International Journal of Science and Research (IJSR)
ISSN: 2319-7064
ResearchGate Impact Factor (2018): 0.28 | SJIF (2019): 7.583

Efficacy of Cotton Out-Grower Schemes on Improving the Welfare of Cotton Farmers: A Case of Chipata District, Zambia

Dr. Sunday Silungwe, PhD

Abstract: ***The main objective of the cotton out-grower schemes was poverty reduction. This was mainly aimed at improving the welfare of smallholder cotton farmers. However, the trend shows that the poverty level still remains high in the rural area of Zambia and predominantly a rural phenomenon. The general objective of the study was to establish the efficacy of the cotton out-grower schemes on improving the welfare of smallholder cotton farmers and the study sought to answer the general research question on: How efficacy were the cotton out-grower schemes on improving the welfare of smallholder cotton farmers? Pragmatism was the philosophical view that underpinned the study and it applied to the mixed research method approach for this study. The convergent parallel strategy of the mixed research methods approach was used. The findings from the study revealed that the cotton out-grower schemes implementation contributed positively to improving the welfare of smallholder cotton farmers participating in the cotton out-grower schemes. It also established that the cotton out-grower farmers had improved their knowledge in understanding the operation of the cotton out-grower scheme. Subsequently, the cotton out-grower schemes had benefited the communities. The study concluded that the cotton out-grower schemes had been effective in improving the welfare of smallholder cotton farmers. The study, however, recommended that there was need to address the issue of power imbalance between the cotton out-grower farmers and the cotton out-grower firms and also to address the high illiteracy levels among the rural farmers that required document transactions, by translating contracts in the local language for ease of understanding. Further, both the cotton out-grower farmers and cotton out-grower firms should adhere to their contractual obligations for the purpose of transparency and honesty. Subsequently, the out-grower farmers should be working towards an exit strategy of self-reliance to avoid perpetual dependence on the out-grower scheme on long-term***

Keywords: Out-grower scheme, Out-grower farmer, Independent farmer, Welfare

1. Introduction

The main objective of the cotton out-grower schemes was poverty reduction. This was mainly aimed at improving the welfare of the people living in the rural area of Zambia. However, the trend shows that the poverty level still remains high, at 76.7%, in the rural area of Zambia and predominantly a rural phenomenon (Living Conditions Monitoring Survey, 2015).

The main objective of the cotton out-grower schemes was poverty reduction. This was mainly aimed at improving the welfare of the people living in the rural area of Zambia. However, the trend shows that the poverty level still remains high in the rural area of Zambia and predominantly a rural phenomenon. The results of a survey conducted by Living Conditions Monitoring Survey (2015) show that the poverty level increased in the rural areas from 73.6 in 2010 to 76.7 percent in 2015. In urban areas, by contrast, the poverty level reduced marginally from 25.7 percent in 2010 to 23.4 percent in 2015.

Although studies have been conducted on cotton out-grower schemes, gaps still exist. In Zambia, past studies were mainly on factors that influenced performance of the cotton out-grower schemes (Manda *et al.*, 2018; Chapoto *et al.*, 2018; Matenga, 2017, Samboko & Dlamini, 2017; Kabungo & Jenkins, 2015; Schupbach, 2015). Available literature reveals that not much study has been done on establishing the efficacy of cotton out-grower schemes on improving the welfare of smallholder cotton farmers (Bellemare, 2018; Christina & Panagiota, 2018; Food and Agriculture Organization, 2018; Isager *et al.*, 2018; Navarra *et al*, 2018; Njogu *et al*., 2018; Ton *et al.*, 2018; Bellemare *et al.*, 2017; Dube and Mugwagwa, 2017; Actionaid, 2015). This study, therefore, fills the missing gap and provides empirical evidence on the title of the study.

2. Methodology

The general objective was to establish the efficacy of cotton out-grower schemes on improving the welfare of smallholder cotton farmers and the study sought to answer the general research question on: How efficacy were the cotton out-grower schemes on improving the welfare of smallholder cotton farmers in Chipata District? Pragmatism was the philosophical view that underpinned the study and it applied to the mixed research method approach for the study. The convergent parallel strategy of the mixed research method approach was used. The target population was 50,000 smallholder farmers and a formula was used to calculate the sample size of 396 smallholder farmers. A questionnaire was administered on smallholder farmers that were selected using simple random sampling method. An interview guide was used on the key informants that were chosen using purposive sampling method.

Qualitative data was analyzed by using the inductive process of building from the data to broad themes and then to interpretation. Quantitative data was analysed by using the Chi-square tests to ascertain significance of association between critical variables measured by categories of out-grower cotton farmers and independent farmers. The T-tests compared the treatment (out-grower cotton farmers) and control (independent farmers) groups on variables of interest. The coefficient of variation (CV) was used to gauge the level of respondents' dissention in responses while coefficient of consensus (CC) was used to gauge the level of

respondents' consensus in responses, applied to the Likert scale and other ordinal responses.

The study was validated by using content, construct and criterion validity. Content validity was used to ensure that the instruments measured the content they were intended to measure while construct validity ensured that the instruments measured the constructs they were intended to measure and criterion validity ensured that the scores predicted a criterion measure and results correlated with other results. Subsequently, reliability was realized by using representative and equivalence reliability. Representative reliability was used to measure reliability to generalize the results to the target population. It was also used to measure reliability to compare constructs between the out-grower farmers (treatment group) and independent farmers (control group). Further, equivalence reliability was used to compare the standard of living and consumption expenditure between the out-grower farmers and independent farmers by using multiple indicators, a measure that yielded consistent results using different specific indicators.

3. Discussion of Results

The study did not only evaluate the efficacy of the cotton out-grower scheme on out-grower cotton farmers, but also paid attention to the efficacy of the cotton out-grower scheme on independent farmers, and community development at large. The items used as indicators to compare consumption expenditure and the standard of living between the cotton out-grower farmers and independent farmers are meals taken per day, type of house, source of income, income per year, source of lighting at home, cash at the bank, change in income in the last five (5) years, and ownership of livestock such as cattle and goats, vehicle, ox-cart, bicycle, television, radio, and phone sets. The items used as indicators are those that both the out-grower cotton farmers and independent farmer could afford and claim ownership to. However, the variables used in this article were the type of house, income, and change in income in the last five years. These items were chosen because the central statistics office uses them in the living conditions monitoring survey (CSO, 2015). The discussion of the results was based on the following specific research objectives of the study.

Improvement in the Welfare of Smallholder cotton Farmers Participating in Cotton Out-grower schemes

As shown in Table 1, majority of the out-grower farmers, 56 % indicated that they had better houses made of burnt bricks with an iron sheet roof as compared to 47%, independent farmers

Table 1: Cross tabulation on Type of the House for the respondent

		Type of Respondent					
		Out-grower farmer	Percent	Independent Farmer	Percent	Total	Percent
What type of a house do you live in?	Mud Grass Thatched	45	22.9	58	29	103	26
	Mud thatched with Iron Sheets	17	8.6	20	10	37	9.3
	Burnt bricks grass thatched	22	11	27	13.5	49	12.4
	Burnt Bricks with Iron Sheets	109	56	94	47	203	51.3
	Non Response	3	1.5	1	0.5	4	1
Total		196	100	200	100	396	100

Source: Field Data

Table 2 shows that the majority of the out-grower farmers, 36.7% had an annual income above K5000 as compared to 21% independent farmers.

Table 2: Cross tabulation on Income by Type of Respondent

		Type of Respondent				Total	Percent
		Out-grower farmer	Percent	Independent Farmer	Percent		
How much is your income per year?	Less than 2000	56	28.6	67	33.5	123	31.1
	2001 to 3000	19	9.7	27	13.5	46	11.6
	3001 to 4000	22	11.2	30	15	52	13.1
	4001 to 5000	27	13.8	34	17	61	15.4
	Above 5000	72	36.7	42	21	114	28.8
Total		196	100	200	100	396	100

Source: Field Data

As indicated in Table 3, The Chi-square tests revealed that there was an association was between type of respondent and amount of income earned per year by respondents

Table 3: Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.370[a]	5	.020
Likelihood Ratio	14.231	5	.014
Linear-by-Linear Association	3.830	1	.050
N of Valid Cases	396		
a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is .99.			

Source: Field Data

Notes:

- The value of test statistics is 13.370
- The corresponding p- value of the test statistic is p = 0.020

Decision and Conclusion

Since the p- value is less than the chosen significant level (a= 0.05), the null hypothesis can be rejected and the conclusion is that there is evidence suggesting an association between type of the respondent and the amount of income earned per year by the respondents.

Based on the results, the following is stated:

An association was found between type of respondent and amount of income earned per year by respondents (X2(4)> =13.370, p =0.020).

As indicated in Table 4, the majority of the out-grower farmers, 54% had an increase in their income in the last five years as compared to 42% independent farmers.

Table 4: Change in Income in the Last Five Years by Type of Respondent

		Type of Respondent				Total	
		Out-grower farmer	Percent	Independent Farmer	Percent		Percent
Indicate Change in income in the last five years	Increased	106	54	84	42	190	48
	Decreased	50	25.5	52	26	102	25.7
	No Change	39	20	57	28.5	96	24.3
	Non Response	1	0.5	7	3.5	8	2
Total		**196**	**100**	**200**	**100**	**396**	**100**

Source: Field Data

Table 5 of the Chi-squares test indicates that there was significant association between type of respondent and change in income in the last 5 years as indicated by the responds.

Table 5: Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.089[a]	4	.026
Likelihood Ratio	12.059	4	.017
Linear-by-Linear Association	5.091	1	.024
N of Valid Cases	396		
a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is .49			

Source: Field Data

Notes:

- The value of test statistics is 11.089
- The corresponding p- value of the test statistic is p =0.026

Decision and Conclusion

Since the p- value is less than the chosen significant level (a= 0.05), the null hypothesis can be rejected and conclude that there is an association between type of respondent and change in income in the last 5 years for the respondents. Based on the results, the following is stated.

There was significant association between type of respondent and change in income in the last 5 years as indicated by the responds (X2(4)> =11.089, p =0.026).

Similar studies revealed that out-grower schemes contributed to reducing poverty of the smallholder out-grower farmers as compared to smallholder independents farmers (Mishrai, *et al.,* 2018; Singh et al., 2018; Poku, 2018; Huang *et al,* 2018; Yang et al., 2018 Euler *et al.,* 2016)

Smallholder Out-grower Cotton Farmers Understanding of the Operations of the Out-grower Schemes

As shown in Table 6, the majority of the out-growers farmers, 66.8% (131), indicated that they understood how the out-grower schemes operated. The minority of out-grower farmers, 6.1% (12) indicated that they did not understand how the out grower schemes operate.

Table 6: Out-grower Farmers' Knowledge on the operation of out-grower schemes

Do you understand how out-grower schemes operate?		
	Frequency	Percent
Yes	131	66.8
No	12	6.1
Somehow	47	24
Not sure	5	2.6
Non Response	1	0.5
Total	196	100.0

Source: Field Data

The information in Table 6 was further analyzed in detail as indicated in Table 7 to interpret the coefficient of variation (CV) and coefficient of consensus (CC). Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on the knowledge of the out-grower farmers to understand the operations of the out-grower scheme. The CV is twenty-seven percent (27%) as compared to the CC at seventy-three percent (73%). In this regard, a small percentage of out-grower farmers disagreed on their responses that they understood the operations of the out-grower schemes while the most of the out-grower farmers were in agreement on their responses.

Table 7: Interpretation of CV and CC on Understanding Out-grower Operations

Do you understand how out-grower schemes operate?					
Likert Scale	W	F	f(w)	W^2	fw^2
SD	1	12	12	1	12
D	2	0	0	4	0
N	3	6	18	9	54
A	4	47	188	16	752
SA	5	131	655	25	3275

TOTAL		196	873	55	4093
MEAN					4.4
SD					1.2
CV					27%
CC					73%

Source: Field Data

Similar studies revealed that the majority of the smallholder out-grower farmers understood the performance of the out-grower schemes (Bruntrup *et al.*, 2018; Bidzaka *et al.*, 2018; Bannor *et al.*, 2018; Scoones *et al.*, 2018; Ahungwa *et al.*, 2017)

Benefits to the Communities where the Cotton Out-grower Schemes are implemented

Table 8 indicates that The Majority of the respondents, 55.8%, indicated that there has been development in the communities where out-grower schemes are implemented.

Table 8: Community Development by the Out-grower Schemes

How would you describe development in your community relating to the out grower schemes?		
	Frequency	Percent
Developed	221	55.8
No change	103	15.4
Underdeveloped	61	26.0
Not sure	8	2.0
Non Response	3	.8
Total	396	100.0

Source: Field Data

The information in Table 8 is further analyzed in detail as shown in Table 9. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on community development by the out-grower schemes. The CV is thirty-nine percent (39%) as compared to the CC at sixty-one percent (61%). The majority of the respondents agreed on their responses that there has been development in the communities where out-grower schemes operated. The minority of the respondents were in disagreement on their responses.

Table 9: Interpretation of CV and CC on Community Development by Out-grower Schemes

How would you describe development in your community as a result of the operations of the out-grower schemes?					
Likert Scale	W	F	f(w)	W^2	fw^2
SD	1	61	61	1	61
D	2	0	0	4	0
N	3	114	342	9	1026
A	4	0	0	16	0
SA	5	221	1105	25	5525
TOTAL		396	1508	55	6612
MEAN					3.8
SD					1.5
CV					39%
CC					61%

Source: Field Data

As shown in Table 10, the majority of the respondents, 61.9%, indicated that they linked development in their communities to the operations of out-grower firms.

Table 10: Attributing Change in Community Development to Out-grower Schemes

Would you attribute the change in development to activities of out grower schemes?			
		Frequency	Percent
	Yes	245	61.9
	No	13	3.3
	Somehow	97	24.5
	Not Sure	30	7.6
	No Response	11	2.8
Total		396	100.0

Source: Filed Data

The information in Table 10 is further analyzed in detail as indicated in Table 11. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on attributing community development to the out-grower schemes. The CV is at twenty-three percent (23%) as compared to the CC at seventy-seven percent (77%). Many of the respondents agreed on their responses that the development in their communities was attributed to the operations of the out-grower schemes. However, few respondents were in disagreement on their respondents.

Table 11: Interpretation of CV and CC on Attributing Community Development to Out-grower Schemes.

Would you attribute the change or no change in development to activities of out grower schemes?					
Likert Scale	**W**	**F**	**f(w)**	**W^2**	**fw^2**
SD	1	13	13	1	13
D	2	0	0	4	0
N	3	41	123	9	369
A	4	97	388	16	1552
SA	5	245	1225	25	6125
TOTAL		**396**	**1749**	**55**	**8059**
MEAN					**4.4**
SD					**0.9**
CV					**23%**
CC					**77%**

Source: Field Data

Table 12 indicated that the majority of the respondents, 51.3% rated the performance of the out-grower schemes as fair and 36.6% rated the performance of the out-grower scheme as good. The minority of the respondents, 8.8% (35) rated the performance of the out-grower scheme as poor. Generally, respondents indicated that out-grower schemes have contributed to the development of their communities. Further, respondents indicated that poverty has been reduced because of the activities of the out-grower schemes.

Table 12: Rating Performance of the Out-grower Schemes

How do you rate the performance of the out-grower schemes in your area?			
		Frequency	Percent
	Good	145	36.6
	Fair	203	51.3
	Poor	35	8.8
	Not sure	5	1.3
	No Response	8	2.0
Total		396	100.0

Source: Field Data

The information in Table 12 is further analyzed in detail as indicated in Table 13. Much as CV and CC measure dispersion and consensus of the scores from the mean score, the same theory is used to measure variation in responses, resulting in the determination of degree of disagreement and consensus. In this study, the CV is used to measure the degree of the respondents' disagreement (dissention) while the CC is used to measure the degree of the respondents' agreement (consensus) on rating performance of the out-grower schemes. The CV is at thirty-two percent (32%) as compared to the CC at sixty-eight percent (68%). The majority of the respondents agreed on their responses on rating the performance of the operations of the out-grower schemes as good. However, few respondents were in disagreement on their responses.

Table 13: Interpretation of CV and CC on Rating the Performance of the Out-grower Scheme

What is your general opinion about the operations of out grower schemes in your area?					
Likert Scale	W	F	f(w)	W^2	fw^2
SD	1	35	35	1	35
D	2	0	0	4	0
N	3	13	39	9	117
A	4	203	812	16	3248
SA	5	145	725	25	3625
TOTAL		396	1611	55	7025
MEAN					4
SD					1.3
CV					32%
CC					68%

Source: Field Data

Similar studies revealed that the rural communities saw the out-grower scheme as their opportunity for development. It was the way to progress to see their villages being connected through roads and bridges, schools, and medical facilities being built and renovated. For community members, the out-grower scheme was not isolated from the community and out-grower scheme agreements (Musa, 2018; Maltitz *et al.*, 2018; Ragasa *et al.*, 2018; Panotra *et al.*, 2018)

4. Findings

The study revealed that smallholder out-grower farmers had a better standard of living than independent farmers who did not participate in the out-grower scheme arrangement. The out-grower farmers were better off in terms of assets owned, increased income, and increased consumption expenditure as compared to the independent farmers. Further, the study revealed that the out-grower schemes have improved the knowledge of the smallholder out-grower farmers on the operations of the out-grower schemes. Out-grower schemes operate on the concept of contract farming. In this regard, out-grower farmers signed a contract with the out-grower firm. The out-grower firm endeavored to explain the contents of the contract to the out-grower farmers. To this effect, both the out-grower farmers and out-grower firm were duty bound to adhere to their contractual obligations. Subsequently, the study revealed that that the communities have benefited from the operations of the out-grower schemes. Some of the benefits are employment creation, providing clean water through the sinking of boreholes, community health improvement through building of clinics, enhancing rural education by building schools, and providing training in improved farming practices to increase yields of the agricultural commodities. Other benefits are education scholarships, supporting traditional ceremonies, and sponsoring sports clubs.

5. Conclusion

In comparison to the independent farmers, there has been an improvement in the welfare of smallholder out-grower cotton farmers participating in the cotton out-grower scheme arrangement. The study revealed that out-grower cotton farmers had a better standard of living than the independent farmers who did not participate in the cotton out-grower scheme arrangements. Further, it also found that out-grower cotton farmers were knowledgeable about the cotton out-grower schemes and understood the operations thereof. Subsequently, the study found that communities benefited from the operations of the cotton out-grower schemes. In view of the above, the cotton out-grower schemes have efficacy in contributing to improving the welfare of smallholder out-grower cotton farmers.

References

[1] Action Aid (2015), Contract farming and out-grower schemes, appropriate development models to tackle poverty and hunger? http://www.actionaid.org/site/files/actionaid/take (Accessed, 7th January, 2020)

[2] Ahungwa, G.T., Orifa, M.O., Yusu, M., and Apeverga, P.T. (2017), Contract Farming: Panacea for the Attainment of Food Self- Sufficient in Nigeria. *Journal of Agricultural Economics, Environment and Social Sciences* 3(1), 133-141, June, 2017. http://www.unimaid.edu.ng/jaeess (Accessed, 6th of January, 2020)

[3] Bannor, R.K., Oppong-Kyeremeh, H., and Adjei-Addo, E. (2018), "Improving the Income of Small Scale Rice Producers through Out-grower Scheme in the Volta Region of Ghana," *Indian Journal of Economics and Development*, 13(2), 584-590

[4] Bellemare, M.F., Lee, Y.N., and Novak, L. (2017), "Contract Farming as Partial Insurance," *Working Paper*, University of Minnesota

[5] Bellemare, M.F. (2018), "Contract Farming: Opportunity Cost and Trade-offs," *Agricultural Economics*, available online: 26 March, 2018.

[6] Bidzakan, J.K., Fiolar, S.C., and Yahaya, I. (2018), Production Efficiency of Smallholder Rice Farms under Contract Farming Scheme in Ghana. *Asian Journal of*

Agricultural Extension, Economics & Sociology, 25(1), 1-12, 2018; Article no.AJAEES.41057 ISSN: 2320-7027

[7] Bruntrup, M., Schwarz, F., Absmayr, F., Dylla, J., Eckhard, F., Remke, K., and Sternisko, K. (2018), Nucleus-out-grower schemes as an alternative to traditional smallholder agriculture in Tanzania–strengths, weaknesses and policy requirements. *Food Security*, 10:807–826. https://doi.org/10.1007/s12571-018-0797-0 (Accessed, 12th January, 2020)

[8] Central Statistics Office and Living Conditions Monitoring Survey - CSO & LCMS (2015), Report. Lusaka, Zambia: CSO

[9] Chapoto, A., Chisanga, B., and Kabisa, M. (2018), Zambia Agriculture Status Report 2018. Indaba Agricultural Policy Research Institute, Lusaka, Zambia

[10] Christina, C., and Panagiota, S. (2018), Potentials and Pitfalls of Contract Farming through Agricultural Cooperatives in Greece. *Journal of Economics and Sustainable Development*, Volume 27(2018) http://FAC_Working_Paper_055.pdf *(Accessed, 12th January, 2020)*

[11] Dube, L., and Mugwagwa, K.E. (2017), The Impact of Contract Farming on Smallholder Tobacco Farmers' Household. Incomes: A Case Study of Makoni District, Manicaland Province, Zimbabwe, *Scholars Journal of Agriculture and Veterinary Sciences.* 4(2), 79-85

[12] Eaton, C.S. **(**1998a). Contract farming structures and management in developing nations, *In* D. Birch, G. Lawrence, R. Rickson, & J. Goss, eds. *Australasian food and farming in a globalised economy: recent developments and future prospects.* Monash Publications in Geography: No. 50, Department of Geography and Environmental Science, Monash University, Melbourne

[13] Euler, M., Schwarze, S., Siregar, H., and Qaim, M. (2016), "Oil Palm Expansion among Smallholder Farmers in Sumatra, Indonesia", *Journal of Agricultural Economics* 67(3):658-76.

[14] Food and Agriculture Organization (2018), Enabling regulatory framework for contract farming, Rome: FAO, Legal Office.

[15] Huang, Z., Xu, Y., Wang, C., and Wang, J. (2018), one size fits all? Contract farming among broiler producers in China, *Journal of Integrative Agriculture*, 17(2), 473 – 482

[16] Isager, L., Fold, N., and Nsindagi, T. (2018), "The Post-Privatization Role of Out growers' Associations in Rural Capital Accumulation: Contract Farming of Sugar Cane in Kilombero, Tanzania," *Journal of Agrarian Change*, 18(1), 196-213.

[17] Kabungo, A.M., and Jenkings, G.P. (2015), Contract Farming Risks: A Quantitative Assessment: Northern Cyprus, Eastern Mediterranean University

[18] Maltitz, G.P., Henley, G., Ogg, M., Samboko, P.C., Gasparatos, A., Read, M., Engelbrecht, F., Ahmed, A. (2018): Institutional arrangements of Out-grower production in Southern Africa, Development Southern Africa, DOI: 10.1080/0376835X.2018.1527215 https://doi.org/10.1080/0376835X.2018.1527215 (Accessed 11th January, 2020)

[19] Manda, S., Dougill, A., and Tallontire, A. (2018), Out-grower schemes, livelihoods and response pathways on the Zambian 'sugar-belt' *Geoforum*, 97, 119-130 10.1016/j.geoforum.2018.10.021

[20] Matenga, C.R. (2017) Out-growers and Livelihoods: The Case of Magobbo Smallholder Block Farming in Mazabuka District in Zambia, *Journal of Southern African Studies*, 43(3), 551-566, http://dx.doi.org/10.1080/03057070.2016.1211402 (Accessed, 10th January, 2020).

[21] Ministry of Agriculture and Cooperatives Report (2017). Lusaka, Zambia.

[22] Mishira, A.K., Kumar, A., Joshi, P.K., and D'Souza, A. (2018), Impact of contract farming on yield, costs and profitability in low-value crop: Evidence from a low-income country, *Australian Journal of Agricultural and Resource Economics*, 00, pp. 1–19, July 2018

[23] Musa, K., Van, N.P., and Retief, C.P. (2018), Challenges of Contract Farming among Small-Scale Commercial Vegetable Farmers in Eastern Cape South Africa, Journal of Agricultural Extension, https://dx.doi.org/10.4314/jae.v22i3.19 (Accessed, 12th January, 2020)

[24] Navarra, C. (2018), Contract farming in Mozambique: Implications on gender inequalities within and across rural households WIDER *Working Paper* 2018/26. The United Nations University World Institute for Development Economics Research

[25] Njogu, G. K., Olweny, T., and Njeru, A. (2018), Relationship between farm production capacity and agricultural credit access from commercial banks, *International Academic Journal of Economics and Finance*, 3(1), 159-174

[26] Panotra N., Gupta. V., Sharma, V., and Kumar, A. (2018), Contract Farming System for Sustainable Agricultural Development, *International Journal of Agriculture Sciences*, ISSN: 0975-3710 & E-ISSN: 097-9107, 10(6), 5505-5508

[27] Poku, A., Birner, R., and Gupta, S. (2018), Making Contract Farming Arrangements Work in Africa's Bio-economy: Evidence from Cassava Out-grower Schemes in Ghana. *Journal of Sustainability*, 10(5), 1-21

[28] Ragasa, C., Lambert, I., and Kufoalor, D. (2018), Limitations of Contract Farming as a Pro-poor Strategy: The Case of Maize Out-grower Schemes in Upper West Ghana. *World Development*, 102, 30-56. February 2018. https://doi.org/10.1016/j.worlddev.2017.09008 (Accessed, 1st January, 2020)

[29] Samboko, P.C., and Dlamini, C. (2017) Institutional arrangements for bio-fuel feedstock production in Zambia, WIDER Working Paper 20171/54, World Institute for Development Economics Research, United Nations University.

[30] Schüpbach, J. (2015), Foreign direct investment in agriculture: The impact of out-grower schemes and large-scale farm employment on economic well-being in Zambia. Zurich: vdf Hochschulverlag AG.

[31] Scoones, I., Mavedvenge, B., Murimbarimba, F., and Sukume, C (2018), Tobacco, contract farming, and agrarian change in Zimbabwe, *Journal of Agrarian Change*, 18(1), 22-42. January 2018.

[32] Singh, A.K., Sagar, M.P., Pratap, J., and Chaturvedani, A.K. (2018), Contract broiler farming system in eastern plain zone of Uttar Pradesh, *Journal of Pharma Innovation*, 7(7), 807-810

[33] Ton, G., Wytse Vellema, W., Desiere, S., Weituschat, S., and D'Haese, M (2018), Contract farming for improving smallholder incomes: What can we learn from effectiveness studies? *World Development* 104, 46-64. (2018) Journal home page: www.elsevier.com/locate/worlddev (Accessed, 4th January, 2020)

[34] Torvikey, G.D., Yaro, J.A., and Teye, J.K. (2017), Farm to Factory Gendered Employment: The Case of Blue Skies Out-grower Scheme in Ghana. *Journal of Political Economy*, 5(1), 77-97. https://doi.org/10.1177/2277976016669188 (Accessed, 5th January, 2020)

[35] Yang, H., Vernooy, R. and Leeuwis, C. (2018), 'Farmer cooperatives and the changing agric-food system in China', *China Information*, 32(3), 423-442 doi: 10.1177/0920203X16684504. (Accessed, 2nd January, 2020)