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Agro–Development in *Musali* By Using *Muzara’ah* Supply Chain Model

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Abstract: In the recent years many microfinance institutions have played significant role in banking and financial sector in *Musali*-Sri Lanka. *Musali* is divisional secretariat that situated in Mannar, a northern district of Sri Lanka. The study focused on domestic sector considerably paddy cultivation in this division. In order to enhance the agricultural financing and its productivity, *Muzara’ah* supply chain model was proposed. The aim of this paper is to investigate *Muzara’ah* supply chain model to overcome the financing problem in *Musali*. The analysis consists of various demographic variables and four factors such as benefits, prospects, challenges and implementation. The analysis used ANOVA, where the differences between groups could be identified. The study found that most of the government employees are satisfied with *Muzara’ah* supply chain model in terms of its prospect and benefits to the society. The model has features of risk diversification and investment. Therefore, financial institutions and farmers gain the benefits.

Keywords: *Muzara’ah*, supply chain, micro finance, Farmers, financial institutions.

1. INTRODUCTION

The *Musali* division is located in the Northern Province of Sri Lanka. It is renowned as a multi-religious and multicultural city. Historically, this location has very good reputation during the English colonisation where it had a fort and a bungalow that was built during British period by Federic North. He was the first British governor of Sri Lanka. *Musali* has also experienced number of previous land uses such as for agricultural production and military base. Notwithstanding its proud historical past, *Musali* is currently a shadow of itself. The division is now known and associated with socioeconomic problems like poverty, poor sanitation, and lack of pure water, nutritious food, and electricity, particularly among the minority Muslim population.

While governance failure cannot be totally discounted as a major reason for the unfortunate state of affairs in *Musali*, the long period of civil war and its aftermath also played a key role. The majority of the

Muslims from the Northern Province live in refugee camps in the north western province while a pocket of others is scattered around Sri Lanka especially since the forceful expulsion of Muslims in 1990 by terrorist activism. Ethnic problems created a number of socio-economic, political, and psychological problems among those internally displaced. Eventually in 2009 the government brought the war to an end and wiped out the terrorist activism in Sri Lanka, but the negative aftermath of the war is lingering as far as *Musalī* is concerned.

Unlike other parts of Sri Lanka, the most distinguishing factor of the *Musalī* Division is its rich natural resources such as its proximity to the Indian Ocean (marine resources), rivers, forests, clean air, fertile agricultural land, paddy fields, and grassland. Natural resources are fundamental assets offering massive investment opportunities for the society. Properly managing and utilising the fertile land will enhance living standards and conditions while also minimising unemployment rates.

The total economic output in Sri Lanka by Gross Domestic Product for the first quarter of 2014 displayed an increase of 857,497 million LKR. This is in comparison to the first quarter of 2013 with 796,720 million LKR. This figure reflects a 7.6% increment (Department of census and statistics, 2014). This increased economic output is accounted for by agriculture, industries, and services sectors, which contributed 11.5%, 32.7%, and 55.8% to GDP growth respectively (Department of census and statistics, 2014).

The agricultural sector is of particular importance and plays significant role in the economic development of Sri Lanka as an agro-based dependent economy. The current contribution of the agriculture sector to the country's economy has been improving with production growth over the past decades showing sharp increase including livestock and forestry which increased by 5.9% in 2014 compared to 5% in 2013.

The *Musalī* Division has an occupied land coverage of 363.53 Sq Km or 45,586 hectares with a very small portion of land assigned to peasant farmers and for residential purposes. Although, some rich farming families have been assigned large portions of the occupied land, the economic prosperity of the Division would have been boosted if complemented by agricultural induced land distribution.

Agriculture is the primary source of income and livelihood for most Sri Lankans, especially *Musalī* Muslims. Despite the war, many believe that the *Musalī* Division can still achieve speedy economic recovery given its fertile land suited for cultivating paddy and other plantations. The realisation of such economic potential may depend on the complimentary activities needed to boost production. The absence of financial institutions seems prominent. Without prejudice to the relative importance of other factors, it thus appears that the predominantly *Muslim* population of *Musalī* would be favourably disposed to an Islamic financing arrangement for agricultural purposes. To this end, this study is motivated by the potentials of *Muzāra'ah* financing for two reasons. First, the residents of *Musalī* are predominantly Muslims, and second, the equitable operational philosophy that underlines *Muzāra'ah* financing is appropriate for a war-ravaged community whose hope for economic revival is hinged on agro-based activities.

2. MATERIALS AND METHODS

Muzara'ah is a financial system which is mostly apply to the agricultural activities (Muhsin and Kahf). Ali R, *et. al.* (2013) emphasized on supply chain model to enhance the agricultural sector and to fulfil the availability on crop yields in 2050, The Muzara'ah supply chain model has been proposed by Nafiu (2015); whereas,

the study focuses on the agricultural sector in *Musali* Division. The decision regarding the size of the samples took cognizance of cost and time. In this regard, purposive sampling method was adopted for distribution of 350 questionnaires. In order to elicit responses, questionnaires were administered among government employees who are working and living in *Musali* Division. The yielding response rate was 71% which is sufficient for statistical analysis. The below figure 01 illustrates the model.

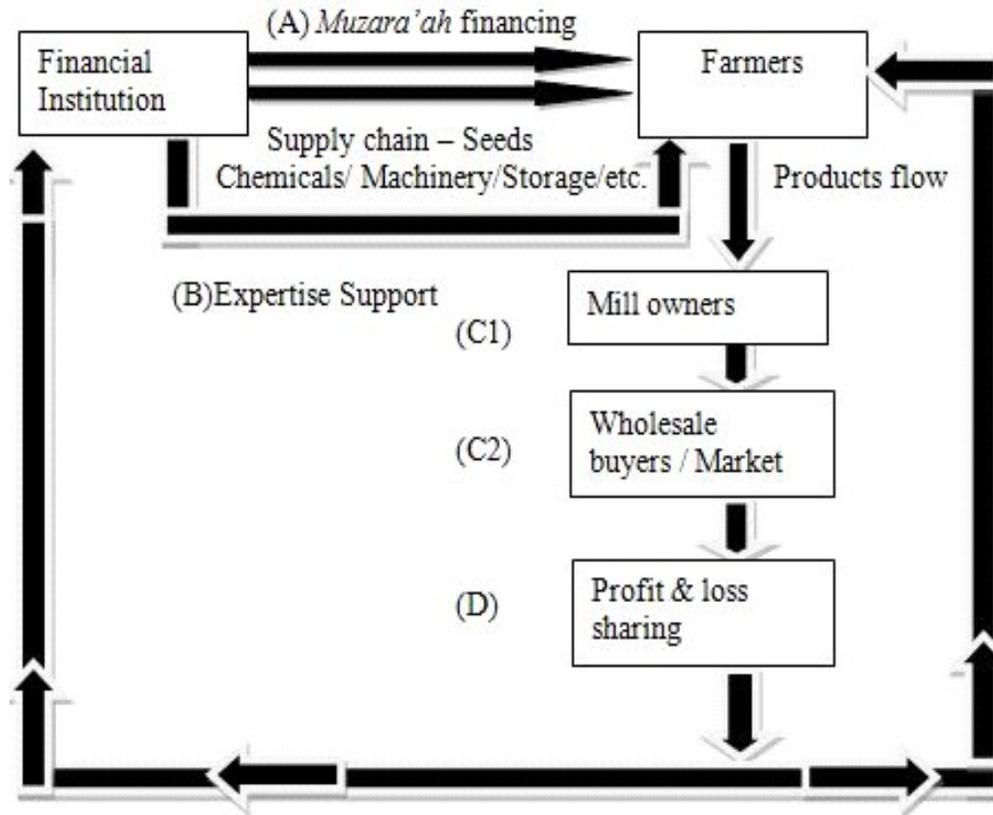


Figure 1: Muzara'ah Supply Chain Model – Adopted from Nafiu, Moussa and Mustafa (2015)

2.1. Elaborations of the Above Model

- A. Financial institutions have agreements with farmers where the institutions provide necessary needs such as funding and providing machinery, chemicals, fertilizer, pesticides, and provide necessary assistance. On the other hand, farmers contribute to carrying out the activity successfully by providing labour and land support.
- B. Financial institutions further extend their services throughout the periods where they provide expertise support in particular fields, and update the current market conditions.
- C. Soon after the harvest, farmers supply the outputs through to the mill owners, wholesale buyers, and market under the patronage of financial institutions.
- D. In terms of the agreement, at the beginning profits and loss of the sale is divided between the farmers and financial institutions upon the agreed ratio.

3. RESULTS AND DISCUSSION

The result indicates that there is no statistically significant difference in implementation and benefits, while in term of prospects and challenges, the data is statistically and significantly different at alpha level of 0.05. Furthermore, mean differences were tested based on affiliations of the banks. As shown in the result, there is a significant difference in terms of benefits where the *P* value is 0.007 which is less than the p-value threshold of 0.05. The statistical difference in the respondents' perception of the benefit of *Muzara'ah* was observed between respondents who have bank accounts and those who do not on the one hand, and between those who had previous experience with Islamic banks and those who don't.

Table 1
Based on Education and Bank Accounts

	<i>Education level</i>		<i>Bank Accounts</i>	<i>Islamic/ window bank</i>
	<i>Prospects</i>	<i>Challenges</i>	<i>Benefits</i>	<i>Implementation</i>
Chi-Square	9.790	9.688	7.357	5.121
Df	2	2	1	1
Asymp.Sig	0.007	0.008	0.007	0.024

In terms of the ranking based on educational level, Table 2 shows that the mean rank for prospects is lower among respondents who have at least a bachelor degree compared to those who have diploma. The trend is similar for other variables such as benefits where diploma holders have a mean rank score of 57.88 while degree and master holders have a slightly lower mean rank score of 56.29. In terms of challenges, the trend is depicted similar value. In nutshell, all the four variables have a high mean rank score among respondents who hold at least a diploma.

In order to identify the mean different among the variables, prospects and challenges were subjected to the Mann-Whitney U test to identify the differences among the group based on educational level. The result illustrated that mean of prospects is slightly higher than educational level. The mean of prospects based on education was slightly higher than mean of education where the Std. deviation is 0.76. (Table 3).

Table 4 shows the difference between the group while comparing A/L and below and diploma. The Mann-Whitney *U* test indicated statistical significance with *P* value of 0.017. Comparatively with other groups this figures was lower and mean rank in diploma was higher than A/L and below with 16.33 and 25.38 respectively. In terms of comparison between the A/L and below and degree and above, the result depicts that there is a statistically significant difference between them. Therefore, diploma and degree holders seems to opine that this *Muzara'ah* supply chain model has good prospects in this location.

Table 5 depicts the analysis on the challenges faced by *Muzara'ah* supply chain model, that Mann-Whitney U test is statistically and significantly higher between the category of diploma, degree, and above. This is because, diploma dominates each level of rank in the education sector. It is worth noting that most of the diploma and degree holders consider that there are challenges to be faced by implementing the model.

Table 2
Ranks of the variables based on educational level

<i>Ranks</i>			
	<i>Education Level</i>	<i>N</i>	<i>Mean Rank</i>
Prospects	Advance Level and below	18	33.58
	Diploma	24	60.58
	Degree and above	65	57.22
	Total	107	
Benefits	Advance Level and below	18	40.56
	Diploma	24	57.88
	Degree and above	65	56.29
	Total	107	
Implementation	Advance Level and below	18	46.58
	Diploma	24	57.13
	Degree and above	65	54.90
	Total	107	
Challenges	Advance Level and below	18	36.53
	Diploma	24	65.67
	Degree and above	65	54.53
	Total	107	

Table 3
Prospects based on education level K-W test

	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>
Prospects	107	3.7695	0.7612
Education level	107	2.44	0.7670

Table 4
Mann-Whitney U test for Prospect based on education level

		<i>Rank</i>		<i>Test Statistic</i>			
	<i>Education Level</i>	<i>N</i>	<i>Mean Rank</i>	<i>Mann-Whitney U</i>	<i>Wilcoxon W</i>	<i>Z</i>	<i>Asymp.Sig (2-tailed)</i>
<i>Prospect</i>	A/L and Below	18	16.33	123.000	294.00	-2.389	0.017
	Diploma	24	25.38				
	A/L and Below	18	26.75	310.500	481.500	-3.074	0.002
	Degree and above	65	46.22				
	Diploma	24	47.71	715.000	2860.000	-0.609	0.543
	Degree and above	65	44.00				

Table 5
Mann-Whitney U test for Challenges

<i>Education Level</i>		<i>Rank</i>		<i>Test Statistic</i>			
		<i>N</i>	<i>Mean Rank</i>	<i>Mann-Whitney U</i>	<i>Wilcoxon W</i>	<i>Z</i>	<i>Asymp.Sig (2-tailed)</i>
Challenges	A/L and Below	18	15.14	101.500	272.500	-3.003	0.003
	Diploma	24	26.27				
	A/L and Below	18	30.89	385.000	556.000	-2.273	0.023
	Degree and above	65	45.08				
	Diploma	24	51.90	614.500	2759.500	-1.585	0.543
	Degree and above	65	42.45				

4. CONCLUSION AND RECOMMENDATION

Microfinance institutions have played significant roles in the banking and financial sector in Sri Lanka. This industry has developed drastically over the last two decades. Based on the findings, most of the government servants are satisfied with this *Muzara'ah* and supply chain model in terms of its prospect and benefits to the society. Microfinance is a well-known tool for poverty eradication but interest bearing micro credit loans causes the poor clients to take risk and burdening them when resettling the loan again. The *Muzara'ah* model on the other hand not only promotes financial inclusion, it also removes the psychological and social upsets that are associated with conventional microcredit schemes. It is worth noting here for successful implementation of the *Muzara'ah* supply chain model in this location, the following recommendations are proposed.

Inconsistent policies in agricultural sector and ad hoc changes in tariffs and implementation by protecting the farmers and consumers have dampened the agricultural productivities. Therefore, the government sector should be revived to boost agricultural growth.

It is proposed that all Islamic banks and Islamic financial institutions open bank branches and sub-offices in this location to assist the needy and poor farmers. If the banks and financial institutions initiate the proposed *Muzara'ah* supply chain model in the region, it would be a pioneering initiative in Sri Lanka.

To enhance the farming activities for income generation, the respected agricultural institutions and non-government organisations will have to urge the youth to partake.

The respected government institutions should be capable to revitalise agricultural marketing food policy and agri-business. Further, the institutions should collect the outputs from the farmers at reasonable prices to avoid the losses that occur after cultivations. Generally, rural farmers get low income for their valuable efforts forcing them to sell their output for low price. Government agencies should provide markets updates for the farmers to profit from their efforts.

The implementation of the *Muzara'ah* supply chain should start from this area with its majority Muslim population.

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