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Original Research

IMPACT OF SCHOOL FEEDING PROGRAM ON STUDENTS' PERFORMANCE IN NYAMASHEKE DISTRICT OF RWANDA

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ABSTRACT

The study investigated the impact of the school feeding program on students' performance in twelve years of basic education in the Nyamasheke District of Rwanda. It specifically examined the influence of the school feeding program on the student's performance, explored the level of effectiveness of the program, examined the contribution of the policy to learners' social cohesion and determined the level of students' academic performance. To reach the above objectives, a descriptive study was designed. The quantitative approach was adopted and structured questionnaires were administered to 100 respondents selected using purposive and network sampling techniques. The study found that the program is generally appreciable. It also found that the program contributes to students' cohesion, cooperation, and communication, thus helping them improve their performance. However, the study suggests several challenges to the program, including a lack of proper implementation. The study recommends that some issues must be tackled, including reviewing the investment in the program, hence proper implementation.

Keywords: Public Policy, School Feeding, Student Performance, Rwanda

INTRODUCTION

School feeding has a long history, and it mainly has its origins in the 1930s, when it was introduced in both the United Kingdom (UK) and the United States of America (USA) to improve children's growth (Tomlinson, 2007). In the UK, a program that supported the offering of milk for children at school was initiated in 1934, and milk was provided for free from 1944 onwards. In the 1960s and early 1970s, this practice was withdrawn from all beneficiaries except for the children considered to have a particular need. After that, the school feeding

initiative was introduced to South Africa, where a program to offer milk for free to schools for white and colored students was started in the early 1940s (Roediger, 2002).

The improvised COVID-19 pandemic has disturbed the world, and its social and economic impacts have been very serious. Children are among those seriously affected by the pandemic, and this resulted in education disruption due to school closures and lockdowns; at the peak of the first wave, around 1.6 billion children were affected by the school closure; it was a tragedy in itself, and millions of vulnerable school children have also had the long-term health, development and well-being endangered because they have missed out on precious free meals at school, and this was an indicator of how the coronavirus has been threatening to rob the future of these children (Amolegbe, 2020).

According to the World Food Program (WFP, 2021), many studies have proven that meals at school are a good weapon for children's hunger. It supports their long-term well-being and helps them learn and thrive. When school meals program is running, girls may stay longer in schools where early marriage rates decrease and teen pregnancies go down (PAM, 2019).

School feeding is a tool to contribute to increasing access to education in emergencies, and it may contribute to the protection of specific threats to children at a given age, such as forced or child marriage and various forms of child labor. In this case, the schools may contribute positively to the children's protection needs, and school feeding may be an effective incentive for parents to send their children to schools and support them in staying enrolled (Amolegbe et al., 2020). School feeding can promote enrolment, attendance, retention, and learning MINEDUC, 2021).

In 1994, the school feeding program known as the Primary School Nutrition Program (PSNP) was started in South Africa, with objectives to improve the health and nutritional status of South African children at the primary school level, improve school attendance, and improve the children's learning capacity, which would in turn lead to an improvement in the quality of education. On the contrary, Malawi did not have a national government-run school feeding program. Still, the program was conducted and funded by the WFP and organizations like GTZ and ActionAid, which supported the program during emergencies (Tomlinson, 2007).

After a study visit to Brazil, the Government of Rwanda started the school bolstering program in 2012, where primarily parents were mobilized to be responsible for providing food for their children at school either in cash or in kind, depending on what they have, after the Government came to supplements parents' initiatives by 56 Rwfs per day per one child. The World Food Program also came to support the initiative where it was providing daily meals to primary students in 107 schools in four districts namely Nyaruguru, Nyamagabe, Rutsiro and Karongi Districts because poverty and food insecurity were considered to be high in those districts (MINEDUC, 2021).

In Rwanda, the School feeding program has been focusing on providing at least one nutritious meal per day to increase enrollment and promote regular school attendance, thus improving students' performance (de Dieu Habyarimana, Mugabonake, Ntakirutimana, Hashakimana, Ngendahayo, Mugiraneza, & Zhou, 2023). There is a significant change in pupils' learning in schools as children follow the teaching, and performance has improved since Voluntary Service Overseas (VSO) started feeding the children in Nyamasheke District (The New Times, 2017).

In Rwanda, School Feeding has been considered an integral part of the Government's strategy to deal with hunger among children at school, which has also been expanding educational opportunities to children from disadvantaged backgrounds, like orphans and other vulnerable learners. School feeding was an effective approach to dealing with child malnutrition, which increases educational enrolment, student retention, and performance (MINEDUC, 2019).

The school feeding program in Rwanda intends to ensure that all children achieve their potential development through a sustainable program that provides adequate and nutritious meals during school time (MINEDUC, 2021). It has been observed that some school feeding programs' outcomes were not achieved. These include; the number of enrolment to be increased, school attendance and quality of education as well as cognitive development in twelve years' basic education, enhanced nutrition which addresses nutritional needs and micronutrient deficiencies because some pupils accuse the meals that they take at school to be of poor quality and not sufficient for them (WFP, 2021), and enhanced agricultural productivity of local/neighbors of schools because schools in Nyamasheke District go to other markets and/or sign contracts with investors to supply food for pupils instead of buying them from farmers around the schools.

Nyamasheke is among the poor districts of Rwanda (NISR, 2014). The school performance of its people/pupils should be targeted for its development and to become one of the rich districts from its strong education. However, no testimony or reports show the school feeding program's contribution to student performance in the District. On the other side, there is a significant number of dropout cases in Nyamasheke District while the school feeding program is being implemented there. Students and school personnel emphasize that they appreciate receiving meals served on time, like maise and porridge meals, but complain that sometimes the beans are not well cooked (WFP, 2021). Based on the above gaps, the study aimed to examine how much the school feeding program contributes to students' performance in the Nyamasheke District of Rwanda.

EMPIRICAL REVIEW

School feeding programs were found to be solutions to daily issues hindering the quality development of education because, in many areas of the world, some children have been spending the night without dinner and an opportunity for lunch at school, which will most likely affect their cognitive aspects which have been suffering from malnutrition resulting in poor students' performance (Arsenault, 2009). However, some countries have been failing to implement the program hundred percent successfully. Even when the national government puts in more effort, some schools at the local level fail to put it into practice.

In 1930, the USA and UK adopted the Food for Education (FFE) to enhance the well-being of youngsters. The projects looked like School Feeding Programs (SFP) where beneficiaries were encouraged to have supper during school time. The UK and the USA intended to ensure the development of well-organized children at school by encouraging the system as a major aspect of their national projects. The USA started projects to nourish school students in Austria as a universal demonstration, helping in battling the serious issues of lack of healthy sustenance among children after World War II in the 1940s (Niyonzima, 2018).

Today, many countries are interested in their education sector and empowering it. Hunger is one of the obstacles to education from a global view, and the feeding program was introduced as a solution to the issue (WFP, 2021). In the USA, the National Lunch at School Program was established under the National School Lunch Act (NSLA), which was signed by President Harry Truman in 1946. It was the Nation's second-largest food and nutrition assistance program in the 2006 school year, where it operated in over 101,000 public and nonprofit private schools and provided over 28 million low-cost and/or free lunches to children on a typical school day at a Federal cost of $8 billion for the year (Ralston, Newman, Clauson, Guthrie, & Buzby, 2008).

In 1990, the Netherlands became the country to move the program to another level whereby joining school supper into a national enactment, bypassing enactments Brazil and India set up school nourishing projects. On the other side, Brazil had to add school nourishing to its constitution, while in 2001, the Supreme Court followed by instructing that all state governments must provide focused dinners in all schools. In Rwanda, to implement a school feeding policy, the Government has scaled up the School Feeding Program from pre-primary school level up to secondary schools. Schools were equipped with kitchens and cooking stoves, and a subsidy for each student's meal was provided to complement parents' contributions (Ministry of Education-MINEDUC, 2021).

With the support from the UN World Food Programme, the Ministry of Education has developed School Feeding Operational Guidelines to guide schools and other stakeholders involved to effectively implement a high-quality and safe School Feeding Program by leveraging food produced by local farmers and cooperatives while improving the local economy (Ministry of Education-MINEDUC, 2021). For requirements to achieve outcomes schools, sectors, and districts are advised to follow the Rwanda School Feeding Operational Guidelines to achieve school feeding policy implementation outcomes (Ministry of Education-MINEDUC, 2021).

Since the early 2000s, enrolment rates in Rwanda have improved steadily in twelve years of education. However, the repetition rates and the dropout rates are still relatively high. To improve internal efficiency, it is important to enhance the quality of education. There is a need to systematically analyze the underlying causes of repetitions. To ensure the quality of education, it is important to strengthen the national system to measure learning achievement. In doing so, considerations should be made not to emphasize examination marks only (JICA & IDCJ: 2012).

Considering the gap presented in the above paragraph, as was highlighted by JICA and IDCJ in 2012, the researcher found it important to investigate the contribution of the School Feeding Program to student performance, which, in the end, will contribute to the literature on meals provisions at school and its contribution to quality education as well as school performance.

MATERIALS AND METHODS

The paper used quantitative research to describe how school feeding may have impacted students' performance in the twelve-year basic education. The study was conducted in schools with school feeding programs across the Nyamasheke District of Rwanda. Those schools had, in total, 103,905 students, which were considered as the population of the study. The formula of Yamane (1967) was used to determine the representative sample size:

$\boldsymbol{n = \frac{N}{1+N(e)^2}}$ Where n = Sample size N = Population Size e = Desired margin of error (for this study, 10% was adopted)

Therefore, $n = \frac{103{,}905}{1+103{,}905(0.1)^2} = 99.90 \approx 100$, Both network and purposive sampling techniques were used to select the study's respondents.

The self-administered questionnaires were used to collect primary data from the sampled students. The researchers compiled, edited, and coded the data for quality, accuracy, and completeness. The researchers exercised an editing process to examine the collected raw data to discover items that respondents might misunderstand and detect and correct gaps, errors, and other weaknesses in the collected data. After the data editing process, numerical values were assigned to represent values on variables for easy quantitative analysis. The data were presented by using frequency distribution, percentages distributions, and tables.The ethical consideration involved seeking permission from the researchers and the Nyamasheke District administration. Permission has also been sought from the respondents. This was important for protecting the respondents from harm or harassment, their confidentiality, and sensitive information in the education area.

RESULTS AND DISCUSSION

Demographic Information of Respondents

Table 1: The respondents' demographic characteristics

Value Label		Frequency	Percent
Gender	Male	39	39.0
	Female	61	61.0
	Total	**100**	
Age range of respondent	Less 20	76	76.0
	21-30	15	15.0
	41-50	2	2.0
	51- Above	7	7.0
	Total	**100**	100.0
Education level	Primary	7	7.0
	Ordinary level	67	67.0
	TVET	2	2.0
	Secondary	13	13.0
	University	9	9.0
	Masters	2	2.0
	Total	**100**	100.0
Period of experience	Less than 2 years	23	23.0
	2-4 years	26	26.0
	5-7 years	24	24.0
	Above 7 years	27	27.0
	Total	**100**	100.0
Marital status	Single	83	83.0
	Married	15	15.0
	Divorced/separated	0	0.0
	Widow/er	2	2.0
	Total	**100**	100.0

The demographic information of all respondents shows that males represent 39.0% while females represent 61.0%. This implies that both males and females were proportionally represented to avoid any kind of gender bias. As for the age ranges of the respondents, respondents less than 20 years were 76.0%, those aged between 21 and 30 were 15.0%, those aged between 41 and 50 were 2.0%, and those aged 51 and above were 7.0%. The levels of education are as follows: Primary level 7.0%, Ordinary level 67.0%, TVET 2.0%, Secondary level 13.0%, University level 9.0%, and Master's level 2.0%. The experience of the interviewed persons is as follows: less than 2 years 23.0%; between 2 and 4 years 26.0%; between 5 and 7 years 24.0% and those experienced above 7 years, 27.0%. As for marital status, singles were 83.0%, married 15.0%, widows 2.0% and none was divorced or separated.

Attitude towards School Feeding Program

The table below highlights the respondents' attitudes toward the school feeding program in the Nyamasheke district. The results are detailed in *Table 2* below:

Table 2: Appreciation of the respondents towards the school feeding program

Appreciation	Effective	Percentage
Strong appreciation	25	25.5
Appreciation	63	64.3
Not sure	5	5.1
Negative appreciation	5	5.1
Total	98	100.0

Source: Primary data, 2022

Table 2 shows that 64.3% of the respondents appreciate the feeding program, 25.5% strongly appreciate it, 5.1% are unsure, and 5.1% negatively appreciate it. Therefore, the school feeding program is appreciated in Nyamasheke District because of the positive attitude of its beneficiaries toward the program. Also, it was noted that 98 out of 100 respondents answered this question while 2 disregarded it and this concerns the respondents' freedom to voluntarily respond to the question they want.

School Feeding and Academic Performance

The researchers also wanted to know the school feeding program's contribution to ameliorating the student's studies. The results are summarised in *Table 3* below:

Table 3: Views of the respondents on how the program contributes to improving studies.

Responses	Effective	Percentage
Students are no longer sleepy in the classroom	25	25
No more dropouts	32	32
Increase enrolment	13	13
Increase application	10	10
Poor policy implementation	12	12
Not enough money is invested in the program	5	5
There is no water at schools, and this causes diseases	3	3
Total	100	100

Source: Primary data, 2022

Table 3 shows that the school feeding program has helped in eradicating school dropouts at 32%, keeping students from sleeping in the classroom (25%), increasing school enrolment (13%), and increasing students' application (10%). However, 12% are deploring poor policy implementation, 5% complain that money invested in the program is insufficient, and 3% note that lack of water at schools causes diseases. This notwithstanding, the data show that the program had contributed significantly to a low % of students' enrolment as was found by the previous studies by Yendaw et al. (2015). However, from the findings, it is clear that the study shows that the program contributed a lot to reducing school dropout..

Effects of School Feeding Program on the Student's Performance

To the question of knowing the effects of school feeding on the students, the results are presented in *Table 4* below:

Table 4: Effects of school feeding on students performance

Effect	Effective	Percentage
Feel more comfortable in the classroom	43	43
Staying strong and awake all day	40	40
Getting more time for studying	2	2
None of those	15	15
Total	100	100

Source: Primary data, 2022

Table 4 shows that among the effects of school feeding on students, they are feeling more comfortable in the classroom (43%), staying strong and awake all day (40%), and getting more time for studying (2%). This means that the majority (83%) of the respondents confirmed the positive effect of the school feeding program on students.

Indicators of Students' Performance

The findings are presented in *Table 5* below:

Table 5: Indicators of students' performance

Indicators of students' performance	1	2	3	4	5
Students regularly attend classes in this school.	0	25	19	51	5
Students often consult teachers for further clarifications on lesson	5	12	55	26	2
Students always entertain academic seminars in the school.	13	62	21	3	1
Students enthusiastically welcome regular or periodical assignments.	8	22	41	23	6
Students regularly attend pre-programs.	18	37	31	12	2
Students report teachers who come late to teach or are victims of absenteeism.	47	28	11	8	6
Students at this school exhibit high performance in terminal exams	22	29	29	17	3
Students observe classroom rules and guidelines offered by teachers	5	12	41	41	1
Students pay maximum attention to teachers during teaching sessions	0	30	28	24	18
Students are respectful to classroom teachers	7	40	28	19	6
Students are free to seek lesson clarification in class and out of class	12	8	43	37	0

Source: Primary data, 2022

The findings presented in Table 5 show that; the school feeding program contributes to regular class attendance by students. Students observe classroom rules and guidelines offered by teachers, most of the respondents were not sure that students often consult teachers for further clarifications on the lesson, students enthusiastically welcome regular or periodical assignments, students are free to seek lesson clarification in class and out of class, the majority disagree that the students entertain academic seminars in schools, students pay maximum attention to teachers during teaching sessions, and students are respectful to classroom teachers. Therefore, there are good indicators of students' performance.

Contribution of the School Feeding Program

Students Cooperation

To know if the school feeding program contributes to the students' cooperation, the results are summarised in *Table 5* below:

Table 6: Contribution of the school feeding program to the students' cooperation

Responses	Effective	Percentage
Yes	77	77
No	23	23
Total	100	100

Source: Primary data, 2022

Table 6 shows that the school feeding program contributes to the students' cooperation at 77%. Therefore, the program is important not only to scientific education but also to moral and culture-maintaining lessons.

Cultural Education

We also wanted to know if the feeding program contributes to the cultural and Rwandan values education. The results are summarised in *Table 6* below:

Table 7: Contribution of the school feeding program to cultural education

Responses	Effective	Percentage
Yes	71	71
No	29	29
Total	100	100

Source: Primary data, 2022

Table 7 shows that the school program contributes to cultural education at 71%. The findings show that the program contributes to the cultural and Rwandan values of education.

Findings from most of the respondents showed that the school feeding program contributes to the students' cohesion, and all respondents affirmed that they feel free to talk among themselves while having their lunch at school. Most of them showed that the school feeding program contributes to cultural education. Finally, most of them showed that the school feeding program contributes to the student's cooperation and, therefore, contributes to the improvement of their level of performance by feeling free to discuss their lessons, as presented in *Figure 1*. This is in line with previous studies, which have shown that added meals has enhanced positive impacts on learners' nutritional status, school attendance, and learner performance (Devereux , Hochfeld, Karriem, Mensah, Morahanye, Msimango, & Sanousi,2018)

Figure 1: Contribution of school feeding to students' performance in 12YBE

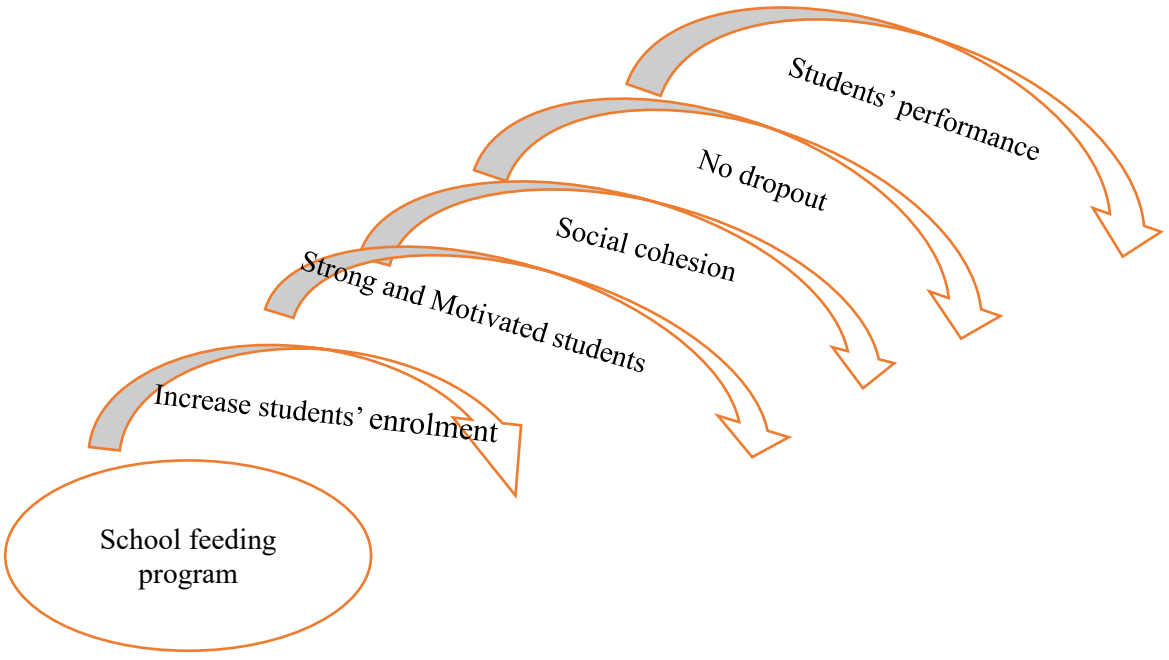

Figure 1 summarises that the perfect implementation of a school feeding program improves students' performance.

Therefore, the interpretation of the above findings is that the program helps students follow teachers while teaching because they are not hungry, and motivates those who left school to return to school. However, the researcher's observation from private conversations with students was that there are some challenges that the program is facing, like the amount of money that the Government of Rwanda is allocating to the program (all the students are consuming the money, and when it finishes, students whose parents did not pay any longer get a meal at school). The students also mentioned that most schools do not have water for students to clean/wash their utensils, which is risky for students to contract infectious diseases. The researcher also realized some students did not have plates to use; in some cases, two students were using one folk at the same time while eating, and some were eating using unwashed hands, which should be changed at the policy implementation in Nyamasheke District

CONCLUSION

Based on the findings of the study, the majority of respondents approved that there is a positive attitude toward the school feeding programs. In addition, the findings have shown that most of the respondents find the contribution of the school feeding program to the amelioration of the student's studies. That means that the program is effective, with the result of eradicating school dropout in the District. Also, most of the respondents find that the school feeding program helps students get more performance. The findings have also shown that most respondents find the school feeding program poorly implemented.

Therefore, It can be concluded that the beneficiaries generally appreciate school feeding program. The program helps students better their studies, thus contributing to their performance. However, some issues must be tackled, including the low financial resources to support the programs, the beneficiaries' ownership of the programs where they may even provide some contributions to support the program, reviewing the investment in the program, hence proper implementation.

DECLARATIONS BY AUTHORS

There is no conflict of interest. The authors had equal contributions from the research design up to the report writing.

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