


## CHALLENGES TO EFFECTIVE RURAL-URBAN LINKAGES IN MEME DIVISION OF CAMEROON



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### ABSTRACT

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Rural and urban areas are interdependent economically and socially. Rural areas depend on urban areas for manufactured goods, skilled labour and for specialised health, education, banking and other basic services. In like manner, urban areas depend on rural areas for fresh food, unskilled/semi-skilled labour and other environmental or cultural resources. However, the ability of both areas to significantly benefit from these linkages depends on the quality and availability of the infrastructures connecting them. This paper investigates the various challenges to effective rural-urban interdependence in Meme Division of Cameroon. It is based on primary data collected through questionnaires administered using the stratified random sampling technique among urban and rural inhabitants in Meme. Data have been analysed quantitatively using Statistical Package for Social Sciences (SPSS) Version 17.0 and the findings reveal that the rural and urban areas in Meme are socio-economically interdependent. However, the absence of adequate urban-rural infrastructures have impacted negatively on the people's access to basic needs and services particularly in the surrounding villages as one moves further away from the main urban centre, Kumba. The paper advocates for a conscious planning policy that enforces rural-urban interdependence through infrastructural development as a pathway for development in Meme Division, Cameroon.

**Contribution/ Originality:** This study contributes in the existing literature of factors determining rural-urban interactions in Cameroon, Africa and the world. Bringing to light the challenges to quick rural and urban access to fresh foods, manufactured items, capital, health and education services remain paramount to sustaining their livelihoods and well-being.

## 1. INTRODUCTION

Rural-urban linkages in the 1990s became the focus of renewed interest among policy makers and researchers [1]. New and emerging development paradigms thus consider flows and linkages between rural and urban areas [2]. The United Nations Human Settlement Programme (UN-Habitat) Agenda II in 1996 firmly established the precepts of the urban-rural linkage approach which promotes complementarities and networks of rural and urban places, rather than segregation [3]. Where rural and urban areas depend on each other, the (UNESCAP) [4] on its part sees rural-urban linkages as the flow of people, capital and goods between rural and urban areas. Urban centers depend on rural areas for a range of goods and services, notably food, environmental services and raw materials

among others. Rural areas in turn depend on urban areas for access to services, employment opportunities and markets [4].

Drawing from the above, rural and urban areas are economically and socially interconnected. Elliott [5] noted that very often, rural communities are closely tied to urban centres; both within the country and internationally as markets for agricultural goods and sources of income. The substantial flows of goods, income, capital, information as well as people between rural and urban areas need to be understood. The multi-directional flows between rural and urban areas include: migration, money, food and ideas [2].

The pattern of rural-urban linkages in Meme Division reveal that small farmers sell their farm produce to food retailers who left Kumba, the principal urban centre. These urban traders buy fresh foods from these farmers and transport back to the urban markets for sale. Thus, the food traders just like farmers are important actors in the rural to urban food chain. In the opposite vein, rural traders travel from the rural areas into Kumba to buy manufactured items and transport back to the rural markets for sale. Socially, rural residents depend on the principal urban centre, Kumba for access to more specialised health, education and other services.

Though rural and urban areas are interdependent, Ndenecho [6] argued that the adequacy and efficiency of infrastructure provision to a large extent, determines the success or failure of relationships between towns and their hinterlands in Cameroon. With the resulting high urbanisation rate of 166,331 inhabitants for Kumba, one is tempted therefore to enquire if the available basic infrastructure is adequate for effective rural-urban linkages, so that both Kumba and its surrounding rural areas can equally benefit from these linkages? This paper examines the challenges to smooth rural-urban interactions and how to overcome these challenges to enforce a more balanced development in Meme Division, Cameroon. This can serve as an important development target for the entire Division.

### 1.1. Framing of the Study

The interactions between rural and urban localities are reflected by flows of people, goods, money, information and other factors, and by sectoral activities like farming, manufacturing or trading that straddle the two localities [7]. The UN Habitat and the European Union (EU) hold the view that there is an economic, social and environmental interdependence between urban and rural areas. These rural-urban linkages (RULs) include the migration of people, along with the resultant flow of information, ideas, employment, and money/remittance and economic interaction, which is the flow of goods and investment [8]. One would believe that where these linkages are distorted for whatever reason, a new anti-development process is set into motion whenever it occurs.

This is partly because both rural and urban areas equally play an instrumental role in the sustainability of each other [9]. Rural areas produce plenty of food for urban dwellers, sufficient manpower and larger markets for manufactured goods. Equally, the urban centres offer employment opportunities, established infrastructure, administrative functions, markets and services like postal, health and schools [9]. Kumba (the main urban centre) and the surrounding rural areas stand to either lose or gain from urban-rural relations depending on how well they are perpetuated.

As noted by Von Braun [10] the development of infrastructure has the potential to lower transportation costs and improve access to markets for both producers and consumers. Moreover, the development of infrastructure has the potential to lower transportation costs and improve access to markets for both urban and rural consumers and producers Von Braun [10]. Okpala [11] added that adequate infrastructure particularly transportation infrastructure is the backbone of the urban-rural development linkage approach. It improves rural productivity and allows access to markets, jobs and public services [11]. Is the infrastructure linking Kumba and its neighbouring rural areas available and efficient enough for both areas to equally benefit from these linkages?

According to the African Development Bank (ADB) & African Development Fund (ADF) [12] the main constraints on rural sector development in Cameroon are low levels of training for farmers; limited private sector

participation; insufficiency and poor state of rural infrastructure; limited access to farm inputs and products; insufficient financing; marketing difficulties and the over centralisation of government services. This review provided insight on likely challenges to effective rural-urban linkages which will also be examined in Meme Division. Zewdu and Malek [8] adds that physical infrastructure is another challenge for the smooth flows of goods between rural and urban areas. Poor road network in Ethiopia is an indication of limited RULs. It limits the amount of marketed surplus and adversely affects the flow of goods from rural to urban areas [8].

High transport cost has also been identified by Tacoli [13] as bottlenecks in farmers' access to markets in Tanzania, Nigeria and Mali. In Southeast Nigeria for example, road and transport infrastructure is generally good, but some remote settlements were cut off at certain times of the year, when soil erosion combined with heavy rains wiped away feeder roads. Only large farmers have the means to hire tractors to transport produce to the urban marketing nodes [13]. The author added that adequate infrastructure such as transportation, communication, energy and basic services is the backbone of the urban-rural development linkage approach. There is a positive relationship between adequacy of transportation infrastructure, ease of mobility and access to employment and enhancement of income. Adequate investments in infrastructure, particularly transportation infrastructure, also improve rural productivity and allow access to markets, jobs and public service [13]. The abovementioned argument provides insight on the importance of interrogating the role of infrastructures on efficient rural-urban linkages in Meme Division.

## 1.2. Theoretical Framework

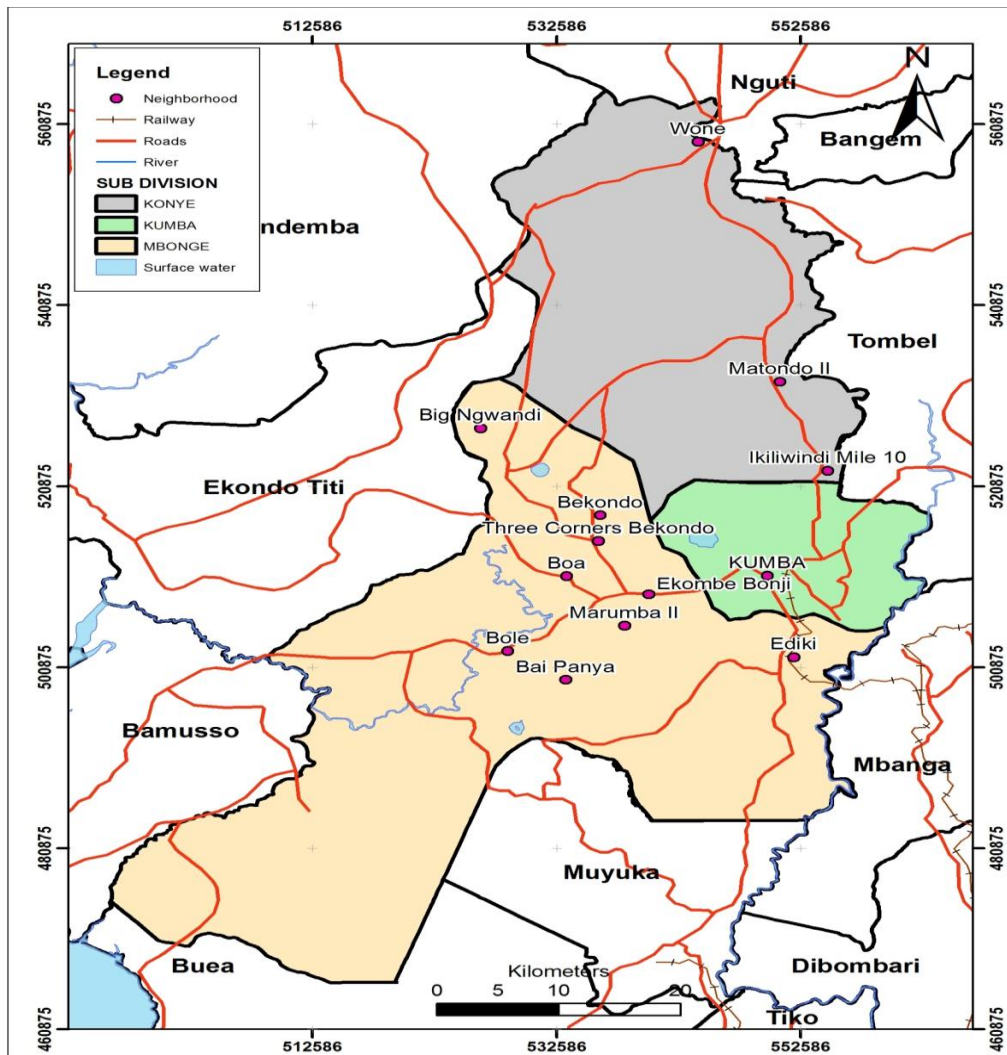
Edward Ullman in the 1950s [14] postulated three bases of spatial interaction between two places. These are complementarity, transferability and intervening opportunities. Complementarity refers to a demand-supply relationship between two settlements [14]. For two areas to be complementary, their demand for a particular item or service must be backed by supply. The demand for market, fresh foods, labour, more specialised education and health services, administrative functions and capital between the predominantly urban centre Kumba and its surrounding rural areas implies both areas are complementary.

According to Ullman intervening opportunity tends to reduce interactions between two distant complementary areas [14]. Besides complementarity and no intervening opportunity, the third condition under which spatial interaction occurs is transferability. Transferability by Ullman refers to the ease with which goods and people can be moved from one place to another. It is measured in real time and money costs [14]. The basic impediment is the distance between the two places. Transferability is therefore the cost of overcoming the 'friction of distance.' If the friction of distance is too great, interaction will not occur in spite of a complementary supply-demand relationship [14].

What are the likely obstacles to the intensity of transferability between Kumba and its surrounding rural areas that could impede the flow of goods and services between them? Are there seasonal variations to this intensity and why; and at what socio-economic cost and to who?

## 2. METHODOLOGY

Meme Division is one of the six divisions of the South West Region (SWR) of Cameroon. It is made up of five sub-divisions; Kumba I, II and III (largely urban) and Mbonge and Konye (dominantly rural) as shown on Figure 1. Kumba is a commercial town and performs other service functions while Mbonge and Konye sub-divisions are major cocoa and food production areas in the SWR.



**Figure-1.** Meme Division showing Kumba and its surrounding rural areas

Source: Field Work & Remote Sensing Unit, University of Buea (2016)

The study adopted a multi stage sampling technique in selecting respondents. First, the researcher divided the target population (Meme Division) into two clusters. Kumba constituted the urban cluster while Mbonge and Konye constituted the rural cluster. Purposive sampling was employed to select the rural and urban sample units. By using three criteria; population size, distance from Kumba and site/situation, 11 villages were selected from the rural cluster to constitute the rural sample. These are Ekombe-Bonji, Marumba II, Bai Panya, Boa, Bekondo, Bole, Big Ngwandi and Ediki in Mbonge sub-division and Ikiliwindi, Matondo II and Wone villages in Konye sub-division. Based on the extent of commercial and service functions in some neighbourhoods in Kumba, the study also selected Kumba Town, Fiango, Kumba Mbeng and Pulletin to constitute the urban sample.

At the third stage of sampling, the rural and urban samples were stratified into 3 strata: farmers, traders and non-farmers. Farmers are those whose principal economic activity is farming. Traders are business owners in the markets. Non-farmers are formal sector employees. Within each stratum, random samples were selected to represent the homogenous sub-strata. A total of 100 questionnaires were distributed to each stratum to acquire primary data on the challenges of rural-urban linkages.

The data collected were entered into Epi Info 6.0d and exported into the Statistical Package for Social Sciences (SPSS) Version 17.0. Descriptive statistics and inferential techniques like the Crammer's Value were used to present the analysed data. Although financial figures have been reported in local currency, Franc of the African Financial Community (FCFA), 500 FCFA is estimated at 1 United State (US) dollar in the study.

### 3. RESULTS AND DISCUSSIONS

Urban and rural access to fresh foods, finished goods, more specialised health and education services, labour and other raw materials in Meme is impeded by a number of factors.

#### 3.1. Poor Road Infrastructure and Rural-Urban Interactions

All rural farmers perceived the poor state of farm to market roads as a challenge to effective rural and urban food marketing in Meme (Table 1). This raises the cost of transporting produce to markets, delays supply and sometimes results to food decay. Much of what is produced is not transported to the urban markets. Fonjong [15] observed that, in Bolimfamba, fewer crops are brought to the market than actually harvested as a result of the absence of farm to market roads. With higher transportation cost, the production cost of farmers also rises. This means that the prices of basic food items will increase (Table 2). The scenario is worse for the more distant villages. This explains why farming in a distant village like Big Ngwandi (38.4km from Kumba) is predominantly subsistent.

**Table-1.** Types of challenges to urban-rural trade interdependence reported by respondents in Meme

Challenges	Actors (%)		
	Farmers	Traders	Non-farmers
Poor transport network	99.5	90.0	91.5
Limited storage facilities	79.5	16.5	27.2
Lack of modern farming tools	84	0.0	0.0
Lack of food processing machines	91	0.0	0.0
Goods damage	0.0	70.6	0.0
Decay of food	0.0	46.5	0.0
Delays in supply	0.0	49.4	0.0
Poor/limited market infrastructure	23.6	15.3	10.2
Inadequate finance/credit	24.5	4.7	6.1

Source: Field work (2016)

It was observed that there is a seasonal variation in food prices in Meme (Table 2). For all the foods traded, their prices differed significantly between the dry and rainy season ( $P < 0.005$ ) except for groundnuts with ( $P > 0.005$ ). For instance a bunch of plantain sold at a minimum price of 1,000 FCFA in the dry season is rather sold at 2,000 FCFA in the rainy season. A bucket of cocoyams sold at a minimum price of 1,000 FCFA in the dry season increases to 1,500 FCFA in the rainy season (Table 2). Except for vegetables, the prices of all other food items increased during the rainy season. Farmers were asked to account for the increase in food prices. It was partly blamed on distant and poor farm to market roads especially during the rains. Some farmers reported that they spend several hours and sometimes days just to transport their produce to the market as some of these farms are located several kilometres from settlements.

**Table-2.** Seasonal variation in food prices by farmers in rural Meme

Crops	N	Dry season		Rainy season		Wilcoxon Signed Ranks Test	
		Min	Max	Min	Max	Z	P-value
Plantains	88	1000	5000	2000	35000	-8.203 <sup>b</sup>	0.000
Cocoyam	82	1000	10000	1500	12000	-7.688 <sup>b</sup>	0.000
Yams	60	800	25000	1000	27000	-4.721 <sup>b</sup>	0.000
Cassava	31	1200	14000	1200	12000	-1.931 <sup>c</sup>	0.053
Palm	13	2000	12000	2500	14000	-2.979 <sup>b</sup>	0.003
Vegetables	37	200	3500	50	1500	-5.257 <sup>c</sup>	0.000
Fruits	9	200	9000	300	10000	-2.673 <sup>b</sup>	0.008
Maize/corn	30	200	5000	300	7000	-2.808 <sup>b</sup>	0.005
'Njansang'	11	100	400	100	600	-1.786 <sup>b</sup>	0.074
Egusi	4	1500	9000	1000	8000	-1.890 <sup>c</sup>	0.047
Ground nut	7	5000	20000	5000	30000	-4.34 <sup>c</sup>	0.665

Source: Field work (2016)

Cocoa for example, is harvested only during the rainy season when the roads are impassable. This increases the costs of transporting cocoa and other farm produce from the farms to the rural markets and further to the urban markets in Kumba. Importantly, it is more difficult for cocoa farmers in the distant villages like Bai Panya, Big Ngwandi and Wone, which on the average are some 30km away from Kumba. Some cocoa farmers are unable to meet up with the production costs and are forced to store up their cocoa and wait for the dry season when transportation costs decline. However, this strategy is challenged by poor storage facilities. Most often the cocoa stored rots before the dry season and loses both its nutritive and monetary value. Subsequently, these farmers have no choice than to accept the very exploitative prices offered for their produce.

A significant majority of traders (90%) also view the poor state of roads as a challenge to effective rural-urban trade in Meme (Table 1). Poor road infrastructure is fundamental in trading because it results to several other challenges. Good road condition is necessary to ensure quick access to goods for both the urban and rural populations. During the rainy season, because the roads linking Kumba and its surrounding rural areas are unpaved they are predominantly in dense mud. This condition inhibits movements as some vehicles get stuck in mud. Traders report that sometimes these vehicles are stuck for several hours or nights and sometimes for days. This results to the problems of delayed supply, food decay and damaged goods. Moreover, more traders (49%) perceive delayed food supplies to consumers and food decay (46%) as challenges to effective rural-urban trade in Meme (Table 1).

A very significant proportion of the non-farmers (91%) perceive poor transport network as a challenge to rural-urban interdependence (Table 1). Non-farmers need efficient transport systems to commute to work and/or obtain services in hospitals, schools, banks and other institutions. The poor state of road network impairs their access to the aforementioned. For example, a teacher reported '*... in the rainy season, leaving Kumba to teach in the Government Primary School at Bekondo is so strenuous and costly. A journey that takes about 45 minutes in the dry season can take 2 or more hours during the rainy season. This delay reduces effective teaching hours, output and performance...*' A parent reported that '*... sometimes, the roads become impassable so much so that my children absent from school. Rivers overflow and inhibit movements...*'

A respondent at Bekondo village said that '*just to access the Integrated Health Centre (IHC) in the rainy season is difficult due to poor road conditions. During this period patients are transported on stretchers to the IHC for treatment. This is common with pregnant women in labour while others prefer to deliver their babies at home with the help of a neighbour or midwife. Some expectant mothers travel to Kumba 3-5 months to the time of delivery so as to avoid such risks and stress in transportation during the rains ...*' Moreover, patients with critical cases are referred to Kumba for better medication but due to inaccessibility, at times patients die before accessing medical care.

Apparently, the delay in food supply is directly responsible for the problem of food decay. Perishables such as fresh fish, fruits and vegetables like oranges, cabbage, lettuce and celery amongst others, sometimes decay before reaching the urban markets. Such delays slow consumer's access to food and other basic needs. A rural wholesaler heading for Bole village reported that '*... during the rainy seasons, it sometimes takes 3 to 5 days for products to reach the more distant rural markets from Kumba. This is particular with wholesalers since they transport goods in bulk and by the use of motor trucks...*' Agbortoko [16] also observed a very high percentage of the respondents (98) confirming to the stress attached in transporting goods and people during the rainy season. Sometimes it takes two or more days for a distance of about 70 to 105km. This inhibits movements between Kumba and its surrounding rural settlements.

A rural fish trader also responded that '*... before reaching the rural markets most of the fish bought from Kumba is decayed. The consequence of this is high cost of fish during the rainy season for the few that reach the destinations without decay...*' To add, a food retailer reports that '*... she went to Bai Panya village to buy foodstuffs. Due to the poor and muddy state of the roads in the rainy seasons, she spent days in the village with already purchased food items and some of which were perishables. There was no vehicle available to transport her back to Kumba on time. Consequently, her bag of orange fruits decayed before reaching the urban market. She incurred great economic losses...*' This situation leads to high food prices in

the rainy season. In 2011, the Food and Agricultural Organisation (FAO) estimated the yearly global quantitative food loss and waste at roughly 30% cereals, 40-50% root crops, fruits and vegetables and 30% for fish [3].

For the majority of traders (71%), goods damage resulting from poor roads is a severe challenge to effective trade between Kumba and its surrounding rural areas (Table 1). Both rural and urban traders describe the rainy season transportation as bumpy and this result to the damage of goods. Sometimes goods fall off the vehicle into dense mud; others spill, tear apart or break and are wasted. A trader responds '*... I sell groceries and during the rainy season, transporting raw eggs from Kumba is very delicate. Sometimes all trays of eggs get broken before reaching the rural markets. The farther the distance of the village, the more vulnerable is the journey...*' This explains why eggs and other fragile goods are costlier throughout the rainy season in these rural areas. The challenge is aggravated as you move farther away from Kumba.

### 3.2. Limited Storage Facilities and Inadequate Finances

For a majority of farmers (79%) limited storage facilities impede rural and urban food access and trade. With poor and inadequate storage facilities, food items like cocoyams, vegetables and fruits are likely to decompose. This is rampant during the rainy season. Some farmers mentioned that '*... the absence of refrigerators to preserve highly perishable farm produce like fruits and vegetables impairs food trade...*' Another respondent said that '*... even if refrigerators are available to farmers, the absence or irregular supply of electricity in these rural areas will hamper its efficiency...*' Apart from Ekombe-Bonji, Bekondo, Ediki and Ikiliwindi, all other villages sampled do not have electricity. Even in these villages with electricity there are frequent electricity cuts. Aina [17] noted that farmers in Africa live in areas, where there is lack of basic infrastructure such as electricity and good road network amongst others. Cohen and Garrett [18] observed that market storage facilities are often inadequate, badly managed, lack refrigeration for perishables and these add to marketing costs.

Cocoa for example is harvested only during the rainy season characterised by little or no sunshine which makes storage difficult. According to some farmers, '*... storing cocoa when it is wet or poorly dried makes it vulnerable to decomposition. When this occurs, farmers incur massive economic losses...*' In a bid to solve these storage problems, cocoa farmers have established local ovens to dry cocoa during the rainy season. This method is costly as it entails the use of considerable amounts of fuel wood to adequately dry cocoa before preservation. Farmers who cannot afford this method store their cocoa wet or partly dried in bags. With the approach of the dry season, most of the cocoa stored is decayed and subsequently buyers from Kumba offer very cheap prices for them since most of the cocoa have lost their nutritive and monetary value. For instance a kilogram of cocoa sold at 1.200-1.700 Francs CFA at Ekombe-Bonji village, 9.3km from Kumba is offered at 800-900 FCFA in a very distant village like Big Ngwandi (38.4km) as the findings revealed. These farmers often have no choice than to accept the very exploitative prices offered for their produce. Enormous economic losses are thus incurred by these farmers and the challenge of limited finances for the next cocoa season sets in. In a similar study, Agbortoko [16] observed that storage problems have led to the sale of agricultural products like vegetables amongst other perishables at lower prices to urban retailers who in turn sell it at higher prices in the urban market.

Moreover, 26% of farmers view inadequate finances as a challenge to effective food trade between Kumba and its neighbouring rural markets. Faced with limited finances, many of these farmers turn to the local system of borrowing credit ('ten-born-ten'). It is a 100% loan system to cocoa farmers. For each 10,000 FCFA borrowed, the farmers pay an extra 10,000 FCFA. This system of credit is highly exploitative and puts the less privileged farmers in a cycle of debts for each cocoa season. A similar trend was observed by Agbortoko [16] who stated that in a business relationship termed '10 born 10', rural farmers are continuously impoverished. They engage themselves in farming activities throughout the year only to receive half of what is being produced in their farm. To add, Elliott [5] notes that many farmers find themselves in a downward spiral of borrowing money or resources to cover their

costs of production in the off-season, only to have to pay these back at unfavourable rates and times in the successive season.

### 3.3. Absence of Food Processing Machines and Modern Farm Tools

Majority of farmers (91%) perceive the absence of food processing machines as a challenge to effective rural-urban food trade in Meme (Table 1). A respondent said that *'... If farmers have processing machines, they can transform certain foods into other useful food products. For example, cassava can be transformed into flour for cooking, starch for washing and to other local foods like akra, garri, cassava chips and 'miondo/bobolo'. Corn can be transformed into corn flour which is a staple food to some Cameroonians...'* The absence of food processing machines coupled with inadequate storage facilities has compelled farmers to sell their produce at cheap prices immediately after harvest in a bid to prevent enormous losses from food decay.

Furthermore, the majority of farmers (84%) perceive the lack of modern farm tools as a challenge to effective rural-urban food trade in Meme (Table 1). If extensive farmers are provided with tractors to clear farmlands and combine harvesters for large scale harvesting, this will hasten agricultural processes. The local methods of harvesting with the use of cutlasses, hoes and diggers incur greater economic losses as some food crops get damaged in the process. Aina [17] observes that agriculture in Africa is labour intensive, as they rarely use advanced technology in farming; rather they use limited technology, such as hoes and cutlasses. A farmer reported that *'... she borrows watering cans from neighbours. This sometimes leads to delayed and irregular watering especially if the cans are not available for lending ...'* Some farmers also reported that *'... some farm inputs are sold at costly prices...'* Agbortoko [16] also observed that pesticides sold for 350 FCFA per pack in Kumba is offered to these farmers for 700 FCFA.

### 3.4. Poor/Inadequate Market Infrastructure

Twenty four percent of farmers and 15% of traders consider poor and/or limited market infrastructure as a challenge to efficient rural-urban trade in Meme. The type of market structure can affect the smooth marketing of manufactured items and fresh foods. Farmers and traders complained of very poor dilapidated market stores to pack goods. Due to limited market sheds in the rural markets, farmers are forced to transport food items not sold back home. This only adds to transportation cost. Rural traders selling manufactured goods are forced to rent rooms outside the markets where their goods can be stored. An urban food retailer responded that *'... this increases her expenditure because she is compelled to transport food items from home to market for sale and from the market back home to store...'* Poorly run market sites can add to a city's costs; for example, lack of facilities and constraints on distribution can add to the prices paid by consumers [2].

## 4. CONCLUSION AND RECOMMENDATIONS

Poor road infrastructure further aggravated challenges to effective rural-urban interactions in Meme Division and was responsible for several other challenges. It is against this background that the paper advocates for a conscious planning policy that recognises rural-urban interdependence through infrastructural development as a pathway for development in Meme Division, Cameroon. According to Mulongo, et al. [9] the challenges to rural urban linkages can however be managed by embracing a two way development approach and laying more emphasis on strengthening interlinks in rural and urban areas. That withstanding, the study recommends that the development authorities of Meme should pave existing rural-urban and farm to market road infrastructures and create new links where necessary. This is to enhance food security and improve access to markets, education, health and other facilities. Eradicate the farmers' exploitative local credit system, create farmers' banks, grant subsidies to farmers and provide modern storage facilities like modern ovens and refrigerators to preserve perishable foods. This will minimise the economic losses from food decay. Establish food processing industries as this will add value



to rural produce, minimise food decay and keep the rural populations in the rural areas as more labour will be employed. The authorities should electrify all the rural areas in Meme. This will improve food security, health and educational performance through the refrigeration of food, medicines and extension of study hours.

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