

IMPACT OF SCHOOL FEEDING PROGRAMME ON CROP PRODUCTION IN GOMBE, NORTH EASTERN NIGERIA

Appollm Y .I and Braima Daniel

Department of Agricultural education, Federal College of Education {Tech} Gombe

ABSTRACT

The school feeding programme is essential to provide a balanced diet to school children which in turn enable the children to increase their attention span and enhance better academic achievement and also improved crop production. The purpose of this study was to see the impact of school feeding programme on crop production in Gombe metropolis. The objectives was to describe the socio-economic characteristics of the respondents, assess the impact of school feeding programme on crop production and assess the importance of school feeding programme. Teachers and pupils were the target population of the study. 150 questionnaires were distributed to them in the fifteen sampled schools in Gombe metropolis. Four point rating scale questionnaire was used and statistical tool employed was descriptive statistics. The result revealed that majority of the respondents 99(66.0%) were males, 79(52.7%) age ranged between 31 – 40 years, 94(62.7%) were married, 146(97.3%) had formal type of education. The result also revealed that school feeding program enhance local food production and boost income of farmers with a mean of (3.5), food vendors are fully integrated in the program through which local farmers provide them with the necessary local materials for the meals with a mean of (2.3), school feeding program increased enrolment, attendance and pupils' retention in schools with a mean of (3.8) and school feeding program makes smooth and effective classroom management with a mean of (2.6). It was recommended that; ministry of education should review the school feeding program continuously and extend it in schools in poverty ridden areas, the ministry should mandate the vendors to buy food stuffs such as rice, beans, meat, egg, fish, and vegetables directly from local farmers in other to increase the impact made so far. Also it is important to include local producers and schools in the decision making process on the type of food needed for the programme.

Key Words: School Feeding and Agricultural Production.

1. INTRODUCTION

School Feeding Programmes constitute critical interventions that have been introduced in many developed and developing Countries of the world to address the issue of poverty, stimulate school enrolment and enhance performance. In developing Countries, almost 60 million children go to school hungry every day and about 40% of them are Africans. Providing school meal is therefore vital in nourishing children. Parents are motivated to send their children to school instead of keeping them at home to work or take care of their siblings (Akanbi, 2013). The introduction of the school feeding is traced to the Sustainable Development Goal Initiative and

several conferences held thereafter by African leaders which aimed to take issues such as: peace, security, good economic, political and corporate governance and to make the continent an attractive destination for foreign investment. Also, the comprehensive African Agricultural Development Programme and the “Millennium Hunger Task Force” amongst others were initiatives which were designed to link school feeding to Agricultural Development through the purchase and use of locally produced food (Bundy, Burbano, Grosh, Gelli, Jukes, and Drake, 2009).

School feeding programme, is the provision of food to school children, and one of its important can increase school enrolment and attendance especially for girls when combined with quality education, school feeding program can increase cognition and educational success with approximately designed rations. School feeding programs can improve the nutrition status of preschool and primary school age children by addressing micro nutrients deficiencies combined with local agricultural production. This program can also provide short – term benefits after crisis, helping community recover and build resilience, in addition to long term benefits by developing human capital. School feeding program can be classified into two groups: in school feeding (when children are fed in school) and take home rations (when families are given food regularly when their children attend school). The major advantage of school feeding program is to offer the greatest benefits to the poorest children. Several studies indicated that missing breakfast impacts educational performance (Systems Approach for Better Education Results (SABER), 2015)

The home grown school feeding programme launched by the federal government under the National Social Investment Programme (NSIP) in Gombe state has resulted in increase in school attendance in primary school pupils in the state. Daily trust 2018. After a visit to some primary schools in the state; Tumu, Pindiga and Kashere Primary Schools of Akko Local Government Area, the reports indicates that the introduction of the programme made children that are not going to school, start going willingly when the programme was launched in March 2018. Its target was to provide meals for about 286,000 pupils in 1,209 primary schools across the state. However, a month in to the program, it has witnessed astronomical increase, and now feeding about 400,000 pupils. Head Teachers at the respective schools said prior to the commencement of the program a lot of pupils had dropped out but now some pupils’ troop to the school even without school uniforms, eagerly waiting break time for the free meal.

There is growing support for the idea that school feeding programmes that use locally produced food, specifically from within the boundaries of a community or district, can bring about additional welfare for the children involved and also for local smallholders, small processors, communities and economies. In most countries that use local agricultural production to complement their school feeding programmes, this linkage is seen as a channel to ensure sustainability.

School feeding programmes have been identified as being very potent in reducing hunger and malnutrition of children, as well as in boosting domestic food production through local production. Furthermore, by purchasing foodstuffs through local suppliers, school feeding programmes provide a structured demand for agricultural produce (Masset & Gelli,

2013). This, in turn, can stimulate not only an increase in agricultural production, but also an environment whereby small-scale farmers have more security and are thus able to take calculated risks to invest in their farming activities, such as through improved seeds, fertilisers and technologies (Bundy *et al.* 2009).

Drake, McMahon, Burbano, Singh, Gelli, and Cirri and Bundy (2012) The Brazilian example of local agricultural production as a complement to school feeding programmes shows that it is possible to link food production, school meals, nutrition education and community participation. Therefore, school feeding programmes, as a vehicle to improve agricultural production, employment opportunities and improve the overall rural economy.

School feeding programmes opens up new markets to farmers, which turnsto be an advantage to farmers who do not have close access markets for their produce. Linkage between local agricultural production and school feeding programmes represents a mutual relationship and benefits. This also enables schools to obtain food closer to the schools, thus allowing the community to participate in decision making and managing resources (Bundy, Burbano, and Grosh, 2011).

According to Garram, children's school (2010) school feeding contributes to education and well being of children.

In the 2017 Africa Agriculture Status Report (AGRA, 2017), Home Grown School Feeding (HGSE) is cited as a key intervention for enabling the development of resilient value chains for smallholder farmers.

According to a recent study, farms smaller than two hectares produce more than 25 percent of nutrients for South Asia, Southeast Asia, Sub-Saharan Africa, and East Asia Pacific (Herrero, Thornton, Power, Bogard and Remans 2017). Recent analysis from Ghana shows the substantial demand for agricultural commodities from home grown school feeding across food groups, which is key to promoting production diversity (Singh and Fernandes 2018). For example, the upper bound estimates for legumes is over 25,000 tons, which constitutes about 2.85 percent of national legume production (blackeye peas and peanut). Direct links with school feeding, whether through farmer cooperative or institutionalized procurement such as national food reserves, also support local varieties through commodity-specific supply chains.

The programme is an advantage for both the consumer and the farmer: The consumer gets better product quality and a greater range of foods at affordable prices, and the farmer benefits from more reliable harvest yields. (European Food Safety Authority, 2015). The direct link between the SFP and local smallholder farmers is a subject that has not been studied and documented at all; hence, the study was designed to investigate the impact of school feeding program on crop production and protection in Gombe metropolis.

Statement of the problem

When food is a challenge to school children and is not a priority for the parent; this causes absenteeism or complete drop out of the child from school. The girls end up in early marriage and they usually have child at tender age and young as 15 years. Those girls that drop out of schools usually have an average of 6.25 children compared to those who completed their studies who have an average of 2.3 children (World Bank, 2009). These create a stubborn poverty circle

that is hard to break. Therefore, this study seeks to establish the impact of school feeding program on crop production in Gombe Metropolis.

This is the most exciting of all our programmes. Even if we are going to give these children one egg a day, it means we will need 5.5 million eggs and in a calendar year of 200 days, we will need over a billion eggs. You can imagine what this will do to agriculture. Vice President Osinbajo launched the School Feeding Program at Aso Rock on 9 June 2016 with the following aims

1. Ready- made markets for agricultural produce.
2. Incentivise agriculture, food vendor ring and catering.
3. The multiplier effect of increased food production by up to 530,000mt per annum and attract fresh investments of up to N980bn that will in turn yield 1.14m jobs. (24 Dec 2015).
4. It is imperative that Animal Science Association of Nigeria play a prominent role on the proposal of free meal per day per pupil in public schools by the Federal Government.
5. As an animal scientist, kindly provide your view on “should egg be included in the meal to be served to the pupils”.

Can we supply the required amount of eggs needed to sustain this project?

Objectives of the study

The main purpose of this study is to investigate the impact of school feeding program on crop production in Gombe Metropolis. The study was guided by the following objectives:

- i. To describe the socio-economic characteristics of the respondents in the study area.
- ii. To assess the impact of school feeding programme on crop production.
- iii. To assess the importance of school feeding programme in Gombe metropolis.

2. MATERIALS AND METHODS

Area of the study

Gombe is situated on the North Eastern region of Nigeria, and shares a common boundary with Borno, Yobe, Bauchi, Adamawa, and Taraba State. Gombe State is located in the centre of the North East of Nigeria on Latitude $9^{\circ} 30'$ and $12^{\circ} 30'N$ and longitudes $8^{\circ} 45'$ and $11^{\circ} 45'E$. It has a land area of $20,265\text{km}^2$. The state climate is generally warm, with temperatures not exceeding $40^{\circ} C$ during the month of March – May. The topography is mountainous, undulating and hilly to the south east and flat open plains in the central, North. The vegetation is generally Guinea Savannah grassland with concentration of wood land in the South east and South West annual average rainfall is 850mm. Crops that thrive well in Gombe are Cowpea, Tomato, Onion, Groundnut and Pepper, Maize, Millet and Sorghum.

Research Design

According to Singh and Sahu (2015), survey research involves gathering information about a large number of people by collecting information from few of them. In the case of this

study, a survey research design was adapted. This design generally involves the collection of information from a sample of individuals through their responses to the data collection instruments. Moreover, this design was considered as the only means available for developing a representative picture of the attitudes and characteristics of a large population. Thus, this design proved to be more efficient in investigating the impact of school feeding program on crop production in Gombe metropolis.

Population of the study

Population is the entire target of the study area (Nwana, 2004). There are a total of 34 primary schools in Gombe metropolis namely Abubakar Umar, Buba Yero, Buhari Estate, Family Support, Gandu, Gabukka, Hassan Central, Herwagana, Idi, Jalo Waziri, Jauro Gotel, Jauro Tudun Wada, Jekadafari, Kagarawal, Kamara, Karangada, Liman, Madaki, Malam Inna, Manawashi, Model, Mu'azu, Nasarawo, Nuruddeen, Orji Estate, Pantami, Police Children, Sabon Garin Nasarawo, Tudun Wada, Tudun Wada Jauro, Tudun Wadan Pantami, Usman Memorial, Wuro Ledde and lastly Yelenguruza Primary School are located in the study area which is Gombe metropolis. Fifteen (15) primary schools were selected out of the entire target population.

Sample and Sampling techniques

The study employed simple random sampling in the selection of Fifteen (15) primary schools. Randomized sampling was used, where all the names of 34 schools involved in the programme was written on separate pieces of paper, folding them and putting the pieces in a container and the container well shaken to ensure even distribution. The researcher then picked one piece of paper at a time until the desired number of sample required was obtained. That gave the fifteen (15) primary schools randomly selected out of 34 primary schools from Gombe metropolis. Therefore, the following schools were randomly selected; Model, Karangada, Pantami, Jekadafari, Police children, Herwagana, Jekadafari, Kamara, Madaki, Manawashi, Nuruddeen, Yelenguruza, Nasarawo, Orji, and Malam Inna primary school.

Method of Data Collection

The instrument for data collection in this study was structured questionnaire which consist of two (2) sections in which section A deals with personal data for the purpose of identification and classification. While section B contains questions to be answered by the respondents based on the research questions. The researcher distributed a total of 150 questionnaires to both the teachers and the pupils, 10 questionnaires were distributed to each school.

Method of Data Analysis

The statistical tool used was descriptive statistics particularly mean and percentage to analyse the data. The data collected was analyzed based on the response options in the four point rating scale questionnaire. Namely: SA; Strongly agreed, A; Agreed, D; Disagreed and SD; Strongly disagreed, where SA = 4, A = 3, D = 2, SD = 1 which when computed is equals to 10

was used. Then $10/4 = 2.5$, throughout the analysis the decision was that, the mean value greater than 2.5 was accepted, while the mean value less than 2.5 was rejected

3. RESULTS

Table 1: Socio-economic Characteristics of the respondents (n = 150)

Variables	Frequency	Percentage (%)
Gender		
Male	99	66.0
Female	51	34.0
Age (Years)		
20 – 30	54	36.0
31 – 40	79	52.7
41 – 50	12	8.0
51 – 60	5	3.3
61 and above	0	
Marital status		
Married	94	62.7
Single	56	37.3
Level of education		
Never been to school	0	0.0
Quranic	4	2.7
Primary	0	0.0
Secondary	2	1.3
Diploma/NCE	118	78.7
B.Sc.	22	14.6
Post graduate	4	2.7

Source: Field survey (2019)

Table 1 shows the socio-economic Characteristics of the respondents in Gombe metropolis. The result revealed that 99(66.0%) of the respondents were male, while 51(34.0%) female, this finding is in line with that of Nyakundi (2017) who reported that majority of the respondents at 57.74% were males whereas 42.26% of the respondents were females. This implies both genders were fairly engaged in this research. The result also revealed that 54(36.0%) of the respondents were between the age range of 20 – 30 years, 79(52.7%) 31 – 40, 12(8.0%) 41 – 50 and 5(3.3%) 51 – 60, the result also revealed that 94(62.7%) were married, while 56(37.3%) single. And based on level of education 4(2.7%) of the respondents had quranic education, 2(1.3%) secondary, 118(78.7%) diploma/National Certificate in Education, 22(14.6%) B.Sc., 4(2.7%) post graduate. This result is in line with that of Nyakundi (2017) who reported that majority (89.88%) of the respondents had formal type of education. It is, therefore, imperative that head teachers and teachers be persons with good education and sufficient practical knowledge in educational planning this showed that majority of respondents were well educated which

implies that they had good knowledge on school management and were in a position to comprehend the research question and attend to them with less difficulty.

Table 2: Impact of school feeding programme on crop production (n = 150)

S/№	Items	SA	A	D	SD	X	Remark
1.	School feeding program stimulate local food production and boost income of farmers.	88	57	1	4	3.5	Agreed
2.	Food is bought locally, which benefits local farmers and the whole community whileenhancing the sustainability of the programme.	56	81	13	0	3.3	Agreed
3.	Food vendors are fully integrated in the program through which local farmers provide them with the necessary local materials for the meals.	20	31	77	22	2.3	Disagreed
4.	School feeding program provide ready-made markets for agricultural produce.	33	103	11	3	3.2	Agreed
5.	Use of local agricultural production for school feeding program can improve local agricultural production.	53	74	23	0	3.2	Agreed

Source: Field survey (2019)

Table 2 shows the impact of school feeding programme on crop production in Gombe metropolis. The result revealed that school feeding program stimulates local food production and boost income of farmers with a mean of (3.5), food is bought locally, which benefits local farmers and the whole community whileenhancing the sustainability of the programme with a mean of (3.3), food vendors are fully integrated in the program through which local farmers provide them with the necessary local materials for the meals with a mean of (2.3), school feeding program provide ready- made markets for agricultural produce with a mean of (3.2), use of local agricultural production for school feeding program can improve local agricultural production with a mean of (3.2). This finding is in line with the findings of Espejo *et al.*, (2009) who asserted that while school feeding programmes principally targets school-age children, Home Grown School Feeding programmes target small-scale farmers – who are mostly poor because of inadequate access to assets such as land, water and human capital. Their production practices are characterized by limited use of productivity-enhancing technologies and practices – such as hybrid seeds and fertilizers. (Mumuni, 2012; Kiamba, 2013) further said that school feeding programme also encourages local food to be used in the programme to stimulate intensive farming of that local crop.

Table 3: Importance of school feeding programme in Gombe metropolis (n = 150)

S/N _o	Items	SA	A	D	SD	X	Remark
1.	School feeding program increase enrolment, attendance and pupils' retention in schools.	118	31	1	0	3.8	Agreed
2.	School feeding program attracts pupils to come school, most especially the poor community and improve their (children) performance	105	39	6	0	3.7	Agreed
3.	School feeding program have positive effect to children cognitive development.	45	75	27	3	3.1	Agreed
4.	School feeding program influence dietary in child growth and development and has powerful influence on a child's learning.	44	80	26	0	3.1	Agreed
5.	School feeding program makes smooth and effective classroom management.	26	56	55	13	2.6	Agreed

Source: Field survey (2019)

Table 3 shows the importance of school feeding programme in Gombe metropolis. The result revealed that majority of the respondents agreed that school feeding program increase enrolment, attendance and pupils' retention in schools with a mean of (3.8), the result revealed that school feeding program attracts pupils to come school, most especially the poor community and improve their (children) performance with a mean of (3.7), this finding is in agreement with that of (Uduku, 2011) who reported that nutritional and health status are powerful influences on a child's learning and how a child performs in school. Children who lack certain nutrients in their diet do not have the same potential for learning as healthy and well nourished children. Children with cognitive and sensory impairments naturally perform less and are more likely to repeat grades. The irregular school attendance of malnourished and unhealthy children is one of the key factors for poor performance. The result also shows that school feeding program has a positive effect on children cognitive development with a mean of (3.1), this finding is in line with the findings of (Jukes et al, 2008) who reported that not only children are motivated to get into school but also there is a significant impact on their nutritional status and development, cognitive capabilities and academic performance. The result indicates that school feeding program influence dieting in child growth and development and has powerful influence on a child's learning process with a mean of (3.1). Also, school feeding program enables smooth and effective classroom management with a mean of (2.6).

4. DISCUSSION

The result revealed that majority (88.7%) were between the aged range of 20 – 40 years. This finding is in line with the findings of Oyedirán and Omoare, (2014) who reported that most young people in the world are in this age bracket and they are active thus, ability to cope with academic stress. The result in table 3 revealed that majority of the respondents agreed that school feeding program increase enrolment, attendance and pupils' retention in schools with a mean of

(4.7). This finding is in line with the findings of World Bank's (2012) reported that the consistent supply of all meals in school feeding program leads to high admissions of pupils in school and have them regularly attend school and regular feeding in the school feeding program highly encourages pupils to regularly attend school up to completion level.

The result also revealed that majority of the respondents agreed that school feeding program influence child growth and development and has powerful influence on the child's learning process and also agreed that it has positive effect on a child's cognitive development with a mean of (3.9). This is in agreement with the findings of Rathore (2008) who reported that malnutrition affected pupils' participation in schools, which negatively affected pupils' retention in schools. The study therefore concluded that properly designed and effectively implemented school feeding programs can alleviate short-term hunger in malnourished or otherwise well-nourished school children. This helps to increase the attention and concentration of students producing gains in cognitive function and learning.

5. CONCLUSION

The study revealed that majority of the respondents were males, young and active, married and had formal type of education. It also indicated that the impact of school feeding program on crop production has a positive impact in Gombe metropolis. By purchasing foodstuffs within the beneficiary communities, the service provider provides direct market for local farmers in the study area. School feeding program had greatly improved pupils' performance, enrolment and retention and also increased crop production by linking small-scale farmers with vendor. The result revealed that majority of the respondents 99(66.0%) were males, 79(52.7%) aged range between 31 – 40 years, 94(62.7) were married, 146(97.3%) had formal typed of education. The result also revealed that school feeding program stimulate local food production and boost income of farmers with a mean of (3.5), food vendors are fully integrated in the program through which local farmers provide them with the necessary local materials for the meals with a mean of (2.3), school feeding program increase enrolment, attendance and pupils' retention in schools with a mean of (3.8) and school feeding program makes smooth and effective classroom management with a mean of (2.6).

In Conclusion the result indicates that teachers and students/pupils' have strong opinions on the effectiveness of school feeding programs' in reducing absenteeism and on increasing students' enrolment rates and a positive increase in crop production. The study showed that well-fed students/pupils were improved in their academic performance, enabling the pupils' to actively participate in learning activities hence retention; frequent feeding, improved academic performance and decreased school dropout rates due to alleviation of short-term hunger in the study area. Parents' are also motivated to enrol their children in school and parents ensured that their children attend school regularly; regularly attendance decreases pupils' absenteeism rates through parent motivation, Parents motivation ensured regular attendance that increases pupils' academic performance and decreases dropout rate. School feeding program stabilizes attendance due to high admissions of pupils in school and regular school attendance, and ultimately reducing poverty levels as it encourages all pupils to remain in school until they complete school.

The farmers in the study area were stimulated by school feeding program to grow more crops such as maize, rice, beans, and vegetables, to sell to the schools. Adaptation of this innovation has improved farm productivity. The study exposed that most of vendors generally buy most of their produce from wholesalers in the market, although some vegetables are bought from the local farmers. The African Union's revised Africa Regional Nutrition Strategy 2015–2025 has also endorsed home grown school feeding as a continental strategy to address some of these challenges (African Union 2016).

6. RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made;

1. Ministry of education should review the school feeding program, make it continuous and extend it in schools in poverty ridden areas.
2. Ministry of education should mandate the vendors to buy food stuffs such as rice, beans, meat, egg, fish, and vegetables directly from local farmers in order to boost crop production.
3. During the modification of school feeding program, it is important to include local producers and schools in the decision making process on the type of food needed.
4. Government should build a reliable framework that focus on how school feeding program can effectively contribute to improving educational outcomes and meeting the nutrition and health needs of school age children.

REFERENCES

- African Union (2016). Africa Regional Nutrition Strategy 2015–2025, Addis Ababa. https://au.int/sites/default/files/pages/32895-filearns_english.pdf.
- AGRA (Alliance for a Green Revolution in Africa). (2017). *Africa Agriculture Status Report: The Business of Smallholder Agriculture in Sub-Saharan Africa*. Issue 5, AGRA, Nairobi.
- Akanbi, G.O. (2013). Home Grown School Feeding and Health Programme in Nigeria: An Innovative Approach to Boosting Enrolment in Public Primary Schools – A Study of Osun State, 2002–2010. *African Symposium*, 11(2), 8-12.
- Bundy, D., Burbano, C., Grosh, M., Gelli, A., Jakes, M., and Drake, L. (2009). Rethinking school feeding programme. Social safety nets, Child Development and the Education Sector, Washington D.C World Food Programme, World Bank.
- Bundy, D., Burbano, C. and Grosh, M. (2011). Rethinking school feeding: Social development, and the education sector. *Joint publication of the World food programme and the world bank directions in development*. Washington, DC: The World Bank.
- Drake, L., McMahon, B., Burbano, C., Singh, S., Gelli, A., Cirri, C. and Bundy, D. (2012). School feeding: Linking education, health and agricultural development paper for the 2012 international conference on child development. Hosted by the China development research foundation. WFP.

- Espejo, F., Burbano, C. and Galliano, E. (2009). *Home-grown School Feeding: A Framework to Link School Feeding with Local Agricultural Production*. Rome: *World Food Programme*; 2(3). Pp. 37 – 41.
- European Food Safety Authority (EFSA): The 2015 European Union report on pesticide residues in food. *European Journal of Physical and Agricultural Sciences*; Vol. 4 No. 1, 2016 ISSN 2056-5879.
- Garram children's school (2010). *Proposal for a grant of \$65,000 for school feeding program*. Retrieved from: <http://www.Garramchildrensschoolandorphanage.org>
- Gelli, A., Masset, E., Folson, G., Kusi, A and Arhinful, D.K (2016). "Evaluation of Alternative School Feeding Models on Nutrition, Education, Agriculture and Other Social Outcomes in Gombe: Rationale, Randomized Design and Baseline Data." *Trials* 17 (37).
- Herrero, M., Thornton, B. Power, J. R. Bogard, R and Remans, P. K (2017). "Farming and the Geography of Nutrient Production for Human Use: A Transdisciplinary Analysis." *Lancet Planetary Health* 1 (1): e33-42.
- Jukes M.C.H., Drake L.J., & Bundy D.A.P. (2008). *School Health Nutrition and Education for All: Leveling the Playing Field*. Cambridge: CAB Publishers.
- Masset, E. and Gelli, A. (2013). Improving community development by linking agriculture, nutrition and education: Design of a randomized field experiment of "home grown" school feeding in Mali, *Journal of Education*, (14(55): 1745 – 6215.
- Mumuni, D. (2012): *Home Grown School Feeding*: Hamburg, Partnership for Child Development (PCD).
- Nwana, E.U. (2004). *Research method in Agriculture*, University Press Nigeria. Pp. 76 – 89.
- Nyakundi, M.E. (2017). Influence of school feeding program on pupils' retention in public primary schools in Dagoretti South Sub-county, Nairobi County, Kenya. *Journal of humanities and social science (IOSR-JHSS)*; volume 24, issue 1, Ver. 26-40.
- Oyediran, W. O. and Omoare, A. M. (2014). Information and Communication Technologies (ICTs) Application in Agriculture: A Tool towards Rural Youths Empowerment in Ogun State, Nigeria. *International Journal of Applied Research and Technology*. 3(3):33 – 38. ISSN 2277-0585. www.esxpublishers.com.
- Rathore, J.S. (2008). Drought and household coping strategy. A case of Rajasthan. *Indian Journal of Agricultural Economic*, 59 (4) 689 – 708.
- Singh, S., and M. Fernandes (2018). "Home-Grown School Feeding: Promoting Local Production System Diversification through Nutrition Sensitive Agriculture." *Food Security* 10 (1): 111–19.
- Singh, T.J. and Sahu, S.K., (2015). *Research Methodology*, Agra: SBPD Publication. Pp. 37 – 43
- Uduku, N. (2011). School Building Design for Feeding Programme and Community Outreach: Insights from Gombe and South Africa. *International Journal of Educational Development*, 31, 59–66.

World Bank. (2012). *Scaling Up School Feeding: Keeping children in school while improving their learning and health*. Retrieved from: <http://siteresources.worldbank.org/EDUCATION/Resorces/278200-1334777272566/Results2012-BS-HDN-Update-SchoolFeeding.pdf>.

WB (World Bank), (2009). Executive Summary Rethinking School Feeding Social Safety Nets, *Child Development and the Education Sector*. WB: Washington DC. 3 – 12.