

SUSTAINABLE CONSUMPTION OF RURAL AND URBAN HOUSEHOLDS IN POLAND

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ABSTRACT

Sustainable consumption is the consumption of goods and services satisfying fundamental needs, increasing life quality, reducing resource use, degradation and pollution along the whole lifecycle of product or service. The aim of the study is to examine whether the consumption of urban households is more sustainable compared to rural ones and to identify directions of changes in this regard. The analysis was realised on the basis of *Household Budget Survey* conducted by the Central Statistical Office of Poland (CSO) in the span of 2006–2015. The results show that urban and rural households in Poland shift their consumption patterns towards less sustainable as well as urban households' consumption pattern in some areas is less sustainable than urban ones.

Key words: sustainable development, sustainable consumption, rural and urban areas, households

INTRODUCTION

Sustainable consumption may be defined in two ways. In a narrow sense, it is defined as effective and efficient consumption, i.e. the restriction of consumption of resources and waste, whereas in its broader definition it is also considered to contribute to a better life quality, including better health, and reduced consumption of natural resources [Jaros 2014].

Kielczewski [2007] defines sustainable consumption in two ways. Firstly, it is defined as a set of rational purchasing choices leading to the consumer's equilibrium and to sustainable development goals. The second definition pays attention to the fact that current consumer choices should not reduce choices of future generations. A factor that contributes to sustainable consumption is a growing awareness of consumers of the product itself and its origin, production methods or a manufacturer's social responsibility [Wasilik 2014].

Sustainable consumption may be considered as a response to consumptionism. According to the sustainable consumption idea, ecological behaviour and social aspects should limit the excessive consumption [Kramer 2011]. Sustainable consumption may be considered as a counterweight to the excessive consumption and it is manifested by avoiding or restricting those aspects that are disadvantageous or unhealthy for the environment and for consumers themselves [Olejniczuk-Merta 2015]. This is particularly significant in the event when consumers possess many more goods compared to their ancestors but, on the other hand, they feel a desire for increasing their consumption, in other words "modern societies are possessed by their continuous lust for purchasing goods" [Zalega 2015]. The purchased products are used not until they wear and tear but until their new versions are put into market, which gives rise to a sequence of unneeded (from the social point of view) purchases [Zalega 2015].

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Unsustainable consumption occurs when it is in a continuous state of non-satisfaction and when it forces consumers to satisfy their desires, lusts or whims rather than their real needs. While it is possible to make consumption more sustainable at the level of a person, it is doubtful whether such change may be made at the level of a society [Jaros 2012].

The United Nations Environment Programme (UNEP) defines sustainable consumption and production as “the consumption of goods and services satisfying fundamental needs, contributing to a better life quality and minimizing the consumption of natural resources and toxic substances and reducing emissions of waste and contaminations during a life cycle of a product or of a service in order not to jeopardize the possibility to satisfy the needs for next generations” [UNEP 2010].

The idea of sustainable consumption is a fundamental element of sustainable development, assuming that the quality of life is determined by the present development of civilization [Kramer 2011].

Sustainable consumption combines an array of social, economic and political practices leading to socially desirable goals, most notably [Kramer 2011]:

- reducing direct ecological consequences of production processes, use and utilization of goods and services;
- enabling all people to satisfy their fundamental consumption needs (food, water, healthcare, education and shelter);
- enhancing opportunities for sustainable development in the countries of the South (sustainable consumption is important not only for developing countries of Southern Hemisphere but for the whole Globe);
- developing the consumption of goods and services that positively affect health and life quality of people, most notably women and children;
- developing and employing devices and solutions designed for saving water and energy;
- developing public transport and eco-friendly transport;
- developing ecological goods and services adapted for the environmental protection requirements;
- promoting life styles with greater emphasis on the social cohesion, local traditions and non-material values.

Sustainable consumption is considered in many aspects: economic, ecological, social, psychological, demographic, spatial and time [Kielczewski 2008]. The contemporary consumers more and more often understand the impact of human – nature relationships on the quality of life. According to the principles of sustainable development, sustainable consumption is defined as the permanent consumption that enables the continuous reproduction of the consumed objects. Its contrary is the impermanent consumption that poses a risk of overloading the natural environment. Ecological trends in consumption manifest themselves in striving to minimize the use of natural resources and the production of waste and contamination within the entire life cycle of the product [Żelazna-Blicharz 2013].

The shift of consumption patterns by households towards more sustainable ones may be caused by various factors:

- consumers’ tiredness;
- negative experience;
- consumers’ awareness;
- consumers’ activation.

While the first two factors are manifested by individual values and preferences (consumers are tired of a surfeit of products in the market and they intentionally resign from certain products adversely affecting consumers), the last factors stem from social values (consumers are activated – they resign from purchasing and consuming goods contrary to the views of a certain group of people, consumers’ awareness – they resign from or limit the consumption of goods that adversely affect the environment and are contrary to the principles of social responsibility). Kryk states that it is impossible to talk about the superiority of one issue over others, only if they lead to the purpose of reaching more sustainable consumption [Kryk 2013].

It is also important to stress that the idea of sustainable development, including its component (sustainable consumption), is regarded in Poland marginally and public awareness is low [Cudowska-Sojko 2012]. The barrier in adopting more sustainable consumption in Poland is also consumers' fear of being perceived poor, weirdo and eco-fanatic [Burgiel and Zralek 2015]. Patterns of responsible and ecological consumption are still not popular with the society. The real introduction of sustainable consumption requires the state to take supportive actions, chiefly in the form of economic incentives [Kryk 2011]. It is also worth indicating that consumption patterns are also a consequence of the patterns of conduct, tradition and habits developed in their minds, i.e. institutions [Wilkin 2016].

The objective of this study is to analyse on the basis of the Central Statistical Office of Poland's *Household Budget Survey*, whether urban and rural households shift their consumption patterns towards a more sustainable direction. A hypothesis has been formulated that rural households are characterized by less sustainable consumption compared to urban households and current consumption patterns of rural and urban households becomes less and less sustainable. This demonstrates that in the awareness of rural and urban consumers the idea of consumptionism triumphs over their striving for sustainable consumption.

MATERIAL AND METHODS

As previously noted, sustainable consumption is one of the elements of sustainable development. The guidelines of the European Union specify 10 thematic areas of indicators of sustainable development, most notably sustainable production and consumption [GUS 2015]. Sustainable consumption is measured by means of an array of indicators.

The Central Statistical Office of Poland's (CSO) *Sustainable Development Indicators for Poland* study specifies the following indicators of sustainable development measuring consumption patterns [GUS 2015]:

- the structure of passenger cars by age groups;
- the consumption of electricity in households per one resident;
- the structure of average monthly expenditures on one person in households by their kinds.

The structure of passenger cars by age groups is essential for sustainable development as passenger cars are, on the one hand, a source of pollution, noise and waste but, on the other hand, they consume great amounts of energy. The age of cars affects their technical conditions, their potential to cause accidents and the amount of pollution.

The consumption of electricity in households per one resident is a result of changing the lifestyle and moving households away from more sustainable consumption patterns.

The structure of households' consumption expenditures illustrates their life quality. At the same time, the diversified structure of consumption expenditures is associated with welfare. The resignation of low-income households from meeting their needs of a higher level and sometimes from their basic necessities of life is a symptom of marginalization of part of the society [GUS 2015]. As for sustainable consumption it is beneficial to increase the share of expenditures on the least environmentally damaging purposes, such as: leisure, culture and communication [Jaros 2014]. Analysing the structure of food consumption, it should be noted that the structure of food consumption may be shifted towards more sustainable consumption provided that the consumption of meat is reduced and the consumption of fruit, vegetables, legume, starch products and fish is increased [Rejman et al. 2015].

It is also noteworthy that the previous publication of the entitled *Sustainable Development Indicators for Poland* [GUS 2011] comprised a different set of indicators necessary to monitor sustainable consumption patterns:

- the number of passenger cars per 1,000 people;
- the consumption of electricity in households per one resident;
- the consumption of vegetables per one person in household.

By comparing both sets of indicators used to monitor sustainable consumption patterns, it may be noticed that the set of indicators recommended in 2015 is more detailed. Not the number of cars but their age was taken into account. As for households' consumption expenditures, not only the consumption of vegetables but also the share of other expenditures on consumption goods and services was considered. The set of indicators from 2015 focus on the age of cars because older cars produce more pollutions than newer ones.

In the Local Data Bank of the Central Statistical Office of Poland the indicators of sustainable development included in the "consumption patterns" group comprise the following indicators:

- the annual consumption of utilities in households per one resident;
- the number of passenger cars per 1000 people;
- the average consumption of meat per one person;
- the average consumption of vegetables per one person.

The set of indicators included in the Local Data Bank contains indicators akin to those published in the *Sustainable Development Indicators for Poland* [GUS 2011]. In lieu of the consumption of electricity, that report analyses the consumption of utilities in households, including gas and water. The consumption of meat (its reduced consumption is desirable) was also taken into account because substituting meat by vegetables is the sign of more sustainable consumption pattern.

The report on the performance of the Sustainable Development Strategy in the European Union distinguished two indicators required to analyse the sustainable patterns [European Commission 2015]:

- the consumption of energy by households;
- the final consumption of energy.

On the other hand, the Eurostat analyses the sustainable consumption patterns by using the following indicators:

- the consumption of energy by households;
- the final consumption of energy by industries;
- the number of passenger cars per 1,000 people.

By summarizing the review of the applied sustainable consumption indicators, it may be noticed that the sustainable consumption indicators are still being modified and are non-homogeneous and the argument formulated by Jaros that "in Poland it would be useful to uniform the indicators of sustainable consumption and production" [Jaros 2014] is still present.

Making the use of the data available for rural and urban households and stemming from the *Household Budget Survey* [GUS 2011, 2015] – a set of indicators that enable assessing whether the consumption of rural and urban households becomes more sustainable has been recommended by the author. Those indicators are as follows:

- providing households with passenger cars – a greater number of passenger cars signifies less sustainable consumption;
- providing households with bicycles (excluding children's) as more bicycles possessed and used by households is a display of more sustainable consumption;
- the structure of consumption expenditures of households (an increase in the share of expenditures on less environmentally damaging purposes, mainly services is desirable):
 - the share of expenditures on recreation and culture;
 - the share of expenditures on communication;
- the monthly consumption of certain foodstuffs per one person:
 - the average monthly consumption of meat per one person (in kilograms) (it is desirable to reduce this indicator);
 - the average monthly consumption of vegetables (without potatoes) (in kilograms) per one person (it is desirable to increase this indicator);

- the average monthly consumption of mineral and spring water (in litres) per one person (the declined consumption of spring water is a display of more sustainable consumption, whereas this interpretation for mineral water is not so explicit but – according to *Household Budget Survey* – it is impossible to separate those categories);
- the average monthly consumption of sugar, honey, jam, chocolate and confectionary (in kilograms) per one person (the reduced consumption of sugar and other confectionary is a symptom of shifting the consumption structure towards more sustainable one).

The Central Statistical Office of Poland’s data stemming from the *Household Budget Survey* refer to the years 2006–2015 as this study does not divide households grouped according to their place of residence for earlier periods.

The indicator that determines the approach of households to more sustainable consumption patterns per rural and urban households is also included in the sustainable development indicators tab on the Central Statistical Office of Poland’s website in the regional module. This is the consumption of electricity per one resident – it is desirable to reduce this indicator.

RESULTS AND DISCUSSION

Rural and urban households differ from each other in terms of their incomes [Utzig 2014] and the performed consumption patterns [Utzig 2016]. As for the means of transport in households (Fig. 1), both cities and villages witness an increase in the percentage of households having passenger cars (by 12.9% in urban areas and by 13.9% in rural areas).

On the one hand, it may be considered as a symptom of shifting consumption to less sustainable one but on the other hand it is taken as an indication of striving for the better life quality. In the analysed period the percentage of households with passenger cars was greater in rural areas compared to urban areas. However, those differences should not be interpreted only through the prism of sustainable consumption as rural households are less able to use public transport, hence the possession of passengers cars becomes a necessity for them.

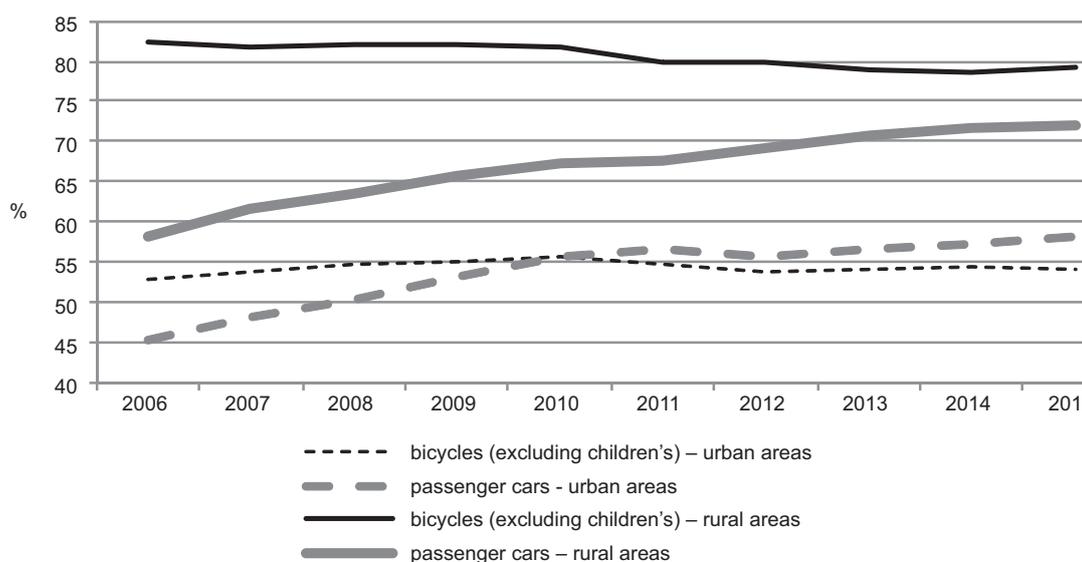


Fig. 1. Percentage of households with means of transport in 2006–2015

Source: Own work on the basis of the *Household Budget Survey* for the years 2006–2015.

The percentage of rural households with bicycles (excluding children's) equalled to around 82% in the years 2006–2010, around 80% in the years 2011–2012, and around 79% in the years 2013–2015. Whereas, in the analysed period the percentage of urban households with bicycles (excluding children's) slightly increased by 1.1 per cent and reached its maximum level in 2010 (55.8%). The percentage of rural households with bicycles is higher compared to urban ones, which may also be imposed by the necessity to meet transport needs.

The share of expenditures on recreation, culture and communication in the years 2006–2015 in rural households was lower than in urban ones (Fig. 2). Before 2013 expenditures on Internet services were categorized as recreation and culture and since 2013 they have been included in the category of communication. In urban and rural households the share of expenditures on recreation and culture was slightly increasing until 2012 and subsequent years witnessed its decline. Changes in the share of expenditures on communication in total consumption expenditures are marginal. In the analysed period the share of expenditures on communication in rural households slightly declined by 0.3% and in urban households – by 1.2%. The total shares of both categories of expenditures in urban households dropped from around 15% to almost 13% and in rural households they grew from 8.3 to 9.7% in 2012 and then declined to 8.2%.

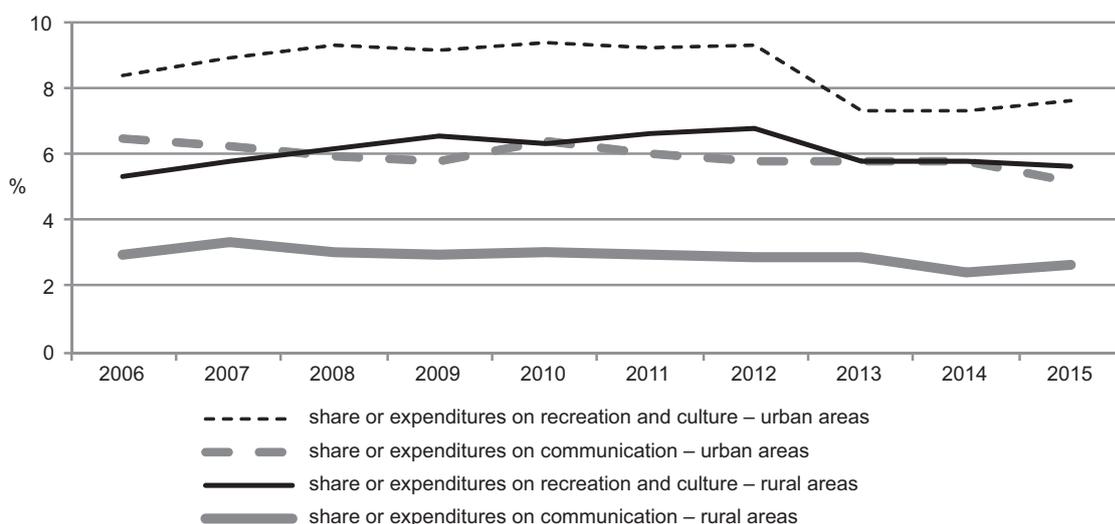


Fig. 2. Share of selected expenditures in total expenditures on consumption goods and services in households in 2006–2015
Source: Own work on the basis of the *Household Budget Survey* for the years 2006–2015.

Rural and urban households vary from each other in terms of food consumption patterns. Rural households' consumption of most foodstuffs, except for fish and fruit, may be justified by the nature of rural work requiring high energy expenditures and providing easy access to own farm products or feeding animals with some food-stuffs which in the *Household Budget Survey* may be indicated as consumed by household members [Świstak and Laskowski 2016].

Shifting the consumption towards its more sustainable pattern is reflected by an increase in the consumption of vegetables to the detriment of a decrease in the consumption of meat. According to the data shown in Figure 3, it may be stated that rural households' consumption is sustainable to a less extent than urban ones' (greater consumption of meat and lesser consumption of vegetables per person in rural households). While urban households observed minor changes in the consumption in the years 2006–2015, rural households reduced the consumption of vegetables (excluding potatoes) per person by almost 0.8 kg monthly.

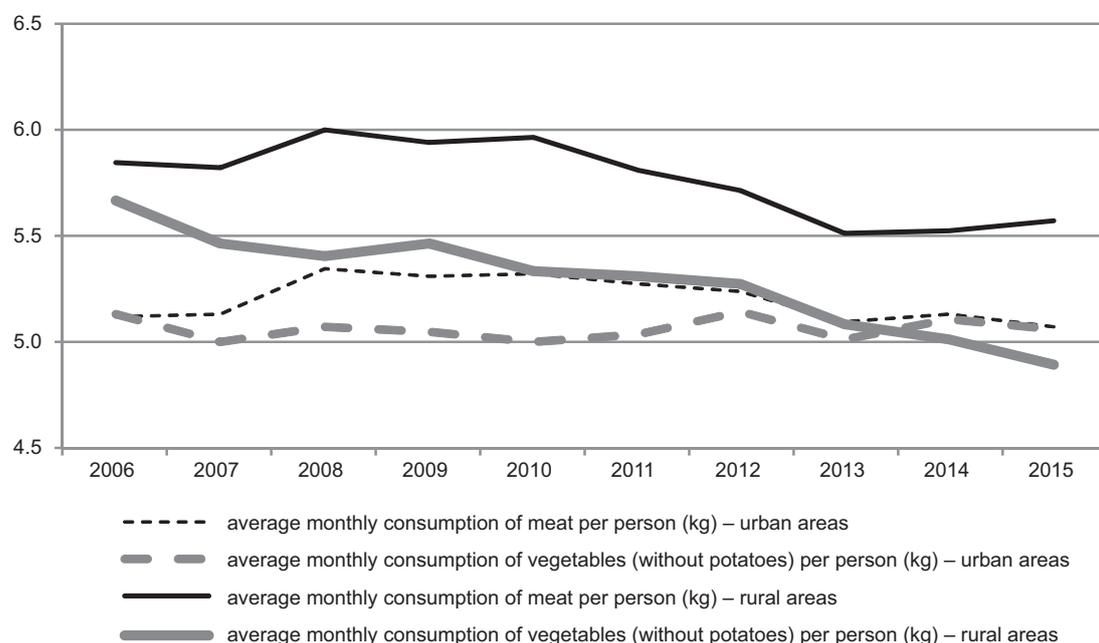


Fig. 3. Average monthly consumption of selected foodstuffs per person in the household in 2006–2015

Source: Own work on the basis of the *Household Budget Survey* for the years 2006–2015.

The observed monthly decline in the consumption of meat by households may result from post-recession factors such as high meat prices, low meat quality, fears of eating infected meat or genetically modified meat. One of the last factors considered by consumers is insufficient information on the origin of meat [Kosicka-Gębska and Gębski 2013].

Empirical research proves that despite being aware of sustainable consumption and of adverse impact of food production, processing and consumption on the environment, when purchasing foodstuffs the determinant factors for consumers were taste, quality, nutritional benefits and food safety. In particular, consumers are not willing to consume fewer meat products in favour of plant products or to purchase less bottled water [Kaczorowska and Kowrygo 2016].

The striving for more sustainable consumption should, on the one hand, be manifested by a decrease in the use of bottled water but, on the other hand, by a reduction in the consumption of confectionery. The average monthly consumption of spring and mineral water per person (in litres) and of sugar, honey, chocolate and other confectionery (in kilograms) is shown in Figure 4.

Both rural and urban households increased the average consumption of mineral and spring water and decreased the consumption of sugar, honey, jam, chocolate and other confectionery. Therefore, no implicit conclusion on approaching to or receding from the sustainable consumption pattern by households is drawn. It is also noteworthy that rural households consume less bottled water but use more sugar, honey, jam, chocolate and other confectionery compared to urban households.

The trend in the value of electricity consumption per one resident per rural and urban areas in the years 2005–2014 is shown in Figure 5.

The consumption of electricity by households spans the entire use of electricity to heat up premises and water and to power all electrical equipment. In general, it is observed that per resident energy consumption increased to 2010. The decrease in the consumption of energy that began in 2011 may be interpreted as a positive phenomenon bringing households closer to more sustainable consumption patterns.

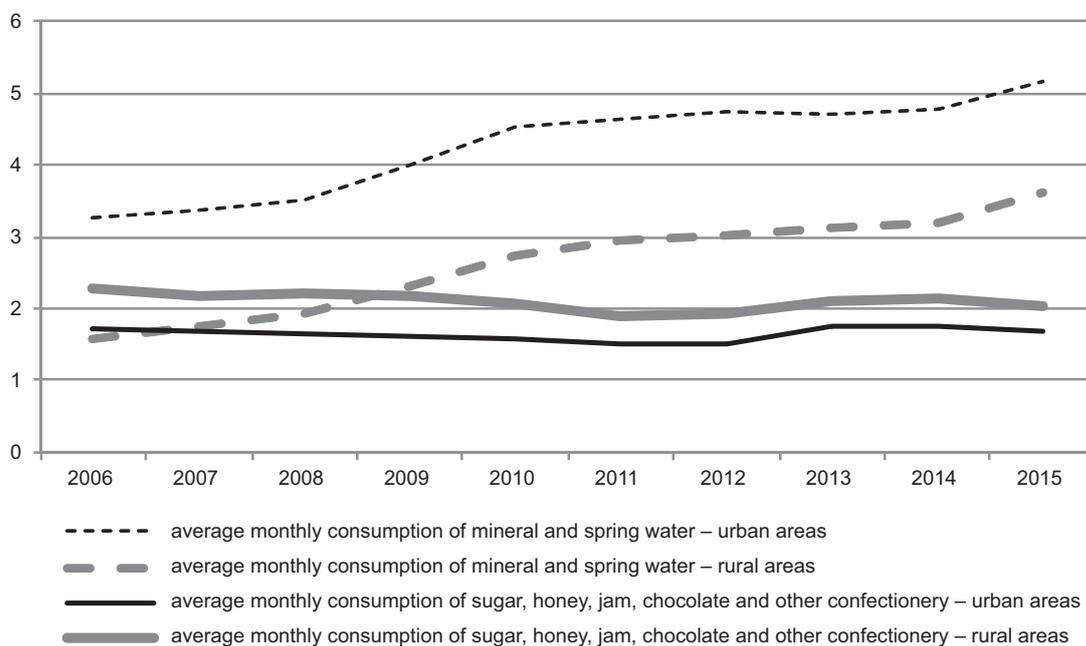


Fig. 4. Average monthly consumption of selected foodstuffs per person in the household in 2006–2015

Source: Own work on the basis of the *Household Budget Survey* for the years 2006–2015.

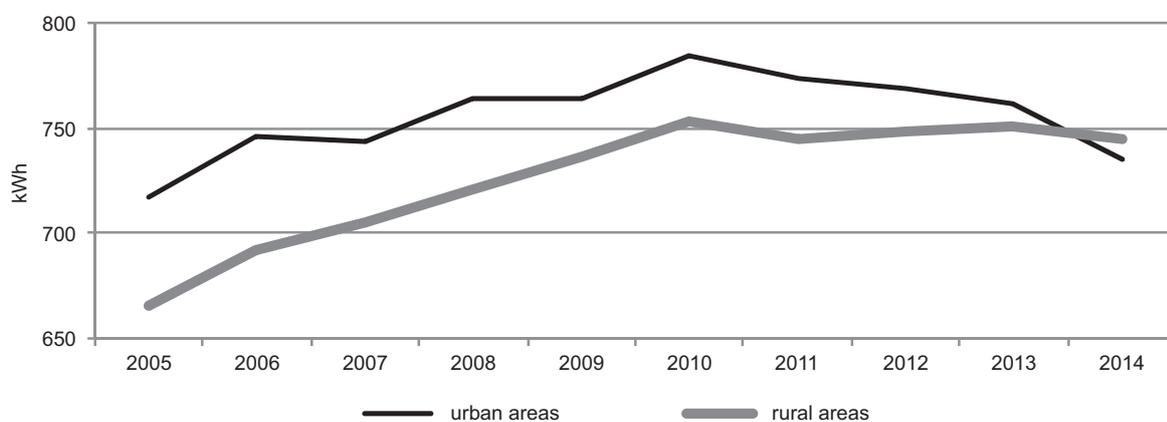


Fig. 5. Annual consumption of energy per one resident in 2005–2014

Source: Indicators of sustainable development of the Central Statistical Office, retrieved from http://wskaznikizrp.stat.gov.pl/prezentacja.jsf?symbol_wsk=005003002515&poziom=lokal&jezyk=pl [accessed: 22.09.2016].

From the beginning of the analysed period to 2013 the consumption of energy per one resident in urban households exceeded the analogous consumption in rural households. In 2014 rural households consumed more electricity per person compared to urban households.

CONCLUSIONS

To verify the hypothesis whereby rural households are characterized by less sustainable consumption compared to urban ones and both groups of households shift their consumption towards less sustainable consumption, individual indicators used to evaluate the level of sustainable consumption have been compared and analysed. The results are as follows:

- some manifestations of shifting the consumption of households towards less sustainable are indicated:
 - the percentage of households with passenger cars increased in both types of household;
 - the average monthly consumption of mineral and spring water per person increased in both types of household;
- some manifestations of the fact that consumption pattern in rural households is less sustainable than in urban household are also indicated:
 - the percentage of households with passenger cars is higher in rural households than in urban ones;
 - the average consumption of meat is higher in rural households than in urban households;
 - the average consumption of sugar, honey, jam, chocolate and other confectionery is higher in rural households than in urban ones;
- but some manifestation of the fact that consumption pattern in rural households is more sustainable than in urban ones are also indicated:
 - the percentage of households with bicycles is higher in rural households than in urban ones;
 - the average consumption of mineral and spring water is lower in rural households than in urban ones.

It is difficult to give an unambiguous answer to the question whether the consumption of rural households is more sustainable compared to urban ones. Certainly, there are areas where such consumption occurs but it is difficult to determine how much it is determined by tradition, habits and external conditions.

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ZRÓWNOWAŻONA KONSUMPCJA WIEJSKICH I MIEJSKICH GOSPODARSTW DOMOWYCH W POLSCE

STRESZCZENIE

Zrównoważona konsumpcja oznacza wykorzystywanie usług i towarów zaspokajających podstawowe potrzeby, które prowadzi do osiągnięcia lepszej jakości życia, przy jednoczesnym ograniczaniu zużycia zasobów naturalnych, zniszczeń i zanieczyszczeń podczas cyklu życia produktu lub usługi. Celem opracowania jest zbadanie, czy konsumpcja miejskich gospodarstw domowych jest bardziej zrównoważona niż wiejskich, oraz zidentyfikowanie kierunków zmian w tym zakresie. Analiza została przeprowadzona na podstawie danych pochodzących z badania GUS *Budżety gospodarstw domowych za lata 2006–2015*. Wyniki pokazują, że wiejskie i miejskie gospodarstwa domowe w Polsce przesuwają swoje wzorce konsumpcji w kierunku mniej zrównoważonego, jak również, że wzorce konsumpcji wiejskich gospodarstw domowych są w pewnych obszarach mniej zrównoważone niż miejskich.

Słowa kluczowe: rozwój zrównoważony, zrównoważona konsumpcja, obszary wiejskie i miejskie, gospodarstwa domowe