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Determinants and problems of well-being of farming population in Poland and local social innovations in rural areas

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Abstract. The article aims to identify the determinants of well-being of the farming population in Poland. The paper also presents ways to improve the quality of life of farmers through social innovations implemented in Tuchola county and in five municipalities of Hajnówka and Białystok counties. The study was primarily based on a literature review and research materials mainly from individual in-depth interviews and focus group interviews conducted with farmers and key informants. Initial research revealed several specific determinants affecting farmers' well-being; subsequent analysis enabled them to be grouped into four broad categories: spatial and temporal access to health and social services; access to internet and digital solutions; farm succession; and levels of trust and cooperation. Finally, each specific determinant was then mapped to the components of well-being (physical, mental, social) that it impacted most directly. In-depth analysis showed that social innovations related to diversifying farmer' activities, integrating them with the local community, and offering mobile social and healthcare services were solutions that positively influence farmers' well-being.

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1. Introduction

The issue of the well-being (*Note* 1) of rural inhabitants is increasingly being raised in connection with the ongoing processes of spatial concentration of socio-economic development (Gorzelak, 2009). Particular vulnerability to depopulation and its complex consequences like shrinkage of local resources is found in economically mono-functional areas associated with traditional and fragmented agriculture (Stanny et al., 2023). Although the agricultural labour force in rural areas is gradually shrinking, alternative forms of employment have not developed sufficiently in areas of traditional agriculture, where the social structure is primarily composed of people living from non-profit sources and farming-related activities (Stanny & Komorowski, 2024). The areas with dominant agricultural function, which constitute the periphery of the regions, are characterised by intensified processes of ageing and migration outflow. The aforementioned phenomena are accompanied by the accumulation of numerous problems for the population remaining there, which are related to providing adequate access to health and social services and technical infrastructure (Hadyński, 2014; Śleszyński, 2024).

Access to public services and facilities is not only important from the point of view of respecting human rights and the principle of territorial justice but also affects many dimensions of quality of life, such as physical and mental and social well-being (Bielińska, 2023; Wilkin, 2023). Due to structural changes in the economy and socio-demographic processes, the farming population is one group of rural residents particularly vulnerable to deterioration of well-being. Given the maladaptation of the structures of public institutions to dynamic socio-economic changes and their inadequate funding in relation to the tasks entrusted to them, one possible way to improve the position of the considered category of rural residents is through social innovations (Zajda, 2022).

This article attempts to identify non-exhaustive range specific determinants of the well-being of the farming population. At the same time, the study aimed to explore solutions improving the quality of life of people using farms. An in-depth analysis of two such projects with indication of their effects is given particular attention in later section of this paper. The methodological subsection, as well as the empirical materials used for this study, are presented in the next section. However, the main results section of this study includes exploration of determinants of farmers' quality of life based on the literature review and the results of the authors' own field research.

2. Material and research methods

The first research on quality of life – although the term had not yet entered scientific discourse at the time – was conducted in the United States as early as in the 1920s and on the quality of life of farmers two decades later (Ferriss, 2004). Since then, the issue has become area of interest for many disciplines due to the very nature of the phenomenon. Researchers agree that quality of life is multidimensional construct (Barcaccia et al., 2013) and requires comprehensive approach that incorporates both quantitative and qualitative indicators (Paraguassu & Cardenas, 2023), which we tried to do in the study described above.

In this paper, we also use the term "well-being", which is sometimes considered in the literature to be more focused on the psychological and emotional aspects of individual's experience (Costanza et al., 2007). Whereas quality of life encompasses broader range of external factors affecting individual's living conditions, well-being is more focused on the internal, subjective experiences of individuals (Bernard, 2018; Sampson, 2003), which corresponds with ongoing sociological debates on how both individual agency and structural factors influence quality of life (Bernard, 2018).

Sometimes, however, these terms are used interchangeably. As Bunge (1975: 77) wrote:

> Well-being, or the quality of life, has number of components - physical, biological, social, economic, cultural, etc. All of them pertain to the individual/environment interface, where the environment is in turn the aggregate of the physical and the social environments of the individual. Given the richness of both the natural and the social environments, there is practically no limit to what should be investigated to attain adequate knowledge of both the actual and the optimal degrees of well-being.

In our study, we identified both the external determinants affecting farmers' quality of life in the regions studied and considered farmers' subjective assessment of their well-being in terms of indicated determinants.

Given that the issue of well-being determinants of the farming population is interdisciplinary and rarely investigated, the study was divided into stages and adopted triangulation approach of methods (qualitative and quantitative) as well as data and information sources (Fig. 1). In the first step, attempt was made to identify the determinants affecting the quality of life of the farming population in Poland

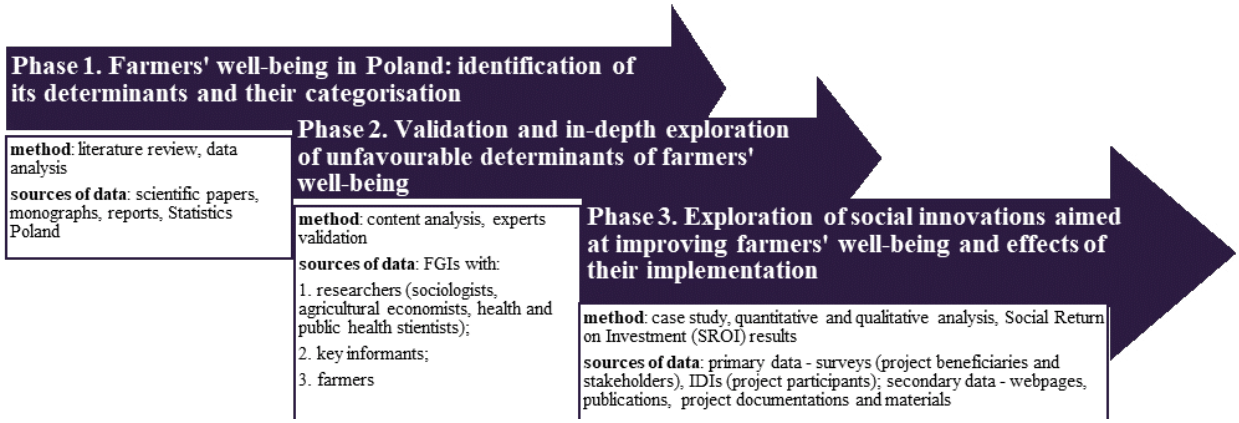

Fig. 1. Research design, data and methods used in the study
Source: own elaboration

based on desk research. The material analysed here consisted mainly of relevant literature on the subject (scientific articles and monographs, thematic reports) and available statistical data. Subsequently, the review allowed for the identification of four main categories of determinants of farmers' well-being. The specific determinants – and categories thereof – affecting the well-being of farming communities in Poland that were identified at this stage of the study were later discussed with farmers and experts associated with the primary sector.

The second stage of the research consisted of verification and further exploration of selected determinants of the quality of life of the farming population in Poland based on the original empirical material. The indicated research activity was carried out from the perspective of regions purposively selected for detailed empirical analysis – primarily the Kujawsko-Pomorskie voivodeship but also, to lesser extent, the Podlaskie voivodeship (*Note* 2).

For this purpose, three focus group interviews (FGI) were conducted with the following groups:

1) researchers specialising in rural sociology, agricultural economics and health sciences;
2) key informants representing local, regional and state public institutions and social organisations related to the agricultural sector and rural development, healthcare and the provision of social services for the rural and farming population (*Note* 3);
3) farmers (*Note* 4).

The composition of the FGI changed slightly over the project duration, but representatives of the above-mentioned groups were always included. It is worth noting that at least half of the FGIs were farmers, as the aim of the research undertaken was to capture their perspective. FGIs were conducted online in the first half of 2021 based on prepared guides and questions (*Note* 5). In the second half of the year, after the pandemic restrictions were lifted, two face-to-face FGI meetings were held – the first to discuss the causes and possible bottom-up responses to the issues identified and the second to present relevant social innovations from across the country, to analyse their effectiveness and feasibility of implementation in the regions under study. It should be noted here that the identification of four main categories of determinants of farmers' well-being, namely: spatio-temporal accessibility to health and social services; the internet and digitalisation; generational renewal (succession of farms) and cooperation/social capital, was result of interconnected research activities, including: (1) scoping review of several dozen publications on rural development and the socio-economic situation of agriculture in Poland published between 2008 to 2024, along with analysis of public statistics from 2016 to 2022 (Czarnecki et al. 2021), as well as (2) the verification made by FGIs' participants (researchers, farmers and key-informants) (Czarnecki et al. 2021). During these FGIs, the identified determinants of well-being were recognised as relevant to the context of the Polish farming sector and rural areas.

The third stage of the study consisted of the analysis of initiatives that were considered to be those dealing with the diagnosed determinants of the quality of life of the farming population (case study). The selection of cases was based on the farmers' and key informants' declarations (stage 2), as well as on the recommendations of partners of the project: "Farmwell – improving farmers well-being through social innovation", who considered them innovative at European level in improving the quality of life of farming communities (*Note* 6). The case study provided analysis of selected effects of two initiatives

implemented in chosen counties of the Kujawsko-Pomorskie and Podlaskie voivodeships (Fig. 2), i.e.:

1) the project entitled "Independently (not) alone – supporting people with disabilities in Tuchola county" ("Independently..."), which involved providing comprehensive assistance to people with intellectual disabilities in the process of becoming independent, based on, *inter alia,* services provided by care farms; and

2) the project entitled "To give what is really needed" ("To give…"), which concerned new approach to the provision of long-term care for the elderly, sick and dependent people in five municipalities located in the Białystok and Hajnówka counties (namely: Gródek, Michałowo, Zabłudów, Narew and Narewka).

Various data and information were collected in 2021–23 in order to analyse the listed project social innovations. This empirical material included secondary data (e.g., financial documentation, information posted on websites, publications on the projects), but also primary data collected by the semi-structured individual interviews, surveys conducted directly and online with the stakeholders of the analysed social innovations (e.g., representatives of institutions involved in the implementation of these initiatives (*Note* 7), beneficiaries) and through on-site observations. IDIs with two female farmers running care farms in Tuchola county as part of the project "Independently…" were conducted by Farmwell project partners, namely KPODR and NewHeroes in April 2023. In May 2023, the Dependent Care Coordinator (KOOZ) working within the "To give…" project was interviewed online by the authors. Subsequently, the collected qualitative data were thematically analysed. On-site observations were made during the two field visits and the implementation of the surveys in 2022 in Tuchola county, when not only the care farms but also the participants' family homes were visited.

At the same time, in the case of the social innovation "Independently…", the results of the Social Return of Investment (SROI) research method were used to identify the social and economic effects of this initiative (Courtney et al., 2023; Courtney & Powell, 2020). The research tool mentioned above was used to determine the monetary value generated as result of implementing this social innovation, which at the same time was aimed at capturing social change (Courtney, 2014).

The considerations presented in this article focus on two concepts: well-being/quality of life and social innovation. The former term is broadly understood as state in which individual is physically, mentally

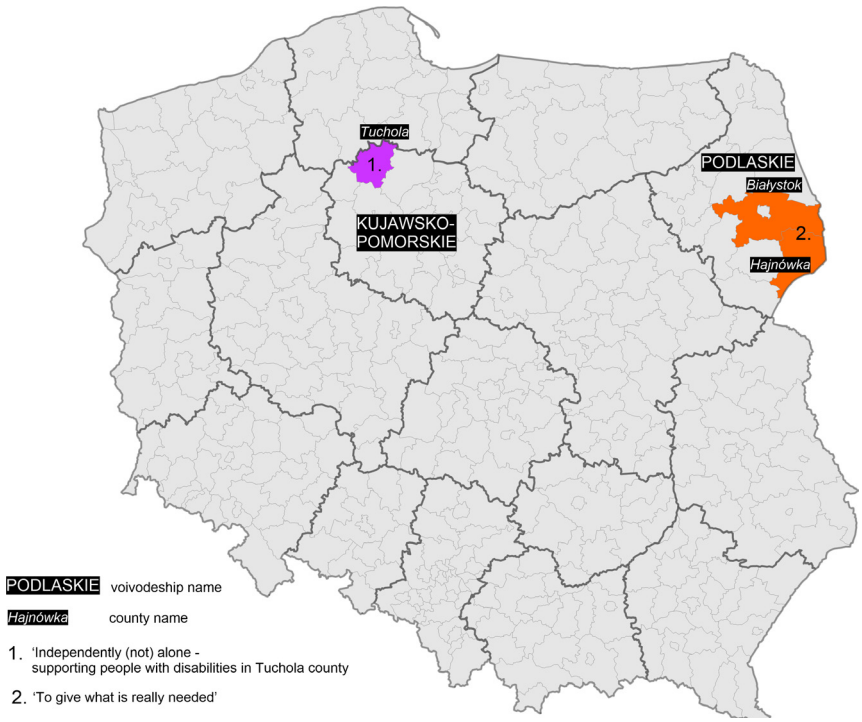

Fig. 2. Illustrative location of the innovations studied
Source: own elaboration

and socially comfortable (Farmwell, 2020). Mental well-being can be defined as the ability to realise individual potential, in which person is not limited by mental health problems such as depression, suicidal thoughts, lack of confidence and self-esteem. Physical well-being is defined as the ability to maintain good health. On the other hand, social well-being is the ability to develop meaningful social relationships with others (Farmwell, 2020). In the paper, social innovation is defined as, following Phills (2009): " novel solution to social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues primarily to society as whole rather than private individuals".

3. Results

3.1. Determinants of farmers' well-being in Poland: literature review

Defining the well-being of farmers as occupational group seems to be difficult task in the Polish context, as it is issue that has not yet been frequently addressed in scientific research and public debate (Wrzochalska, 2006; Hadyński, 2014; Chmielewska, 2016). The analysis of the available literature shows that farmers are occupational group exposed to many inconveniences and negative external factors, among which we should mention the significant exposure to health damage resulting from physically demanding work with various machines and equipment and the impact of biological factors (zoonotic diseases) and chemical factors (pesticides and fertilisers) (Szewczyk, 2012). This is undoubtedly important in the later years of life, especially old age. According to research, elderly rural residents, including those previously having worked on farms, have significantly greater physical difficulties performing daily activities (i.e., "lower functional capacity") than urban populations (Florek-Łuszczki, 2022). Therefore, the problem of the well-being of farmers in the dimension of physical and mental health is strictly conditioned and aggravated by the low spatial and temporal accessibility to health and social care and rehabilitation services in rural areas, as well as the usually inadequate offer of benefits and services of this type there.

As in many other European countries, the healthcare system in Poland is characterised by apparent concentration in urbanised areas (Stępniak et al., 2017). This phenomenon affects not only hospital facilities and outpatient services but also specialised medical services and pharmacies. Research findings indicate that the relatively worst accessibility to medical services, both specialised medical services (e.g., gynaecology and obstetrics, palliative and hospice medicine, psychiatry), and primary care services, was observed in the countryside and especially in peripheral areas (Stępniak et al., 2017).

The situation of young and older women living in rural areas, including women farmers, was particularly unfavourable. This is because limited access to publicly funded gynaecological and obstetric care was noted despite the standards of care being equal across the country (NIK, 2018). Access to palliative and hospice care in rural areas was also very limited compared to urban areas. Depending on the indicator adopted, the number of patients using home hospice in rural areas was 30%, 45 and 50% lower than in urban areas, respectively (NIK, 2019).

Significant spatial inequalities in access to medical services apply to even greater extent to mental health services. Urban residents were almost twice as likely to be treated in outpatient mental health clinics compared to rural inhabitants (Teleon & Włoszczak-Szubzda, 2018). Such significant spatial disparities may indicate large gaps in addressing mental health needs among the rural population. It was reported that, among older people living in rural areas, fewer than 37% of them experienced depressive symptoms. This was relatively more common among women, which could be linked to pervasive traditional beliefs among some rural and farming communities relating to gender roles and the stigmatisation of mental health problems. For example, in the context of the mental health of female farmers, the occurrence of the "undervaluation syndrome", expressed in the feeling of having no effective way to live and limited control over one's destiny, was observed (Bubińska, 2011; Florek-Łuszczki, 2022).

According to the literature reviewed, the Polish countryside, subjected to dynamic population ageing, is struggling with one of the consequences of this process: poor health and insufficient access to health services. In addition, research findings indicate many other factors that determine poor health conditions and exacerbate this phenomenon. These include, among other things, the low income of elderly persons (due to the social insurance of the vast majority of seniors in the Agricultural Social Insurance Fund – KRUS) (*Note* 8) limiting their ability to purchase good quality food, medicines or commercial medical services, as well as social isolation and loneliness (Florek-Łuszczki, 2022). Financial stability can also be significant issue for farmers earlier in life. Studies have shown that farmworkers have higher risk of job

insecurity than non-farmworkers (Wiedeszal-Bazyl, 2008). It is also indicated that the farming population constitutes (just after pensioners and people living on unearned sources of income) the group next most at risk of extreme poverty (Statistics Poland, 2022).

The ageing of the farming population affects the process of generational change in agriculture, which is expressed by the problem of succession on farms. Despite the relatively large number of young farmers, the problem of population ageing is marked among farm managers and the group of other employees in the agricultural sector in Poland, as in many other sectors of the economy (Czekaj, 2016; Eurostat, 2020; Dudek & Rosa, 2023). Among the rural and farming population, fertility rates are decreasing, and many rural municipalities (mainly in eastern and central Poland) are becoming depopulated (Stanny et al., 2018; Statistics Poland, 2020). These processes will increase in intensity in the following years, causing difficulties in establishing families, taking up employment and developing production activities on farms (Gorlach & Drąg, 2019; Stanny & Strzelecki, 2020). In the context of the EU CAP reform, in which support for farms is more conditioned by compliance with number of environmental and climate protection requirements, as well as deteriorating agro-climatic conditions (e.g., increasing water deficit, relatively higher frequency of severe weather events) and increasing price fluctuations on agricultural markets, running profitable agricultural business is becoming significant challenge, which often discourages the young generation from tying their future to the countryside and farms (Zegar, 2020). The low propensity to farm or work on farm and to live in the countryside among children of older farmers is often associated with dilemmas, tensions and conflicts around the ownership of farm assets, as well as challenges to the well-being of seniors and potential successors and successors (Czekaj, 2018). The issue of generational change in agriculture and labour shortages is also often due to the excessive burden of hard work, difficult working conditions, high risk of deteriorating health, limited time for rest, physical and mental regeneration and lack of opportunities for substitution or leave when necessary (Ginter et al., 2016; SureFarm, 2020).

One important aspect of farmers' quality of life is social well-being (Knight & McNaught, 2011). In the context of the mutual relations of farming and non-farming population in rural areas, researchers indicate that these groups are characterised by relatively low levels of social capital, trust and cooperation (Halamska, 2008; Fałkowski & Caian, 2016; Domański, 2018; CBOS, 2022). Regardless of the fact that the level of social relations in the neighbourhood is relatively higher in the Polish countryside, it nonetheless correlated with lower trust in strangers and low willingness to cooperate (Bieńkuńska & Piasecki, 2018). The latter dimension of farmers' social life has long been important from the point of view of improving the profitability of many small and semi-subsistence farms by increasing the scale of production and improving the bargaining position in the agri-food chain, dominated by the processing and trade segment (Milczarek-Andrzejewska, 2014). Social involvement, mainly at the family and neighbourhood community level, has so far limited the creation of larger structures capable of filling gaps resulting from infrastructural deficiencies or representing farmers' interests (Halamska, 2008). The low social activity of the farming population has also been influenced by lack of belief in their subjectivity and agency (Szymczak, 2016). It should be noted that rural and farming communities were distinguished by relatively low trust in organised forms of assistance, and their members were often active outside formal structures (Burdyka, 2020). In addition, the farming population, having specific interests and being group which is shrinking in numbers in the social landscape of rural localities, often feels resentment from non-farming residents. In the countryside, there have often been local conflicts over the use of land and other natural resources among various social groups (Bednarek & Dmochowska-Dudek, 2016). Against this background, the various interests and preferences of rural residents have contributed to deepening sense of social isolation among the minority group, namely the farmers.

The digital transformation towards information society is global process that affects rural residents, including those working in the agricultural sector (Kaleta, 2016). In recent years, there has been increase in rural households with access to the internet and closing of the urban–rural gap in internet access (Batorski, 2015; Janc, 2017). Nevertheless, the uneven development of internet infrastructure on national scale is still marked, which is often observed in areas with predominance of traditional farming activities in the economic structure of given territorial unit (Stanny et al., 2018). Spatial disparities are particularly marked in the aspect of the quality of internet connections. In 2019, on average, high-speed internet connection of at least 30 Mbs was provided to 30% of buildings in rural municipalities, 43% in urban–rural municipalities, and 62% in urban municipalities (Ranking of municipalities, 2019). This is compounded by the phenomenon of inferior internet quality in peripheral areas far from major regional centres (Komorowski, 2024). Considering economic activity, apart from pensioners and other

economically inactive people, it was farmers who used the internet relatively least often (Statistics Poland, 2020). The physical availability of high-quality internet and the relatively low propensity to use it in farm management is often linked with the low degree of digitalisation of agriculture in Poland, including, in particular, the limited uptake of precision farming and agriculture 4.0 solutions (Klepacki, 2020). In this context, it should be emphasised that modern digital devices are nowadays essential condition for maintaining competitive position on agricultural markets (as these technologies reduce labour costs and the use of inputs for agricultural production), but also for decreasing the adverse impact of farming on the natural environment and climate (Lorencowicz, 2018; Ekielski et al., 2023).

A summary of the literature review on determinants of farming population well-being in Poland is provided in Table 1.

3.2. Determinants of farmers' well-being: validation and in-depth analysis based on interviews with key informants

3.2.1. Spatio-temporal accessibility to health and social services

The farmers and participants attending in the FGI rated access to specialists, whose surgeries were mainly available in regional centres, the worst. Some of the participants declared that commuting to the city was not problem for them, due to their already needing to have car because they lived in the countryside: "Commuting is, for farmer, the least of the problems because he has to be mobile anyway, because he lives where he lives" (FGI 27.05.2021). However, some were discouraged by the extended distance from making visit due to the time it takes: "Well, and sometimes when you don't get (to the doctor) anymore, when you have to go somewhere far away, you just sometimes don't want to anymore. You get discouraged from going" (FGI 27.05.2021). Experts also noted that, for many people, having to commute to city can be serious inconvenience not only because of the insufficient number of public transport connections (in some municipalities public transport does not function during school holidays) but also because of mental barrier, fear of getting around in urban traffic (FGI 15.06.2021).

This gap could not be filled by county hospitals, which closed down unprofitable wards due to the logic of economic management of limited resources. Moreover, they faced the problem of staff shortages, which directly translated into the quality of services provided. Respondents, including farmers, assessed county hospitals as providing inferior services due to lower staff qualifications (FGI 27.05.2021). The problem of the low attractiveness of rural areas as place to work for doctors and their families was raised several times in the FGIs: "these staff of nurses and doctors unfortunately flee to big cities. It is known – there are different salaries and other opportunities for development. These county hospitals are becoming so marginal, people are bit afraid to go there, (...) they prefer to go to the big city" (FGI 27.05.2021).

similar unfavourable distribution of accessibility can be observed in the case of social services, including care services for older rural residents. Although the structure of social assistance in Poland covers all territorial levels, in practice, services are not provided at the same level everywhere. Some social welfare centres (GOPS) located in rural municipalities did not provide care services due to combination of factors. These constraints are due to the fact that caregivers employed at the GOPS did not have access to company car, which prevented them from reaching those in need (caregivers often commuted to their charges by bicycle). In addition, the burden of caring for dependents is taken off public institutions due to prevailing socio-cultural norms. In rural areas, the traditional family model was strongly present, assuming the implementation of care services within multigenerational family, placing these duties on women (FGI 15.06.2021). However, the traditional model of intergenerational care was, according to the FGI participants, not very efficient – the family does not have the time to take good care of the senior, and the elderly do not want to be burden. According to the FGIs' participants, the institution of neighbourhood help could also still be counted on, especially in emergency and crisis situations (FGI 15.06.2021).

Limited access to medical and social services had negative impact on the quality of life of rural residents – primarily in the physical dimension but also in the mental and social aspect of well-being. Due to the time needed to get to specialist, farmers often refrained from visiting doctors or performing preventive examinations. These attitudes were reinforced by specific work ethos that included the imperative to be constantly active on the farm: "the farmer has no time to get sick" (FGI 27.05.2021). There was common belief that, as long as health problem did not prevent one from working, treatment was unnecessary. The opinion of those in one's immediate environment was also of no

Table 1. Determinants and problems related to the well-being of farming population in Poland: literature review

Broad categories of determinants of well-being	Specific determinants of well-being	Impact on the components of well-being		
		physical	mental	social
spatio-temporal accessibility to health and social services	high exposure to occupational diseases and accidents at work (Szewczyk, 2012)	X		
	relatively lower functional capacity (Florek-Luszczki 2022)	X		
	poorer accessibility to specialist medical services and to emergency departments (Stępniak et al., 2017; NIK, 2018; 2019; Teleon & Włoszczak-Szubzda, 2018)	X	X	
	frequent depressive symptoms and undervaluation syndrome (Bubińska, 2011, Florek-Łuszczki, 2022)		X	
	ageing, low income and risk of poverty (Florek-Luszczki, 2022, Statistics Poland, 2022)	X		
	greater risk of job insecurity (Wiedeszal-Bazyl, 2008)		X	
access to the internet and digital technologies	relatively worse internet speeds in rural areas (Ranking of Municipalities, 2019)			X
	relatively lower propensity of farmers to use the Internet (Statistics Poland, 2022)			X
	lower farm competitiveness (Lorencowicz, 2018, Ekielski et al., 2023)		X	X
	more significant negative impact of agricultural activities on the environment and climate (Lorencowicz, 2018; Ekielski et al., 2023)			X
	higher costs and physical workload (Ekielski et al., 2023)		X	X
generational change (farm succession)	difficulties in forming families, entering employment and developing agricultural activities (Gorlach & Drąg, 2019; Stanny & Strzelecki, 2020)		X	X
	inter- and intra-generational tensions and conflicts around ownership farm assets (Czekaj, 2018, Dudek, 2023b)		X	X
	the outflow of young people from family farms and the functioning of the senior generation (Czekaj, 2016, 2018)	X	X	X
	the relatively low scale of organised joint selling (Fałkowski & Ciaian, 2016)			X
cooperation/social capital	low bargaining power of farmers in the agri-food chain (Milczarek-Andrzejewska, 2014)			X
	limited representation of interests (Halamska, 2008).			X
	mutual incomprehension and local conflicts (Bednarek & Dmochowska-Dudek, 2016)		X	X

Source: own studies based on the literature review

minor importance in health decisions. It happened that farmers did not want to use existing forms of support because they feared the assessment of neighbours who might criticise the decision to transfer care responsibilities to established institutions. This would mean that the family was not fulfilling the traditionally assigned role (FGI 15.06.2021).

The repertoire of traditional methods of coping with the unavailability of public services (neighbourhood help, women's care work in the family) is being expanded by farming and rural communities. When the wait to see specialist is too long, they opt for private appointments. This is especially true for rehabilitation and physiotherapy, critical areas for farmers often affected by musculoskeletal injuries (FGI 27.05.2021). The use of private dental care was also common practice (FGI 27.05.2021). However, there were also situations where patients chose to call the emergency room or travel to the emergency department to avoid queues. Respondents were aware that this behaviour was abusive but felt justified due to the circumstances (FGI 27.05.2021).

3.2.2. Access to the internet and digital technologies

According to the FGIs' participants, the internet has greatly facilitated interpersonal communication, and new technologies are essential for running competitive farm. Unfortunately, their availability in rural areas was limited. Even in the case of modern farming solutions, service repairs requiring specialist to come from distant parts of the country were problem, as local mechanics were not competent enough (FGI 27.05.2021).

The surveyed farmers saw the positive sides of digitalisation – the possibility of saving time and easy access to information. However, young farmers in particular were keen to use the new technologies, seeing it as one of the tools for finding information related to their production profile. New technologies also created new opportunities for agricultural development, such as precision farming. However, the possibility of implementing these solutions was limited due to the financial barrier. Farmers saw some opportunity to overcome it by associating and sharing investment costs and modern equipment (FGI 27.05.2021), but they had concerns about such solutions.

The older farmers surveyed described themselves as "analogue". Although they were aware of the benefits of the new information and communications technology, they also highlighted the risks of using them. Among them was the loss of social ties, exacerbated especially during the COVID-19 pandemic, when, on the one hand, young people moved their entire social life to the internet, isolating themselves from their peers, and, on the other hand, social exclusion on many levels was experienced by those who were less digitally competent. This problem mainly affected the elderly, who – while being cared for by their children and/or grandchildren – did not want to ask for help in learning how to use computer or smartphone so as not to add to their relatives' responsibilities and be burden to them (FGI 15.06.2021).

The lack of digital competence translated into sense of technological exclusion and less access to information, and this could lead to further consequences. It appears that farmers were often unaware of the services provided by public institutions, and although some solutions were implemented, access to them could be limited (FGI 15.06.2021). The solutions indicated included courses for older people organised by local government units or NGOs. As one of the informants noted, older people felt better when attending computer courses in peer groups – they then do not feel in any way inferior to the instructor and, at the same time, have the opportunity to participate in social gathering (FGI 15.06.2021).

3.2.3. Generational renewal (succession of farms)

The farmers and key informants interviewed drew attention to the historical and cultural context of farm transfer and the role of tradition, which as much as administrative procedures influence how the farm is transferred. In the model case, the farm is passed from generation to generation within one family. The attachment to the land and the value attributed to the fatherland are still important factors in the decision to pass on the farm. One expert pointed out:

> Very often we encounter this attitude of these farmers-retirees in inverted commas, …I will say, that they do not want to dispose of their paternal property, they do not want to give it to stranger, because if they do not have person in the family to whom they can pass on the farm, well, they do not want to give the farm to stranger. But sometimes there are also cases where they don't want to hand it over in the family either (FGI 15.06.2021).

Farmers themselves emphasised in this context the sentiment and attachment to the farm, which indicates the considerable importance of the emotional factor (FGI 27.05.2021). According to the interviewed FGI participants, the younger generations, seeing the hardship their parents face, do not want to tie their careers to this sector:

> Young people prefer to go to work, and so proverbially, every month, this payment is certain. And now on the farm, from our point of view, nothing is certain. (...) Our youth prefer to go somewhere abroad, to get easy money, to get certain money, rather than to stay on the farm. (FGI 27.05.2021).

This has often led to situation in which successors only formally take over the farm but, in reality, work outside of farming and lease the land to larger agricultural companies. This is leading to the disappearance of family farms and the concentration of agricultural resources. Informants pointed out that the problem with succession was not only in small, low-income farms but also in well-functioning enterprises, where the family had the opportunity to educate their children and provide them with career opportunities outside the agricultural sector (FGI 15.06.2021). Increasingly, farmers perceiving other career opportunities were educating their children for work outside of agriculture (FGI 27.05.2021).

Nor did the low attractiveness of the countryside as place to live encourage young people to take up farming. This was related to the level of access to public services already described in this article. For example, the farmers participating in the FGIs were aware of these limitations:

> Young people have their expectations. Their needs are known, and they need to be met: access to good education, to good healthcare, to some kind of entertainment, respect for the farmer's work, for the farming profession (...) The problem is very complex and requires really deep analysis of how to remedy it, because in while there will be no people willing to run farms (FGI 27.05.2021).

In the absence of successors, farmers considered selling the land or leasing it for wind or photovoltaic farms (FGI 27.05.2021). One of the indicated strategies to cope with the pressure caused by the uncertainty of succession was also to ignore the problem:

> I will say it in peasant terms. When I'm busy, I don't think about it, and since I'm busy, I try not to think about it. I live my life so that I do what I do well, and if something – God forbid – happens to me, then let the children worry about it themselves, what to do about it (FGI 27.05.2021).

3.2.4. Cooperation and social capital

One of the FGI participants stressed that the strong social ties observed in typical farming communities are weakening. This phenomenon is influenced by the resurgence of clientelism and clan rules, which still affect the functioning of village social life (FGI 26.04.2021).

The issue of social trust and cooperation was present in the discussions of all the listed challenges faced by rural population, including farming communities. Key informants drew attention to the disappearance of interpersonal ties, linking it to the development of new communication technologies that reduce the possibility of meeting each other. Traditionally, the meeting place was the church and other places of worship, the shop or the village leader's house. Nowadays, however, it was pointed out that fewer and fewer people attend religious events, shopping is done online, and taxes – instead of via the village head – are paid online. Farms are becoming "lonely islands", which is also due to excessive workloads and lack of time for socialising: "The farmer is so busy at the moment that he is busy with his farm from morning to evening, and when he has some time he wants to relax" (FGI 27.05.2021). The reasons for the low level of social capital were also seen by the interviewees in the education system, which does not teach cooperation-oriented attitudes, as well as in the system of values passed on in the process of raising young people, where there is still strong emphasis on competitiveness and ill-conceived independence (FGI 27.05.2021). Historical conditions were also referred to, citing the failed attempts to collectivise agriculture in the communist times and the mentality of the rural population: "When we have hard time, it doesn't work out, and even when neighbour is born, we are not happy about it. Such are our vices. Not that my cow give more milk, but that the neighbour's cow die" (FGI 27.05.2021).

At the same time, farmers were still convinced of the vitality of the institution of neighbourly assistance, which appeared as one of the more frequently used ways of dealing with the challenges described. However, interviewees emphasised that its nature had changed: "Because if I buy combine today, I don't need anything, no neighbour to

help me. When I had threshing machine, I had to summon seven neighbours to complete the process line" (FGI 27.05.2021). "No more mercy, no more help; today neighbour comes to help me plough or sow, no problem, we agree on rate, … I pay him per hour, how it pays me, because I don't have the machine. He does it, he agrees to it, I pay him; there is no him helping me and me then making it up to him" (FGI 27.05.2021).

3.3. Social innovations aimed at improving farmers' well-being: case study

3.3.1. Social innovation: 'Independently (not) alone - supporting people with disabilities in Tuchola county"

Accumulated experience (*Note* 9), the involvement of many people and institutions and the acquisition of source of funding (the EU financial support) made it possible in Kujawsko-Pomorskie to start the project entitled: "Independently (not) alone – supporting people with disabilities in the Tuchola county". The initiative was implemented from 2019 to 2023 with the European Social Fund funding under the Operational Programme Knowledge Education Development (Lesiewicz, 2023). This undertaking served to test and introduce new model for supporting adults with intellectual disabilities, based, among other things, on therapy provided on farms (Folder, 2023).

The initiative was implemented by four institutions, namely two public entities and two non-governmental organisations (*Note* 10). The support offered in the new model for adults with intellectual disabilities consisted of various activities and services, from participation in life and work on care farms, to therapies, rehabilitation, development activities and counselling, to contact with nature and animals. Activities carried out at various locations over set period were intended to support the project participants in their process of becoming independent. The project assumed comprehensive and gradual support, depending on the readiness of the mentees, including: daytime stay in the "Open Integration Point" – taking place on farm and involving active participation of people with intellectual disabilities in the life of the farm and in specialised activities to strengthen their life skills and independence; 24-hour on-farm support in "Training Apartment" where people with intellectual disabilities acquired independent living skills with 24-hour care; and temporary and limited assistance for these people in "Supported Apartment", where project participants lived independently (Folder, 2023).

Support for people with disabilities was provided by both farmers and caregivers from care farms, who had the appropriate training, as well as specialists in various fields (including psychology, psychotherapy, rehabilitation, legal counselling, vocational counselling and activation, speech therapy or coaching). The activities undertaken were supervised and monitored by supervisors and coordinating team, which included person representing the health service, the non-governmental sector, social integration entity and carer of the disabled person.

As shown by the survey results, face-to-face interviews and on-site observations, the majority of mentees, their families and farmers declared their desire to continue participating in the project because of the positive social, mental and economic effects revealed to them. Additionally, the research conducted by UGLOS using the SROI method indicated that, between 2019 and 2021, the social innovation analysed produced well-being outcomes for the farmers, the guests and their carers, and the wider local community alike (Czarnecki et al., 2023). Obviously, the most significant contribution to the value created by the project was the increase in the level of personal well-being of the farms' disabled mentees, which consisted of improvements in well-being, self-confidence, life satisfaction and independence (Courtney et al., 2023). The project under consideration also increased the psychological well-being of the farmers through improved self-esteem and skills. Also crucial for the "Independently..." project was the economic dimension, which consisted of cost reductions for care and activation by families of people with disabilities and the development of skills and professional activation of this group (Courtney et al., 2023). Analysing the project's effects, there were negligible effects on the social well-being of those involved, including the farmers.

Associated with the functioning of the described social innovation was the problem of its economic sustainability (financial self-sufficiency). The example of the project "Independently…" due to the problematic material (financial) situation of large part of the families of people with intellectual disabilities in Tuchola county showed that, in the current economic and systemic conditions, there is limited possibility for the model of care farms to function in typical market conditions. For this reason, those involved in its implementation pointed to the need to develop various forms of public

support for this model (financial, organisational, administrative and social). At the same time, among potential recipients of care farm services (families of persons with disabilities) for whom the financial barrier was not problem, there was need to intensify information, promotion and marketing activities related to the offer of care farms.

3.3.2. Social innovation: "To give what is really needed"

Podlaskie Voivodeship in northeastern Poland is peripheral area with high importance of agriculture in the economy, where ageing and out-migration processes are strongly marked. The adverse demographic situation, underfunding of the public health and care system, relatively dispersed settlement network and underdeveloped public transport resulted in very limited access to health and social services (Michalska et al., 2024). This was also the case for farming communities in the Podlaskie Voivodeship, especially for older farmers living on low social benefits. In their case, their living situation (often, living alone and on low income) translated into difficult material situation and far-from-satisfactory level of meeting health needs, and thus low quality of life. The situation was particularly difficult concerning medical, hospice, palliative, long-term care, and physiotherapy and psychological care for people at the end of life. The problem of older people from farming families and communities was exacerbated by the low activity of municipal governments in obtaining external funding for healthcare, especially palliative care. It is worth noting that the limited access to healthcare or replacement services for older people who were members of farming families was also additional burden for their relatives and household members who were often engaged in labour-intensive dairy farming.

The "To give…" social innovation was initiative that created model of professional home care for dependent and terminally or chronically ill people and other support activities in rural areas in north-eastern Poland. The EU-funded project was initiated in 2020 in several municipalities in the Podlaskie Voivodeship by the Prophet Elijah Foundation (PEF) in Michałowo, supported by other public and social entities. The activity of the PEF in the provision of home hospice services in the area began several years before the project and also expanded to include the operation of rural inpatient hospice (Grabowski, 2023).

The "To give…" social innovation aimed to eliminate or alleviate the marked inefficiencies of the public healthcare system. In contrast to the rigid support provided by it, the project under study offered flexible support tailored to individual needs by providing residents with the services of specialised staff (interdisciplinary team of hospice and palliative care in the homes of those in need, including the work of doctors, nurses, carers, physiotherapists, dieticians, psychologists), who were not usually available due to staff shortages or poor quality of services (Michalska et al., 2024). The project provided services free of charge, helping to address the issue of low income among former farmers. The activities of local support networks, which consisted of local community leaders, volunteers and neighbours, were integrated into the initiative. The local support network, the second important element of the innovation besides the team, offered specific services such as transport and social support. final key component of the implementation of "To give…" was the work of the Dependant Care Coordinator (KOOZ), who identified patients' needs and organised support network activities locally (Michalska et al., 2024).

Thanks to the activities of the Prophet Elijah Hospice, services were provided under innovative model for people suffering from diseases not reimbursed by the National Health Fund (NHF). As result, access to healthcare in the rural areas covered by the hospice improved significantly. Through the activities of KOOZ, support network in the Podlaskie Voivodeship continued to be built. Concrete social effects, such as building and maintaining contacts between local actors and institutions, were observed. The well-being of sick and dependent rural residents, including former male and female farmers, improved significantly. The interviewed KOOZ reported on the effects of the activities to date as follows:

> Throughout this period, we have already noticed that being able to be at home and be sick (but) in one's own bed increases (patients' and clients') sense of security, and we see this at our visits when this smile and invitation to the next visit is such expression of gratitude, and this motivates us to continue working for the clients … (IDI 26.05.2023).

Regular visits by doctors, nurses and caregivers, in addition to medical activities, provided the residents with sense of security and support. This gave family members of patients, including those who run farms, the opportunity to take time out and redirect their efforts to other professional

activities and to rest and recuperate. The benefit to the community was wider range of healthcare services, as well as improved social well-being and social capital through the involvement of various community actors in creating local support network.

4. Conclusions

This article focuses on the important issue for the social sciences, namely well-being, distinguishing its three dimensions: physical, mental and social. Capturing this problem is undoubtedly challenge, not only because of the methodological difficulties of measurement due to the inherently subjective nature of the phenomenon, but also due to its interdisciplinary nature and differences in how it is understood. The presented research results focus on the well-being of farming agricultural population in Poland, i.e. issue that has not often been addressed. At the same time, the spatial dimension of the quality of life of people linked with farms and agricultural activities has been given important place in the considerations and analyses presented. Farmers and their families, who are still significant part of rural communities in Poland, face specific difficulties in everyday life related not only to their place of residence but also to the specificity of their work. The spatial factor determining the peripheral location of the group's functioning in question and their professional activity, additionally differentiated by different agro-climatic, natural and economic conditions (specialisation of agricultural production) of conducting farming practices, significantly determine their health, mental and social situation. This is due to the spatially uneven distribution of various services and institutions affecting the location of individuals and groups.

For this reason, the study identified specific determinants affecting the quality of life of the farming population in Poland and grouped them into four broader categories. Based on the literature review, four such determinants were distinguished, namely: spatiotemporal access to health and social services, access to the internet and digital technologies, generational change (farm succession), and trust and cooperation. The accuracy of the analysis carried out was confirmed by experts, pointing to the horizontal dimension of cooperation and social capital, factor that overlaps with the other determinants. The qualitative method adopted in identifying general determinants of farmers' well-being, based on literature review and further verified by other researchers and key informants, proved to be relatively accurate. Nevertheless, the result of selecting broad determinants needed to be deepened by identifying specific problems related to the quality of life of the farming population, including the need to increase its territorial approach. Therefore, the study focused on presenting the issue in regional and local dimension. Based on FGI with farmers from the Kujawsko-Pomorskie voivodeship and representatives of relevant institutions and organisations (from central to regional and local), attempt was made to identify specific determinants affecting well-being linked to their general conditions. The study documented the marking of several problems defining quality of life in the physical, mental and social dimensions. These included unmet health and social needs due to the poor quality of local health services and inadequacies in the public transport system and social assistance, high physical and mental workload, attachment to traditional values and roles, or deficiencies in internet infrastructure and digital support services in rural areas. At the same time, ways to overcome these difficulties were suggested, such as: intergenerational support within families, neighbourhood support, sharing digital solutions or purchasing health and social services on the private market.

The analysis showed that limited access to medical and social services negatively affected farmers' well-being – primarily in the physical dimension but also in the mental and social dimension. From this point of view, social innovations play important role in improving the life situation of the analysed socio-occupational group, especially in the context of the observed spatial inequalities in access to public services. They are playing increasingly important role in European and national policies and are emerging as good practices described in foreign literature and implemented in many EU regions.

The study shows that some of the identified conditions and problems have answers positively influencing the improvement of well-being include initiatives related to the provision of social services on farms and covering the farming population with mobile health and care services. This article presents example of projects implemented in two voivodeships in Poland: Kujawsko-Pomorskie (in Tuchola county) and Podlaskie (in five municipalities in Białystok and Hajnówka counties). In the areas mentioned, where, due to the important economic and social role of agricultural production and intensive population changes (ageing, migration outflow), numerous issues concerning the quality of life of people connected with farms were

marked. At the same time, initiatives of innovative nature emerged there in response to emerging social problems. Based on the implementation of the projects discussed in the article, several recommendations can be made for national policies, particularly in the areas of agriculture, regional development, social welfare and health. For instance, the "Independently…" initiative advocates for the establishment of mechanism to support the development and stability of care farms. This should involve creating favourable legal framework for providing care at these farms and, in the short term, offering public financial support. In the long run, the focus should shift to non-financial solutions, such as fostering networking opportunities, raising awareness about care farms within communities, and training farmers and their families to deliver care services. Similarly, the "To Give What Is Really Needed…" project emphasises the importance of integrating flexible approach to health and hospice care in peripheral areas as standard practice within the national health and social policies. Additionally, the support model should be built and sustained through local social networks. Equally importantly, such innovations should take place in well-equipped environment. While they require prepared people and funding in the first place, they should be able to access digital technologies, technical infrastructure, and related services.

Notes

1. In the article, the terms "quality of life" and "well-being" are used interchangeably.

2. The given selection of voivodship stemmed from the situation in agriculture and rural areas reflected the trends observed in the country, as well as for organisational reasons (good access to respondents and their openness to participate in the study). There was also the necessity to limit the scope of observations due to the coronavirus pandemic. It is worth mentioning that the structure of the local economy in Podlaskie and Kujawsko-Pomorskie voivodeships was dominated by municipalities where agriculture (both traditional and large-scale commercial) played important financial role for the population (Stanny et al., 2023).

3. Among the participants of the FGI were, inter alia, persons representing: Ministry of Agriculture and Rural Development (MRiRW), Agricultural Social Insurance Fund (KRUS) unit in Bydgoszcz, Regional Social Assistance Centre (ROPS) in Bydgoszcz, Municipal Social Assistance Centre (MOPS) in Nakło nad Notecią, Tuchola County Family Support Centre (PCPR) in Tuchola, Kujawsko-Pomorskie Agricultural Advisory Centre (KPODR) in Minikowo, Local Action Group (LAG) Bory Tucholskie, Lubiewo Municipal Office, Kujawsko-Pomorskie Voivodeship Office.

4. Six persons took part in the FGI – three female farmers and three male farmers from farms with various economic potentials and production specialisations (mainly crop and livestock production) from the Kujawsko-Pomorskie Voivodeship.

5. The online form of conducting the FGI was chosen due to the SARS-CoV-2 virus pandemic.

6. The initiative was funded by the EU under Horizon 2020 programme and was aimed at improving the quality of life of farmers, their families and farming communities in Europe by identifying problems and increasing the availability of new solutions. The project "Farmwell..." was implemented in 2020–23 by sixteen scientific, social and public entities and organisations from Belgium, Greece, Poland, Hungary, Italy and Romania, see https://farmwell-h2020.eu/. The social innovations analysed in the paper are listed in the European Social Innovation Database: https://farmwell-h2020.eu/social-innovations/ (Accessed 17.09.2024).

7. Surveys were carried out to collect the data to determine the impact of social innovation analysed on the farmers' well-being using the SROI method. Modelling was carried out by one of the Farmwell project partners, namely the University of Gloucestershire (UGLOS). Specifically, the survey group included: care farm holders (3 persons), their family members (9), people with intellectual disabilities (40 care farm mentees) and their families (22), people involved in the project implementation (5 counsellors, 8 therapists), representatives of partner organisations and institutions (29) (Czarnecki et al., 2023). For the implementation of the SROI method, the necessary data and information, adapting them to the local context, were collected by the authors with the support of KPODR and PCPR in Tuchola employees.

The formulation of the questionnaire and online surveys, as well as the modelling of the SROI, were carried out by the University of Gloucestershire team.

8. The basic KRUS pension was PLN 1781. In contrast, the average ZUS pension was 3272 (in March 2024) (KRUS 2024, ZUS, 2024).

9. The initiation of care services as alternative form of farm business for farmers in the Kujawsko-Pomorskie voivodship dates back to the turn of the 1990s. At that time, after being influenced by study tours to Western European countries and domestic inspiration drawn from the Podkarpackie and Lubelszczyzna regions, people involved in agricultural consultancy and local development decided to spread the idea of care farms in the region. The acquired knowledge and contacts translated into the possibility of implementing projects and activities, the launch of which coincided with Poland's membership in the EU and obtaining the necessary financial support, coming mainly from EU funds.

10. Kujawsko-Pomorskie Agricultural Advisory Centre in Minikowo (KPODR), which coordinated the functioning of the project and the County Family Support Centre (PCPR) in Tuchola, the leader and organiser responsible for project implementation, organisation and monitoring of activities undertaken for people with intellectual disabilities. NGOs partners in implementing the project were: Polish Association for Persons with Intellectual Disability, unit in Chojnice and Association of Parents of Children with Special Needs in Tuchola.

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