

Anna Kłoczko-Gajewska

Warsaw University of Life Sciences
e-mail: anna_kloczko_gajewska@sggw.pl
ORCID: 0000-0002-6839-8831

Piotr Sulewski

Warsaw University of Life Sciences
e-mail: piotr_sulewski@sggw.pl
ORCID: 0000-0002-7983-4651

THE LIVING CONDITIONS OF POLISH COMMERCIAL FARMERS PARTICIPATING IN FADN

WARUNKI ŻYCIA POLSKICH ROLNIKÓW TOWAROWYCH UCZESTNICZĄCYCH W FADN*

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Summary: Monitoring income and property inequalities is important for preparing development policies. The aim of this paper was to assess the living conditions of Polish commercial farmers. The sample was chosen with the use of a layer/random selection procedure and consisted of 600 farms participating in the Farm Accountancy Data Network. The analyses revealed that the farmers find themselves moderately affluent compared to other villagers, and self-evaluated affluence goes in line with average income per farm. Less than half of commercial farmers make their living exclusively from farming, and the poorest ones mention at least three income sources. Most of the farmers evaluate their housing conditions as good or very good. Only 25% of commercial farmers have access to communal sewage systems, but 17% use home sewage treatment plants. They have relatively easy access (in terms of travel) to important institutions (school, doctor, commune office, extension service).

Keywords: living conditions, commercial farmers, Poland.

Streszczenie: Polityka rozwoju obszarów wiejskich musi być oparta na rzetelnych informacjach dotyczących poziomu życia oraz nierówności majątkowych i dochodowych ich mieszkańców. Celem niniejszego artykułu jest ocena warunków życia polskich rolników towarowych. Próba składa się z 600 gospodarstw dobranych w sposób warstwowo-losowy spośród

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gospodarstw będących w polu obserwacji systemu FADN (Farm Accountancy Data Network – System Zbierania i Wykorzystania Danych Rachunkowych z Gospodarstw Rolnych). Z badań wynika, że rolnicy towarowi najczęściej uważają się za średnio zamożnych w porównaniu z innymi mieszkańcami wsi, a ich ocena własnej zamożności jest zbieżna ze średnimi dochodami na gospodarstwo. Mniej niż połowa respondentów utrzymuje się wyłącznie z rolnictwa, a najmniej zamożni wymieniają co najmniej trzy źródła dochodu swojego gospodarstwa domowego. Większość badanych rolników ocenia swoje warunki mieszkaniowe jako bardzo dobre. Tylko 25% ma dostęp do kanalizacji, ale 17% korzysta z przydomowych oczyszczalni ścieków. Mają stosunkowo łatwy dostęp (pod względem komunikacji) do ważnych instytucji – szkoły, lekarza, urzędu gminy, ośrodka doradztwa rolniczego.

Słowa kluczowe: warunki życia, rolnicy towarowi, Polska.

1. Introduction

It is not always remembered that the main reason for economic activity is to improve life's quality of societies and individuals. Subjective quality of life is obviously not a pure result of wealth, but a certain level of income and property is a prerequisite for decent living conditions, which have an important influence on the quality of life.

Income and property inequalities are natural in countries with a market economy. However, if the inequalities exceed certain level, they might be an obstacle to further development. Thus, it is important to monitor these differences. As a rule, in those EU countries that experienced socialism, income distributions are flatter than in other EU countries but with time, income differences cumulate leading to differences in wealth of the inhabitants (Stejskal and Stávková, 2010).

Since 2001 the share of Polish citizens who declare that their material situation is good has been constantly rising from about 20% to about 60% (with a steady drop of both remaining answers: “bad” and “neither good nor bad”) (CBOS, 2019a). The share of Polish citizens satisfied with their material living conditions and financial position rose from over 30% and 13% (respectively) in 2001 to over 60% and 35% in 2018 (CBOS, 2019b). In particular, the time after EU accession was characterised with the improvement of financial condition of households – both in urban and rural areas (Utzig, 2014).

In Poland, living conditions vary significantly depending on the region (Ciura, 2010; Winiarczyk-Rażniak and Raźniak, 2011). Moreover, the recently observed improvement of incomes and access to technical and social infrastructure is not evenly distributed among regions – in many rural areas building technical infrastructure such as gaspipes or sewage system is still too costly (Ciura, 2010). Accessibility of healthcare services also depends on regions (Ucieklak-Jeż and Bem, 2017), while accessibility of libraries and cinemas is very low everywhere (Ciura, 2010).

Living in rural areas, no matter the occupation, determines access to certain elements of infrastructure, but the material condition of each household is dependant also on other factors, such as income. Working on one's own farm as the main source

of income is losing its importance, with the rise of people employed in companies and dependant on state benefits (mostly pensions and disability benefits), or combining hired work with working on one's own farm (Ciura, 2010; Baer-Nawrocka, Bartkowiak, Chmielewska, Fedyszak-Radziejowska, Frenkel, Herbst, Nurzyńska, Poczta, Wilkin, and Zegar, 2018). Even though implementing market economy caused a radical downswing of farm incomes, this was compensated by direct payments offered after EU accession (Ciura, 2010). Farmers and inhabitants of rural areas are those social groups that benefit the most from EU accession (Baer-Nawrocka et al., 2018).

In Polish rural areas, income disparities were growing in 2006-2010. The highest disparities were seen in the households of farmers, because semi-subsistence or hobby farms coexist with modern, market-oriented farms that generate relatively high incomes (Kalinowski and Kiełbasa, 2012).

This research was aimed at describing and assessing the living conditions of Polish commercial farmers. Can we find any determinants of the observed differences? Where possible, the results were compared with accessible data for farmers in general, and for the inhabitants of rural areas. The next section of this paper gives a short overview of the indicators of living conditions.

2. Indicators of housing conditions, living conditions, and the quality of life

To begin with, it is important to distinguish between housing conditions, living conditions, and life's quality. One clear definition of housing conditions does not exist, but usually the researchers refer to living space available and access to basic sanitary facilities (e.g. see OECD, 2011).

Living conditions cover a broader set of indicators including housing conditions, access to infrastructure, and domestic equipment – although sometimes, for simplicity, analyses of living conditions are reduced to merely a few easily accessible indicators, such as disposable income and income per household member (Stejskal and Stávková, 2010). The most detailed EU statistics on income and living conditions (EU-SILC) include housing (e.g. number of rooms, leaking roof), material deprivation (such facilities as colour TV, telephone, flushing toilet), incomes, health, education, and many other groups of factors (Eurostat).

The quality of life is the broadest term. Some authors see it as a compilation of such tangible factors as housing conditions, technological infrastructure (running water, sewage systems), healthcare, education, cultural services, and environmental protection (Winiarczyk-Raźniak and Raźniak, 2011). At the same time other authors understand the quality of life as a subjective feeling of a particular person (Haslauer, Delmelle, Keul, Blaschke, and Prinz, 2015; Cummins, 2000). This might include general life satisfaction and can be measured with questionnaires or interviews carried out directly with the respondents.

It is important to remember that a subjective feeling of poverty or affluence does not necessarily go in line with the actual material situation of the respondent (Kalinowski and Kiełbasa, 2012) – it is influenced also by the material condition of the neighbours, expectations, and other factors.

From technical point of view, housing conditions and living conditions as well as tangible aspects of life's quality, can be measured both on an aggregated level, such as living space per one person, number of houses with the access to a communal water supply system, sewage system, or central heating (Ciura, 2010; OECD, 2011; GUS, 2017) or on an individual level, with the use of a questionnaire (Greenley, Greenberg, and Brown, 1997; Majewski, 2009). Subjective quality of life can be measured only with the use of a questionnaire.

3. Research methods

This research is based on two types of data. Data concerning costs, incomes, and issues related to farm management come from the database belonging to the Farm Accountancy Data Network (FADN), the rest come from interviews carried out with farmers by the extension service advisers who coordinated the collection of data within the FADN system.

The FADN database in Poland covers 12 100 farms representing 730 000 farms producing for the market¹. Out of these 12.1 thousand farms, 600 were selected for the interviews with the use of a layer/random selection procedure, which covered:

- 4 layers based on the criterion of specialization;
- 3 layers based on the criterion of standard production;
- 4 layers which corresponded to the regions.

The number of farms surveyed in each layer was determined using the Neyman (1934) method, as it was done while determining the sample size for FADN (FADN 2008):

$$n_h = n \frac{N_h \sigma_h}{\sum_{k=1}^L N_k \sigma_k},$$

where: n_h – sample size in layer h ,

n – sample size,

N_h – size of the population in layer h ,

σ_h – standard deviation in layer h ,

L – number of layers,

k – consecutive natural numbers from 1 to L .

Field surveys were carried out in 2017. The interview questionnaires were filled in by the advisers and added to the relevant accounting data available in the FADN

¹ Standard output exceeding 4000 EUR.

database. This allowed for creating a database consisting of 600 farms, in which the standard data collected within the FADN system was supplemented by data from the questionnaires, including living conditions.

As the applied layer-random sampling method reflects the structure of farms in the population surveyed by FADN, it is representative for the population of farms being in scope of observation of the Polish FADN (in terms of economic size, type of production, and region), i.e. commercial farms. A detailed description of the procedures of two-phase sampling can be found in the statistical literature (Kalton, 1983; Cochran, 1977).

4. Living conditions of commercial farmers in Poland

In order to assess the living conditions of the respondents, the researchers asked the following question: in comparison with the rest of your village's inhabitants, how would you assess your financial situation? The answers are presented in Figure 1.

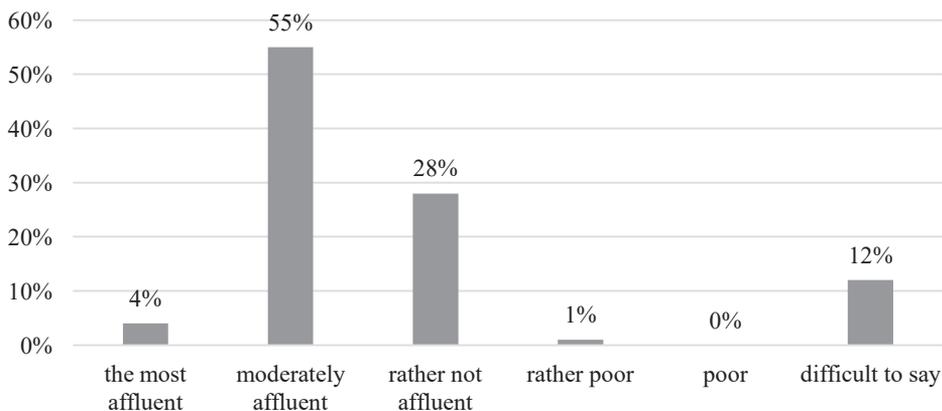


Fig. 1. The farmers' self-evaluation of their financial situation in comparison with other village inhabitants

Source: own research.

As many as 55% of the respondents described themselves as “moderately affluent”, 28% – rather not affluent, and 4% as the most affluent. Similar results were obtained in Polish rural areas in EU-SILC research [EU-SILC, 2018], although presented above responses of commercial farmers indicate a slightly higher satisfaction with their financial situation than the rural population in general².

The analyses revealed that self-evaluated affluence goes in line with average income per farm. Those who answered “difficult to say” on average received an income

² In rural areas 2.6% inhabitants were very satisfied with their financial situation, 32.4% satisfied, 33.2% neither satisfied nor dissatisfied, 24.2% dissatisfied, and 7.5% very dissatisfied.

per farm slightly lower than those who declared they were “moderately affluent”, but significantly higher than those who declared they were “rather poor”.

We looked more deeply into the possible differences between farmers declaring particular levels of wealth. The group that described themselves as “rather poor” consisted only of farmers with primary and vocational education. However, there is no visible pattern that could connect the level of affluence with the level of education in any of the remaining groups. As we can see in Figure 2., farmers with secondary and higher education achieved higher income than farmers with primary and vocational education.

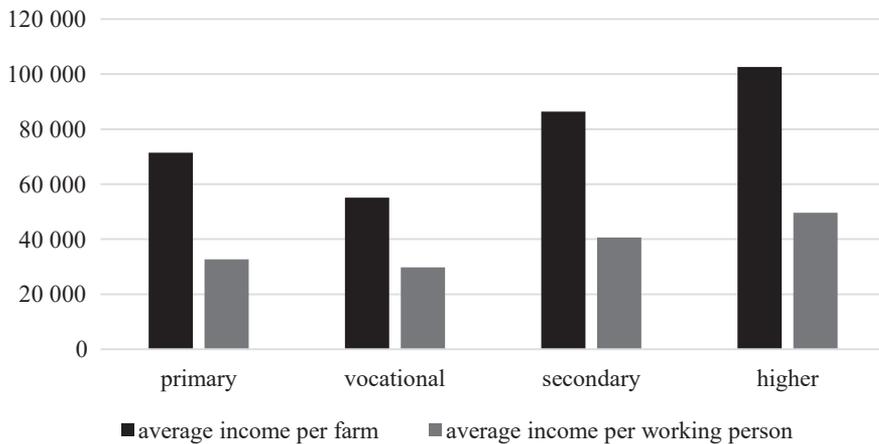


Fig. 2. Average income per farm and per working person depending on the level of education

Source: own research.

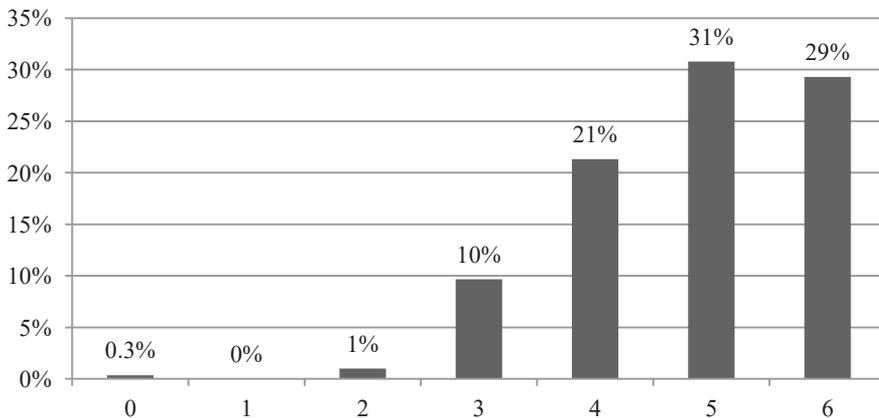


Fig. 3. Respondents’ self-evaluation of their housing conditions (0 – very poor, 6 – very good)

Source: own research.

Apart from describing their general affluence and incomes, the farmers were asked to assess their housing conditions. As presented in Figure 3, most of the farmers evaluated their housing conditions as good or very good – quite surprising when we consider the widespread opinion that farmers like to complain. However, it should be added that this observation is consistent with the trend of improving living conditions in the countryside observed over several years (CBOS, 2008; CBOS, 2015).

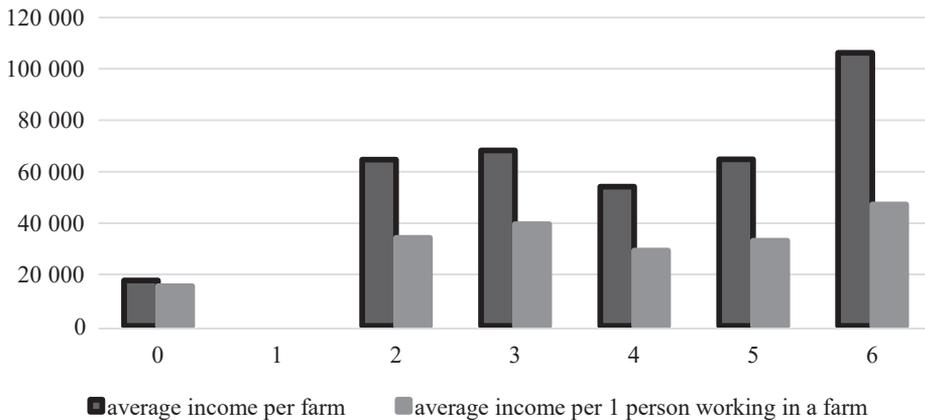


Fig. 4. Average incomes of farmers (PLN) depending on their self-evaluation of their housing conditions (0 – very poor, 6 – very good)

Source: own research.

As shown in Figure 4, the respondents who evaluate their housing conditions as very bad have the lowest incomes, and those who evaluate them as very good have the highest incomes. No clear pattern is visible in the middle groups.

In respect of the incomes, it is worth noting that less than half of the respondents (being commercial farmers) make a living only from farming (Table 1). More than a quarter combine farming and off-farm jobs, 13% live from farming and state transfers, and 10% indicated at least three sources of income.

Table 1. Sources of income of the respondents

Sources of income	Number of farms	Share of the sample [%]
Only farm	282	47%
Farm and off-farm job	167	28%
Farm and state transfers	76	13%
Farm and other	16	3%
At least 3 sources	60	10%
Total	601	100%

Source: own research.

Table 2. Relations between declared level of affluence and sources of income

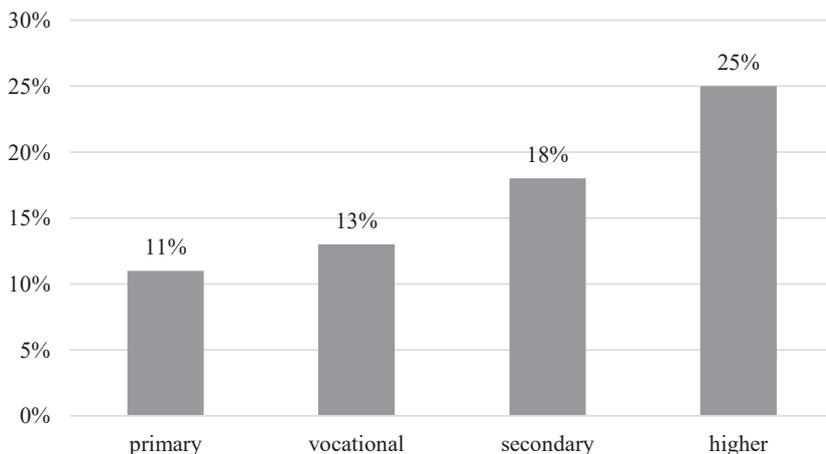
	Rather poor or rather not affluent	Moderately affluent or difficult to say	The most affluent	Total
Only farm	29%	67%	4%	100%
Farm and off-farm job	26%	72%	2%	100%
Farm and state transfers	25%	71%	4%	100%
Farm and other sources	13%	68%	19%	100%
At least 3 sources	47%	51%	2%	100%

Source: own research.

Among those who declared at least three sources of income almost half evaluated themselves as rather poor or rather not affluent (the category “poor” was not chosen by any of the respondents). We can imagine that either their unfavourable financial condition forces them to look for various sources of income, or the lack of specialisation results in rather low incomes (cf. Majewski, 2009). At the same time those who chose “farm and other sources” (probably including own business) very rarely declared being rather poor or rather not affluent, and almost one-fifth of these respondents evaluated their own situation as being “the most affluent” in their village.

Let us now discuss access to technical infrastructure. In Poland as many as 92.2% of rural dwellings have access to communal water supply system (GUS, 2018); only 88.7% of respondents declared they used it for the households.

Only a quarter of respondents drain waste to the sewage system (compared to 40.8% of rural households in Poland (GUS, 2018), and as many as 56% use cesspools.

**Fig. 5.** Share of respondents who use home sewage treatment plants depending on their level of education

Source: own research.

Home sewage treatment plants can be found in 17% of analysed farms. While access to sewage system is dependant on the infrastructure development of a particular commune and on the dispersion of dwellings, building their own sewage treatment plants is the farmers' decision. As shown in Figure 5, the share of farmers who use such a solution rises with the level of education (as many as a quarter of those with a higher education have their sewage treatment plant).

As many as 80% of respondents have no access to gas mains. According to other research, in Poland this situation is shared by 85.4% of farmers in general (EU-SILC, 2018) and 78% of rural inhabitants, with very significant regional differences (GUS, 2018).

Apart from income and housing conditions, living conditions depend also on access to important social services (Figure 6). The respondents were asked to assess the average time they usually need to access selected important institutions with the use of their most usual means of transport. On average this did not exceed 37 minutes, with the easiest access to primary school (11 mins), followed by commune office, a doctor (14 mins), and extension service and secondary school. The longest access time was to the institution of culture (37 mins).

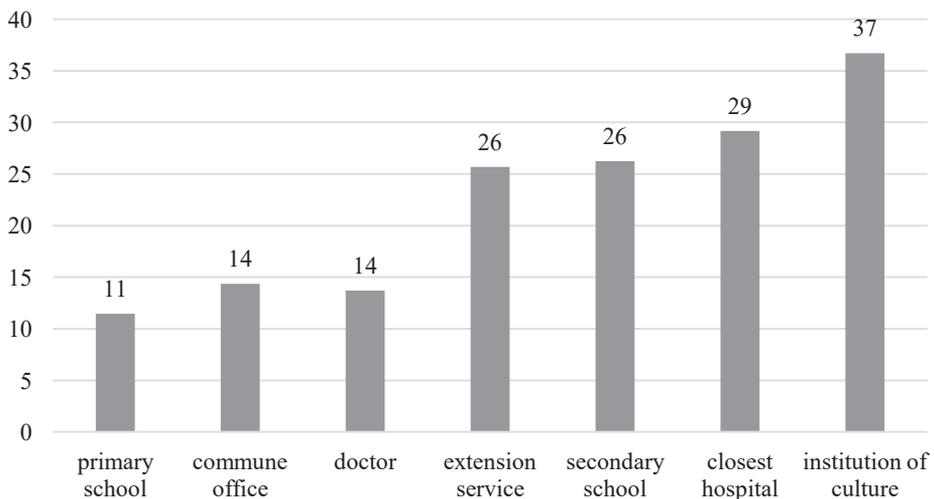


Fig. 6. Average time of respondents' access to selected important institutions with the use of their most usual means of transport (in minutes)

Source: own research.

The respondents described these institutions as easy to access (between 0.66 and 1.74 on a 0-6 scale, where 0 means "very easy" and 6 "very difficult").

According to EU-SILC research, as many as 96.4% of farmers' households own a private car (EU-SILC, 2018), thus access to selected institutions is not too difficult and time consuming. One can imagine that it is much more troublesome for people

who need to use public transport, especially the elderly and disabled. Moreover, this refers only to the problem of physical accessibility, and not – for instance – time spent waiting for the visit, system of registration, and the like. According to EU-SILC research, of those who did not satisfy their health needs in public healthcare system, only 6.4% did so due to the long distance and lack of transportation.

5. Conclusions

Over half of the commercial farmers declared that they were moderately affluent in comparison with the rest of their village inhabitants; they assessed their material situation slightly higher in comparison with Polish rural inhabitants in general. This is understandable when we consider that rural areas are also inhabited by other occupational groups, among them semi-subsistence farmers and pensioners. Self-evaluated affluence goes in line with average income per farm.

The least wealthy farmers have only primary and vocational education, but there are no clear patterns in other income groups. What is interesting is the fact that less than half of the commercial farmers have incomes exclusively from farming - they combine it with off-farm jobs, state transfers, off-farm business (10% indicate more than one additional source of income). Among those who declared at least three sources of income, almost half evaluated themselves as rather poor or rather not affluent.

Most of the farmers evaluated their housing conditions as good or very good. The farmers who evaluated them as very bad have the lowest incomes, and those who evaluated them as very good have the highest incomes, but there is no visible pattern in the incomes of the remaining groups. Access to communal sewage systems is not common, as only 25% of commercial farmers have it. At the same time, 17% of the respondents use home sewage treatment plants and the popularity of the latter rises with the farmers' level of education.

The farmers declared they had relatively easy access (in terms of distance) to such institutions as schools, doctor, extension service, commune office, hospital, and institutions of culture – most probably thanks to the use of private cars.

We could conclude that most of the commercial farmers have relatively good living conditions. Their access to technical and social infrastructure (such as water pipes, health and educational institutions) results from the general level of development of the whole country. On the other hand, the housing conditions and level of affluence of a particular household are determined by its income, which is affected, among others, by support from the Common Agricultural Policy. This support significantly influences the incomes of commercial farmers, enabling the improvement of their living conditions. The living conditions in smaller farms, not included in FADN, are less dependent on CAP support, because their owners usually have other sources on incomes (the actual level of housing conditions should be supported by more hard data). It seems that the most difficult situation is faced by small commercial farmers, who make a living exclusively from farming – more research on their affluence and living conditions is needed.

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