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ATTITUDES ET PERCEPTIONS OF RURAL YOUTH TOWARDS AGRIBUSINESS AS A PROFESSION IN A POST-CONFLICT CONTEXT. EVIDENCE FROM SOUTH-KIVU IN THE DEMOCRATIC REPUBLIC OF CONGO

ACTITUDES Y PERCEPCIONES DE LA JUVENTUD RURAL HACIA LA AGROINDUSTRIA COMO PROFESIÓN EN UN CONTEXTO DE POSCONFLICTO. CASO DE LA PROVINCIA DE KIVU DEL SUR EN LA REPÚBLICA DEMOCRÁTICA DEL CONGO

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ABSTRACT

The global demographic dynamics with increasing number of young people will have varying socio-economic effects on low-income countries. The extreme youth poverty, particularly in rural areas, is still much higher than the global average. Creating more and better jobs for young people is therefore an urgent priority of the century. Despite the recognized driving role of the agribusiness in economic growth, job creation and poverty reduction, there is evidence of youth disengagement towards agribusiness. The main objective of this study was to analyze the attitudes and perceptions of rural youth towards agribusiness as a profession in South Kivu, a post conflict area. To deeply understand the complexity of the issue, a systemic approach was used. A Likert-type questionnaire with a 5-points scale was developed to survey 456 rural youth aged 15 to 35 randomly selected using the Bernoulli Urn technique. SPSS software was used for descriptive and inferential statistical analysis. The Mann-Whitney and Kruskal-Wallis tests were used to compare the perceptions scores of the different groups analyzed. The study revealed that 53.5% of young people have a negative attitude towards agribusiness, 29.8% display a neutral attitude and only 16.7% of them show a positive attitude. 76.3% confirmed that they can only engage in agribusiness when they have no other job. 77.6% declared that agribusiness cannot enable them to meet all their basic needs. The study revealed a statistically significant difference in personal and societal perceptions scores between different age groups, between men and women, as well as between different youth education level groups. A statistically significant difference in the economic perceptions scores was observed only between the different survey areas. The study recommends a new dynamic of

awareness-raising in favor of agribusiness profession, involving education system, media, and development actors.

RESUMEN

Palabras clave:
actitudes, percepciones, juventud rural, agronegocios.

La demografía dinámica mundial con un número creciente de jóvenes tendrá efectos socioeconómicos variables en los países de bajos ingresos. La pobreza extrema de los jóvenes, especialmente en las zonas rurales, sigue siendo muy superior a la media mundial. Crear más y mejores puestos de trabajo para los jóvenes es, por tanto, una prioridad urgente del siglo. A pesar del papel impulsor reconocido de la agroindustria en el crecimiento económico, la creación de empleo y la reducción de la pobreza, hay evidencia de desconexión de los jóvenes hacia la agroindustria. El principal objetivo d'este estudio fue analizar las actitudes y percepciones de los jóvenes rurales hacia la agroindustria como profesión en Kivu del Sur, una zona de posconflicto. Para comprender profundamente la complejidad del tema se utilizó un enfoque sistémico. Se elaboró un cuestionario tipo Likert con una escala de 5 puntos para encuestar a 456 jóvenes rurales de 15 a 35 años seleccionados al azar mediante la técnica de la Urna de Bernoulli. Se utilizó el software SPSS para el análisis estadístico descriptivo e inferencial. Se utilizaron las pruebas de Mann-Whitney y Kruskal-Wallis para comparar las puntuaciones de percepción de los diferentes grupos analizados. El estudio reveló que el 53,5% de los jóvenes tiene una actitud negativa hacia la agroindustria, el 29,8% muestra una actitud neutral y sólo el 16,7% de ellos muestra una actitud positiva. El 76,3% afirmó que solo pueden dedicarse a la agroindustria cuando no tienen otro trabajo. El 77,6% declaró que la agroindustria no les permite cubrir todas sus necesidades básicas. El estudio reveló una diferencia estadísticamente significativa en las puntuaciones de las percepciones personales y sociales entre diferentes grupos de edad, entre hombres y mujeres, así como entre diferentes grupos de nivel de educación juvenil. Se observó una diferencia estadísticamente significativa en los puntajes de las percepciones económicas solo entre las diferentes áreas de la encuesta. El estudio recomienda una nueva dinámica de sensibilización a favor de la profesión de agronegocios, que involucre al sistema educativo, los medios de comunicación y los actores del desarrollo.

Introduction

The world is currently upset by a socio-economic dynamic marked by the high demographic growth. The world's population is expected to increase by 2.2 billion people over the next 30 years, from the current 8 billion to 9.7 billion in 2050 and peaking at 10.4 billion in 2080. The United Nations Department of Economic and Social Affairs (UNDESA, 2022, 2019) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ, 2020) indicate that most of the increase in the world population will take place in Sub-Saharan Africa where the population is expected to double by 2050 . With this rapid population growth, food insecurity, youth unemployment and underemployment have become serious challenges in many developing countries as shown by the Food and Agriculture Organization of the United Nations (FAO, 2021).

In Sub-Saharan Africa, nearly 20% of young people aged 15-24 and 30 % of those aged 25-34 have no formal education (Filmer & Fox 2014 in GIZ, 2020) and will have therefore difficulties in integrating the labor market. The study conducted by the Organization for Economic Co-operation and Development (OECD, 2017) in 32 countries located in Africa, Asia, Europe, Latin America, and the Caribbean reveals that most young people (15 – 29 years old) entered the labor market with high career aspirations, resulting in a huge gap between the aspirations of young people and the labor market reality. It should be noted that young people living in rural African areas are particularly disproportionately affected by this situation due to their remoteness from basic social services and the violence caused by armed conflicts and wars. Agriculture therefore remains the main sector of employment in most countries of Sub-Saharan Africa. This sector can enable young rural people to find employment, generate income and build their careers (African Union Commission & OECD, 2018; Bossenbroek et al., 2015; FAO et al., 2014; United Nations Industrial Development Organization, 2011; GIZ, 2020; Yeboah & Jayne, 2018).

The Democratic Republic of Congo (DRC) is the largest country in Sub-Saharan Africa (2,345,000Km^2) and third in terms of demography with a population of nearly 100 million inhabitants. 80 % of Congolese are under 35 years old and 36 % of them are between 15 and 35 years old. DRC has a high rate of population growth of nearly 3 % per year as it's indicated by the International Fund for Agriculture Development (IFAD, 2020) as well as the DRC National Statistics Institute (INS, 2020). The country has a strong agricultural production potential capable to feed nearly 3 billion people annually with more than 80 million hectares of arable land, including 4 million irrigable hectares, natural pastures that can support up to 40 million head of cattle. The deplorable reality is that the DRC fails to meet the basic food needs of its population, of which 27 million people suffer from acute food insecurity. Also 72 % of rural households are living in extreme poverty (National Ministry of Agriculture 2020; FAO, 2022). Food imports are estimated at nearly $2 billion, while this money could be used to revive the agribusiness system and then local economy (Congolese Central Banque, 2019; African Development Bank, 2019). In addition to enormous challenges of development and poverty reduction in its multiple dimensions, the DRC is struggling to establish peace in its eastern region and more specifically in Kivu region where more than 122 illegal armed groups are operating (Vogel et al., 2021). Most of the South-Kivu territories have been facing armed conflicts for the past three decades. Many of Congolese young people, faced with extreme poverty, instead of taking advantage of the agribusiness potential and food market opportunities, accept to join illegal armed groups putting their lives in danger. Young people choose this dangerous path hoping to profit through looting actions and illegal exploitation of mineral

resources. Other young people take of rural exodus pathways hoping of finding a prosperous life in urban cities or migrate to other countries. It should also be noted that Kivu region has urbanized very quickly the last three decades due to the massive rural exodus, which has led to a growing food demand. Agricultural markets opportunities should be considered as a lever to revive agripreneurship. Testimonies collected in the study area unfortunately indicated an important disinterest of rural young people towards agribusiness. The problem is to know, what are the rural youth perceptions towards agribusiness in this post-conflict context with enormous agribusiness potential and market opportunities?

As part of this study, *perception* refers to the awareness of objects and events through the senses. A bout *agribusiness* we consider the fundamental definition provided by Davis (1955) who considered agribusiness as the total sum of all operations involved in production and distribution of food and fiber. Van Fleet (2016) indicated recently that agribusiness includes all organizations, large and small, profit-seeking that engage in production, distribution, marketing of food, fiber, forest products, or biofuel, including services providing (water collection, west management). We did not find a study addressing the attitudes and perception of rural youth towards agribusiness issue particularly in Congolese post-conflict areas. Furthermore, this study aims to complement other studies focused on the youth perceptions towards agriculture carried out in others developing countries. For example, the results of the study carried out by Vihari et al. (2020) in India revealed that the majority (63.33%) of rural youth had medium perception level, followed by the rest with high (20.0%) and low (16.0%) perception level 67%). Uttej et al. (2020) indicated that a third (34.2%) of all young people had a neutral attitude towards agriculture. This is followed by a moderately favorable (28.3%) and moderately unfavorable (18.4%) attitude towards agriculture, while only 10.8% showed a very favorable attitude and 8.3% of them had very unfavorable attitude. Sarju et al. (2015) found that 100% of young people engaged in agriculture perceived that farm income did not meet their basic needs and about 71.43% of them agreed to leave agriculture. Wachenheim and Rathge (2000) show that social and physical distance from the rural environment, an individual's emotions, memory, experience, knowledge, socioeconomic characteristics, attitudes, and temporal attributes are likely to influence youth perceptions towards agriculture as a professional career. Although agriculture as an occupation is fraught with misperceptions and a lack of information and awareness (Kruijssen, 2009). Moreover, Sanginga (2015) indicates that African young people perceive agriculture as an intensive labor, with difficult working conditions and high risks. Note also the study realized by Allen et al. (2016) in Nigeria, Rwanda and Tanzania which confirms that farming is widely perceived by young people as an unattractive and intensive labor traditional agricultural activity that generates little or no profit. Despite all that evidence, the study conducted by Sumberg et al. (2021) in selected African countries reveals that agriculture has a place in the imagined future of some rural youth.

Method

Research design

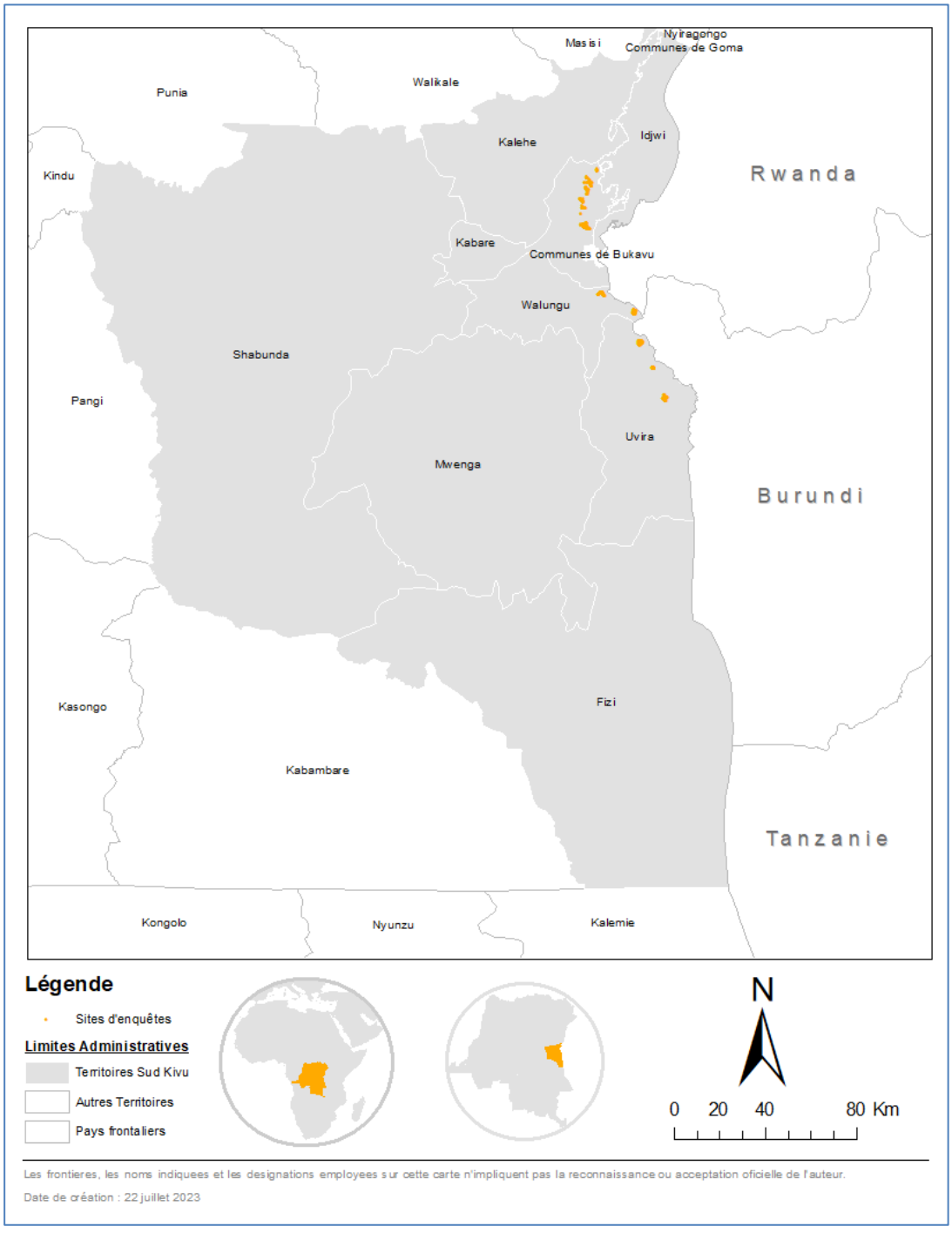
Agriculture with its role in economic development and the reduction of extreme poverty has occupied scientific debates for several years. Understanding the attitudes of actors operating in agricultural systems requires the mobilization of knowledge from several scientific fields because agricultural development is inseparable from other scientific

fields such as economy, social sciences, management sciences, psychology, decisions sciences, etc. The main objective of this research was to analyze the attitudes and perceptions of rural youth towards agribusiness as a profession in South-Kivu, a post conflict area. To properly analyze the complexity surrounding the problem addressed by this study, we used systemic approach . In the agricultural sector, systemic analysis is adopted as a comprehensive approach due to the complexity of farming through the prism of its interactions with its social, economic, ecological, and political environment (CIRAD, 1994; Donnadieur et al., 2003; Donnadieu & Karsky, 2002; Eloumi, 1994; Ferraton & Touzard, 2009; Le Moigne, 1990, 1995; Minani, 2014). The systemic approach is an important analysis tool for the agricultural systems because it makes it possible to understand the environment and the dynamics of farms, the practices, the constraints, and the actor's engagement level. Zipin et al. (2015) indicated that the individual aspirations of young people are produced through used logics, embodied dispositions manifesting themselves within the possibilities or limitations of given socio-structural positions such as gender, age, social class, family, caste, and ethnicity. Note that formal education itself, as currently practiced, often appears to be an important contributor to the construction of aspirations for a non-agricultural professional future (Katz, 2004). Understanding how rural youth interactions with agriculture and food systems change over time and across regions therefore requires a systemic view and a hypothetic-deductive method (Sumberg et al., 2012).

Population and sampling

We consider young people as all people aged 15 to 35 as it is defined by the Charter of the African Union (AU, 2006) and the legal texts in force in the Democratic Republic of Congo (INS, 2020). In view of the objective of this study and the nature of the information necessary to achieve it, convenience sampling and more specifically the quota method was used to select the individuals responding to the survey. This choice is justified by the insufficiency (or even the lack) of reliable official statistics necessary to constitute the sampling base as well as the very limited resources allocated to this study. Indeed, official information on the exact total number of rural youths in South-Kivu province is not available. Magnani (2001) shows the importance of quota sampling method to reduce the cost of collecting data on a population, especially when its size is not exactly known. The Canadian Statistical Agency (Statistics Canada, 2021) also encourages the use of the quota sampling method stating that it may be the only one appropriate choice in many cases where a suitable sampling frame does not exist for the population studied. Sampling of this study was carried out at different levels to determine the quota to be covered for each site. Indeed, after having selected the three targeted rural territories (Kabare, Walungu and Uvira), the areas deemed to have more agricultural potential were chosen in each territory with the support of local experts as well as our filed experience in South-Kivu province. A total of eight survey sites were chosen namely: Katana, Kavumu and Mudaka in Kabare territory, Nyangezi and Kamanyola in Walungu as well as Sange, Luberizi and Luvungi in Uvira (see the Figure 1).

Figure 1
Geographic map of the study area



Note. Taken from this research, elaborate from geographic coordinates collected during surveys carried out in 2022.

The quotas per survey site were estimated and planned before the field trip regarding to financial resources available, relevance of information to be collected, security situation and geographical access. When arriving in each locality targeted, the choice of individuals to interview took place according to a random process. Respondents were drawn randomly using the successive draws without replacement method, inspired by the *Bernoulli Urn* technique to give everyone the chance of being chosen as respondent and

thus reinforce the random characteristic of the sample. This technique is found in Bahati (2021) and is recommended by Chauvet (2015) as well as Bertsekas and Tsitsiklis (2002). The draw was applied in each of 8 survey sites. To achieve this, a list of 110 young people, almost double the planned quota, was drawn up for each site and after a draw without discount, 57 young women and men combined were selected. This gives a total of 456 young rural people aged 15 to 35 surveyed in the 8 survey sites. Identification of individual to be surveyed was carried out in each site with the support of local authorities, community leaders and local experts.

Field data collection

This survey was carried out from September to October 2022 to analyze the attitudes and perceptions of rural youth towards agribusiness as a profession in South-Kivu Province. Eight investigators experienced in conducting socio-economic and/or agricultural surveys familiar with the local context have been recruited and trained to carry out the surveys in the eight targeted survey sites.

Research instruments

A questionnaire addressed to young people aged 15 to 35 was developed using KoboToolbox platform (https://www.kobotoolbox.org) installed on the investigators' smartphones. The questionnaire was programmed based on the 5-point Likert scale therefore varying from 1 to 5: strongly disagree-1, disagree-2, neutral-3, agree-4 and strongly agree -5. Likert (1932) as well as Allahyari et al. (2016) demonstrate the importance of using this scale to fully understand people's attitudes and perceptions of a given phenomenon. Each young person who took part in the survey was therefore invited to indicate its level of agreement or disagreement based on declarations related to perceptions of agriculture as a profession.

Statistic data analysis

The qualitative and quantitative data from the survey conducted on 456 rural youth located in the 8 survey sites were exported from the KoboToolbox platform to Excel software to codify and process them. The descriptive statistical analysis (frequency, mean, median, standard deviation) and inferential statistical analysis (non-parametric statistical test: Kruskal-Wallis, Mann-Whitney) was carried out using IBM SPSS Statistics 20 software (Version 20.0 for Windows, 2013).

Results

The results presented in this section concern the profiling of rural youth surveyed, their attitudes towards agribusiness, a detailed analysis of perceptions as well as the factors influencing those perceptions.

Profiling of rural youth surveyed

The Table 1 indicate that the study concerned 456 rural young people belonging to 4 age groups, including 177 young people (38.8%) aged 15 to 19, 128 young people (28%) aged 20 to 24. The third group concerned 82 young people (18%) aged 24 to 25 and the last group composed by 69 young people (11.6%) aged 30 to 35. The average age was 22.41 with a standard deviation of 5.555 while the median age is 21.50.

Table 1
Rural youth surveyed age distribution

Youth age groups	Frequency	Percentage
15-19	177	38.8
20-24	128	28.1
25-29	82	18.0
30-35	69	11.6
Total	456	100.0
Mean	22.41	
Standard Deviation	5.555	
Median	21.50	

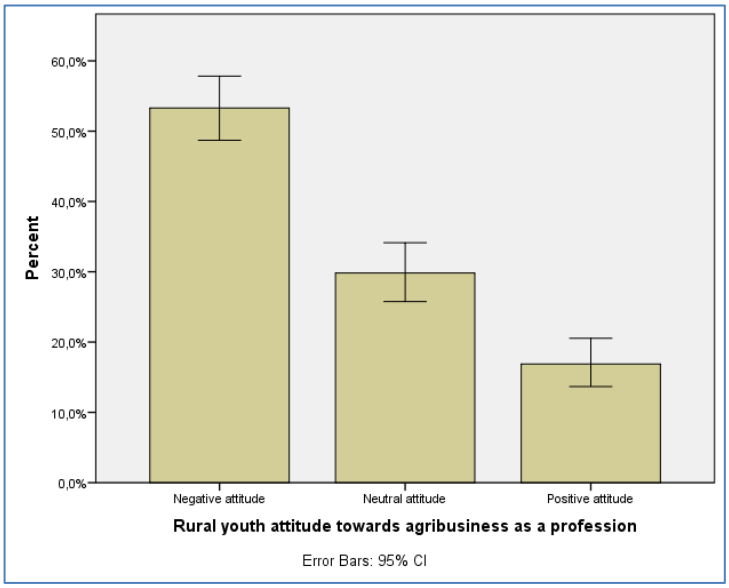
Note. Taken from this research, results of surveys carried out in 2022

Regarding other social characteristics, the results showed that among the 456 rural youths surveyed, 230 youths (50.4%) were women while 226 of them (49.6%) were men. The distribution of the education level reveals that 262 young people respondents (57.5%) have reached the secondary education, 125 young people (27.4%) have not gone beyond the primary level, 55 young people surveyed (12, 1%) were illiterate (did not go to school) and 14 young people among the respondents (3.1%) had university level. Regarding youth marital status, we note that more than half of them (55.5%) were single while 39.7% were married, 3.9% were divorced and only 0.4% were widowed.

Attitudes of rural youth towards agribusiness

The Figure 2 clearly indicates that out of 456 rural youth who responded to the survey, 244 of them (53.5%) display a negative attitude towards agribusiness, 136 young people (29.8%) display a neutral attitude, and only 76 young people (16.7%) show a positive attitude.

Figure 2
Attitude of rural youth towards agriculture as a profession



Note. Taken from this research, results of surveys carried out in 2022.

Detailed analysis of rural youth perceptions towards agribusiness

The detailed analysis of the rural youth perceptions towards agribusiness as a profession was carried out through statements grouped into three categories: economic, personal, and societal perceptions (see the Table 2).

Table 2

Detailed analysis of the rural youth perceptions towards agribusiness as a profession

N°	Declarations	Responses (N=456)										MS	SD
		Strongly Disagree (1)		Desagree (2)		Neutral (3)		Agree (4)		Strongly Agree (5)			
		F	%	F	%	F	%	F	%	F	%		
I	**Economic Perceptions**												
1	Agribusiness can meet all my basic needs	134	29.4	220	48.2	1	2.4	65	14.3	26	5.7	2.186	1.1703
2	I like to do agribusiness activities	34	7.5	232	50.9	8	6.1	131	28.7	31	6.8	2.765	1.1463
3	Opportunities are limited for young people in the agribusiness	6	1.3	83	18.2	1	2.4	204	44.7	152	33.3	3.906	1.0944
4	If I don't have a job, then I can resort to agriculture	1	0.2	70	15.4	7	8.1	284	62.3	64	14.0	3.746	0.8901
5	Agribusiness and related sectors are hard work	-	-	87	19.1	4	5.3	300	65.8	45	9.9	3.664	0.8965
II	**Personal Perceptions**												
6	The engagement of young people like you can change the reputation of agribusiness	7	1.5	130	28.5	74	38.2	133	29.2	12	2.6	3.03	0.863
7	People will not give me respect if I engage in agribusiness	5	1.1	102	22.4	0	4.4	282	61.8	47	10.3	3.579	0.9824
8	With my education level I can't engage in agribusiness	116	25.4	114	25.0	4	3.1	159	34.9	53	11.6	3.579	0.9824
9	With agribusiness I can't achieve my dreams	2	0.4	90	19.7	1	2.4	305	66.9	48	10.5	3.673	0.9238
10	Personally, I have no interest in agribusiness	2	0.4	50	11.0	3	4.8	184	40.4	198	43.4	4.154	0.9690
III	**Societal Perceptions**												
11	Young people from this village do not want to engage in agribusiness	-	-	45	9.9	7	8.1	268	58.8	106	23.2	3.954	0.8413
12	My family does not encourage me to engage in agribusiness	4	0.9	47	10.3	5	7.7	215	47.1	155	34.0	4.031	0.9534
13	Agribusiness is respectful than the administrative work	198	43.4	213	46.7	3	0.7	33	7.2	9	2.0	1.776	0.9272
14	The people from this village engage in agribusiness for lack of other options	6	1.3	41	9.0	1	2.4	127	27.9	271	59.4	4.154	0.9690
15	Agriculture is a profession for the elderly people	20	4.4	93	20.4	3	0.7	225	49.3	115	25.2	3.706	1.1773

Note. F: Frequency, MS: Mean Score, SD: Standard Deviation

Perceptions related to economic aspects

Agribusiness can meet all my basic needs: The Table 2 reveals clearly that 48.2% of rural youth disagree with this declaration, followed by those who strongly disagree (29.4%) and those who agree (14, 3%), strongly agree (5.7%), few rural young people display a neutral position (2.4%). The median score of perceptions obtained on a 5 points Likert scale for this declaration is 2 with a mean equal to 2.186 and a standard deviation of 2.186.

I like to do agribusiness activities: The Table 2 reveals clearly that 50.9% of rural youth disagree with this declaration followed by those who agree (28.7%), rural youth who strongly disagree (7.5%), strongly agree (6.8%) and neutral (6.1%). The median score of perceptions obtained on a 5 points Likert scale for this declaration is 2 with a mean equal to 2.765 and a standard deviation of 2.265.

Opportunities are limited for young people in the agribusiness sector: The Table 2 reveals clearly that 44.7% of rural youth agree with this declaration, followed by those who strongly agree (33.3%), then rural youth who disagree (18.2%), neutral (2.4%) and only a small number of them are strongly disagree (1.3%). The median score of perceptions obtained on the 5 points Likert scale for this declaration is 4 with a mean equal to 3.906 and a standard deviation of 1.0944.

If I don't have a job then I will resort to agribusiness: The Table 2 reveals clearly that 62.3% of rural youth agree with this declaration, followed by those who disagree (15.4%), then rural youth who strongly agree (14.0%), neutral (8.1%) and only a small number strongly disagree (0.2%). The median score of perceptions obtained on the 5 points Likert scale for this declaration is 4 with a mean equal to 3.746 and a standard deviation of 0.8965.

Agribusiness and related sectors are hard work: The Table 2 reveals clearly that 65.8% of rural youth agree with this declaration, followed by those who disagree (19.1%), then those who strongly agree (9.9%), neutral (5.3%). The median score of perceptions obtained on a 5 points Likert scale for this declaration is 4 with a mean equal to 3.664 and a standard deviation of 0.8965.

Perceptions related to personal aspects.

The engagement of young people like you can change the reputation of agribusiness: The Table 2 reveals clearly that 38.2% of rural youth are neutral with this declaration, followed by those who agree (29.2%), then rural youth who disagree (28.5%), strongly agree (2.6%) and those who strongly disagree (1.5%). The median score of perceptions obtained on a 5 points Likert scale for this declaration is 3 with a mean equal to 3.03 and a standard deviation of 0.865.

People will not give me respect if I engage in agribusiness: The Table 2 reveals clearly that 61.8% of rural youth agree with this declaration, followed by those who disagree (22.4%), then rural youth who strongly agree (10.3%), neutral (4.4%), very few young people strongly disagree with this statement (1.1%). The median score of perceptions obtained on 5 points Likert scale for this declaration is 4 with a mean equal to 3.579 and a standard deviation of 0.8965.

With my education level I cannot engage in agribusiness: The Table 2 reveals clearly that 34.9% of rural youth agree with this declaration, followed by those who strongly disagree (25.4%), then those who disagree (25.0%), strongly agree (11.6%), and neutral (3.1%). The median score of perceptions obtained on a 5 points Likert scale for this declaration is 2 with a mean equal to 3.579 and a standard deviation of 0.9824.

With agribusiness I can't achieve my dreams: The Table 2 reveals clearly that 66.9% of rural youth agree with this declaration, followed by those who disagree (19.7%), strongly agree (10.5%), neutral (2.4%) and very few strongly disagree (0.4%). The median score of perceptions obtained on a 5 points Likert scale for this declaration is 4 with a mean equal to 3.673 and a standard deviation of 0.9238.

Personally, I have no interest in agribusiness: The Table 2 reveals clearly that 43.4% of rural youth strongly agree with this declaration, followed by 40.4% who agree, disagree (11.0%), neutral (4 .8%) and very few strongly disagree (0.4%). The median score of perceptions obtained on a 5 points Likert scale for this declaration is 4 with a mean equal to 4.154 and a standard deviation of 0.9690.

Perceptions related to societal aspects

Young people from this village do not want to engage in agribusiness: The Table 2 reveals clearly that 58.8% of rural youth agree with this declaration, followed by 23.2% who strongly agree, disagree (9.9%), neutral (8.1%). The median score of perceptions obtained on a 5 points Likert scale for this declaration is 4 with a mean equal to 3.954 and a standard deviation of 0.8413.

My family does not encourage me to engage in agribusiness: The Table 2 reveals clearly that 47.1% of rural youth agree with this declaration, followed by 34.0% who strongly agree, then those who disagree (10.3%), neutral (7 .7%) and only 0.9% strongly disagree. The median score of perceptions obtained on the 5 points Likert scale for this declaration is 4 with a mean equal to 4.031 and a standard deviation of 0.9534.

Agribusiness is respectful than the administrative work: The Table 2 reveals clearly that 46.7% of rural youth disagree with this declaration, followed by 43.4% who strongly disagree, then those who agree (7.2%), strongly agree (2.0%) and neutral (0.7%). The median score obtained on a 5 points Likert scale for this declaration is 2 with a mean equal to 1.776 and a standard deviation of 0.9272.

People from this village engage in agribusiness for lack of other options: The Table 2 reveals clearly that 59.4% of rural youth strongly agree with this declaration, followed by 27.9% who agree, disagree (9.0%), neutral (2.4%) and only 1.3% strongly disagree. The median score of perceptions obtained on a 5 points Likert scale for this declaration is 5 with a mean equal to 4.154 and a standard deviation of 0.9690.

Agribusiness is a profession for the elderly: The Table 2 reveals clearly that 49.3% of rural youth agree with this declaration, followed by 25.2% who strongly agree, disagree (20.4%), strongly disagree (4.4%) and neutral (0.7%). The median score of perception obtained on a 5 points Likert scale for this declaration is 4 with a mean equal to 3.076 and a standard deviation of 1.1773.

Analysis of factors influencing rural youth perceptions towards agribusiness

Rural youth do not constitute a homogeneous group but diverse sub-groups according to some factors such as gender, age, education level, health status, ethnic origin, residential status, marital status, living environment, etc. The study revealed that rural youth perceptions towards agribusiness as a profession are due to a very complex combination of factors.

Age: A Kruskal-Wallis's test revealed that the personal perceptions scores were statistically different between the four different age groups (Gp1, n=177: 15–19 years old, Gp2, n=128: 20–24 years old, Gp3, n = 82: 25-29 years old; Gp4, n=69: 30-35 years old), $\chi 2$ (3, n = 456) = 11.876, p = 0.008. This difference was also observed for societal perceptions scores $\chi 2$ (3, n = 456) = 8.888, p = 0.031. Otherwise, no statistically significant difference was revealed between the different age groups concerning economic

perceptions scores, $\chi 2$ (3, n = 456) = 2.759, p = 0.430. Note that all the groups recorded the same median score for societal perceptions (Med=3.6). Concerning personal perceptions, the first two groups (15-19 years old and 20-24 years old) recorded the highest score (Med=3.6) while the oldest group (30-35 years old) showed a lower score (Med=3.2) and the 25–29 years old group recorded an average median score (Med=3.4).

Gender: a Mann-Whitney's test revealed that the personal perceptions scores of young women (Med=3.4, n=230) were significantly different compared to the scores of young men (Med= 3.4, n=226), U=22184, z=-2.726; with a small size effect, r=0.13. Otherwise, there is no significant difference between the economic perceptions scores of young women (Med= 3.20, n=230) compared to the scores of young men (Med=3.6, n=226), U=25934, z=-0.041, p=0.968 with a very small size effect, r= 0.002. This same tendency is observed for societal perceptions scores of women (Med=3.20, n=230) compared to those of men (Med=3.60, n=226), U=24122.50, z =-1.343, p=0.179 with an effect size r=0.63.

Education level: a Kruskal-Wallis's test revealed that the personal perceptions scores where statistically different between the four education level groups analyzed (Gp1, n = 55: illiterate, Gp2, n = 125: primary, Gp3, n = 262: secondary; Gp4, n=14: university), $\chi 2$ (3, n=456) =129.990, p=0.000. This difference is also observed for societal perceptions scores, $\chi 2$ (3, n = 456) = 7.905, p = 0.048. The primary and secondary education groups recorded the highest median score for societal perceptions (Med=3.6) compared to the illiterate and university level groups (Med=3.4). For personal perceptions the university group recorded the highest median score (Med=4.0) followed by the secondary group (Med=3.6). Illiterate and primary groups recorded a score low median (Med=3.2) compared to the other groups. Otherwise, the same test reveals not statistically different between the four education level groups regarding economic perceptions scores, $\chi 2$ (3, n = 456) = 4.217, p = 0.239.

Area of origin : a Kruskal-Wallis's test revealed that economic perceptions scores where significantly different between young people from 8 different survey sites (Katana, Kavumu, Mudaka, Nyangezi, Kamanyola, Luvungi, Luberizi and Sange), $\chi 2$ (7, n = 456) = 12.725, p = 0.04, the same difference was observed for personal perceptions scores, $\chi 2$ (7, n = 456) = 46.796, p = 0.000 as well as for societal perceptions scores, $\chi 2$ (7, n = 456) = 47.533, p = 0.000. For economic perceptions the highest median score was recorded in the groups from Nyangezi and Luberizi (Med=3.4), the other groups recorded the same score (Med= 3.2). The group from Kavumu recorded the highest score (Med=3.8). Finally, the group from Kavumu and Luberizi recorded the highest median score about societal perceptions (Med=3.8).

Discussion and conclusions

From the results presented in the previous section, it can be deduced that in South-Kivu province more than half of rural youth (53.5%), have a negative attitude towards agribusiness as a profession, 29.8% of youth have a neutral attitude and only 16.7% of them are positive towards agribusiness. These results are not far from those found by Uttej et al. (2020) in India although the context is different. Uttej and co-authors found that a third (34.2%) of all young people had a neutral attitude towards agriculture, followed by those who were moderately favorable (28.3%) and moderately unfavorable attitude (18.4%), while only 10.8% where very favorable and 8.3% where with unfavorable attitude. The lack of interest in agribusiness is due to the negative image society have towards agriculture and related sectors around developing countries in

general. In South Kivu, the negative perception towards agribusiness is also influenced artisanal mining considered by young people as more profitable. Testimonies collected during field surveys indicated that agribusiness promotion is also limited by a lack of awareness. Note also that current education system tends to prepare youth for non-agricultural careers. Agribusiness is therefore considered in Sud-Kivu as a career for poorest people who have failed in school. Armed conflicts which have almost destroyed the socio-economic fabric, making some rural areas hostile while reducing the capacity of the government to stimulate a new economic dynamic.

Indeed, 77.6% of young rural people surveyed agreed/strongly agreed that agribusiness cannot enable them to meet all their basic needs. Sarju et al. (2015) revealed almost the same trends in one of India's districts. The author indicated that 100% of young people engaged in agriculture perceived that agricultural income did not allow them to meet their basic needs, 71.43% of them agreed to leave agriculture. These perceptions linked to the negative image attributed to the agricultural sector can justify the number of young people (76.3%) who agreed with the declaration according that they can only engage in agriculture when they have no other job. These evidence from South-Kivu are close to the assertions from Sanginga (2015) which indicated that African young people perceive agriculture as a high-intensity work, with difficult working conditions and high risks. Note also the study carried out by Allen et al. (2016) in Nigeria, Rwanda and Tanzania which confirm that agriculture is widely perceived by young people as an unattractive, traditional labor-intensive activity that generates little or no profit.

This study analyzed the influence of factors on rural youth perceptions towards agribusiness in South-Kivu. It's therefore especially gender, age, education level and area of origin. The analysis focused on economic, personal, and societal perceptions aspects. It appears that three out of four factors analyzed (age, gender, education level), significantly influenced the rural youth personal perceptions as well as their societal perceptions. The study revealed also that only the area of origin (living environment) has significantly influenced the economic rural youth perceptions towards agribusiness. Regarding the median value of the economic perceptions score, the highest score being recorded in the group of Nyangezi and Luberizi. These results are similar to those reported by Leavy and Hossain (2014) through a study carried out in 23 urban and rural areas located in 10 countries, including 4 Africa courtiers (Burkina Faso, Ethiopia, Kenya and Zambia). The authors concluded that farming is not a preferred option for the younger generation in rural areas. They found also that high youth educational level was strongly correlated with very high career aspirations, both from young people, from their parents and as well as from society. The influence of youth perceptions due to the education level is also observed by Katz (2004) who indicated that agriculture is classified as a profession only for those who had not successful at school. Other studies such as Barratt et al. (2012) also Sumberg and Okali (2013) concluded that most young people do not consider agriculture as a professional career but rather as backbreaking work generating low productivity and offering less income and less social consideration.

Rural youth engagement in agribusiness remains a locomotive pillar on which the world and more particularly the Democratic Republic of Congo must rely to boost the local economy, reduce extreme poverty, and fight against youth employment crisis as well as food insecurity. Substantive work must be carried out to guarantee the positive image of young people because the agricultural generation gap revealed by this study may compromise food security and local economy. A new dynamic of awareness-raising in favor of agribusiness profession is therefore needed, involving government, education system, media, development actors and other social structures.

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