcowa is 24, and the number of items made by wood craftsmen was 235. The inhabitants know the value of their wooden products, and revere the wood craftsmen as highly qualified specialists in their region.

Of the 24 wood craftsmen mentioned 15 were specialized professionals, and items made by them totaled 249, or 63%. Locals refer to wood craftsmen by the names of the goods they build. For this reason, there were 15 special names for wood craftsmen mentioned in the survey. This fact also supports the idea that in this area the traditional forest culture is still alive.

4.1.2. Tree species mentioned in questionnaires

The number of tree species mentioned in questionnaires was 14 (Tab. 1). Four main tree species represent natural vegetation. These are beech (*Fagus sp.*), fir (*Abies sp.*), alder (*Alnus sp.*) and spruce (*Picea sp.*). These four species were constantly noted for their

Tab. 1. Tree species mentioned by interviewed Barańcowa inhabitants
Tab. 1. Rodzaje drzew wymieniane przez ankietowanych mieszkańców Barańcowej

Polish	Latin	English
brzoza	*Betula pendula*	birch
buk	*Fagus sylvatica*	European beech
dąb	*Quercus robur*	English oak, common oak
czereśnia	*Prunus avium*	wild cherry, sweet cherry, gean, muzzard
jałowiec	*Juniperus sp.*	juniper
jarzębina	*Sorbus aucuparia*	mountain ash, rowan
jawor	*Acer pseudoplatanus*	sycamore
jesion	*Fraxinus excelsior*	European ash
jodła	*Abies alba*	silver fir
kasztan	*Catanea sp.*	chestnut
kasztanowiec	*Aesculus hippocastanum*	horse chestnut
lipa	*Tilia cordata*	small leaved lime, small-leaved linden
modrzew	*Larix dedidua*	larch, European larch
olcha (olsza)	*Alnus incana*	grey alder
orzech	*Juglans sp.*	walnut
sosna	*Pinus sp.*	pine
robinia	*Acacia sp.*	acacia
świerk	*Picea sp.*	spruce
wejmutka	*Pinus strobus*	weymouth pine
wiąz	*Ulmus sp.*	elm
wiklina	*Salix purpurea*	purple willow, read willow, read osier

suitability for woodcraft and their usefulness in daily life. They are also the main species in the lower forest stage (Fig.5). Spruce also represents the main species in the higher forest zone.

There are four main tree species as semi-natural vegetation at Barańcowa. They are spruce, fir, beech, and gray alder. In statistical order, the species of trees listed in questionnaires were: spruce used for 107 items, pine used for 61 items, beech for 50, fir for 40, oak for 29, and larch for 23. Spruce, fir and larch are mainly used as materials for house-building, while oak and pine are used for furniture; beech is the most versatile species and has the most various uses.

4.1.3. Forest produce for gathering

According to questionnaires, the total number of forest produce for gathering was 116. The highest number of entries, 19, was for food. Next was 9, for firewood. This result is logical, as inhabitants' reason for going to the forest is directly related to their daily lives. They use many words for berries and mushrooms.

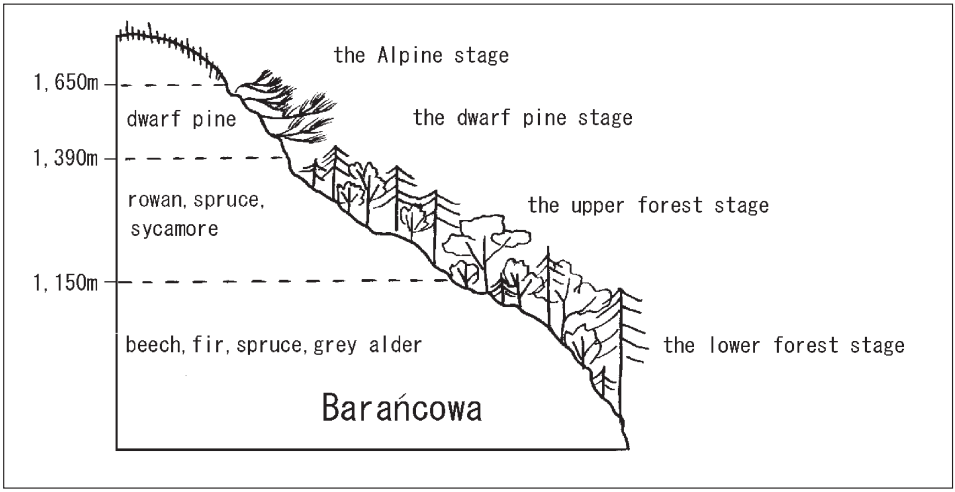

Fig. 5. Vegetation stages at Barańcowa
Ryc. 5. Piętra roślinne w Barańcowej

Interviews revealed that the total number of fruits used in making jam is 11, while the total number of plants for making tea is 15. Women gather fruit for jam and plants for tea from the forest, which is at maximum a 4 hours' walk from their house. After making jam, they bottle it and keep it through the winter in a stock room underground. They dry plants for making tea and keep them for daily use. The total number of edible mushrooms used was 26, according to interviews. Some are dried and kept for winter stock.

As seen with the survey responses on wooden goods, Barańcowa residents' attitude toward forest produce for gathering is also a very practical and sustainable one: since their livelihoods depend to some extent on the forest resources, they make very wise use of them, gathering only what they need and not more, in order to perpetuate the natural cycles of forest ecosystems.

4.2. Spiritual relationship with the forests

Most residents stated that their main purpose to go to the forest is gathering fruits and mushrooms. At the same time, residents receive real spiritual satisfaction from the forest; even those residents who work in the forest daily say they visit forests for relaxation. Their life is strongly related to the forest as a place of production, and they relay on it as secondary subsistence, yet even when they go to forests to work, they can enjoy going there.

To further understand why and how the forest fulfils such spiritual needs will require further study. In previous research (Nakadai 2000, 2001), I concluded that the traditional Japanese way of life is basically influenced by animist religious beliefs, the Japanese worship for Nature. I suggest that at the root of the traditional forest culture

shared by mountain communities in present-day Poland and inhabitants' spiritual relation with the forest we can find Poland's pre-Christian religious traditions, the druidic worship for forest and trees, common in the old legends of northern Europe. However, the practical aspects of the inhabitants' relation with the forest, and their way of life was subsequently influenced by transhumant Balkan populations.

5. Conclusion

The natural environment and social environment play equal parts in the present way of life in Barańcowa. Geographical isolation on the one hand, explains the acute lack of social and economical opportunities: distance from urban markets make commercial farming difficult, while also contributing to the lack of salaried employment compensated by revenue from the members of each family working outside the village (Fig. 6).

As a result, residents are forced to rely almost entirely on local resources for subsistence, with households to a large extent self-sufficient. The residents of the study area subsist mainly through farming: cultivating fields and raising livestock. However, the harsh natural conditions (low fertility soils, difficult climate), along with the perpetuation of the traditional farming system (small average size of farms, land fragmentation, use of antiquated technology) have a negative impact on the local farming output, which is barely sufficient to cover the needs of subsistence.

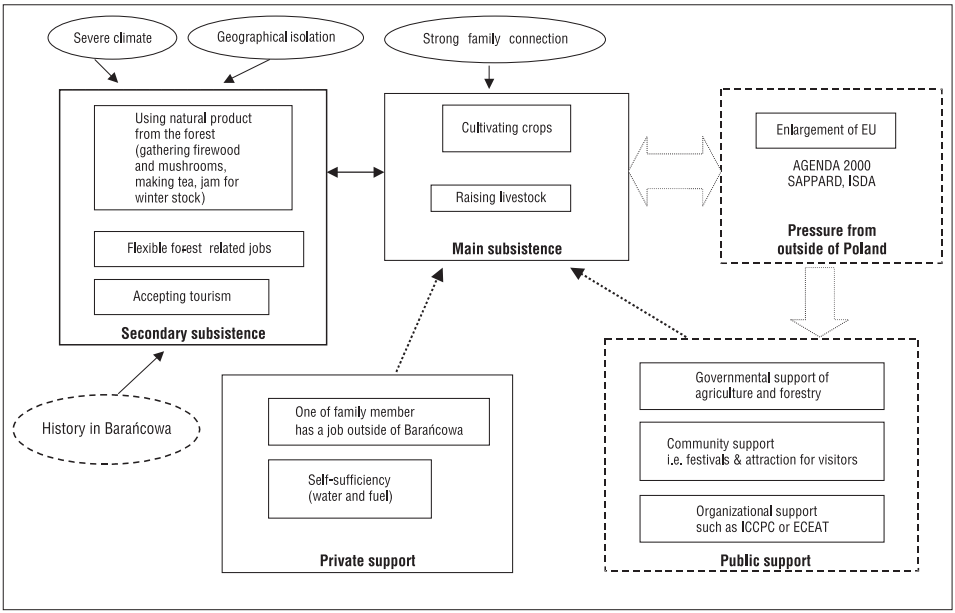

Fig. 6. Scheme of subsistence at Barańcowa

Ryc. 6. Model samowystarczalności społeczeństwa Barańcowej

In their search for survival, residents in Barańcowa have developed a system of complex use of forests resources, that can complement local farming resources, a dual system of that better covers the needs of subsistence, providing relative stability to their livelifoods. The use of forest resources (wood, fruits and mushrooms) as a secondary means of subsistence is given considerable weight, and remains essential in alleviating the pressure of subsistence,.

Forced to be well aware of the forest in their backyards, Barańcowa residents have a rich and complex knowledge of forests. They have continued using special old regional terms in this area, providing that their relationship with forests resources, developing their own forest culture and a sustainable way of life.

At present, Barańcowa seems isolated, but since 1989, Poland's regulations have begun to change. In 2004 Poland will become a member of the enlarged EU. The expected impacts of the process of European integration are both positive and negative.

Recent changes of the Common Agricultural Policy might have positive influence on isolated mountain communities, as structural funds of SAPARD and ISPA programmes are directed at the improvement of rural infrastructure, creation of socio-economic opportunities (rural employment), encouraging organic farming and nature conservation, stimulating rural tourism, too.

Poland is on the road to change, and now is the time to ensure that the change is positive. The effects of these changes already start to show in the tiny region of Barańcowa.

Acknowledgements

I would like to express my deep gratitude to people in Barańcowa and guests at Kobiela's house, who kindly agreed to respond to my questionnaires. I would also like to thank the administration of Babia Góra National Park for their kind cooperation and permission to visit office. Mr. Tomasz Lamorski made interesting suggestions and gave valuable advice for improvement of questionnaires. Ms. Maria Rusecka kindly offered her help in collecting information at the library. I am grateful to my old friend, Danish botanist Ms. Jette Hansen, for various advices during field surveys..

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Wykorzystanie lasu jako dodatkowego źródła utrzymania ludności Karpat na przykładzie Barańcowej (Zawoja)

Streszczenie

Celem autorki była analiza wykorzystania lasu na północnym stoku Babiej Góry przez miejscową ludność. Mieszkańcy Barańcowej pozyskują stamtąd różne pożytki (drewno, owoce, grzyby), uzupełniając w ten sposób skromną produkcję, uzyskiwaną z niewielkich i rozdrobnionych gospodarstw rolnych. Las był dla nich zawsze alternatywnym źródłem utrzymania, zapewniając swoistą samowystarczalność w warunkach ekonomicznej niepewności. Jak wykazały ankietowe badania autorki, górale z Barańcowej nadal są ściśle związani z okolicznymi lasami, a wykorzystując je w sposób zgodny z wielowiekową tradycją (stolarstwo, snycerstwo, przetwory z owoców i grzybów, opał) czynią to, nie zakłócając naturalnego rytmu leśnego ekosystemu. Jest to zatem gospodarka typu rozwoju zrównoważonego, godna podkreślenia w obecnym okresie coraz silniejszej presji w kierunku modernizacji życia także w takich górskich wsiach, i w aspekcie coraz bliższego członkostwa Polski w Unii Europejskiej.

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