

A STUDY OF FOOD INSECURITY AND RURAL DEVELOPMENT IN THE GAMBIA:
THE IMPACT OF RURAL WEEKLY MARKETS (LUMOS)

by

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B.A., University of Northern Iowa, 1993
M.A., University of Northern Iowa, 1996

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Sociology, Anthropology, and Social Work
College of Arts and Sciences

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2009

Abstract

Food insecurity poses an enormous challenge and is a matter of extreme urgency for The Gambia, where more than half of the population lives below the poverty line. Although extensive research confirms the problems of food insecurity in Africa, no research has concurrently advanced a bottom-up and top-down neo-endogenous theoretical framework to explore 1) the dynamics of food insecurity in The Gambia and 2) the extent to which measures used to combat it have had a positive impact. The current research aims to fill this gap by employing concurrent triangulation (mixed) methods that incorporate primary and secondary data sources. As envisaged by the neo-endogenous approach, structured interviews with participants in the weekly rural markets/ Lumo(s), underscore the crucial role this indigenous marketing system plays. This marketing system embeds socioeconomic activities in rural territories through the utilization of social and cultural capital that reduce transaction costs involved in direct marketing. Consequently this initiative increases Wassu community's access to food and stabilizes the food supply. The results also reveal moderate effects of various interventions, particularly in the Western and North Bank divisions, where agricultural production of various crops and livestock has improved the livelihood of those rural communities. At the local level, the allocation of a greater proportion of arable land to coarse grain production along with the decline in peanut production hold great promise for reducing the problem of food insecurity. Although food insecurity still prevails in much of rural Gambia as indicated by the scale of stunting among children under age five, measures are being taken to address the problem. Combined with intervention projects and other developmental effects, the potential for the Lumo(s) to reverse food insecurity in the country is great, contingent upon the central government and international lending agencies' devolution of significant powers and transfer of funds directly to rural territories.

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Acknowledgements

This dissertation on food insecurity and rural development in The Gambia with an emphasis on rural weekly markets was made possible with the help, foremost, of my major advisor and chair of my dissertation committee, Dr. Gerad Middendorf, whose patience and encouragement kept me on target. Additional appreciation is due my committee members, Dr. Richard Goe, Dr. Theresa Selfa, and Dr. Kisangani Emizet, for their constructive comments. My heartfelt thanks also extend to Associate Provost of Diversity and Dual Career Development Dr. Myra Gordon and her staff at KSU and to the Dow Chemical Industry who initially sponsored and enabled me to launch this ambitious task. I would also like to thank Dr. Keith Crew, Dr. Clemens Barttolas, and Dr. Jerry Stockdale of the University of Northern Iowa for believing in me and encouraging me to undertake this program. As well, my sincere thanks are due to the following people for their input: I am indebted to Dr. David P. Gamble, Professor Emeritus, San Francisco State University, for his time in researching and providing me with valuable and pertinent information; Dr. Judith Carney of the University of California, Los Angeles, also for her leads, material, and information; Dr. James Ayers; Dr. Jennifer Ayers for her valuable instruction on qualitative research methods, which were not utilized here but remain a potential instrument to be used in future research; my research assistants in The Gambia, and others who helped me in countless ways.

Dedication

To my mother Aja, whose exemplary patience, high moral teachings and service of dedication to the welfare of the needy, have helped shape my goals and aspirations in life.

Preface

The problem of food insecurity in The Gambia is best understood through a lens that examines its geo-political context. Exogenous shocks induced by drought, international market forces, and uninformed policies have exacerbated food insecurity in many developing nations, but especially in this West African Sahel country. Thusly, this study seeks to address strategies for alleviating food insecurity in The Gambia. Specifically, it draws on social embeddedness theory to shed light on the ways in which rural communities, the government, and international donors collaborate through sustainable development and the promotion of local governance to reduce the impact of food insecurity on The Gambia's rural people. One such effort that embeds the economy into socio-cultural practices is the Lumo(s). Detailed accounts provided by key village informants point to the establishment of the weekly rural market—the Lumo(s)—as indispensable to their survival, as the Lumo(s) provide access to an assortment of commodities that were previously unavailable and at times, even unimaginable. Although food insecurity still exists, this direct marketing system is central to the villagers' survival in helping them make ends meet, and with growth, the Lumo(s) could contribute more significantly to relieving the problems of food insecurity. Whether through the Lumo(s) or other means, though, the amelioration of food insecurity in The Gambia relies on several factors, including factors related devolution of significant powers and resources from the political administrative offices of the national government and international lending agencies that foster economic growth and the social infrastructure of The Gambia. The exploration of the quantitative data procured by this study reveal that social infrastructure remains underdeveloped, although efforts are underway at the national and international levels to improve fiscal development through market reforms imposed upon the country by the international lending agencies, such as the International Monetary Fund (IMF) and World Bank. Although US aid to the country has virtually ceased, The Gambia receives some relief from its debt through the Heavily Indebted Poor Country initiative (HIPC), which will free some of its resources to stimulate economic growth. The intervention projects have provided some improvements in the agricultural sector, though it is not certain at this point whether these improvements are sustainable. However, the IMF claims that economic recovery is underway and that with greater accountability and transparency in

government, these gains may be sustainable; indeed, perhaps all Gambians will eventually benefit from this economic growth.

Interpretations and conclusions drawn from the secondary data were entirely mine and do not reflect the purpose for which the primary data was collected nor the opinion of those who provided the data.

CHAPTER 1 - Introduction and Statement of the Problem

Food insecurity in developing countries in general and in the West African Sahel in particular has drawn many observers' attention and has spurred the World Food Summit Program to address this issue (Right to Food, 1998:v). In an era of food abundance in the world generally, hunger strikes at 900 million people, most in developing countries (Plateau, 2009). Hunger "saps strength and dulls intelligence. It destroys lives, especially [of] children. And by weakening a nation's workforce, hunger cripples a nation's growth" (FAO, 2005:1). The staggering number of the undernourished and malnourished worldwide underscores the state of food insecurity and the need to combat the predicament.

According to the World Bank and United Nation's Food and Agriculture Organization (FAO) State of Food and Agriculture Report (2006: 76), "Food security exists when all people at all times have access to sufficient, nutritious, and safe food for an active and healthy life and are not at undue risk of losing such access." It follows, then, that "people are food insecure when one or more of the dimensions of food security—availability, access, utilization, and stability are compromised" (see also Staatz et al., 1990: 1311). Moreover, UNICEF and other health organizations use anthropometric measures (which gauge considerable information) to determine individual food insecurity in developing countries. In addition to individual food insecurity measures indicated by UNICEF, FAO also calculates a country's food supply by totaling all food produced and imported into a country, and subtracts carryover stocks, loss (due to pests, etc), seeds and exports. "These totals, are then converted into grain equivalents, adjusted to reflect the distribution of food between households and compared with the energy needs of the population (food consumption requirements)" (ibid, p. 27). Nonetheless, anthropometrics are more accurate measures of individual food insecurity because they determine an individual's access to and utilization of food whereas aggregate measures tend to obscure this information. Such access and utilization are contingent upon the household or individual's entitlement bundle. Within the context of the present study, a person's entitlement bundle is defined as a range of all the property legally owned that could be used in exchange for food, resulting in food security (Sen, 1981). It also includes non-legal entitlements entailed by traditional and non-market exchange systems of reciprocity, trust and social obligations (DeRose et al., 1998; Emizet, 1998).

Therefore, the objective of this study is to use the neo-endogenous approach (Ray, 2006) to (a) explore and describe the extent of food insecurity in The Gambian (b), to understand the approaches used to address it and (c), to measure the degree of success by local networks as well as extra-local intervention programs to ameliorating this insecurity. A triangulation (mixed) method used to gauge this information begins with the qualitative method involving primary data collected through structured interviews and direct observation of rural weekly market/Lumo activities and the food security benefits the Lumo generates in a particular study village. Insofar as the Lumo represents the endogenous aspect of Ray's neo-endogenous model, the qualitative method used here is aimed at gauging this territorial information regarding food insecurity and local participative/democratic efforts to combat it. The Lumo (singular) is an informal rural weekly market, which is conducted on a rotational basis between villages on set dates. It is a center of distribution for local produce, such as grain and livestock. Farm machinery, draught animals, household and durable goods are also sold at the weekly rural markets. These include imported food, clothing, house ware, and electronics distributed by Asian firms.

This village-level study gleans context-specific information of local people's response to conditions of food insecurity by using local resources as well as soliciting extra-local intervention. The goal of the qualitative research is to also measure how local people perceive the extent to which their own resources and extra-local intervention made a difference in ameliorating food insecurity in the study village. It is this study's interest to find out the level of involvement of rural actor-networks in visualizing, organizing, and establishing the Wassu Lumo through participatory democracy, as well as the means by which extra-local intervention was secured to sustain it. The goal of this study is to supplement this microanalysis with secondary data aimed at understanding the prevalence of hunger indicated by malnutrition such as wasting and stunting of children within households in various regions of the country (see also Young, 1997:19).

The secondary quantitative data obtained from The Gambia government are analyzed to determine production, distribution, and consumption trends in The Gambia and the ways in which the agriculture system generally impacts food security. The data measure the degree of food insecurity at national, regional, household and individual (anthropometrics) levels. These data include trends in productivity of the agriculture sector, priorities given to food production versus cash crop production for export at five main regions/divisions in the country. Regions are also ranked according to (a) how their grain output meets the region's food requirements (b), individual's access to education and (c), how diverse the region's

sources of income is (GOG, 1999). It is equally important to measure levels of coarse grain production as an indicator not only of the effectiveness of the country's agricultural production strategy but also of producer agency in deciding to shift from peanut production to subsistence agriculture that mitigates food security problems. For example, Staatz et al. (1990: 1315) found that households in a sub-region of southern Mali (a predominantly grain producing region) that purchased grain were "vulnerable to consumption and nutritional deficiencies," indicating inadequate grain production by the households. This is the grounds on which the present study attempts to replicate Staatz et al.'s (1990) study on food security in Mali, West Africa, by addressing key issues of food security that the authors had raised. Thus, this study examines the trends in grain production in The Gambia whereby increases in production are expected to improve food security among rural households (unless a large portion of household stock is sold to acquire other necessities).

Finally, in accordance with the Staatz et al. findings in Mali, coarse grain prices are expected to be lower at the weekly rural markets/Lumo(s) than at the daily markets, which provide evidence that short-food miles of local markets are essential to the food security of rural households. Rurality refers to a context-specific place, space, and society, oftentimes evoking images (in urban areas of western nations) of the countryside, outback, wilderness, pristine nature, or agriculture, images that urban dwellers of western countries often romanticize as open and pleasant; such simplicity is held up as a clear contrast to the presumed complexity of city life (Bell, 1995; Cloke 2006: Goodman and Redclift, 1991). However, in The Gambia as in the West, the physical boundary between rural and urban is increasingly blurring due to urban sprawl to the adjacent rural areas. It is important to note though that in Africa, "rural" (remote from the metropolitan areas) connotes poverty, backwardness, and conformity to traditional beliefs and practices. Historically rural households respond to food insecurity by allocating large parcels of arable land to coarse grain production and reduce proportion to peanut production, which has largely become less profitable owing to low international market prices. Finally, documents obtained from The Gambian government and IMF, provide information on physical expenditure and forecast The Gambia's future economic growth outlook. The methodology so used, is informed by the neo-endogenous approach.

The neo-endogenous approach is the theoretical framework particularly designed to determine the extent to which the top-down rural development projects supported by international donors, the national government and NGOs alleviate food insecurity in The Gambia. As well, it explores the bottom-up nascent development of the rural weekly markets

representing the informal marketing sector designed by local people who have been struggling to stay afloat. This informal sector of the economy is one that the neo-endogenous approach would champion. Informed by the social embeddedness approach, qualitative data analysis is conducted to explore the symbolic, de facto expressions of the weekly rural market/Lumo participants as countervailing factors of global economic uncertainties. Regional differences in food security owing to income diversities (that stem from colonial era to current public development policies) are depicted in the tables provided below. The present study seeks to understand the severity of food insecurity in rural Gambia (which affects over 60% of the country's population) and how it can be alleviated. Although the neo-endogenous approach operationalizes problems of and solutions to food insecurity and the Staatz et al. study indicates variables important for food insecurity investigation, this study aims to allow emergent themes that were not predetermined through the literature review. In particular, the issues raised by Staatz et al. (1990) are consistent with the neo-endogenous approach, and influence the design and the focus of the qualitative research in an attempt to explore the impact of rural local markets on ameliorating food insecurity in The Gambia.

This actor-oriented approach (see e.g. Bonanno & Constance, 2008; Johnston, 2008; Knutsen, 2003; Long, 2008; Ray, 2006; Murdoch, 2006; Wright and Middendorf, 2008) underscores the significance of learning about the diversity and complexity of positions from which Lumo participants make sense of events around them and why they choose particular courses of action to tackle problems that confront them. These include such decisions as the establishment of Lumo(s) and social practices they deem as central to their survival (including modes of passive resistance to established codes of social conduct, see e.g. Long, 2008; Marsden, 2006; Murdoch, 2006). As Staatz et al. (1990) suggest, local informants are the most effective source of accurate information on individual and household food consumption security. Such informants are easily accessible to research assistants permanently deployed in a specific study village. Informants familiar with the social context, culture, and the politics of the particular locality have provided rich information on coping strategies at the villagers' disposal at various stages of the economic development of the village.

The results below indicate that despite these coping strategies, families and individuals in the rural West African Sahel are predominantly malnourished. More than a decade after the World Food Summit plan of action (1996) where various nations pledged to eradicate world hunger, little progress has been made toward this goal, especially in the West African Sahel where the situation is worsening (Paarlberg, 1999). Food insecurity still exists

worldwide, albeit in isolated cases in economically advanced nations; however, this is a matter of extreme urgency in The Gambia where, according to the government of The Gambia and the International Monetary Fund (IMF) reports, (GOG, 2007; IMF 2007), 60% of The Gambia's population of 1.5 to 1.7 million people live below the poverty line.¹ According to the UNDP Human Development Index (HDI) (UNDP, 2009), The Gambia ranks 160 out of 174 among the poorest countries in the world. The government (GOG, 2007: 1) reports, "60% of households in rural areas are extremely poor, while the corresponding figures for Greater Banjul (the capital of Gambia) and other urban areas are 13% and 28% respectively." This is an indication that poverty and, by extension, food insecurity is largely a rural phenomenon. Thus, as I discuss it in this study, rural development is the means by which rural communities worldwide are making attempts to ameliorate food insecurity problems. Such amelioration occurs through the reembedding of food in their socioeconomic activities; through cultural norms; and through program interventions from extra-local bodies, viz. the government, international donors, NGOs who have a stake in the economic prosperity of The Gambia and transferring nascent workable ideas and technologies from one rural area to another within the country. Therefore rural development is crucial in turning around the gravity of The Gambia's food insecurity problems.

Rural development in this study will refer to 1) "activity that occurs in rural areas in pursuit of socioeconomic vibrancy" and 2) to the domain of intervention that comprises "the rural policies of national (and sub- and supra-national) administrations and of NGOs with an interest in rural areas" (Ray, 2006: 278). Similar to the approach taken for urban socioeconomic regeneration, the theoretical underpinnings of the neo-endogenous development of rural areas involve regeneration that encompasses socio-cultural and economic trajectories within a region, a country, and transnational level (ibid). The neo-endogenous approach, for example, seeks to explain that rural governance and the socioeconomic vibrancy of rural communities depend not only on local networks of actors and resources, but also on extra-local input in the form of interventions at regional, national, international, NGO levels as well as transfer of new ideas from other localities. According

¹ In 1989, with the support of United Nations Development Program (UNDP), the International Labor Organization (ILO) conducted a major study using a Basic Needs Model to determine absolute food and non-food poverty line. According to this model, "a person (or household) is considered poor if the person's (or the household's) income cannot acquire the basket of goods and services necessary to attain a normative quantum of calories. The value of this basket is considered as the poverty line and the population of poor households and individuals living below the poverty line is derived through a head count" (GOG, 2003: 8-9).

to Ray, local economic activity has been enhanced by “neo”/extra-local projects (“Neo” “identifies the role played by various manifestations of extralocal actors in the politico-administrative system (through the national up to European level) as well as other localities are all seen as part of the extralocal environment of rural development and as potentially recruitable by localities in support of their regeneration strategies” (Ray, 2006: 278). The “endogenous,”/participative part as discussed below, refers to “the animation of development along a bottom-up trajectory: that is, when the search for development resources and mechanisms focuses onto the local territorial level” (ibid). Moreover, reembedding food in rural socioeconomic activities is the crucial means by which the neo-endogenous approach alleviates food insecurity in The Gambian countryside. The concept of embeddedness as advanced by Polanyi (1944) and later by Granovetter (1985) refers to the notion of resubmerging economic life in social relations and to a departure from the utilitarian and individualistic self-interest of the market economy characteristic of advanced societies. In an informal economy such as the weekly rural markets, this means reembedding economic behavior in kinship or social obligations and in defiance of calculated market transactions that seek to maximize profits at the expense of such relations (Granovetter, 1985; Knutsen, 2003). This system of reembedding food in socioeconomic activities epitomizes rural Gambians’ attempts to improve their livelihood means.

Informal economy has been the focus of many researchers with various specifications who have devoted an extensive scholarship to studying its various aspects involving both illegal organized trafficking of goods across national borders and legally viable business transactions witnessed in The Gambia (see e.g., Emizet, 1998; Smith, 1987; Thomas, 2001). However, in the present study, informal economy refers to an unofficial economy that embodies market behavior of ordinary people and entrepreneurs with less political clout engaged in an economic sector segmented by the over-regulated African state. The state’s failure to include marginalized people in the mainstream economy such as meaningful employment inadvertently pushes them into informal economic activities that have now become fully institutionalized in many African states (DeRose et al., 1998; Emizet, 1998; Scott, 1996). Thus, in this study, an informal economy signifies what Ray (2006) refers to as endogenous bottom-up development characterized by rural weekly markets such as the Lumo(s) in The Gambia. This grassroots phenomenon is designed to address and overcome the problem of food insecurity and economic stagnation in The Gambia, a country faced with deleterious effects of the global agri-food system on its rural communities. As Emizet (1998) indicates, the segmentation of the market by the state bears direct negative impact on women

who are largely excluded from the government employment sector and consequently relegated to petty trading with very little prospects for accruing significant capital. The economic reforms of the 1980s further exacerbated disadvantage groups such as women's socioeconomic status by heralding entrepreneurial pursuits that are outside the reach of many women. As food production historically has been in the women's domain, denying them farm credit and other necessary resources directly undermine the country's food security.

At the onset of The Gambia's independence, the country was self-sufficient in food. However, a series of events would change this food security. One of these was public policy failures particularly food aid which increased the supply of processed wheat flour to the extent that wheat consumption competed with rice, The Gambia's staple food. This in turn increased the population's preference for wheat. In addition, cheap rice was later added to the food aid, driving down prices of locally produced stock and subsequently reducing production incentives (see also, FAO, 2006). This was the process by which food production was disembedded from the overall economic activities and thus underscores Gambia's food insecurity in particular because wheat is not grown in the country but must be imported. The importation of wheat, however, draws from The Gambia's foreign exchange earnings. When the U.S. cut back food aid in the 1970s and 1980s, (save the brief period to combat famine), the rural population was forced to find other means of sustenance. Another milestone was reached when austerity measures of structural adjustment programs compelled rural Gambians to reembed food in their socioeconomic activities through rotating rural weekly markets. These key concepts underlying the present research are discussed in greater detail under the theoretical perspectives section. Meanwhile it is important to note that embeddedness is a key concept that underpins the level of commitment that rural communities exude in mobilizing their natural resources and human capital. At this juncture, it suffices to note that for a country that was once self-sufficient in food, a confluence of exogenous and endogenous factors has now propelled it into dependence on food aid and enormously large quantities of food imports to meet national requirements (Carney, 2008; FAO, 2002, 2005; GOG, 2007). Nonetheless the extant literature on food insecurity in The Gambia largely overlooks the population's response to the liberal market economic policy undertaken by the government and international lending agencies (Carney, 2008; Paarlberg, 1999; Webb Jr. 1992; Young, 1997).

The Research Problem

Although issues of food insecurity have generated extensive research (Adams & Mortimore 1997; Allen, 2004; Boserup, 1965,1976 cited in Adams & Mortimore, 1997; Carney, 1993, 2008; FAO 2005; Friedmann, 1982; IFAD², 2007; Kimmage, 1991; Lipton, 1989; Madge, 1995; Morgan & Solarz, 1994; Rau 1991, cited in Allen 2004:177; Uvin, 1992; Woodhouse et al. 1997; Right to Food, 1998:v; Wright & Middendorf, 2008), very few studies have analyzed, concurrently, the bottom-up and top-down responses of rural communities and of national and international efforts to combat food insecurity in The Gambia, a region wrought by international market forces since the colonial era (see also Paarlberg, 1999; Webb Jr. 1992; Young, 1997). For example, according to the Department of State for Agriculture (DOSA), food security concern was the basis for the CILSS-led³ grassroots Sahelian civil society organization designated “Sahel 21-From Bamako to Banjul” that was formed in late 1990s as a long-term strategy to improve food security in this drought-stricken West African region in the twenty-first century (GOG, 2003: 5). However, the international development program specified in the Poverty Reduction Strategy Paper (PRSP), also known as SPA I and SPA II,⁴ subsumed this organization’s objectives, linking food security with poverty reduction (GOG, 1999, 2007). Perhaps such a dual objective is in compliance with the terms and conditions that qualify The Gambia under the enhanced HIPC Initiative, which aims to reduce the burden of debt on the country and enable it to produce the needed food allotment for the people.

In effect, the government is committed to collaborate with policies and strategies with regard to regional initiatives and global agreements in trade and food security (GOG, 2007: 62). Nonetheless, nowhere in the country’s comprehensive reform policy (that integrates, inter alia, various aspects of socioeconomic development including human capital, transfer of capital-intensive agricultural technology in production, processing, disease control, and marketing infrastructure) is the Lumo(s) a target of research and extension. Indeed, any reference to Lumo(s)/rural weekly markets is made only when comparing cereal market prices. This is not surprising given that weekly markets are antithetical to the neo-liberal free market economic policy. Although the government claims to be committed to

² IFAD stands for International Fund for Agricultural Development.

³ CILSS (French) stands for Interstate Committee for Drought Control in the Sahel or CILSS: Comité Permanent Inter-Etats De Lutte Contre la Sécheresse dans le Sahel

⁴ SPA I and SPA II refer to Strategy for Poverty Alleviation short-term and long-term respectively.

encouraging the formation and empowerment of rural cooperative groups and organizations⁵ by giving them a stake in the economic growth of the country, its involvement in Lumo(s) is limited at best and has no apparent subvention of funds for research and extension in this area. It is therefore up to independent researchers to pursue the quest for discovering how significant a role the Lumo(s) has in sustaining livelihoods of the rural Gambian population. This effort also draws an important distinction between local foods research in the West, which focuses primarily on local foods for consumers with disposable income looking for higher quality foods (i.e., more elite consumption patterns), versus survival consumption typical of Gambian rural consumers.

Ray posits that policies designed to foster socioeconomic well being of the disadvantaged rural economy rest not on entrepreneurial pursuits of individual sectors of the economy but on the restructuring of public intervention toward a mosaic of regional or local territories. In this regard, restructuring efforts must be inclusive and accommodate women. Additionally, central government must fully devolve administrative power and authority to rural communities, giving them responsibility in bringing about their own economic development; alternatively, once initiated by external intervention, local governments must acquire the capacity to sustain it. The most optimal means of sustaining such a development process, Ray argues, is the management and exploitation of rural resources—physical and human—and the retention of benefits within the local areas. At the same time, development must be context specific, designed and implemented through local participation, reinforcing “the adoption of cultural, environmental and community values within a development intervention” (ibid. p.279). That is, local communities would have greater influence over their own futures if they would orient development around local resources. In essence, the endogenous approach to rural development is concomitant with embeddedness. This process is not always straightforward, as competition from dominant international firms reduces the effectiveness of and thwarts the efforts of local entrepreneurs who largely end up being driven out of business (Knutsen, 2003). At this juncture, it is necessary to explore the geography and the historical context through which the rural development trajectories unfolded and shaped The Gambia’s socioeconomic situation.

⁵ Reportedly, “over 60% of the farming community are members of the cooperatives or at least use the cooperatives as inlets and outlets for their main cash crops.” The Government is urging these co-ops to consolidate in order to have greater power and access to the input/output markets for agricultural producers and all sectors of agri-business (GOG, 2007: 21).

The Gambia

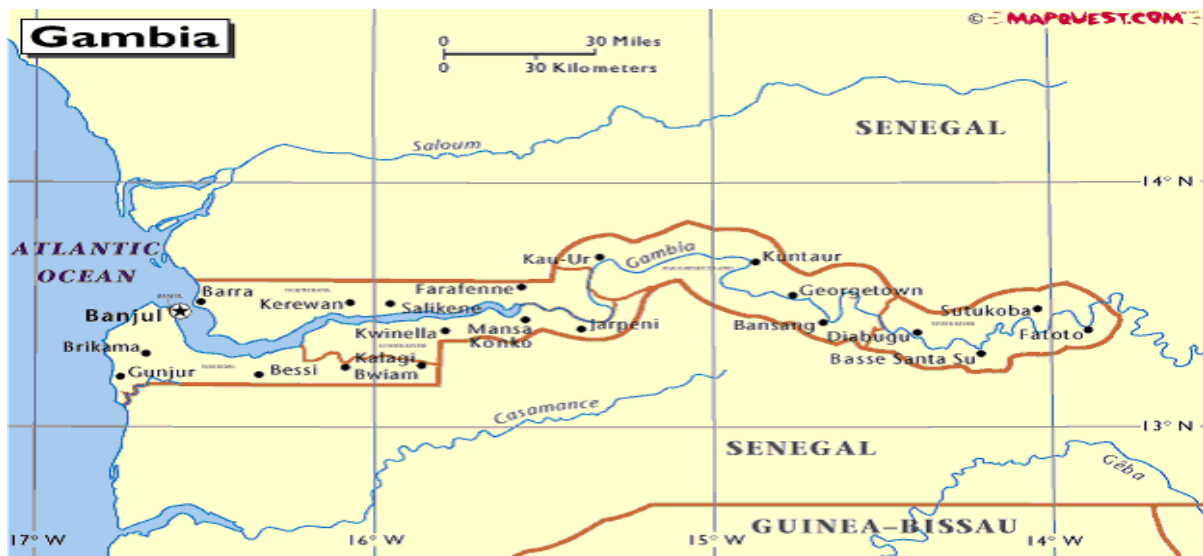
The Gambia, West Africa, is almost an enclave of the Republic of Senegal, which surrounds it from the north, south, and east with the vast Atlantic Ocean laying on the west; it is the smallest country on the continent of mainland Africa, at slightly less than twice the size of Delaware. As Carney (1993: 330-1) indicates, the country's landmass, which is 14-30 miles wide and over 300 miles long (East to West), encloses "a low-lying river basin that grades gradually into a plateau where the altitude seldom exceeds 100 meters (325 feet)." The river runs its course from the Futa Jallon Mountains of Guinea, where the rain downpours cause The Gambia River level to rise in the summer and empties into the Atlantic Ocean to the west at Banjul (Webb Jr. 1992).

Although the river runs straight through the country, dividing it into north and south banks, much of the farming is rain-fed rather than irrigated. For example, the cultivation of millet, sorghum, maize, findo/fonio⁶, and peanuts⁷ on the uplands is dependent on rainfall, which starts in June and ends in November (GOG, 2009). Rainfall fluctuates considerably by region in this country, between years and even within the same season with a mini-drought in the middle of the rainy season (Carney, 1993; Webb Jr. 1992). Moreover, the current economic status is a function of both prevailing climatic conditions and politico economic history.

⁶ findo/fonio is a type of cereal grown in West Africa consisting of tiny grains about the size of yeast and produced in small-enough quantities to the extent that it is not included in crop production reports.

⁷ Peanuts are produced as cash as well as food crops, in various processed forms, added to breakfast cereals and main courses of meals such as stews for lunch and dinners.

Figure 1-1 Map of The Gambia



Source: <http://www.dgambia.com/home.html>

Historical Background

Written record of The Gambia's existence dates back to 470 B.C by an explorer named Hanno, The Carthaginian. According to these records, between the 5th and 8th centuries, the Sarahuley ethnic group whose traditional occupation since recorded time has been trade, has inhabited most of the Senegambia region (gambia-expansion.com). *This region was predominantly illiterate in which history was passed down through oral traditions by specific groups of orators known as praise-singers (italics added).* By the 9th and 10th centuries Arab merchants and scholars settled in West Africa's coastal regions and introduced written records for the first time in West Africa's history by first educating the rulers (Darboe, 2004). By the 11th and 12th centuries Senegambia was under the Ghana Empire, whose capital city was in the present day Mauritania (Bellagamba, 2005; Gambia-expansion.com). The Gambia became a tributary of the great Mali Empire at the beginning of the 14th century (Bellagamba, 2005; Gambia-expansion.com). Contact with Europeans would soon eradicate empire building in Africa and bring The Gambia under colonial rule.

Portuguese explorers navigated their way into the predominantly rice producing West African region to discover and later lay claims to this small Malinke/Mandinka state in the mid-15th century. They introduced groundnuts (peanuts), cotton, (The Gambia's main cash crops) and fruits. The number of Portuguese settlers was reportedly small and soon became

integrated into The Gambia society through intermarriage (Gambia-expansion.com). This historical diversity is the basis for The Gambia's ethnic and religious pluralism and harmony (Gambia-expansion.com), although the current regime has strategically used Islam as a political tool to consolidate President Yahya Jammeh's power in the nation. (Reportedly, this leads to the emergence of radical religious elements in the country, (Darboe, 2004). The Portuguese proceeded to dominate the Atlantic Slave trade in the region. The English merchant companies later won trading rights from the Portuguese in 1588. In the early 17th century the merchants obtained trading charters for The Gambia and the Gold Coast (now Ghana) and founded settlements along The River Gambia (Bellagamba, 2005 Gambia-expansion.com; Gamble, 1991).

During this period, many African societies produced food staples and sold surplus to slave ships. This transaction was often conducted either by captives awaiting deportation to American plantations or client agricultural villages specialized for surplus production (Carney, 2001:396). Thus West Africa's agricultural system produced enough food to provision "...armies involved in Atlantic slave trade, their victims, and the groups who fled the violence by retreat to locations" (ibid). Among the food Africans domesticated were nine crucial cereals, a half dozen root crops, five oil producing plants, a dozen forage crops, vegetables, fruits and nuts, and the bottle gourds (ibid: 378). Rice cultivation in particular is indigenous to West Africa. In fact the current rice cultivation system is similar to conditions that prevailed during the Atlantic slave trade "where food surpluses had sustained empire formation from the 9th century" (Caney, 1996: 10). Domestically, the gender division of labor solidified during the colonial era.

The British and the French dominated trade in the Senegambia region at this point in time. After a brief struggle between Britain and France over political and commercial supremacy in Senegambia, the Great Britain won exclusive possession of The River Gambia in the 1783 treaty of Versailles. Records show that "as many as 3 million slaves, may have been taken from the region during the three centuries that the transatlantic slave trade operated" (Bellagamba, 2005; Gamble, 1991). In 1807, Britain declared the abolition of the slave trade throughout the British Empire. In 1816 Britain purchased Bathurst [now Banjul], capital of The Gambia, and established the military post as a base to fight against the illegal trade of slaves (Bellagamba, 2005; Gambia-expansion.com; Gamble, 1991). Between 1889 and 1894 The Gambia's boundaries were defined and the interior was declared the British protectorate that was ruled from Sierra Leone (ibid).

At this juncture, a system of government was initiated in which British colonial administrators supervised chiefs in ruling various localities. Slavery in the colony was officially ended in 1906 (ibid). The colonial rulers encouraged men to produce cash crops for export, to benefit from tax revenues and livestock husbandry, especially cattle, while relegating rice production exclusively to women (after their failure to turn men into rice producers, see e.g., Carney & Watts, 1990). This resulted in compromised flora and fauna biodiversity, that is, diversity from integration of plants and livestock, but other factors also played a negative role. Rudimentary infrastructure was developed in the colonial era, such as major roads that linked farms to government-run cooperatives in these countries, and from the cooperative centers to ports for shipment (Staatz et al. 1990).

At some point in the colonial rule, missionaries established schools in various regions within the country and began formal education in English, the official language of The Gambia to the present day. However, girls were largely excluded from the educational programs, especially in the rural areas. Female literacy was restricted to the Banjul areas where girls from affluent families were privileged to receive formal education. Women whose spouses held important political positions partook in activities that influenced policy-making (Ceesay, 2007). Through the Banjul women's society, (influential women's efforts were to fight rural poverty) women's rights took center stage at the national level. The colonial representatives at times resented this move and made attempts to subvert them but the women were tenacious until some of their demands such as divorce policies were granted (ibid). The Gambia remained within the system of local rule under British supervision until after WWII when the British began to consider granting the country, self-governance (ibid). After WWII the pace of constitutional reform hastened, culminating in The Gambia's independence in 1965 under President Dauda Kairaba Jawara and the People's Progressive Party (PPP). The Gambia's ethnic group is predominantly Malinke/Mandinka. The Gambia became a republic in the Commonwealth of Nations following the 1970 referendum. In contrast to many other new African states, The Gambia preserved democracy and remarkable political stability in its early years of independence, allowing multiple parties to coexist and operate (ibid) *and became a peace broker to many African states in the capacity of settling disputes between warring countries* (italics added).

The economic strategy following independence was for the country to become self-sufficient in food. These attempts involved both local and extra-local efforts. One of the efforts previously aimed at increasing food security in The Gambia was through extra-local means of pumped irrigation technique, started first by Taiwan in 1966. With the diplomatic

recognition of the People's Republic of China in 1974, The Gambia's relations with Taiwan would change leading to Taiwan's departure from The Gambia. And in 1975, filling the gap left by the departure of the Taiwanese, agricultural teams from Mainland China arrived in The Gambia" (Webb Jr. 1992:557-8). Between 1973 and 1976, the World Bank adopted a slightly different approach in its Agricultural Development Program 1973-1976 and introduced Green Revolution technologies. Then in 1979, a German development agency launched the Freedom From Hunger Campaign (FFHC), involving the expansion of rice production by the further development of the mangrove swamp areas, and building causeways. All these programs failed, however, due to climatic and public policy failure. These failures have prompted rural to urban migration of large numbers of youth resulting in rural depopulation, particularly of the able-bodied workers and corollary high urban unemployment and overburdened services. The rural policy under the Jawara government was to expand the agriculture sector, but droughts in late 1970s and early 1980s halted this effort and drove serious decline in agricultural production and a rise in inflation (Carney, 1996; Webb Jr., 1992). Undoubtedly, desperate attempts have been made nationally and internationally to rescue the rural population from hunger and malnutrition, but these effort have met with little success.

Nonetheless, tourism, spurred by improvements in infrastructure and heightened popular interest drawn by Alex Haley's novel "Roots," increase three-fold between 1978 and 1988 and emerged as an important enterprise (Bellagamba, 2005; Darboe, 2004). Tourism is perhaps the Gambia's second largest foreign exchange earner (save revenues from re-export trade). This has reputed The Gambia as a nation of true melting pot. Likewise, this condition is further enhanced by the absence of religious fanaticism and the subsequent social cohesion (Gambia-expansion.com). The democratic climate under Jawara's rule created an atmosphere so peaceful that tourists flocked to the country in large numbers in the winter season (Darboe, 2004). This peace was briefly interrupted by the 1981-attempted coup led by Kukoi Samba Sanyang, who, on two occasions, failed to be elected to Parliament. With the help of Senegalese troops, rebel forces were defeated. In the aftermath of the attempted coup, Gambia and Senegal signed the 1982 treaty of Referendum. The goal of the Referendum was to combine armed forces of the two nations and unify their economies and currencies. However, in 1989, The Gambia withdrew from the confederation on accounts of irreconcilable differences regarding how power was to be structured and shared between the two states. Unlike Senegal however, The Gambia lacked minerals to supplement income generated by cash crop production. The Gambians food insecurity became exacerbated with

its dependence on food aid, which started in the U.S. Public Law 480. This was a standardized development program designed to keep U.S. foreign allies out of the Communist influence. This policy would eventually lead The Gambia into heavy foreign debt and the subsequent intervention by the international lending agencies such as the World Bank and IMF to impose socioeconomic reform policies on the country. These were the structural adjustment programs that ended up further impoverishing the rural populations by dismantling the government led cooperatives that supplied farm inputs to farmers on a credit basis. The population therefore was left with little choice but to develop its own means of sustenance. Hence, they turned to the development of weekly rural markets/Lumo(s) as their survival strategy.

Lumo is a nascent marketing strategy that emerged in the 1980s as rural communities attempted to negotiate their livelihoods in the wake of the structural adjustment programs. As a result, 80% of the markets are rural, serving the economic function of assembling and distributing locally produced agricultural commodities as well as imported consumer goods (Cole, 1989). Figure 2-1 below represents one angle of the Wassu Lumo where trucks unload goods. (The Wassu Lumo was initiated in 1988.) Their precursors were the periodic rural markets that were being established in mid-1960s following the government monopoly of the peanut trade (Plattner, 1984). Previously, colonial firms set up the *raison d'être* system with their network of agencies at the countryside to whom they gave money in advance to have their traders sell imported goods while their dealers purchased peanuts for the company to export. These dealers reportedly issued to farmers goods on credit just before the peanut season began, while giving the company's own traders goods to sell. However, these goods were sold either to farmers against their future harvest or to farmers who also acted as petty traders. In other words, the company captured all trade, and producers ended the season with some cash but mostly with imported goods such as "rice, cigarettes, sugar, flour, and tobacco; print cloth, bleached shirting, woven checks and striped material, and handkerchiefs; hessian bags, cement, sewing machines, enamelware, iron and steel sheets, singlets, footwear, shirts, packed medicines, perfumery, and soap" (Haswell, 1975: 78 cited in Plattner, 1984: 89). Upon independence, when the government took over the peanut trade, firms lost the *raison d'être* privilege and had to disengage from retail trade in the interior. When the government did not continue with trade in the imported goods that were once provisioned by the firms, rural communities responded with the establishment of periodic markets so that "today, the countryside is dotted with large, viable rural markets. The only surprise is that most sprang up in just the last five years" (Plattner, 1984: 90). Moreover,

since Lumo(s) have become well-established business enterprises, they are subjected to the same regulatory process as daily retail markets, which fall under the jurisdiction of local Area Councils.

The Area Councils themselves are under the responsibility of the department of local government and lands; however, in rural areas local government officers head them. The officers' duties fall in the realm of "revenue and tax collection, all aspects of rural and urban development, oversight of health and sanitation, regulation and control of building standards, operation and maintenance of physical infrastructure and public facilities and markets" (Cole, 1989: 3). Personal correspondence with friends, former colleagues, and family indicates that Lumo(s) too are under the auspices of the Area Council. The local Area Councils have been involved in the construction of market stalls and other permanent structures (ibid).

In addition, a personal correspondence with Dr. David P. Gamble⁸ revealed that a weekly market system existed in The Gambia in the late 1970s, which took place in riverboats named Fuladu and Lady Wright (later renamed Lady Chillel, after the first lady). These boats used to set off plying up the river by rotating weekly from Banjul to Basse, carrying passengers along the way, and mooring at wharfs of major towns and villages on scheduled time tables. Producers and consumers used to come onboard for the duration of two hours to trade their surpluses, and retailers sold marine products, fruits, vegetables, and some imported goods. Traders also purchased grain from rural regions to be resold in Banjul and the suburban areas. This form of trading ended when the boat sank, perhaps in the early 1980s, and was never replaced. Today, however, Lumo(s) appear to have spread to neighboring countries as viable weekly markets for locally grown food (Perry, 2000). The widespread poverty in the country would place the Jawara government at risk of another coup.

With the severance of the 1982 treaty of Referendum by The Gambia, Jawara lost a formidable ally in Senegal and set the stage for another coup to take place (Bellagamba; 2005; Darboe, 2004; Gambia-expansion.com; infoplease.com). In 1994, the Armed Forces Provisional Council (AFPRC) overthrew the Jawara government and banned opposition political activity. Lieutenant Yahya A.J.J. Jammeh became the chairman of the AFPRC and the head of state. Once the AFPRC announced a transition plan to return to democratic civilian government, the Provisional Independent Electoral Commission (PIEC) was established in 1996 and later transformed to Independent Electoral Commission (IEC) in

⁸Emeritus Professor of the State University of San Francisco, California.

1997 to conduct national elections. The IEC then was conferred the prerogative of registering voters and conducting elections as well as being responsible of referendums (Bellagamba, 2005; Gamble, 1991). Yahya Jammeh did not return the country to civilian rule but contested in the election to continue his leadership and took the oath of office again in December 2001. Although the 2001 and the subsequent elections were reported by some foreign observers as free, fair and transparent, others including Senegal reported massive fraud (ibid).

In sum, The Gambia was food secure in its earlier stage of history, able to meet national food requirements and provisioned the needs of those involved in the Atlantic slave trade. However, at the onset of independence many African leaders were not fully prepared to rule their nations. This lack of experience and original ideas about development from grassroots eventually led to the economic stagnation and current state of food insecurity. It seems as though African leaders were caught off-guard when asked to assume the responsibility of self-governance. They had three options 1) design an independent development plan suited to Africa's culture and environment, 2) continue the style of government under the colonial rule and 3) adopt the standardized development program proposed under the U.S. PL480 by those unfamiliar with its geography and culture (see e.g. Friedmann, 1982). There is little or no evidence to suggest that the modernization project was an elaborate conspiracy designed to lure the newly independent nations into economic dependency and subsequent misery. Nonetheless efforts that were meant to stimulate their economic growth ended up being counterproductive to the goal of economic growth and progress. Frustrated by the austerity measures imposed by the structural adjustment programs in the 1980s, rural communities turned to weekly rural markets/Lumo(s) as a viable economic development strategy. The African leadership accepted the third option because they could not initiate an original plan of their own, one that might have been tailored to meet Africa's socioeconomic needs within specific cultural contexts. To remedy this situation therefore, African leaders may have to go back to the drawing board and craft a practical solution that is original and context specific rather than look to outsiders from Western nations to provide a quick fix to their economic situation in general and the problem of food insecurity in particular.

The rest of the dissertation proceeds as follows: Chapter 2 represents the review of an enormous body of literature, which sheds light on the trends in West Africa's food insecurity in the context of global political economic restructuring and provides some suggestions as to how the problem can be resolved. Chapter 3 outlines the research design. Chapter 4

analyzes the data. Finally, chapter 5 discusses the major findings and summarizes conclusions drawn from the study.

CHAPTER 2 - Review of the Literature

Food insecurity is a problem for most developing countries. As Macionis (2005: 321; see also Young, 1997) noted, hunger (food deprivation) casts its menacing shadows in Asia, much of Africa, and parts of Latin America. In the West African Sahel in which The Gambia is located, food insecurity is a matter of extreme urgency. Food insecurity exists despite advances in agricultural technology that have produced food abundance in Western

nations and surplus for export. According to the International Fund for Agricultural Development (IFAD⁹, 2007):

In The Gambia, one of Africa's smallest and poorest countries, poverty is widespread, pervasive and predominantly rural. Half of the people living in rural areas are poor. Such factors as ethnicity or village size seem to be irrelevant to poverty, which is substantially uniform throughout the country, although pockets of deep poverty exist. In them, lives one third of all of The Gambia's rural poor people. More than 90 per cent of extremely poor people in the country and more than 70 per cent of other poor people depend on agriculture for their livelihood. Every year poor people in rural areas face the so-called hungry season, a two-to-four-month period at the peak of the rainy season between July and September, when household food stocks are low. Poor households depend on income generated by groundnuts or other cash crops to cover the cost of school fees and medicines. Falling market prices mean that households have less money to meet basic needs.... Poverty in The Gambia has its roots in slow economic growth and uneven income distribution. Rural poverty, in particular, is the result of a poor natural resource base and farmers' dependence on groundnuts as their principal source of income.

The international community has committed itself to eradicating hunger through rural development initiatives and to making food security the central component of economic growth in this region (FAO, 2006). Webb Jr. (1992: 554) indicated that the endogenous approach involving 1) agricultural intensification of localized, village-based initiatives of building causeways to the swamp rice fields and 2) the blurring of gendered activities (men assisted with the rice production while women assisted in the peanut and coarse grain production) helped to reduce food insecurity in The Gambia in the 1950s and led to food self-sufficiency to such an extent that it was reported in *West African Review* 29, 374 (1958:921-925).

Some authors (Carney, 1996, 2001; Friedman & McMichael, 1989; Paarlberg, 1999; Webb Jr. 1992) attribute Africa's food insecurity to the colonial legacy that shifted food production practices from subsistence to export-oriented cash crop production that ultimately undermined the continent's self-sufficiency in food. Others argue that the decline in the domestic food production and increases in food imports¹⁰ are due to 1) the modern development policies that transfer inappropriate technologies (Carney, 1993, 2008) and 2) the

⁹ IFAD has helped in the creation and institutionalization of the village savings and credit associations that are located in selected villages, allowing community organizations to be directly involved in banking decisions.

¹⁰ Currently, a 50-pound bag of rice costs about D1000 or \$50, in a country where the GDP is under \$300 per capita.

international terms of trade unfavorable to primary commodity production in Africa (Logan & Kidane, 1993; Scott, 1996).

Internal factors that exacerbate perpetual food insecurity include poor economic policies, sluggish economic growth/productivity, public corruption, political instability, and environmental catastrophes (FAO, 2005; Logan & Kidane, 1993; IMF, 2007; Paarlberg, 1999). Therefore, both internal and external factors explain why The Gambia is food insecure.

Public and International Policy Impacts

The impact of public policy on food security in The Gambia began with the colonial political economy and continued through the postwar global economic restructuring. Although food insecurity existed during World War II, an insecurity that required rice importation from the U.S., the postwar program known as Public Law 480 (PL480), which provided concessional food subsidies and food aid as grants to friendly African countries, resulted in shifting the population's preference away from locally produced staple foods, viz. sorghum, maize, findo/fonio, and root crops, and toward imported food, particularly wheat flour, thereby setting the stage for the country's food import dependency (FAO, 2006; Uvin, 1992). The post World War II economic restructuring also spurred rural-urban migration among young people. The resultant labor shortage during peak demand in agricultural cycles has diminished productivity and undermines communities' access to food (Paarlberg, 1999; Webb Jr. 1992). At times migrant farmers' labor contribution to peanut cultivation filled these labor shortfalls. (Migrant farmers who come from the neighboring countries of Senegal, Mali, Guinea, and Guinea-Bissau find host families among The Gambians for whom they seasonally work part-time in exchange for the provision of their own peanut plots to cultivate for cash-crop production.) Nonetheless, even then, since they were not contributing to food production, they added pressure to the available food stock produced by the host families. With the decline of peanut revenues from the world market, this arrangement is no longer profitable. That is why migrant farmers no long come to rural Gambia for work. One of the efforts previously aimed at increasing food security in The Gambia was through extra-local means of pumped irrigation technique, started first by Taiwan in 1966.

The Taiwanese experts provided free inputs to The Gambian farmers for irrigating rice based on their own peasant model of using diesel fuel to pump water from the river into small perimeters of rice plots. This produced remarkable results in crop yields and allowed double cropping within a year. In the first year following the opening of new swamp fields,

yields were high, though subsequent years' yields were lower (Webb Jr. 1992). However, this bilateral assistance from Taiwan in an attempt to convert The Gambia's tidal floodplains into permanently irrigated land ceased "with the diplomatic recognition of the People's Republic of China in 1974.... Between 1973 and 1976, the World Bank adopted a slightly different approach in its Agricultural Development Program (1973-1976) and put 493 hectares into production. And in 1975, filling the gap left by the departure of the Taiwanese, agricultural teams from Mainland China arrived in The Gambia" (Webb Jr. 1992:557-8). The Chinese reportedly developed 1,159 additional hectares of land. However, Webb Jr. indicates that all three projects failed to attain the double cropping that underlies the project initiatives. These technological packages were capital-intensive in terms of inputs such as machinery, fertilizer, pesticide, herbicides, water, and high yielding seed varieties, and farmers could not afford to maintain them (Carney, 1993, 2008; Paarlberg, 1999). The 1970s and 1980s drought that brought on famine in the West African Sahel led to high increases in rice imports and subsequent government policy aimed at the search for means of attaining self-sufficiency in rice.

Measures were sought afterwards that would least affect the upland arable land devoted to groundnut export production and foreign exchange earnings. A study was conducted to determine the feasibility of damming the river, but ecological problems associated with such a program were soon apparent, and the idea was abandoned (Webb Jr. 1992). Then in 1979, a German development agency launched the Freedom From Hunger Campaign (FFHC), involving the expansion of rice production by the further development of the mangrove swamp areas, which opened up 5,000 hectares of swamp rice. Laborers were compensated for their labor on a food-for-work basis while using traditional methods of building causeways to the swamp rice fields. This program was reportedly successful in most regions in the middle reaches of the river where it was implemented (*ibid*). The exception was that elites in certain areas who felt threatened that marginalized groups might profit from this development proceeded to block the program implementation. As well, this program suffered because of climatic conditions that led to salt concentration and rendered the developed swampland uncultivable (*ibid*). The salt intrusion problems made the return to the traditional agricultural intensification of the fully freshwater swamp rice cultivation more sustainable and desirable (see also Staatz et al. 1990). Moreover, an FAO report indicates that "Agricultural production, the primary economic activity, declined throughout the 1990s as a result of several factors, viz. environmental degradation, declining/poor distribution of rainfall, weak marketing infrastructure, lack of access to credit (especially for the youth and

women) and a limited resource base” (2005: 1). Thus, following the World Food Summit of 1994, FAO’s special program for food security in The Gambia has sought to improve food security, increase food production, improve stability of supplies, and generate rural employment (FAO 2004).

In addition, the World Bank Group (IMF, 2007), International Fund for Agricultural Development (IFAD), and FAO continue their commitment to rural development and agricultural diversification in accordance with the government’s anti-poverty strategy through various program initiatives. Current FAO projects in The Gambia include the following: water resources and watershed management; community agroforestry and forestry enterprises; IPM and seed improvement for rice and groundnut production; support of the national poverty alleviation program; assistance to the agricultural census; sustainable aquaculture and fisheries management; agricultural diversification; milk processing; strengthening agricultural research; and emergency assistance following drought and outbreaks of African Swine Fever, Rift Valley Fever, and Foot and Mouth Disease (FAO, 2005). So far however, there is very little evidence as to these programs’ success.

One of these efforts was to expand rice production by means of capital-intensive double-cropping, and such expansion was the goal of the Jahaly Pacharr irrigation project located on the middle reaches of The Gambia River, near Georgetown (Carney, 1993:336-7). Prior to the initiation of this project, the rice imports reportedly reached 9,000 tons per annum (ibid, p.336). With these technologies though, and the declining incomes from peanut production due to drought, poor soil fertility (owing to short fallow periods), and falling world market prices, male household heads have effectively dispossessed women of their domain of irrigated rice cultivation in the lowlands. Men now control the capital-intensive irrigated rice production in The Gambia and exploit women’s labor (Carney & Watts, 1990; Carney, 1993). This study examines the level of improvement in rice production and the degree to which it has helped reduce the amount imported. Increased domestic rice production is a crucial step toward food security because vulnerable groups who may not have the income to purchase imported rice can have direct means to their own subsistence. It is also more dignifying to the people to produce their own food than to receive handouts in the form of food aid.

Thus, included among the ongoing food production issues and conflicts in The Gambia is a women’s resistance movement to fend off this form of exploitation (Carney & Watts, 1990; Kea, 2004). Carney (1993:330) aptly noted the strident protests of Gambian women against these “changing forms of control exercised over community property systems

in the Wetlands.” Today, men have effectively forced Gambian women to shift predominantly to horticultural activities. Nevertheless, international politics worked in their favor, at a period when there was growing clamor about Women and International Development (WID), and what emerged in The Gambia from this were donor contributions to women’s market vegetable gardening. Since women have traditionally engaged in gardening, multilateral donors such as the World Bank, European Economic Committee (EEC), Islamic Development Bank, and United Nations Development Program had funded the horticultural projects (reinforcing gender relations) (ibid, p.330). For instance, Schroeder (1996: 70) underscores this development by pointing out that “The Gambia’s garden boom is one of the most dramatic cases on record.” Schroeder noted that the hundreds of women’s communal gardens along The Gambia River Basin “have replaced the male peanut crop as the primary source of cash income in many areas,” imbuing women with a greater economic advantage over their male counterparts (1993a, cited in Schroeder, 1996: 70).

Schroeder follows this assertion by indicating that the vast majority of women in the North Bank region, particularly in Kerewan village, now earn more cash than their husbands do. They generate this revenue despite market constraints and competition from orchard owners over land, water, and labor resources (ibid). This market gardening provides for domestic consumption as well as export for Europe’s off-season winter markets. Although the projects have failed to deliver self-sufficiency (as the country still imports large quantities of rice, wheat, and sugar), they have provided great financial gains and a degree of autonomy for women from male control, and thus, the projects have increased food security (Carney & Watts, 1990; Carney, 1993; FAO, 2001; Mackintosh, 1989; Schroeder, 1996). These female gardeners reportedly contribute significantly to major household expenditures, as the women either provide the family’s subsistence from their produce or use their income to purchase food for the family, particularly food for meeting children’s basic needs (see also Bledsoe et al., 1998; Mackintosh, 1989). Their husbands do not always share such priorities (Schroeder, 1996). Men complain that peanut production is no longer profitable given the cost of farm inputs such as seeds and fertilizer. *Thus, by investing in the women’s agricultural projects, the NGOs can expect important dividends, such as insurance for food security and social stability* (italics added). The Food and Agriculture Organization’s (FAO) current projects are also aimed at improving women’s income status through provision of extension services for their livestock production (FAO, 1999, 2001). Thus, the theoretical perspectives discussed below, explain the problem of food insecurity in rural Gambia in the context of the larger global political economy and seek to offer solutions to this problem.

Theoretical Perspectives Underlying the Current Study

The conceptual framework involving Ray's (2006: 278) neo-endogenous approach is used to explore the effects of both the top-down rural development projects supported by international donors and the national government, as well as the bottom-up nascent development of the rural weekly markets by local people who have been struggling to stay afloat. The neo-endogenous approach is informed by social economy and economic coordination theories and is very much actor-oriented in the sense that it focuses on local collective activities including those of civil society. Similarities and differences do exist in the development trajectories between West Africa and Europe. One important element of commonality between them involves the post-war global political economic development policy or U.S. Marshall Plan known as Public Law 480 (PL480).

Rural populations in Europe and the U.S., although also affected by PL480, are largely free from the problems of hunger and food insecurity. PL480, was a development package put forth by the U.S. following WWII in an attempt to rebuild the war-ravaged Europe, but this led to agricultural protectionism in Europe, while farmers in the U.S. were advised to cultivate grain from fence row to fence row, a policy which has created subsidy dependency among U.S. farmers. Both the U.S. and Europe therefore, were able to utilize advanced technologies and abundant natural resources to produce food surplus. Thus, communities in the rural North have different priorities than Gambians, in lieu of their development history. Producers and consumers, who have great autonomy, owing to their developmental trajectories, level of education, general affluence, and democratic political system, characterize this history. Institutional prerogatives in The Gambia, on the other hand, prevent producers and consumers from influencing development policies to their advantage. According to Ray (2006), sustainable development in a setting such as rural Gambia requires changes that entail dismantling the old administrative managerialism of rural resources in favor of enfranchising rural populations. The epitome of reembeddedness is to allow rural communities to determine the course of their economic development for the first time since the pre-colonial era. Rural communities can determine their economic growth by means of democratic participation and natural resources management through locally accountable, empowered representatives. The decisions that representatives are able to make must be approved through oversight that does not involve the limiting nature of bureaucratic administration. This will diminish the powers of non-accountable local bodies such as ad hoc committees and other notables such as the NGOs that do not enfranchise rural people (Ribot,

1999). The neo-endogenous approach suggests that local actors demand these rights from the national and international powers that have for centuries contributed to their disadvantage. The prospects for such a sustainable development hinge largely on effective and well coordinated networking at all levels ranging from policy making to household and individual decision-making in an attempt to make the country self-sufficient in food.

According to Calderón et al. (2007) (see also Boone, 1996; Plateau, 2009), an African country's strong reliance on foreign aid and single primary products for export are responsible for the slow economic growth, as only the political elites directly benefit from the aid while the scourge of poverty throughout rural areas largely remains. While it may be true, as these authors have implicated, that "development" assistance helps African dictatorships and higher classes in raising their level of consumption, other factors must also be considered. In light of these sociopolitical arrangements, the researcher must carefully extrapolate facts from information provided by cautious respondents unwilling to sow seeds of discord that may pose negative ramifications and undermine their well-being.

The food insecurity problems in The Gambia are, in part, a consequence of decades of persistent drought, low agricultural productivity, a limited natural resource base, and inadequate national policies. They are also, in part, an outcome of broad restructuring of the global economic system, particularly of the agricultural food system (henceforth referred to as the agri-food system), and changes in the institutional practices that favor economies of scale in contrast to subsistence agricultural production (Carney, 1996, 2008; Friedmann, 1982; GOG, 2006). Oftentimes modernization theories tend to place the blame only on factors internal to developing countries, insinuating weak and ineffective governments, economies of affection/moral economy, public corruption, etc (DeRose et al., 1998; Scott, 1996). They fail to take into account the role of external forces instigated by IMF, World Bank, WTO, and Transnational Corporations (TNCs) against which governments in the developing countries cannot compete to design their own national policies. This is not to say that internal weaknesses do not exist, for indeed they do, thanks to inherited colonial power structures that encompass modes and relations of production that laid the foundation of rural exploitation (Boone, 1996). Rather, African leadership, once they have adopted the post-independence development program, has little choice but to cooperate with the imperatives of the global market forces (see e.g., Brown, 1995; George, 1995; Seabrook, 1995; Young, 1997). Agrarian communities in the West have also had their share of exploitation within the global agri-food system.

In both Western nations (also referred to as North) and developing countries, responses to such international market forces involve, as Wright and Middendorf (2008) have indicated, reflexive agency and conscious choice-making among a network of producers, consumers, and activists that includes reembedding food in socioeconomic life (see also, FlØysand, & Peter Sjøholt 2007). Evidence of this exists in The Gambia where rural women in the Brikama area attempt to exert control over their lives through identity politics, which Kea (2004: 378) refers to as “their narrative of self-production.” Reportedly, these women create the ideal image of themselves through social discourse centered on land entitlements; they promote their productive power by means of allocating gardening plots to *surgas* (stranger farmers) who reciprocate the favors by working for them part-time or giving the host women a portion of their produce. This traditional practice allows women to wield a degree of power in the Mandinka society. According to Kea, by delaying participation in the cooperative gardens, these women prevent land from becoming a community property, thus allowing them to maintain claims to the land. Hence, embedding their economic behavior in the cultural practices, some Mandinka women find an important leverage to power, prestige, and meaningful lives (*ibid*). Nevertheless, reflexive agency is not as straightforward as it first seems. On the one hand producers and consumers in Western nations are empowered to make informed consumption decisions about nutrition and safety of products. On the other hand, food processors and distributors may manipulate them by making false claims about nutrient-contents and healthiness (Busch, 1991; Long, 2008). Gambian consumers may be free from this type of manipulation, but they have far less nutritious food to eat owing to poverty.

Murdoch (2006), however, points out that most network theorists focus their attention on the urban networks and fail to emphasize constellations of rural networks found in the contemporary countryside and their impact on polity, economy, and society. It is also important to note that, because of current flows of goods, information, peoples, and cultures across varied distances, local economic vibrancy cannot be attained in isolation. This interdependency between actors and regions necessitates complex politico-economic network flows across regional and national borders that link the local with the extra-local actors and goods in the process of rural development (Hinrichs, 2003). In The Gambia, for example, embeddedness occurs through *Lumo(s)*/local markets, an informal sector of the economy, which assumes central importance in response to austerity measures of market reforms, imposed on the country by international lending agencies such as the IMF and World Bank. However, this local economic activity has been enhanced by extra-local projects launched by

the international donors aimed at ameliorating food insecurity problems facing the nation (FAO, 2005; IMF, 2007).

Consequently, in The Gambia as in Europe, stakeholders such as academic researchers, producers, consumers, and the state collaborate in making policy decisions regarding rural development agendas (Goodman, 2004; Goodwin, 2006; GOG, 2007; Van der Ploeg & Renting, 2004; Winter, 2003, 2006). Policy is called upon to recognize and protect a range of values associated with agriculture (multifunctionality), the environment, and with rural economic viability. These include ecosystem services, amenities, aesthetics, and preservation of rural cultural landscapes (McCarthy, 2005; GOG, 2007). As The Gambia is predominantly rural where primary production constitutes the fabric of rural socioeconomic and political life, structural reforms exert enormous negative impact on the population's food security and sustenance (GOG, 2007). However, here, too, development rhetoric centers on the multifunctionality of agriculture in addressing food security, although double standards exist between EU, the U.S. and African farmers in their access to significant amounts of subsidies (FAO/GOG, 2002; McCarthy, 2005; Potter & Burney, 2002, Sharma, 2004). That is, farmers in the North receive large amounts of direct subsidies while farmers in the South have been denied similar access through structural reforms that forced the central governments to devolve economic activities to local communities who have little resources with which to sustain themselves.

Rural communities in The Gambia, similar to those in Western nations, have little choice but to re-embed food security in their socio-cultural lives. Furthermore, ensuring food security in The Gambia has become the goal and objective of many rural development programs involving the government, international donors, NGOs, and rural communities. This underscores the bottom-up and top-down approaches discussed below.

Rural Development, Embeddedness, and Alternative Food Networks

Modern development rhetoric has now shifted from a focus on urban industrial development to one on rural development, centering on promotion of economic growth in rural societies of both western advanced nations and developing countries, as well as on local governance (Cloke, 2006; Knutsen, 2003; Ray, 2006; Schroeder, 1999). Global political economic transformation has driven rural-to-urban migration, resulting in a decline in rural populations in tandem with a large age-dependency ratio, economic stagnation, and the corresponding bulge in urban populations (GOG, 2007), although the negative impacts are

more marked in some countries than others. Nonetheless, rural regions and localities around the globe are responding to socioeconomic pressures initiated by postwar economic restructuring through resistance and agency by re-embedding food in local socioeconomic activities. Thus, embeddedness theories seek to explain local and regional responses to expanding globalization and seek to refocus attention on factors that promote socioeconomic development in rural areas (FlØysand, & Peter Sjøholt 2007; Jaffee, 2007; Winter, 2003; Wright & Middendorf, 2008). Evidence indicates that embeddedness in the new food economy and defensive localism is a highly contested phenomenon and has made inroads into consumer politics, which in turn has conditioned and shaped policy on rural development (Barham, 2003; Goodman, 2004; Van der Ploeg & Renting, 2004; Winter, 2006). In Europe, for example, there is growing support by middle class consumers for local farmers, whether they are organic or conventional farmers, and this support is irrespective of quality or environmental reasons (Winter, 2003). This consumer behavior reflects the defensive politics of localism and feelings of empathy and affinity with local producers. Consumer response has been spurred by neo-liberal free trade policy perceived as an antipathy to small farmers' livelihoods and ultimate survival (ibid) as well as crisis of food borne diseases such as the bovine spongiform encephalopathy (BSE), also known as foot and mouth disease or mad cow disease (Beck, 1992; Marsden, 2006; Murdoch, 2006).

These trends across nations have focused research efforts on local communities and the network of social actors in relation to how they facilitate policy toward rural territorial development and lived experiences (Barham, 2003; Ray, 2006). The empirical approach in uncovering and understanding these trends has been micro-level analysis and ethnographic "investigation of place-based and socially embedded alternative food practices" (Goodman, 2003:1). Central to the embeddedness approach is trust, rural identity, and sense of community that link social conventions and cultural values to economic activities. For example, the origin labeled products system, administered by France, to promote rural development by safeguarding intellectual property rights, is a means by which the state stimulates rural economic viability in modern-day Europe. Consequently, consumers who identify with a specific locality are motivated to purchase products originating from it regardless of product quality (Barham, 2003). These theoretical perspectives posit that embeddedness evokes cultural meanings that help secure rural social cohesion and the defense against the seemingly "larger than life" mainstream global industrial food system (Cloke, 2006; Goodman, 2003). The Gambia's countryside does not claim similar motivations, however, owing to its poverty situation and hunger that leaves few options for

rural actors but to assimilate whatever commodities are made available to them. This includes import goods of all types, particularly wheat flour, sugar, rice, and tobacco (see also Cole, 1989; Plattner, 1984).

Granovetter (1985, 482-483) asserts that “the level of embeddedness of economic behavior is lower in non-market societies than claimed by substantivist and developmental theorists, and it has changed less with modernization” than they believe. He argues that this level is more substantial than formalists and economists will allow. Granovetter concludes that even at higher levels of business with differential power relations, economic transactions between firms are socially embedded at formal or informal levels. Thus, economic embeddedness is not unique to local territorial social relations but spans formal organizations of industrial markets as well (Fløysand, & Peter Sjøholt 2007). Neoclassical economists undersocialize economic action embedded in structures of social relations while reformist economists oversocialize it. The key, though, is to strike a balance between the two approaches. There is little doubt that embeddedness theory clearly delineates the network of relationships and interdependence between local, regional, and international stakeholders present in the agri-food system. Moreover, history illustrates that through endogenous means, rural Gambia can oftentimes overcome food shortage and hunger problems (Carney, 2008; Webb Jr. 1992).

As Webb Jr. (1992) also indicates, when food insecurity worsened in The Gambia in the 1940s, local communities took the initiative, despite public policy, in taking upland areas out of peanut production and converting them to producing early maturing grain (both millet and rice), thereby attaining food surpluses. This strategy eventually earned them international acclaim. Through local initiatives, labor is effectively allocated to maximize economic returns made possible through participatory or cooperative associations. An example of such a cooperative work group is called “Tesito Kafo” in The Gambia, meaning participatory activities at the local level designed to facilitate economic development, usually village-based, but could include sustenance of intervention to promote rural economic well being (Mackintosh, 1989; Perry, 2000; Webb Jr. 1992). However, it is important to note the misnomer that may be associated with community-based development regarding conscious decisions for self-governance. According to Schroeder (1999), the environmental protection movement subsumed community-based forest management efforts in The Gambia. Actors in rural communities in developing countries saw environmental movements as suspect to control their natural resource base and thus would not comply with any attempts made by international agencies or even the government to protect the environment. However,

constrained by the costs of managing The Gambia's declining forests, the Department of Forestry turned to international donors for financial assistance. The U.S. and Germany, under the auspices of the European Economic Committee (EEC), have helped sponsor the forest program on the condition of full community participation through contracts, which allows the participants a portion of revenue generated by forest products (ibid; see also, Getz et al., 1999). The rural communities took ownership of forest maintenance even though preservation of the forest was introduced from external sources. It does not really matter how they arrived at this agreement, as they are the main beneficiaries in halting deforestation, and thereby preserving the habitat, which is their own. The point to be made is that devolution of the government and the assumption of responsibility by rural communities do not always involve agency per se; sometimes those same forces that actors attempt to combat are instrumental in engendering the actions they end up taking. Granted, attempts along these lines are not always successful, as illustrated by the Burkina Faso women in the Shea butter industry. They attempted to re-embed traditional practices in the production of this crop, but their efforts were rejected by their international clients who coerced them to comply with standardization in the interest of quality. Thus the women had little autonomy in the production of this cash crop (Elias & Carney, 2005). It is important to note that The Gambia's food security does not depend entirely on farm produce; some of the food is collected from the forest/bush to supplement farm produce (Carney, 2001, Madge, 1995).

Food Collecting/Foraging in The Gambia

Madge's (1995: 109) case studies on collecting activities (gathering, hunting, and fishing) in The Gambia among the rural Jola households demonstrate the contribution of forest products to food security in these changing economic circumstances. Madge refers to this collection activity as "the adaptive performance" of West African life. Forest products are abundant in the Kombo area where Madge conducted her case studies. According to Madge, the villagers are well aware of their dependence on the forest for their subsistence; therefore, they manage the local resources, through efforts such as tree conservation, and they are selective in maintaining and promoting particular plant species. Furthermore, they make concerted efforts to particular species of animals by regulating the timing of hunting. The community began to experience economic strains "when the international market price of oil palm kernels fell in the late 1970s [and] the women responded to price fluctuations stating that they were no longer willing to perform the 'heavier' work of processing the oil to obtain only small remuneration" (Madge, 1992, cited in Madge 1995: 115).

Other factors that contribute to food security problems include population pressure (the growth rate in 2001 was high, peaking at 4.2 %) and changing climatic conditions that produce less rainfall for food production. Governmental policies figured prominently in perpetuating food security problems in The Gambia (Adams & Mortimore, 1997; FAO, 2001, Special Report, 2002; GOG, 2003). These policies virtually neglected rural development through ways such as failing to allocate money to building infrastructure, research, and appropriate technological development (aimed at agricultural intensification that concurrently maintains soil fertility and increases productivity through nutrient recycling and conservation methods in Nigeria). The policies instead focus on urban development (Adams and Mortimore, 1997; FAO, 2004). There appears to be a need to empower rural residents in order to change their predicament.

International donors such as IFAD aim to do just that by providing disadvantaged groups low interest loans to create employment opportunities in the rural areas (IFAD, 2007). However, as part of the structural adjustment programs, The Gambia was compelled to abolish the government-led cooperatives that supplied farmers with inputs and farm credits and that controlled marketing of the country's cash crops (FAO Report, 2001). This privatization of agriculture produces mixed results. However, these mixed results could be considered a "blessing in disguise," since from these mixed results emerge the local marketing strategies called Lumo(s) in The Gambia. Rather than endure perpetual suffering and deprivation, various communities in The Gambia have responded positively to structural changes with ingenious production and marketing strategies, the most prominent of which is known as the Lumo(s) (Perry, 2000).

In sum, since World War II, a large body of literature has focused analysis on rural development and food insecurity in Africa, drawing largely on classical economy, economic geography, and structuralism (Adams & Mortimore, 1997; Paarlberg, 1999; Scanlan, 2001). The fundamental tenets of these underscore the adverse effects of global economy on the developing countries, effects suffered, for the most part, by single cash crop producers (Calderón et al., 2007; Carney, 2008; Staatz et al. 1990). Recently, however, there appears to be a paradigm change (Van der Ploeg & Renting, 2004), as an alternative agri-food system began to emerge with a relative dominance or strong presence in the economy (see also, Goodman, 2004; MacCarthy, 2005; Potter & Burney, 2002; Winter, 2006).

These new developments are the result of rural communities' responses to global economic restructuring that spurred actor-networks to forge alliances to re-embed economic activities in social relations with local communities. Ray (2006) refers to actor-networks as

voluntary associations comprised primarily of actors involved, for instance, in cooperatives and mutual entities in both market and non-market settings. Their primary focus is social solidarity, democratic participation, and civic purpose, expressed in terms of local expectations, requirements, and resources necessary for economic growth. Consequently, these efforts entail agency that networks rural actors with vested interests, a networking that then results in the drive for socio-economic prosperity at the local level. According to Ray, such principles of solidarity are also embodied in decision-making processes actors use to either not trade to make a profit or use profits for (local) social purposes (ibid; see also Long, 2008; Murdoch, 2006). This has been the case in both Western and developing countries. In particular, this process involves divestiture of the central government from the economic activities of rural communities by allowing them self-governance and local resource management (Beck, 1992; Cloke, 2006; Goodwin, 2006; Knutsen, 2003; Marsden, 2006; Murdock, 2006; Ray, 2006; Winter, 2006).

Furthermore, network theories explain how rural Gambia responds to external forces that make the country food insecure, causing them to return to village-based initiatives that promote subsistence agriculture and sustainable resource management through cooperative groups (Schroeder, 1999). For example, employing a neo-endogenous approach (Ray, 2006) illuminates the ways in which community forestry initiated by international donors concerned with environmental degradation in the Gambia has helped the communities in the Western division to diversify their income sources and thus reduce food insecurity in the area as compared to the rest of the country. Furthermore, the success of the Wassu Lumo also depended on funding from the local government, which built for the community a permanent infrastructure for business. Consequently, the solutions to The Gambia's food insecurity problems are as multidimensional ranging from national, international, and NGO intervention as well as local efforts in developing weekly rural markets/Lumos for the distribution locally grown food which eliminates or reduces the requirement to travel long distances to purchase food.

Weekly Local Markets (Lumos)

This weekly market is not unique to The Gambia. The Lumo is similar to the “swap meets” found in the western USA (e.g., Los Angeles, which features cheap durable goods but smaller in scale than the Lumo). An important distinction between Lumo(s) and weekly markets in the West involves differences in the clientele and in the functions the Lumo(s) serve. In Africa, Lumo(s) are used as a survival strategy that makes food easily accessible to

the poor, while in the West consumers use weekly markets as political statements in defense of the local producers, environmental soundness, or quality options in terms of organic or other alternative niches (see e.g., Wright & Middendorf, 2008).

The Lumo is an elaborate local market system strategically located in particular villages. This trading system is practiced in West Africa, from The Gambia to Niger, and maybe beyond (Emizet, 1998; Perry, 2000; see also current literature on alternative food systems in the EU and North America involving embeddedness, defensive localism, and short food miles, e.g. Barham, 2003; Cloke, 2006; FlØysand, & Peter Sjøholt 2007; Friedberg, 2003; Goodman, 2003; Goodwin, 2006; Hinrichs, 2003; Marsden, 2006; Murdock, 2006; Ray, 2006; Winter, 2006). On specific days of the week (see Table 4-1) producers, consumers, local traders, and entrepreneurs from distant cities leave other business transactions to gather in these selected villages to trade in the Lumo(s). Lumo can be characterized as an unusually huge fair that attracts assortments of goods including locally produced food, livestock, draught animals for traction, and old farm machinery left over from the subsidized inputs provided by the government led cooperatives. City merchants also bring in imported commodities including food items, textiles, durable goods, cheap clothing, and electronics such as transistor radios, video cameras, disposable cameras, batteries, cell phones made in Asia, and many more commodities (Perry, 2000). Price bargaining for merchandise takes place at a dizzying frenzy. On listening to the interview tapes, one begins to appreciate the pace of transactions as customers sought to attract the attention of the businessmen and women with a great deal of pushing and shoving going on all around.

Since The Gambia has very little industry, it pursues free, though not fair, trading practices. This encourages large-scale overnight trips across the border to smuggle goods between The Gambia and Senegal. Thus on Lumo days, households in the villages do not cook. Much of the food consumed on that day is cooked right at the market site. Slaughterhouses are constructed for this purpose. Meat casserole dishes are cooked with oily spiced rice. Grill meat and fruit stands, as well as various kinds of snacks, are also sold at this uncharacteristically big fair. All of this is accompanied by local music and friendly chatter as long lost friends and acquaintances pay each other a visit unless they are trading their goods. Others come just for the entertainment, which has become an integral part of the local culture. Or, rather, the entertainment has always been an integral part, and this cultural practice has simply been embedded in the conduct of the market.

Notable as well are the social relations of business that are sometimes contentious as local merchants take advantage of farmers who are often in precarious financial situations.

For example, one farmer complained, “the rich buy the stuff of poor and the poor just sink further and further into the ground” (Perry, 2000:480). A farmer may pawn his valuable farm machinery or sell it to the local trader for much less than what it is worth. When his finances improve and he tries to buy back the same equipment, the local trader/elite charges triple the amount for which he had obtained it from the farmer. Local traders and village elite sell pawned farm machinery at Lumo(s) and make profit from these sales. In their acts of resentment, some of the farmers in turn collude against the business elite during their preparation for the Lumo. Such activities include consensus among them in keeping valued merchandize from reaching the trader while farmers collectively acquire the goods and resell them on the next Lumo day.

Business at the Lumo(s) is conducted at a very rapid pace since all the transactions must be completed by night fall when travelers return to their homes in distant places leaving a great deal of mess behind for the host villages to clean up. Lumo(s) are thus systems of economic and cultural exchange, drawing in producers, petty traders, merchants, and consumers from different parts of the country into a local space. The households consume most of the cereal crop they produce, although merchants bring in truckloads of food items from the cities. Traditionally, households sell small portions of their produce to local traders off-season when they need money to purchase miscellaneous items such as soap and laundry detergents for the household. However, this trend is changing in the Gambia where a greater proportion of the cereal produced by the household is sold to purchase other necessities, leaving households in a state of food insecurity. Some producers cross the border to sell their millet produce in the neighboring Senegal where prices are higher. Thus from May to mid-October, 2002, millet prices jumped by 245% and for the first time exceeded the price of rice (FAO/WFP11, 2002: 1). As a result, over 50% of the arable land (90,000 ha) under crop production is allocated to coarse grains (FAO, 2001: 4). Therefore, in response to constraints wrought by national policies and structural adjustment programs, ordinary people have used the power of agency (that may or may not involve conscious resistance) to re-embed economic activities in their local regions to improve food security. The current study shows that Lumo(s) have a significant positive impact on food security (although it has not eradicated food insecurity) in rural communities in The Gambia, and it has inadvertently turned the countryside into a sort of consumption arena. People with meager incomes spent

¹¹ WFP stands for World Food Program.

part of their earnings on imported goods such as radios and cell phones instead of stocking up on grain or saving the money as social security against hunger in the lean months of the year, the so called hungry season. These issues notwithstanding, other attempts have been made by various players to resolve The Gambia's food security problems. The next section explores measures taken to determine the extent of, trends in agricultural productivity and means of curbing food insecurity at various levels including national, regional, household and individual.

Figure 2-1 Looking at Wassu Lumo from one angle 2008.



Figure 2-2 Basse Santo Su Lumo, 2008



This Lumo is located at Upper River Division and it illustrates the “quiet” non-Lumo days in the back alleys of the village when the people just “hang out” and women sell fruits and baked goods in the streets.

CHAPTER 3 - Objectives and Research Methods

Grassroots efforts, as well as national and international intervention, are attempts to curb food insecurity in The Gambia, even as chronic hunger persists. The Gambia's marketing strategies such as the Lumo(s), the various irrigation projects in The Gambia, self-empowerment groups such as women and traditional cooperative groups, and international donor sponsorship of rural development programs are all indications that at least for now, temporary solutions are being sought. If The Gambia were to develop appropriate technologies (Shrum & Shenhav 1995); adapt existing sustainable Western technologies to their growing conditions as the Jordan Valley farmers have adapted the green revolution technologies in their country, then rural population can improve food self-sufficiency (Elmusa, 1994). In addition, could farmers' opt for labor-intensive production systems, utilize animal traction and allocate greater proportion of arable land to coarse grain production in order to increase crop output? If the government would invest in social capital including rural population's access to education, effective health care facilities and transportation infrastructure, would this reduce individual food insecurity manifested in stunting and wasting of children under age five? Is it imperative for the government to devolve significant powers and provide funds to rural territories to manage their own resources and follow their own development path such as direct marketing characterized by Lumo(s)/weekly rural markets? Apparently, only in this way could the country be self-sufficient in food rather than import huge quantities of these commodities annually (see FAO/WFP Special Report 2002 on Gambia). No other study has systematically explored neo-endogenous factors in association with The Gambia's food insecurity issues and rural development.

In sum, the research questions for which the present study attempted to answer were: how does the neo-endogenous approach illuminate our understanding of 1) the degree of food insecurity in The Gambia at national, regional, household, and individual levels? 2) The impact of weekly rural markets/Lumo(s)? 3), trends in the domestic production strategies and output? And 4), to what extent have extra-local intervention efforts on regional, household, and individual food security in The Gambia paid off? It was hoped that the utility of the concurrently triangulation (mixed) method to explore the extent and nature of food insecurity in The Gambia, and endogenous, bottom-up combined with extra-local, top-down intervention efforts aimed at alleviating it, would shed more light on this problem and its solutions. Finally, what are the ways in which physical expenditure and food procurement have been used to redistribute food to the rural areas in order to mitigate the severity of food insecurity?

The above research questions concerning the following: 1) proportion of the rural population affected 2) the impact of weekly rural markets/Lumos (even if modest) 3) domestic production strategies and output and 4) extra-local intervention efforts on regional, household, and individual food security in The Gambia, were addressed using a neo-endogenous theoretical framework which is compatible with the concurrent triangulation (mixed) research method. Primary data was collected through structured interviews and direct observation of rural weekly market activities and of the food security benefits the Lumo generates in a particular study village. The degree of food insecurity in this village, with a population estimated at 1,316 (2003 national census) to 1,380 (geonamesAZ.org, 2009), was also explored. The interview questions were formulated, in part, to replicate the Staatz et al. (1990) study of food security in Mali, West Africa, a region similar to The Gambia in ethnic background, shares cultural meanings, demographics, and agricultural systems (see also Carney, 1996). Secondary datasets were obtained from The Gambia's Agricultural Statistics and Resources Economics Unit (ASRE), Department of Planning (DOP), Department of State for Agriculture (DOSA), and the Department of Central Statistics. Measures of The Gambian children's access to food and their nutrition situation, particularly the degree of malnutrition that afflicts age-specific children, were also obtained. Appendix B contains the report from the National Sample Survey, Banjul, The Gambia, with full details regarding sample, sampling frame, and procedures used to analyze the data. The majority of the tables in this study are adopted from this report. Descriptive analysis was undertaken on: food production, including that of coarse grains, rice, and vegetables; consumption and expenditure patterns; and income. Additionally, anthropometric (the

prevalence of wasting and stunting of children within the household) measures were analyzed to determine food security (Staatz et al., 1990).

The data reveal key indicators of nutritional status including 1) evidence of malnutrition and 2) details regarding social infrastructure, such as health, education, and economy—for example: household composition and demographics (as measures of available labor and age dependency ratio); ownership of animal traction and other farm inputs (see Appendix B); employment status and other sources of cash-income; coarse grain production per household in a particular local government area/region; sales of food crop per household by LGA¹²/region; sales of cash crop per household; number of farm household workers; and sources of household income. Local Government Areas (LGAs) were ranked according to their household consumption security.

In addition, archival aggregate national data involving reports from the IMF/World Bank were analyzed mainly for factual information such as demographics, agricultural production records, fiscal expenditure, and records on import and export commodities. Creswell's (2003) research design guided the methodology employed in this study, particularly the qualitative methods to study the weekly market mechanisms.

Food insecurity in The Gambia has not abated according to the IMF/World Bank Poverty Reduction and Growth Facility (PRGF) and the HIPC Initiative report (staff report 2007). According to this report, over 60% of The Gambian population still lives below the poverty line even though the population growth rate has declined from 4.2% over the period 1983–1993, to 2.8% in 2003 (GOG, 2003). However, the IMF (2007) report predictably (based on their main focus) provides information on only aggregated economic and financial issues facing The Gambia. This information is very useful as it highlights the economic policy strategies being sought after and the economic performance of the country. This information supplements the regional/Local government area and household specific economic issues as raw data analysis reveals. The road infrastructure built by the European Union (EU) and other donors does facilitate access to rural weekly markets and other trading sectors. This access is pivotal in attracting a large number of participants to Wassu's Lumo, which is the focus of inquiry into the bottom-up grassroots movement in response to food insecurity. The report of the qualitative research was further analyzed in conjunction with the analysis of secondary datasets.

¹² A Local Government Area is region or division within The Gambia. Refer to Appendix B for detailed information on this kind of zoning procedures.

Case Study Design and Method

In addition to the dataset analysis described above, this study used standardized and structured, face-to-face interview methods with key informants and market participants, as well as direct observation of participant behavior a day before the Lumo, the day of the Lumo, and the day after the Lumo.

Binding the Study to a Social Setting

The effects of the endogenous approach on rural development and food security in The Gambia were examined by focusing on a community along the North Central region. This location is strategically selected as being somewhat more representative of other Lumo(s) in the country than the ones referred to in Carney's (1993) study, which represented horticultural communities. According to informal correspondence with Gambians living overseas who regularly visit the country, the weekly market of my research focus is large-scale owing to accessibility provided by the new road infrastructure built by international donors. Wassu Lumo thus, attracts a network of actors from all walks of life including producers, consumers and traders from the surrounding villages and the port cities as well as neighboring countries. Some international firms also have a strong presence at the Lumo.

Actors in the Study

Though the market existed before the recent improvements, good roads and corresponding transportation attracts an assortment of actors including merchants, petty traders, and itinerant traders; other people looking for entertainment; and consumers, particularly just before a major holiday. Proximity to Senegal also draws in participants from that country. Initially, my main contact in The Gambia sent a cover letter (see Appendix A) to the main village authority, known as Alkali/Alkalo or chief, informing him about the study and asking permission for access to participants and the market site. This village chief helped identify, ahead of the actual observation, key village informants such as organizers of the weekly market, including any local heads of "Kafos" (cooperative leaders) who may have been actively involved in the establishment as well as the operation of the Lumo. Everyone in the village, including men, women, children, and the elderly, who partake in the Lumo activities was observed. This region is ethnically diverse, comprising of Mandinka (the dominant tribe of The Gambia), Fula, Wollof, Serere, and Mansuanko ethnic groups. Unlike in Western nations such as the U.S. where the family structure is nuclear, consisting of the smallest group of individuals that legitimately can be called family, including a mother,

father and their children, family structure in The Gambia is more extended (Bledsoe et al., 1998). Here, it consists of two or more adult generations of the same family such as older sons and their own families who live in the same compound (see Appendix B), work together, and share economic resources. In this family setting, grandparents, grandchildren, aunts, and uncles all live together in one household. However, a married woman moves to live with their husband and in-laws in a patrilocal residence where she obtains land through the spouse/in-laws or friendships she will come to establish in his village. It is this system then which relegates women to a lower social status, overcome only by having a surviving son in her marriage (whose wife can care for her upon aging) (Macionis, 2005; Shepard, 2005). Thus, household structure determines the well being of some members vis-à-vis others. Data collection was possible through networking with key contacts in The Gambia.

Processes

I recruited two research assistants in the study village who are fluent in the native languages and did not need translators. They are well trained and experienced in research methods and are deployed permanently in this village to collect survey data for the government as well as consultants needing to collect data for international donors. The village is located about 190 miles from the capital. The research assistants were asked to report to the headquarters for briefing on the study and were informed of IRB protocol, protocol they read before being sent back to the study village for a duration of four days to collect the interview data. Upon arrival at the case study site a couple of days before the Lumo, the research assistants contacted the village authority, introduced themselves as the ones assigned to conduct the study, briefed the Alkali about the purpose of the study, and sought his cooperation as indicated by the letter sent in advance. After establishing rapport with the village authority about this study, they scheduled an interview with him. Other informants were also contacted to set up interview schedules. The research assistants proceeded to pay particular attention to the preparation of the weekly market and its culmination into the full swing of events at the market site in the village. They stayed an extra day to observe its aftermath the following day. The research assistants have provided summary descriptions of activities that normally precede the market exchanges.

Ethical Considerations

Prior to conducting field interviews, the key informants read or were read to (depending on their educational level) in their language the informed consent form, which

they then signed or thumb printed, indicating their willingness to participate in the study. Additionally, they were promised anonymity and confidentiality, and they were informed that they could opt out of the interview at any time during the interview session with impunity. No promise of compensation was made, given the limited resources available for this study. Thus, participation was strictly voluntary. The research assistants followed the line of questioning as closely as possible and were thorough since they were not expected to be able to follow up with respondents for further clarification once the market dispersed. The researcher is familiar with the culture of the study village had some idea as to the level of affluence or lack thereof, the villagers can claim.

The Researcher's Role

The researcher is a naturalized U.S. citizen who was born and raised in The Gambia and has firsthand knowledge about socio-cultural issues, agricultural practices, and food insecurity facing this country. My hometown is about 20 miles from the case study area. Upon graduation from high school, I was employed and trained as an enumerator for a USAID-sponsored project that sent me trekking across the country conducting a baseline household survey in the early 1980s. At this time Lumo(s) were unheard of in The Gambia, and thus, what I knew of Lumo(s) was primarily derived from the literature (Carney, 1993; Perry, 2000). My ongoing communications with family and friends also indicate the central role Lumo(s) play in rural life and as an event eagerly looked forward to by the participants. This captured my interest in the weekly rural market exchanges. However, since I was not present during the collection of primary data, my own bias was limited and this distance allowed me to transcribe the audiotapes more objectively than I would have done had I collected the data myself. Nonetheless, the research assistants were given specific instructions regarding the avoidance of specific biases; further, they were instructed not to compromise the privacy of respondents. The research proposal was presented to the Institutional Review Board (IRB) along with a copy of the informed consent form for using human subjects in this study (a copy of this is attached in appendix A).

At worst, the harm that could be expected from this study was embarrassment following questions and responses about poverty and hunger. Only minor disruptions were anticipated as the research assistants approached participants during the market transactions, but to avoid even minor disruptions caused by distractions and to secure the focus of the interviewers, the interview session conducted at the Lumo site was kept fairly brief, although my intention here was not to emphasize the brevity of the interviews. Longer interview

sessions lasting roughly half an hour were conducted earlier that involved key informants. It was hoped that the gatekeepers/key informants would appreciate and be motivated by knowing they were contributing to a larger cause; that is, it was hoped that if the key informants knew that people in the far-flung reaches internationally were interested in understanding their plight so as to inform policy that alleviated hunger, the key informants could be proud to know they were a part of this process through their securing and providing of relevant information from those whose lives were most affected by food insecurity.

Data Collection Strategies and the Research Instrument

Structured interviews were conducted with key informants according to the schedules set in advance, beginning with the village head. Information on village size and ethnic composition was obtained at this point in time. Then the research assistants proceeded to interview other key informants in the village regarding 1) the events that led to the establishment of the market in their village, 2) who the key decision-makers were, and 3) the obstacles encountered and overcome. They were asked questions regarding the economic gains derived from the weekly market activities and the extent to which this has impacted food security for the village and surrounding villages (see Appendix B for the three-part interview instrument).

Key informants were also asked to list specific individuals or households—and the number of households—in the village that may be food insecure in terms of consumption security. Consumption security is measured by presence of nutrition-rich meals such as meat or fish diets, how often a nutrient-poor gruel/porridge¹³ is served as the main meal in a household, what types of snacks are often used between meals, etc. A maximum of ten key informants were interviewed prior to the Lumo day with each interview lasting about half an hour. This form of market exchange is held all day every Monday from sunrise to sunset. After key informants were interviewed, the research assistants go on to observe preparation activities on the day before the Lumo, as the host villagers set up their stalls.

On Monday, the actual Lumo day, a brief structured interview was conducted with the rest of the Lumo participants about their perception of the advantage of the weekly market over the conventional market exchanges. Questions regarding village residency were asked to glean an estimate of the number of participants who travel to the Lumo and how far (short-

¹³ Nutrient-poor gruel/porridge is usually hot breakfast cereal devoid of the complementary sugar and milk, or any other accompaniments. Gruel rich breakfast cereals are sometimes cooked with ground raw peanuts known in Senegambia as “chewra gerrte”.

food miles). The number of respondents at the Lumo was 30, all of whom were interviewed on a single day at the Lumo site. The number could not exceed this on a given day. No further interview sessions were held following the two interview protocols described above. The research assistants were adequately equipped to collect the data needed to complete this study.

Input Supplies

As culturally expected, the research assistants took cola nut to the village head as a ceremonial introduction of the project. They carried two pocket-sized tape recorders and an ample supply of cassette tapes, a notebook, pencils, and erasers. It was not feasible for the research assistants to videotape the market transactions in progress. The research assistants spent one more day at the Lumo site observing the aftermath of the market transactions when the village life returned to normal routines after cleaning up the mess from the previous day's activities. At the end of the day they checked all the information for the completion of the data collection, checking the tapes for any ambiguous statements from key informants that may have required follow-up. After reviewing their information, they left for Banjul and arranged to have data sent to me in the U.S. I transcribed the tapes and noted the accompanying comments given by the research assistants.

Secondary data is obtained from the National Agricultural Sample Survey (NASS) 2005/2006, Central Statistics Department. Descriptive analysis of the data is used to replicate, as much as possible, the Staatz et al. (1990) findings on food security in Mali, West Africa (which shares a socio-cultural and geographical landscape with the Gambia), by comparing food insecurity incidents between Local Government Area (LGA)/regions in The Gambia and by recording the households' and the individuals' food insecurity as means of identifying isolated cases or marginalized groups and individuals who are vulnerable to hunger. A summary of distribution of major income sources by local government area/region is also provided. Income source categories include sale of food crops, cash crops, livestock and livestock products, salary/wages from civil services, and hunting/fishing. Table 4-5 and Table 4-6 display the results of these key indicators.

Child nutritional status is measured according to the standard distribution of height and weight for children under age five. Standard distribution of height and weight for children under age five is often used as a measure of a population's undernourishment level at the individual level of measurement. In following UNICEF's recommendation, the standard or reference population used here is that provided by the National Child Health

Survey (NCHS)/WHO. Each of the three nutritional status indicators is expressed in standard deviation units (z-scores) from the mean of this reference population. The first is age for weight, as a measure of both acute and chronic malnutrition. Children whose age for weight is more than three standard deviations below the median of the reference population are classified as severely underweight. Second, height for age is a measure of linear growth. Children whose height for age is more than three standard deviations below the median are classified as severely stunted, a reflection of chronic malnutrition as a result of inadequate nutritional intake over an extended period of time. This may be due to repeated or chronic illness such as malarial infection. Finally, children who fall more than three standard deviations below the median of a reference population are classified as severely wasted. Wasting is usually the result of a recent nutritional deficiency due to hunger or illness (UNICEF 2004). Table 4-4 provides a summary of these anthropometric measures by ranking regions according to their incidence of child malnutrition; this ranking illustrates the level of individual food insecurity by region. Additionally, the results of the qualitative research component underscore the level of food insecurity in a particular village and serve as useful means of cross-referencing the results of secondary data. The anthropometric measures indirectly gauge the population's child nutritional status. Appendix B contains tables that evidence socioeconomic factors underlying food insecurity, factors that include the amount of food produced by the household in specific Local Government Areas or regions in the country and ownership of production technologies, among other inputs. The interview data was organized in a way that reveals response patterns and gleans significant themes.

Organizing Interview Data

Upon receipt of audiotapes and field notes, I transcribed and translated (I speak the languages in which the interviews are conducted) the interview data and proceeded to organize the responses by assigning case numbers to each of the participants. Each participant's full response is typed. After reading through all of the responses, I developed a scheme for organizing specific themes into categories. Data from each participant is placed in the matching category. The categories are mutually exclusive and exhaustive. Patterns have been discerned from these as the results below indicate. A copy of the results is sent to the respondents through the research assistants to verify the accuracy of the findings as well as the accuracy of my interpretations and conclusions drawn from them. However, due to funding limitations, their feedback about the impact of weekly markets on food security

cannot be obtained for this study. Nonetheless, the transcripts provided by the respondents can be referred to if questions about accuracy arise. This qualitative data captures the impact of grassroots or bottom-up response to food insecurity through vivid accounts provided below by Wassu village residents, key informants and commuting consumers and traders to this Lumo. This is followed by analysis of the quantitative data obtained from Gambia government, which explores food production and distribution patterns, and the extent to which production meets national, regional, household, and individual level requirements. Finally documents from IMF and The Gambia government were analyzed to cross-reference the results from both the qualitative and quantitative data.

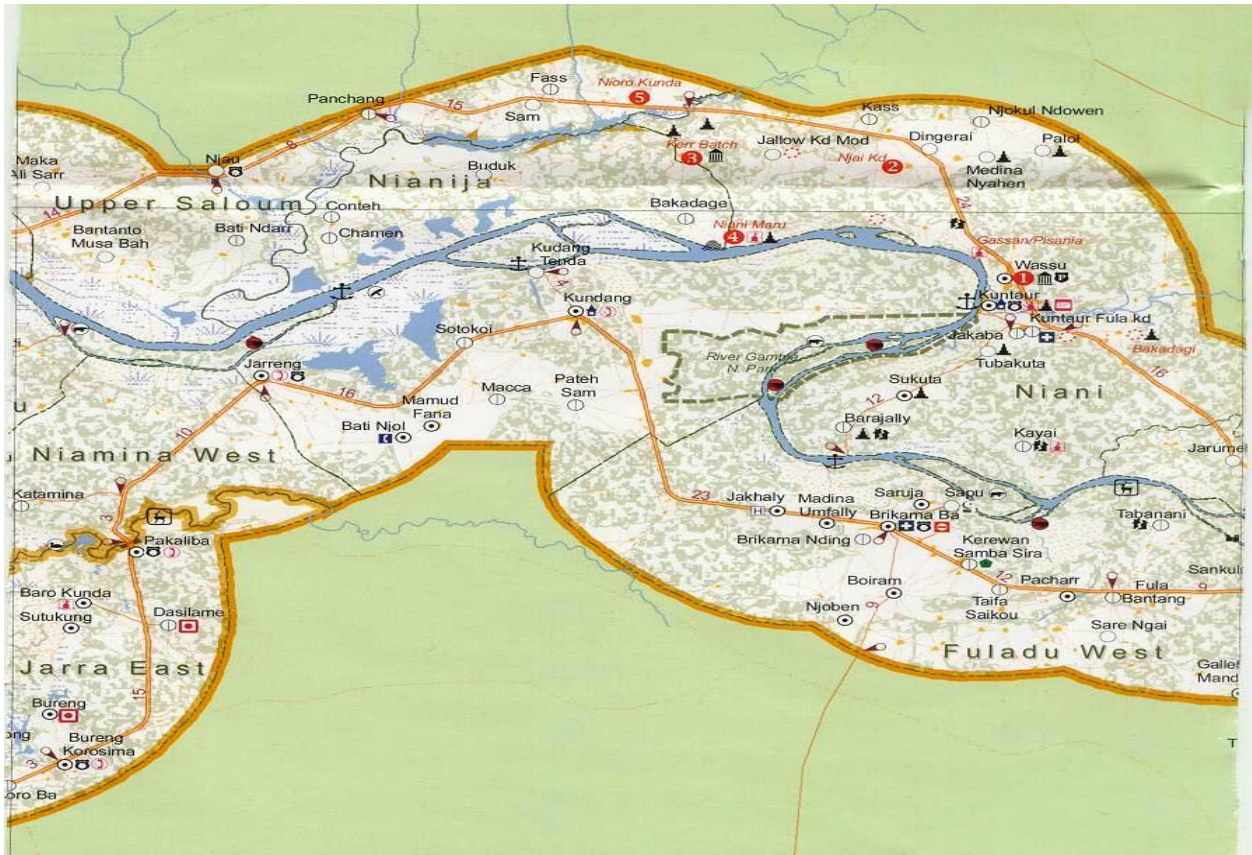
In sum, the neo-endogenous approach, coupled with the research model used by Staatz et al. (1990) have been the bases for the methods used in the present study. The qualitative data provides evidence of the degree to which food is being endogenously reembedded in the Lumo(s) and how village residents perceive the Lumo's contribution to their food security. As well, this study sought to examine intervention program effects from extralocal actors such as the government, international donors and NGOs, to determine their impact in alleviating rural hunger and the future outlook for food security in the country. Figure 3 indicates the location of Wassu on the map of The Gambia.

The previous chapter lays out the rationale for the data analysis procedures. This chapter discusses that analysis and the results. (There are two fundamental principles that underlie the current study: One is Ray's (2006) neo-endogenous approach, which seeks to explain that rural governance and the socioeconomic viability of rural communities hinge largely not only on local networks of actors and resources, but also on extra-local input in the form of interventions at regional, national, international, and NGO levels. The second aim of this study is to attempt to replicate Staatz et al.'s (1990) study on food security in Mali, West Africa, by addressing key issues of food security that the authors had raised.) A direct replication of such a study is not attainable in the present study since the quantitative secondary data accessible to the researcher is mostly descriptive and does not allow analysis that can be based on an association between key indicators.

The goal of this study is to analyze food insecurity problems in rural Gambia within a broad framework that encompasses social network perspectives, including the neo-endogenous approach whose fundamental tenets assume that the principle of embeddedness permeates a society's consciousness in the context of global economic restructuring. For example, Ray argues, "It is an alternative to the practice of central authorities of designing interventions which deal with sectors of social and economic life in isolation from each other

and/or which assume that socio-economic problems can be solved by standard measures, regardless of location or culture” (2006: 278). The ideal method for Ray involves ethnographic studies that are longitudinal, to reveal the effects of policy intervention as well as socioeconomic activities that are embedded in local practices and social obligations. Ray rejects the exclusive use of nomothetic scientific “one size fits all” methodology to evaluate intervention program effectiveness. Such quantitative methods cannot inform us fully about the effects of neo-endogenous development that is culturally, socially, and politically embedded in the specific local contexts and unfolds over a long duration. Thus, analysis must be focused on development as a discourse that does not flow downward from top extra-local actors. This is the basis for selecting the concurrent triangulation (mixed) methodology in the current study that reflects the complexity of The Gambia’s unique historic rural development (in contrast to the European experience).

Figure 3-1 Location of Wassu indicated as number 1 on the map of The Gambia River. It shows Wassu as one of the villages that surround Kuntaur Wharf Town, in the North Bank.



Source: <http://www.accessgambia.com/saloum-fuladu-west.html>

CHAPTER 4 - Data Analysis and Results

Informed by the social embeddedness approach, qualitative data analysis is conducted to uncover the symbolic expression of the Lumo participants as countervailing factors of global economic uncertainties. This actor-oriented approach (see e.g., Bonanno & Constance, 2008; Long, 2008; Knutsen, 2003; Ray, 2006) underscores the significance of learning about the diversity and complexity of positions from which Lumo participants make sense of events around them and why they choose particular courses of action to tackle problems that confront them. These may include such decisions as the establishment of Lumo(s)/weekly rural markets and social practices they deem as central to their survival.

I have employed the concurrent triangulation method involving primary data collected through structured interviews and direct observation of rural weekly market activities and the food security benefits the Lumo generates in a particular study village. In addition, secondary data is analyzed to describe the agricultural production, distribution, and consumption trends in The Gambia and the ways in which the agricultural system generally impacts food security at regional and national levels. In the process of translation, I have made concerted efforts to maintain the original narrative (to reflect putatively, the simplicity) of the respondents in the qualitative portion of this analysis. Analysis is done in the order in which the data was collected. That is, in Part I of the interview protocol, ten key informants were interviewed for duration of about one half hour per interview before the weekly market/Lumo activities to learn in-depth: 1) what the Lumo is all about and 2) the organizers' decisions or rationale behind its establishment. This is followed by Part II, which consists of short interview sessions in which thirty more respondents were interviewed on the actual day of the Lumo that included non-village residents, among them producers, consumers, and itinerant traders who typically commute to the Lumo on a weekly basis. Thus, the total number of interviews is 40. Nearly all the questions asked during the interviews are a reflection of the Staatz et al. findings. Issues raised in their study are pertinent to the social embeddedness theory as well. In addition, the descriptive data corroborates food security issues raised by Carney (1996) and Staatz et al. (1990). Part III, which involves participant observation, is summarized below. All these efforts are geared toward understanding the perceptions of the prevalence of food insecurity in this rural community, and the means by which residents seek to tackle the insecurity and deprivation. Finally, the quantitative data is

analyzed using tables obtained from pertinent governmental departments in The Gambia that include Statistics, Agriculture, and Planning. This portion of the data analysis focuses on food production, distribution, and consumption patterns in the Gambia including production and processing technologies, as well as consumption at national, regional/divisional, household, and individual levels.

Organization of the Interview Data

Analysis is done in the same order in which the interviews were conducted. Below is a listing of the questions asked during the interviews with the corresponding responses to each question. I have paraphrased the transcripts for the most part, though on occasion, I have quoted significant statements by selected respondents whose identities are concealed. This is followed by my interpretation and analysis of the results, which I summarize at the end of the responses to a particular question.

Part I: Key Informant Questionnaire and Responses

A. Demographics of Informants

Ethnicity: All of the 10 key informants in this group of interviews are of the Mandinka tribe (as this area is inhabited predominantly by Mandinkas coexisting with other tribes in pluralistic relationships).

There were periods in the country's history when ethnic tensions erupted between different tribes; however, there has been a trend towards consensus building among various tribes to tackle collectively the problem of marginalization and hunger (see e.g., IFAD, 2007).

Age in years: The informants range in age from 34 to 80 years old, and the average age is 55.

Social demographic relating to age is important in any scientific research, but age dependency ratio is all the more meaningful in this study as it highlights a household division of labor that values the input of the elderly rather than regarding them as a burden of the rest of the family. As in any traditional family arrangement, elders are revered and hold the power to allocate land as units of household consumption as well as parcels of land for individual cash crop

productions (see e.g., Bledsoe et al., 1998; Mackintosh, 1995). Thus, retired farmers make important production decisions about modes and relations of productions that are seldom questioned by the younger members of the household and mediate any disputes that may arise among them.

Gender: All 10 respondents in this segment of the interview are male; in one exception, the head of the household had his wife answer most of the questions during the interview.

It is normative in The Gambia's patriarchal system for males to assume statuses of household heads that allow them to have some control of the rest of household members (to some extent, patriarchal control also exists in the West including the U.S.). Women typically become household heads only in the absence of husbands or adult sons.

This typifies the class position of women in West Africa and the patrilineal system of inheritance that favors men over women and why the latter's status is elevated by having sons within the household, rather than daughters (sons serve as insurance against old age for both their mothers and fathers). For example, adult sons are assets, able to provide more economic security for the aging parents than daughters can, unless the latter is able to attain formal education, secure a job, and share their income with their parents. This, undoubtedly, is the reason farmers are now aspiring to educate their daughters to the point where they sell their precious grain stock to pay for their education, leaving them with little stock for the hungry season.

Position in the household: Nine of the respondents interviewed are household heads; the tenth respondent had his brother answer the interview questions. The older brother, the head of the household, sometimes assigned this brother household tasks.

Position in the household is important in traditional settings because those who have the power to allocate household resources oftentimes command respect, financial gains, and are freed from household labor. They, however, serve the job of caregivers for small children, transmitting to them valuable lessons about the

culture and representing the family in community decision-making processes while young adults engage in food production and age-related endeavors.

Occupation: All respondents indicate farming or retired farming as their main occupation. The 75 and 80-year old had retired but delegate work obligations of the household to the younger members.

Although it is expected that most household members would engage in agricultural production, I wanted to know whether or not they are involved with pluriactivity, particularly as they relate to the Lumo which represents a variety of occupations as the data reveal below.

B. Age Dependency Ratio or Allocation of Household Labor Measures

Number of people in the household? The household size ranges from 5 to 35 people (the reader must keep in mind the household structure which in most households, is extended, including two or more generations of adults with grandparents, grandchildren, aunts, and uncles). The average household size is 17.8.

In The Gambia, large agrarian households are found to be more at risk for extreme poverty than smaller households; especially those specialized exclusively on peanut production (GOG, 1998, 2007).

It not uncommon for modern developers (Browne, 1995) to blame food poverty of developing nations on population growth. However, as George (1995) argues, this is only an attempt to control the sexuality of the people they regard as non-progressive. Prior to the industrial revolution, rural Western communities also had large families. In fact, in rural Midwest, one can point to adults who came from families consisting of 18 to 21 siblings born in the same nuclear family. This was only about 50 years ago in the U.S. This number witnessed drastic decline especially as a result of the postwar agricultural technological development, which, incidentally, was embedded in Land Grant academic institutions working directly with farmers and their families. This preceded the move to privatize and patent such technologies. The point to be made is that rural poverty in The Gambia should not be projected to natural increase in the population (the influx of refugees from neighboring countries experiencing civil strife contributes to The Gambia's population growth); we must also consider lack

of effective redistribution of the country's wealth and natural resources. In following the neo-endogenous approach, extra-local actors such as NGOs can ensure such redistribution through their emphatic voices by demanding transparency and accountability at national and international levels.

Number of children in the household under the age of 5? The number ranges from 1 to 10 per household. The average household has 3.8 children under the age of 5.

This information is relevant as an anthropometric measure of individual food insecurity and child morbidity. That is, children under the age of five are at risk for stunting and wasting in part, because of uninformed feeding options provided by uneducated caregivers and vulnerability to illness that can hamper productivity of their parents.

Number of children in the household between age 5 and 18? The number ranges from 0 to 8. The average household has 3.1 children between ages 5 to 18. The mode is 4 households having children between 5 and 18 years old.

This information taps age-dependency ratio because in this community, farmers are increasingly investing in their children's education. This means that children under 18 years old make limited contribution to household labor, and in essence, become a liability until they complete their education and are able to contribute to household income, usually through migration remittances.

Number of adults in the household over 55 years of age? The number ranges from 0 and 3 per household. On average, households had 1 or 2 members 55 years of age or older. Four households have one member who is 55 or older while 4 households have members 55 years of age or older. One household does not have any member who is 55 years or older.

This indicates that almost every household included in the study has an adult over the age of 55 years old who allocate land, and may or may not contribute directly to food production (see e.g., Mackintosh, 1995).

Number of family members employed in the cities? The number of family members per household that is employed in the cities ranged between 0 and 6 members. Four households have at least 1 member employed in a city, 3

households have no member employed in a city, one household has 6 members employed in cities, and finally, two households have 2 members employed in cities.

This question was meant to tap employment remittances that flow from employed members in cities (rural employment is very scarce; most farms are smallholder family units who provide their own labor with additional help with village cooperative bodies that are for the most part, none profit entities).

What are the family's other sources of income? One respondent who has 6 members employed in the cities indicate having sources of income other than farming. The rest of the respondents indicate no source of income other than farming. This is unexpected because typically family members employed in cities send home remittances unless they are underemployed and do not earn enough money to cover their own expenses. Two informants indicate having daughters who are married and live in cities but they are housewives and did not earn income to be able to send money home. The Lumo's success may also offer more incentives for young adults to stay in the village rather than seek jobs in cities and risk living in urban slums.

All the above questions tap the extent of entitlement available to households and individuals within Wassu village. The findings contradict the neoclassical utilitarian prescriptions that households make atomistic decisions in the use of their resources, goods, and services in addressing concerns over food insecurity and illnesses such as AIDS (see e.g., Mtika, 2000; DeRose et al., 1998).

Survival strategies in The Gambian countryside extend beyond the legal entitlement bundle postulated by Sen (1981)—to include diversified entitlement system that is non-market based (DeRose et al., 1998). In the absence of institutional safety nets, agrarian households depend on reciprocity that involves gift exchanges under “normal circumstances,” with more privileged households or elites. Prosperous households and relatives living in urban areas or village patrons (though few and far between) return the favors during times of food shortages. Adams (1993, cited by DeRose et al., 1998) underpins this food entitlement system as pivotal to food-poor households' coping strategies: “Affective ties between farmers and traders proved to be important during times of food shortage:

loyal clients of local traders were extended uncustomary credit and even employment opportunities” (cited in DeRose, 1998:1, see also Scott, 1996). As the results of the current study indicate, these sorts of “affective ties” are also found at the Lumo in The Gambia, exemplifying why more people are not malnourished under circumstances of severe household and individual level deprivation. At times these ties can be very complex involving kinship through marriage with immigrants from neighboring countries who have successfully established viable businesses in the country or the specific Lumo village.

Number of surgas (migrant workers in the household)? None of the respondents have migrant workers/share croppers in the household.

This is not surprising given that peanut production that had originally attracted migrant workers from the neighboring countries is no longer a lucrative business for these people (see e.g., Carney, 2008).

C. Lumo Impact Assessment on Food Security

How was the decision made to establish the Lumo in this village? Most respondents are committed to the economic growth and development of the village as anticipated by the neo-endogenous approach. They claim that initially (in 1988) a private donor granted the land and that the villagers constructed a rudimentary Lumo with cheap local materials. Owing to the flammable construction material of the original structure, the market burned down twice. At this the villagers sought help from the government for permanent structures to be erected. The Commissioner of George Town, who headed the local government during Jawara’s presidency, was instrumental in the Lumo’s success, providing funds through the Area Council of the local government to build permanent infrastructure in the Lumo site. With the new infrastructure, such tragedy could be avoided. As one respondent commented, “we cleared the land and built sheds. This allows people from distant places such as Tamba Kunda (Southern Senegal) and Dakar to come frequently to this Lumo.” The reasons for having the Lumo are manifold: first, given the lack of a daily market for exchange, farmers from this village and the surrounding areas used to travel long distances to sell their produce. They suffered losses especially from perishable items such as fruits and vegetables.

This demonstrates how, as Boone (1995) points out, the state apparatus since the colonial era has exploited agrarian societies by extracting from them tax revenues, natural resources, and demanding their loyalties without any commitments to compensate them with development of rural infrastructure that would safeguard vulnerable households against hunger. Having little political power to influence policy, agrarian communities cannot demand an even exchange with the state or local government that would meet their food security needs. A neo-endogenous development suggests that the state and other extra-local agencies would help provide social infrastructures to rural communities including standpipes, toilets, public refuse dumps, value-added processes, provide advanced storage systems, cool chains, reliable road and transportation systems, as well as develop the local amenities. Wassu is also well known for its Stone Circles, a historic site that has attracted tourists from the West as well as The Gambian academia. Thus the neo-endogenous approach would suggest the need to build the village Lumo in order to enhance the livelihood of the villagers facing deprivation. However, additional extra-local intervention is needed to provide the village meaningful economic gains.

What problems if any, did the organizers encounter in setting up the Lumo in this village? They indicate difficulty in obtaining access to scarce water as the biggest and the first problem; additionally, they reference the difficulty of keeping the Lumo site clean. There is just one well that served residents of the village. Secondly, the organizers who pioneered the establishment of the Lumo lacked expertise and experience in market infrastructure building. For these reasons, vendors suffered losses due to lack of the cooling system to preserve fresh produce, resulting in the loss of income. The Lumo was incinerated by fire with the commodities inside. This illustrates the need for extra-local intervention. Oftentimes, rural residents do have big ideas about the trajectories that development of their communities can take but lack financial resources to realize them. That has not stopped organizers of Wassu Lumo from trying to initiate and carry out their own developmental agenda in spite of all the constraints they have to face. In accordance with the neo-endogenous approach, the Area Council serves as the purveyor of the (limited) permanent stores and Kiosks, and they secure storage facilities in return for tax revenues. The request for a garage to

park motor vehicles nonetheless is rejected. The Lumo participants do have a place at the crossroads to park their vehicles and it has brings entrepreneurs some relief. The outstanding constraint is that the Area Council under the local government rejects the vendors' preferred location to build the Lumo.

Devolution of significant state power, economic activities, and the subsequent self-governance of local people may not translate into rural autonomy (Goodman, 2004; Marsden, 2006; Ribot). In contrast to the neo-endogenous approach, this means that rural communities are only given greater responsibility (burden) towards their own governance while the state still holds greater regulatory power over them. That is why even though the Lumo's current location seems somewhat backwards and causes operational difficulties for the distribution of merchandise, the villagers have to accept it against their preferred site. The organizers acquiesce to the Area Council office (the administrative arm of the state) while allowing some vendors to sell their goods at a location near the parking garage where they attract business from passengers passing through, passengers who are bounded for the South Central or Upper River Divisions. The Area Council office is therefore socio-economically embedded at the formal level. While it intervened in the establishment of the Lumo and provides operation services, it also undermines the autonomy of villagers—preventing them from pursuing their developmental goals and maximizing their creativity. Despite the setbacks mentioned above, the villagers are thankful to God for their success and the consensus among them in building the Lumo. Villager apathy just expressed regarding the location of the market, is offset by the unity in the work effort, which has helped produced positive results and made the village more food-secure than before.

The nature and the activities of the local cooperatives deserve some attention. The informal cooperatives have traditionally served to diversify entitlement strategies and provide safety nets against hunger through organized reciprocity (see e.g., Mackintosh, 1995; Perry, 2000). IFAD and other donors need to be aware of the existence of informal work groups that provide labor to smallholders needing extra on-farm labor that range from ploughing, planting, weeding, harvesting and transporting their crops. This oftentimes eliminates the need for cash-based on-farm employment. This labor network is central to survival especially during

labor bottleneck periods when farmers have so little cash for food, as to pay for farm operation. At his critical juncture, work groups, being informed by family members needing help or from independent observation, will provide work without remuneration. Frequently all they expect in return is food and water on the day that labor was being rendered. This is the reason that unlike the family farms in the West; farmer unions are non-existent in The Gambian countryside where extremely small farm sizes of just few hectares predominate (farm sizes that exceed twenty ha or larger are extremely rare). These work groups sometimes refer to themselves as clubs that seek patronage from village and town elites who supply them with occasional funds, particularly when they present their sponsors with handicrafts of magnificent designs. These collectables are often showcased in the homes of sponsors during Christmas or Easter and become covetous items worthy of display. In the presence of these social obligatory systems or entitlements, households in rural areas are seldom isolated and left alone to shoulder all of their food insecurity burden, in a society where the majority are in near financial destitution, with few natural resources to claim (save land which is increasingly becoming unproductive due to soil nutrient depletion).

What are the advantages¹⁴ for having the Lumo in this village and the surrounding villages? This question generates a great deal of excited responses from the informants. It is indeed a privilege to have the Lumo in one's village or in close proximity as the following accounts reveal.

However, the local space where weekly markets are held do not operate in isolation but are interconnected through a network of actors, producers, consumers, and entrepreneurs from distant localities such as rice producers of Thailand and China, Wheat producers from Kansas, or makers of electronic goods from South East Asia (see also, Hinrichs 2003). Thus, even the Local is embedded in the larger scheme of global political economy for which no place on earth is remote enough. The effects of economies of scale are therefore manifestly paradoxical. On the one hand the flow of goods, technologies, and people across national borders is unhindered. Today someone in the United States for example can call a cell

¹⁴ In retrospect, another question should have been asked as to the disadvantages, if any, of Lumo(s). I had overlooked this possibility in the design of the questionnaire.

phone of a relative who is working on his/her farm in a remote Gambian village. Just few years ago that same relative would have had to travel several miles to a central location (such as from Wassu to Kuntaur Wharf Town) to make or wait for such a call (ironically, it is easy for us to reach relatives, but at the same time reality sets in when they begin to narrative the scourge of poverty that afflicts with no relief in sight). Technology thus is a double-edged sword—on the one hand it provides convenience to rural Gambians, but on the other hand it undermines sustainable local industry that has worked appropriately in their specific context for centuries. For example, consumption of whole grain food is traditionally the norm in rural areas. However, overly processed foods available at the Lumo(s) may reduce the amount of nutrient-rich whole grain food consumed, in part because of drudgery involved in the hand processing of local foods (see e.g., Goodman & Redclift, 1991). It is this ease that leads the majority of the respondents to espouse access to a plethora of commodities that were not readily accessible before the Lumo's implementation. Neo-endogenous development that promotes democratic participation of local populations in collaboration with academic scientists can expand on current local level pluriactivities. This endeavor will generate diverse income sources for the villagers that will match their spending needs. The desire for material wealth (ownership of “white goods,” see e.g., Goodman & Redclift, 1991) is largely universal. However, Villagers in The Gambia's countryside do not have the means to sustain this Western lifestyle. This moreover does not keep them from aspiring to modernization's sales pitch, that is, the acquisition of unlimited materials made available by advanced technologies. In this context, it is understandable as one respondent pointed out,

We used to travel very far and paid fare to get to wholesale markets to purchase food and other goods such as farm implements and durable goods, as well as textiles, cookware, utensils, miscellaneous items, etc. Transporting the goods was very hard for us. At the Lumo we have access to rice, cooking oil, and other ingredients. That easy access to food and goods alone is a big enough blessing for us. There is no limit to the benefits that the Lumo brings to the village.

A common response is that the Lumo has brought to this village countless benefit because every commodity imaginable can easily be accessible here (thanks to the global food system). In contrast, affluent consumers in Europe and the U.S. have begun to raise social justice questions regarding workers' welfare in sweatshops that produce these materials, animal treatment, environmental soundness, etc., involved in making these goods available. Rural consumers in The Gambia are not privileged to look beyond their immediate food security concern and the convenience these materials have to offer.

The villagers are focused only on the fact that before the Lumo was implemented they used to travel to Banjul, Dakar, or Kaolack (Senegal) to purchase goods, but now a variety of food items is available here at the Lumo, states one respondent.

This is consistent with the neo-endogenous development, the notion that local people should be allowed greater leverage in valorizing the territorial resources that does not at the same time stifle their creativity and independent choices of actions to take toward their economic development. Although the French were able to take advantage of this through product labeling such as Rockford cheese (Barham, 2003), Wassu does not produce any commodities with similar value. Peanuts are the main cash crop they produce, which, as the saying goes, "costs peanuts." In other words, they are produced at a loss to farmers due to international terms of trade that diminish the profit margins of peanuts as a commodity. A successful neo-endogenous approach requires a meaningful devolution of the central powers to local authorities who must then go back to the drawing table and consider replacing peanuts with diverse products that earn them greater profit margins. A much smaller acreage would need to be allocated to peanut production for household consumption only. The Lumo(s), which embeds socioeconomic activities in The Gambian rural space, should be used as the venue for democratic participation centered on crafting and disseminating new ideas towards this goal. The Lumo as an informal market for social exchange is highly esteemed as another respondent indicates:

The Lumo has generated many benefits for the village. Number one, it has brought unity in the village among residents. It makes it easy for

us to reach each other. Number two, it makes it easy to find any item of goods one may be looking for. It is also easy to buy and sell goods for one's livelihood. Sometimes an owner of a store rents it out to petty traders. At other times he/she may be involved in petty trading. Other arrangements may include hiring a non-family member to sell small commodities in one's stall. Finally, some vendors do enter into partnership with their relatives by providing a sum of money to the family member to do business at the Lumo. But the biggest problem is that the Lumo has not promoted the development and growth of the village itself.

This statement exemplifies the bifurcated State that endows and sanctifies urban development (alluded to by Ribot, 1999, in his citation of Mamdani, 1996), while it undermines rural enfranchisement, the ability of rural networks to fully realize their developmental goals that promote physical and social capital. Another contradiction of the Lumo that may create potential problems must be noted here; while it embeds social exchange and rural socioeconomic activities in the market, it has also turned this countryside into a consumption site, raising other concerns relating to lack of frugality during normal conditions when earnings from cash crop production are being disposed of. The overwhelming reference to Lumo day as availing a large variety of commodities to consumers that is otherwise unavailable on non-Lumo days points to this issue of consumption outside of the household's means. Concealed from the villagers, this system of capital's enticement could further exacerbate their food security problems. Thus, the invisible hands of the laissez faire market imperatives are siphoning the much-needed income from them at the most critical period of food insecurity. Respondents indicated that the benefits of the Lumo could not be overemphasized because a number of commodities that were previously available only in Senegal are now available at the Wassu Lumo. Villagers cannot conceive that the global political economy is making inroads to the countryside, attempting to alter their ways of life by giving them a view of affluent lifestyles to adopt, with no hope of sustainable means of satiating this appetite. They are now fixated on the fact that farmers used to travel to Senegal to purchase farm equipment, which no longer happens. In the past, villagers used to travel outside the village to purchase

livestock, but they can now access all sorts of goods from the Lumo. As the neo-endogenous approach indicates, an informed village level leadership is necessary for the maximization of social capital and enhancement of a sustainable rural development. In Ray's (2006: 285) view "The term social capital focuses on the nature of interpersonal and inter-group relationships and how these drive or hinder collective activity" this collectivity features "networks, norms and social trust that facilitate coordination and cooperation for mutual benefit. In a very general sense, the term refers to the resources and socioeconomic dynamic (including resistance to change) that result from, and recreate social ties." Consequently, the notion of neo-endogenous development in contrast to the ostensible use of the term by the modernization agenda connotes trustful, humanistic and mutual relationships or voluntary associations embedded in a civil society. The non-hierarchical nature of such leadership and voluntary associations are the stepping stone local activism and resource mobilization by laying foundations of trust and reciprocity (communal altruism) in the context of contemporary global political economic system. By reducing transaction costs through trust and kinship, local people can valorize the resources and foster economic growth (ibid). Implicated, is the quality of leadership which is imbued with emotional intelligence who will act as catalyst for local action in development dynamics and be able to effectively mediate between local and the extra-local politico-administrative state and international donors. The leadership will also be instrumental relaying new ideas and encouraging people to participate local development dynamics and thereby effecting substantive social change. With administrative restructuring that empowers local level citizen (as opposed to the "subject" under the indirect colonial rule) participation and autonomy, academic scientists and community advocates (see e.g., Stockdale, 2004) can be effectively networked with the villagers in a relationship that is transparent, accountable, and progressive to keep all stakeholders informed about the global politico-economic dynamism. As Getz et al. (1999: 1856) indicate a partnership between academic scientists and villagers can be brokered to develop social and biological programs centered on indigenous (non-bifurcated) knowledge and citizen opinions toward capacity building. In this process, policies and institutions can empower local people in enhancing sustainable livelihood means while providing them with "an effective voice at higher sociopolitical levels" (ibid). (This partnership can promote

consciousness building as long as intellectual meddling does not lead to contentious discussions, social upheaval, and a protracted war as experienced in Liberia following the food riots of the 1980s through 1990s.) Through contact with large numbers of refugees displaced by such civil strife from neighboring Sierra Leone, Liberia, Ivory Coast, Guinea Bissau, and Casamance Senegal (where thousands of people were killed and still hundreds of thousands were dispossessed of and displaced from their native land; their exodus to The Gambia would almost double its population and put undue pressure on the limited natural resource-base, GOG, 2003), Gambians know how to tread a fine-line between getting their voices heard and any attempts to subvert the status quo. As Flores (2004: 1) indicates, conflicts, rural development, and food security/insecurity are closely linked in West Africa; “Whilst conflict exacerbates food security, food insecurity can itself fuel conflict.” Thus, conflict prevention is essential to ensuring food security. Unlike Europe’s model of territorial valorization characteristic of pan-European protectionism, The Gambian rural development is more pragmatic and less ideological as the results of the present study indicate.

Consistent with the neo-endogenous approach, at the onset of the Lumo establishment, organizers persevere in the process even though consensus was originally lacking. Their leadership qualities enable them to convince the larger village community that they too had a stake in the Lumo’s development that eventually won them over. Initial villager reluctance to partake in the Lumo is understandable given the limited resource endowment in the village. Once intervention becomes available, then the rest of the villagers’ perceptions toward it change, and consequently, they give it their full support.

Villager reliance on local authority initiatives has in part, its historical roots in colonial power distribution and systems of entitlement. Local authorities historically enjoyed a degree of privilege with the power to allocate land and collect taxes that was denied the lot of producers in agrarian societies (Boone, 1995). Thus, as the villagers rally around the establishment of the Lumo they are inadvertently able to generate unity and harmony among themselves. This unity permeates all village affairs, including socioeconomic, political, and cultural activities. It will be interesting to find out though whether or not increased immigration (as the Lumo is likely to draw) will alter these entitlement strategies.

It is noted above that some organizers wish for the growth of the village; however, economic growth entails a system of contradictions for which the villagers may not be prepared such as loss of affective ties or sense of community that comes with modern development and actors such as foreign firms that may not be vested in the village's well-being. Lumo(s) do expose villagers to Western goods and provide a glimpse of Western lifestyle; however, time and again it has been demonstrated that this level of prosperity cannot be realized in The Gambia or other developing countries for that matter (see e.g., Bell, 2004; Goodman & Redclift, 1991). The Gambia does not have minerals or modern industries at its disposal to expand upon for rapid growth. The private entrepreneurship promoted by IMF and World Bank have very little chances of success in this so-called developing country (see e.g., Browne, 1995), as capital, and a middle class endowed with a purchasing power are largely absent in this country. The Gambia appears poised for economic stagnation rather than prosperity that will trickle down to rural areas, despite all the rhetoric from international donors and the government. This may sound pessimistic, but it is unfortunately true, unless international lending agents write off the debt completely and engage rural communities in serious innovation endeavors that do not stifle them. This is the kind of development envisaged by Norgaards (1994) and Ray (2006).

D. Consumption Security Measures

In your estimation, how many households in this village do not regularly add

meat or fish to their meals? Respondents indicate that this is a poor village and as such many households do not regularly add meat to their meals. Respondents point out that only civil servant could afford quality, nutritious meals. Only they can afford to snack between meals by purchasing akara sandwiches (processed beans customarily served with bread and tea before lunch). Some civil servants on salary who enjoy affluence of sorts and their families may not be as affected by the vagaries of crop production as are farmers who live precarious lives that depend on a good rainy season. Some go a whole week without eating meat. As the preceding accounts indicate, poverty is striking in the village, exacerbating food insecurity for the residents.

An interesting contrast can be drawn between Gambian agrarian households and their Western contemporaries in terms of nutrition-based illnesses and their social

consequences connected with proximate and structural causes. Protein energy malnutrition (kwashiorkor) or protein deficiency characterized by wasting and stunting should not be as prevalent in this era of world food abundance. With adequate extra-local funding, The Gambia has a great potential to provide food security to its population. The government acknowledges that the marine products are under exploited while fresh fish is scarce in the majority of households. In fact most rural households do not consume fresh meat, fish, eggs, or dairy products on a regular basis despite all the intervention efforts put forth by international donors.

How many households in this village regularly cook gruel (nutrient poor) for their main meals due to poverty? Respondents claim that the majority of the villagers do not even have access to milk let alone diverse sources of meals. Their members just go out and stand in the street sides waiting for sour milk sellers to appear before they can make a limited purchase. Due to their income status, some add only sour milk to their gruel because this is all they have, to others, even this is luxury.

What types of snacks do those households often eat between meals? People often eat akara (fried bean) sandwiches. Other households set aside a portion of the breakfast for a child to have before lunch is served. Most households only have the main course and were able to snack only on peanuts, biscuits, garden products such as carrot sticks and salads, or fruits (these are not available year-round) that were in season such as mangoes, guava, and oranges (orange trees do not do well, often, they are not juicy), from Central River Division to Upper River Division, although high quality mangoes are abundant when they are in season. The vast majority of rural households do not have access to vegetables during the dry season. This lack of access to fruits and vegetables has mainly to do with lack of infrastructure such as wells, particularly where the ground water table is too low, making access drudgery). Others claim the villagers either did not snack, or only had access to peanuts or cakes purchased at the Lumo. Generally, villagers seldom think about snacks. According to the respondents, they feel blessed by God for the main meal courses.

A successful neo-endogenous development would have to include building of water pumps in villages throughout the country to make dry-season gardening more feasible. This would provide rural communities more balanced diets all year around. There is little doubt as to the institutional policy neglect of rural communities' well-being in favor of urban development where most households have running water, flushed toilets and better sanitation conditions than their rural counterparts, who have historically been exploited through their significant contribution to the country's GDP. Thus, the rural landscape is the gold mine as well as the breadbasket of the country; yet, despite all the development rhetoric ranging from regional to international, there is less funding allocated to its infrastructure development (save transfers of inappropriate production technologies) than to urban development. Such prioritizing is partly historical, but partly symbolic. To the outsiders who visit the capital and the suburbs, The Gambia's poverty would seem highly exaggerated because of better infrastructure accorded to the urban areas and improvements in real estate provided by immigrant remittance.

How many meals a day do these households consume? Eight of the 10 respondents indicate three meal courses a day, including breakfast, lunch, and dinner, while two key informants mention that they only had two meals a day.

In the urban areas, however, there is greater access to snacks which range from imported foods to locally grown ones. Due to income diversity, many urban households can afford to purchase these snacks.

What ingredients do these households add to their main meals? The ingredients these households added to their main meals were compiled as follows: all 10 respondents mentioned Charlo/dried bonga fish, onions, peanuts/peanut butter, bouillon/beef broth/Magi cubes, and bitter tomatoes. Only two regularly had meat in their diets; most add chili peppers and tomatoes, especially during the rainy season, from their backyard garden produce. Macaroni was mentioned once. Two key informants mentioned Irish potatoes while the third indicated that only the affluent could afford it. Most households in the rural areas grow tomatoes in the summer but not in the dry winter season. Gardening is not feasible for most during this time of the year unless villagers live close to the riverside. Therefore,

neo-endogenous approach would require infrastructure building that will enhance the livelihood of villagers in Wassu and elsewhere by providing appropriate technologies necessary to be food self-sufficient in a country where two-thirds of the population is engaged in agricultural production.

Part II: Lumo-Day Participant Questionnaire

In this segment of the interview 30 respondents were interviewed in shorter, more structured interviews.

A. Demographics of Respondents

Ethnicity: 40% Wollof; 40% Fula/Lawbeh/Tukulor (different dialect of Fulani); 13% Mandinka/ Malian/Jahanka (same tribe); 3% Serere; and 3% Mansuanka.

Age in Years: The range of age between Lumo respondents is 14 years and 64 years old. The average age of Lumo attendants is 37 years. As expected younger able-bodied traders are more likely to travel to the Lumo from other locations than older people are, providing some hope that perhaps, Lumo will eventually provide incentives against internal migration of young adults from the countryside to urban areas.

Gender: About half (47%) of the respondents at the Lumo are male while the remaining (53%) is female. This indicates that although more than half the Lumo participants are female, many of them hold only marginal positions as petty traders.

Occupational distribution: Of the 30 respondents at the Lumo, 7 (23%) identify themselves as farmers, 16 (53%) as business/petty trader, 4 (13%) as restaurant cooks, 1 (3%) livestock owner and 1 (3%) as fishmonger. Oftentimes many of them combine farming with trading.

B. Food Distance in Kilometers Between Household and the Lumo

Where is your home village? This question is asked in order to tap the distance traveled by some of the respondents to access food at the Lumo. Not all respondents, however, travel to the Lumo to buy or sell food. Others, trade or purchase non-food commodities. That said, the results indicate that the longest distance traveled to get to this Lumo was 150 kilometers. Not surprisingly, some of the traders come from neighboring Senegal. The average distance traveled by Lumo attendants was 29

kilometers, and many of these travelers were traders or businessmen. Table 4-1 below indicates the distribution of Lumo(s) and the regular daily markets in The Gambia and illustrates how prolific is this informal economy amidst the political economy of the liberal global food market system.

Given that Lumo(s) are held on different days, regular Lumo attendants frequently attend more than one Lumo per week, particularly those in the same local government areas within just a few kilometers of each other.

What brought you to this Lumo today? To this question, only two respondents mention selling own produce at the Lumo. Most, 16 out of 30, cite buying commodity items from itinerant traders and selling them as their business operation. One cattle owner comes occasionally on horseback to sell his livestock when the need arose. Cola nut selling is a specialized trade done mainly by the Fula. Cola nut is usually imported into the country from Guinea. The common expression for petty trading or the business at the Lumo was “**Foratu**,” which means making small profits doing odd jobs or trading.

Many of these traders can be characterized by low education and no formal education. Consequently, many of them opt for trading which does not require formal training or special skills to enter into the business.

What do you see as the advantages of Lumo(s)? When asked what they saw as the main advantages of the Lumo, respondents mention easy access to the large assortments of commodities. Many indicate that being the sole provider for their families compelled them to earn a living despite the drudgery involved in the service they provided. As one respondent notes:

We poor people approach traders such as the butcher and fishermen for a loan of meat or fish or storekeepers for loan of rice and cooking oil. Then we cook, sell the food, and pay back our loan. I use the profit to purchase soap, home cookware, and utensils for the house. I earn money selling cooked food. Due to large clientele, cooked food sells out, providing women much-needed income.

Non-market entitlements to food are therefore part of the “moral economy” embedded in modes of exchange that are based on affective ties stemming from social obligations of trust

and reciprocity (Narotzky & Smith, 2006; Scott, 1996). Although modernization theory would regard this embedding of informal market exchange within a specific locality as primordial, which precludes rational choice and therefore an impediment to progress and development, rural Gambians no longer have illusions about modern development. This is the case precisely because since the country's independence, it has failed to deliver them the promise of food self-sufficiency (see also, Logan & Mengisteab, 1993). The modern development project has instead created for them food insecurity through import dependency by prolonging monoculture that denies them diverse sources of income, limiting their purchasing power and leaving many households unable access food. Hence villagers look forward to the weekly Lumo market that offers them alternatives to the exploitive market-based economy. The notion of short-food mileage is epitomized in this study and has assumed a central theme toward food security given the exorbitant transportation costs that would otherwise be involved in alternative means of traveling to daily market locations to purchase food. Transportation cost cannot be overemphasized as The Gambia imports all of its energy supplies from limited foreign exchange earnings. American consumers may be surprised to learn this, but the cost of fuel in The Gambia far exceeds that of the United States. Thus, access through short distances provided by direct marketing, is a very important component to food security, which is underscored in this study. In addition:

Participants point out that business at the Lumo is very good because it also brings unity among the residents who buy and sell other items for profit. As one man indicates "**hewi nafore de,**" meaning that the Lumo has many benefits indeed.

Another woman claimed that by making a profit at the Lumo, she attains a degree of independence because in this way she is able to venture out of sphere of the home to meet her needs.

As Cole (1989) note, women traders are motivated to work in order to command respect in The Gambian society and thereby elevate their status. Through informal lending systems established at the market place on monthly rotation, they can save large sums of money from which to supplement food provisioned by their husbands as well as necessities for the children. The common theme that runs through the responses of those who regularly attend the Lumo is that owing to its scale, they can get whatever they need from the Lumo, which attracts a large assortment of goods from fresh produce to durable goods, farm equipment, livestock, etc., which aggregate into a mass of commodities never before seen in The Gambian countryside. Some multiplier effects can be expected, although the presence of foreign firms selling imported goods will prevent the maximization of these benefits, as they

withdraw their profits from the village and invest them elsewhere. It is no wonder then that some respondents feel frustrated that the village, despite the Lumo's success, is not developing at all (they would perhaps like to see growth of the village in terms of social infrastructure development).

Female respondents seem to agree that other than farming, Lumo activities get them out of the house and gave them a degree of independence through selling food they process and cook. This also illustrates that women's status on the countryside needs improving. As Cole (1989) indicated, women are over-represented in petty trading which is subordinate to the large-scale trading enjoyed by their male counterparts. Consequently, IFAD's pledge of credit to rural women has not reached this village or its women. Neo-endogenous development requires that IFAD deliver on its promise of making credit available to women, which must reach those in the Lumo villages to reduce the disparity between them and male businessmen. Gambian women have proven, over the years, to be shrewd business partners and are just as capable of repaying the loan as men are (Ceesay, 2007). Nonetheless, international donors that are serious about the country's food security must allow local people to craft their own system of exchange that integrates the informal and formal market exchange systems and allow them to maximize benefits from both. While the presence of a liberal trade system is undeniable in the Lumo village, it at the same time cannot supplant private non-market transfer systems embedded in informal networks of producers, consumers, and the businessmen of the rural landscape (DeRose et al., 1998; Logan & Mengisteab, 1993).

Additionally, the Lumo is indispensable to residents and those within the nexus of Wassu village because it eliminates the transportation requirements for them to purchase goods. The insight that could be gleaned from these responses reveals rural peoples' ability to adapt to socioeconomic and environmental uncertainties through community solidarity and social cohesion by identifying strongly with each other and developing social capital, all of which are vital to their survival (Cole, 1989).

The success of the Lumo under circumstances of diverse ethnic composition illustrates resiliency among people when faced with adversity. Granted, the ethnic diversity could cause conflict, since some of the residents of Wassu migrated from the neighboring countries of Senegal, Mauritania, Mali, Guinea Bissau, Guinea Conakry, Ivory Coast, Ghana, Nigeria, Liberia, and Sierra Leone, to name just a few countries (Flores, 2004). Such diversity notwithstanding, these people are able to mesh together with very few incidents of conflicts. These harmonious relationships are possible in part because of intermarriage

between the immigrants and village natives and in part because of the generosity of host families who treat the newly arriving immigrants as their own. Surgas (migrant workers) have historically been treated as part of their host families. Some of them do go back to their home countries after they sell their cash crops, while many others choose to remain in The Gambia and become residents. Collectively, the village residents consider as a threat only the outside forces that undermine their food security prospects, whether they originate within the country or abroad. On the other hand, villagers will welcome those outsiders that they perceive as interventionists to their economic prosperity. This intervention could be in the form of technologies, such as agricultural production technologies, health care, or education (see e.g. Carney, 1996; GOG, 2007).

How often do you attend Lumo(s)? All but four respondents attend Lumo(s) on a weekly basis. There is indication that some traders also attend other Lumo(s) on different days of the week at different locations.

C. Food Consumption Security Measure

Explain to me your food situation at home and whether or not everyone in your household has enough to eat. The villagers generally indicate difficulty in feeding their families because of poor harvest and limited profits in farming. However, business at the Lumo immensely enhances the families' survival by supplementing income earned through farming as well sustenance on food stock from their own produce. In large families, women deprive themselves of food in order for the children to have enough to eat. A lot of these respondents are more concerned about meeting their children's nutritional needs than satisfying their own appetites. Many of the respondents indicate that they were just getting by but were thankful to God for what they do have. Some indicated that the family did not have enough food due to poor harvest in the past cropping seasons. More than half of the respondents indicate their families as being food insecure, while the rest, many of them Senegalese men, indicate they have an adequate amount of food for their families, perhaps because they run a more profitable business than do female petty traders among The Gambians.

Poor harvest and farming not being profitable are cited as the source of food insecurity by many of the respondents who deprived themselves of food in order

for the children to have enough to eat. Respondents also indicate that were it not for the Lumo, their home food situation would be much worse.

What kind of ingredients do you normally add to your main meals? Please name a few of these ingredients: Many of the respondents, 13 out of 30, have meat in their diets, and all add beef broth called jimbo/Maggi cubes to their soups for flavoring the otherwise very bland meal. Everyone of course adds salt to his or her meals. In the summer every household in the rural areas grows onions along with other vegetables such as peppers, okra, sorrel, corn, and squash in their backyard or they buy them from a neighbor or from the market. “Netatu,” or locus beans processed mainly by the Wollof or Jolas in the rural areas, is also a common ingredient used in poor households. Affluent people do sometimes add this to their meals as side dishes such as “ranha” made with sorrel. However, poor households seem to consume it regularly. Irish potatoes are considered the food of the affluent because only the privileged few can afford to purchase them because very limited amount is grown in the country. This question was included to explore the adequacy of basic nutrients available to residents in Wassu Village. The results indicate that malnutrition is widespread in the Lumo village despite the market’s success as a center that distributes food and other commodities. Perhaps neo-endogenous village initiatives that lead to expansion of pluriactivities will diversify income of the rural population and enhance their purchasing power. Despite these shortcomings, however, the absence of the Lumo would spell a disaster more far-reaching than the present conditions reveal.

Part III: Direct Observation and Field Notes on Participants and Their Activities

The Sahel region of West Africa is notorious for hunger pervasiveness more than any region in the world (Plateau, 2009; Young, 1997), which ultimately is the basis for the current study. The neo-endogenous approach, although originally designed for people who are not exposed to hunger and absolute deprivation, has been shown to inform issues of food insecurity in rural Gambia. The frustration of the villagers for being denied their preferred market site for disposal of their agricultural produce means that neo-endogenous development has not yet been fully realized. In this regard, one informant explains to the researcher that the Lumo organizers approached one local government officer about how inconvenient the stall location for the produce is. The officer promises to give it his consideration; however, in all

likelihood, the villagers will acquiesce to the Area Council allocation site. Had significant powers devolved to the social networks responsible for initiating the Lumo, the Area Council serving as the arm of the state would not interfere with the people's first choice of constructing the Lumo closer to the road. The Wassu Lumo is set up a short distance from the highway in the northern part of the central region of The Gambia. It comprises of structures with quite a few modern stalls and well as open areas. It attracts international and national commercial firms. Traders from every crevice of the nation are also present at the Wassu Lumo to provide their services and take advantage of the scale and diversity of available commodities. The same businessmen and businesswomen or petty traders seem to arrive weekly (every Monday) at this Lumo. Lumo residents appear very excited as they prepare for the event; this excitement is not surprising since the community benefits tremendously from the market.

Although the neo-endogenous approach was designed to address rural development agendas of the European Union (EU), it has a degree of applicability in illuminating the role of actor-networks and public policies of Gambian rural development. Its effective and sustainable application in The Gambia will be determined by how power relations are configured at different levels of the government and rural authorities vis-à-vis local people's abilities to make autonomous decisions. The extent to which a truly rural development is attainable in The Gambia depends on whether political decentralization of the central state devolves "assets and powers to local or private decision-making" (Ribot, 1999:27). As Goodman (2004) and Marsden (2006) points out, it is questionable whether, or to what extent, rural development is autonomous in Europe. This concern is even more urgent in The Gambia given the political power arrangements put in place by the colonial regimes which "are being reproduced in the current era of participation and decentralization" (Ribot, 1999: 23). Specifically, Ribot describes the forms of socio-political and administrative rule in Africa as apartheid or institutional segregation, which under the British was referred to as indirect rule, and under the French it was called association. These regimes relegated most Africans to a "sphere of so-called 'customary' law (or the *indigénat*) while Europeans and urban citizens obeyed civil law—customary law being an administratively driven form of state-ordained and enforced regulation" (Ribot, 1999: 23). In other words, colonial powers established policies of native rule that institutionalized "native" ways of ruling their subjects, a practice, which was administratively separate from the law to which Europeans and urban residents had to adhere. Mamdani (1996; cited in Ribot, 1999) argues that with this

differentiation, the European rulers forged a bifurcated State between urban and rural as well as making ethnic distinctions *that may have ultimately induced and/or deepen tribal conflicts* (emphasis added). In this process, local governments and customary authorities to this date such as chiefs¹⁵, alkalis¹⁶ and area council officers were privileged with the power to allocate local resources and to regulate rural communities without at the same time being accountable downward to rural populations that they ostensibly represent (Ribot, 1999). Instead, these bodies are upwardly accountable to the central government, which calls into question the democratic community participation that the new rural development policies profess to promote (ibid, p. 30). Post-independent administration under President Jawara reproduced this bifurcation between rural and urban development, privileging some families above others. After the 1994 coup the current President Jammeh reshuffled administrative bodies at all levels of government from urban to rural authorities, replacing those who were loyal to the former President Jawara with his own supporters. Those replaced included traditional authorities inter alia, Chiefs and Alkalis whose positions were, since colonial days, inherited through family lineage. However, the pre-independent, colonial, political, and administrative structures are reproduced and remain fully intact. This perpetuates urban endowment of infrastructure development and rural deprivation, including food poverty. Particularly important to the current administration is to showcase the country's modern advancements in order to impress foreign visitors by investing more heavily in urban development than rural. Such visitors very seldom travel upcountry to see how desolate rural areas look.

Rural populations reminisce the Jawara era understandably because this was a time when large quantities of food aid, promoted by the U.S.-led development project, flowed to rural areas, an access that was credited to the President. Rural people could not fathom the implications of the cold war and the new forms of Western expansion embodied in the U.S. Marshall Plan originally designed to rebuild postwar Europe. Public Law 480 (PL480), later known as food for peace, was part of this plan used to solicit and form alliances with post-

¹⁵ "Chiefs were given a meager salary and expected to collect taxes, recruit *corvée* labour and soldiers, etc. Chiefs were often therefore in conflict with both their *commandant de cercle* and their own people" (van Rouvecerooy van Nieuwaal, 1987)... (Cited in Ribot, 1999: 32). However, they have very little power to enforce the law or initiate policy change by themselves. Area Council officers representing the local government seem to have more power than the traditional Chiefs.

¹⁶ Alkalis are village level administrative authorities with less power and privilege than the Chiefs. Both Alkalis and Chiefs are well-respected leaders in the communities, as the role does not entail coercion.

independent, and soon to be developing nations that needed protection against communist influence. Thus, The Gambia among other developing nations was provided directly with food aid as grants as well as concessional food subsidies that included Green Revolution technologies. All this was the U.S.'s attempt to dispose of wheat grain surplus it had in stock to The Gambia (Friedmann, 1982). A few years later, other cereals viz., rice, corn and sorghum were included, which provided a much-needed relief to the rural population during 1970s and 1980s famine episodes. On the negative side, however, cheap food aid and subsidies that flooded the distribution system also helped undermine incentives for indigenous production and food self-sufficiency; therein lies the caveat for food insecurity. The implications this political economic reform and the repercussions it will ensure were far-reaching to rural Gambian populations who were caught unaware of the new storms of global agri-food system that would influence lives in ways that they could never imagine. That is, themselves independently or others could never again guarantee their livelihood means and food security transactions. As the preparation of Lumo is underway, one wonders whether or not villagers consciously link their food insecurity to the global political economic restructuring.

The day before the Lumo, trucks and other commercial vehicles are unloading goods; other vendors are mingling with participants on horse and donkey carts from other Lumo sites. No cooling system is put in place and it would be difficult if not impossible to preserve agricultural produce such as vegetables and fruits. Restaurant operators are selling food to some of the newly arriving vendors as they come to stay on the night before the Lumo day. Stalls are being cleaned and set up.

Lumo: The Day Of

The day of the Lumo is a much-anticipated day among the village residents in Wassu. As such, the villagers make careful preparations to ensure maximum profits during the Lumo's intense marketing transactions on the following day. However, more than a market calculation, the Lumo has become a ritual for the villagers that mixes business with pleasure, serving the social function of the villagers and uniting them for a common cause. The day before the Lumo is of course more relaxing than the Lumo day, so itinerant traders use this time to make prior arrangements for post-Lumo storage of commodities with village residents deemed trustworthy custodians. The Lumo site also serves as a meeting place for the residents to discuss or consult with each other on matters completely unrelated to the Lumo.

Lumo(s) also represent unexpected negative impacts, however, which may involve improper relations such as inevitable prostitution between those who meet there. However, it is not clear whether the Lumo attendants are informed about risky behaviors that may potentially lead to incidence or outbreaks of diseases.

The Day After the Lumo, Closer Observation

Village vendors continue to sell goods along the road. Some restaurant operators are selling food to passers-by and village residents. A temporary warehouse at one end of the Lumo site is to be used by vendors as a storage facility. Custodians employed by the Area Council are cleaning up trash. There is a sense of calm from the intense activities of the previous Lumo day. Vendors are still selling quite a variety of agricultural produce. Main shops are closed. People are just hanging out and visiting with each other. At its inception (in 1988), the idea of the Lumo received very little support from villagers. It was the prerogative of Lumo organizers to demonstrate to the village community what the advantages of the Lumo were for their village in response to poverty dealt by the structural adjustment reform policies. Due to urban bias against rural development, rural communities were not enfranchised to construct informal market infrastructure. Their initial attempts at such an endeavor failed. The vicissitude of fires that incinerated the Lumo on three different occasions further led to diminished support of the villagers. However, the Lumo organizers were exuberant when extra-local support from the government in the form of intervention with more advanced infrastructure, made the Lumo a success. Undoubtedly, problems exist at the Lumo site especially during the rainy season when activities are interrupted by rain, causing difficulties for those traders who sell their goods in the open, or under leaking stalls, which are not fully covered. This is a crucial point as the neo-endogenous approach requires devolution of significant powers and transfers of public funds to local areas that will provide much needed relief to rural communities. These benefits extend to traders and consumer alike in rehabilitating the facilities at the Lumo and make them more durable. It is truly despicable to witness women and their small children at the market scrambling for shelter during rain downpours. These rural communities are not necessarily asking to be modernized they just want to survive. In addition, women trading at the Lumo very seldom have access to credits, thus IFAD and village level banks could demonstrate their commitment to help them through provision of cash loans. Since women are more likely than men to sell perishable goods such as fruits and vegetables, an effective intervention would build a fairly large common cool store for them to help preserve the commodities and prevent wastefulness. Overall, the Lumo

engenders the coalescence of the village community for a common goal of enhancing its economic viability and the consequent creation of social capital. Some people at the Lumo site are asked on the day after the Lumo what their thoughts are regarding Lumo, and they indicate that because of the Lumo, there was easy access to food and other goods. On average, sales of commodities are very good. This alleviates poverty somewhat. Also, responders indicate that it was good to have access to credit from other vendors. This operation generates income for vendors as well as consumers. Thus, through social networks based on trust, large-scale vendors loan money to small-scale vendors such

Table 4-1 Major Lumo (Weekly) Market Monitored

Type of Market	Name of Market	Market day	Location of Market
LUMO ¹⁷	Fass N choi	Wednesday	North Bank Division
"	Aldungu Kebbeh	Saturday	"
"	Ngayen Sayai	Tuesday	"
"	Kerr Pateh	Wednesday	"
"	Farafenni	Sunday	"
"	Jataba	Tuesday	Lower River Division
"	Kwinella	Wednesday	"
"	Bureng	Wednesday	"
"	Kaur	Thursday	Central River Division
"	Panchang	Saturday	"
"	Wassu	Monday	"
"	Brikamaba	Saturday	"
"	Sare Bojo	Wednesday	"
"	Sami Tenda	Thursday	"
"	Karantaba	Wednesday	"
"	Sare Ngai	Monday	Upper River Division
REGULAR	Banjul	Daily	Banjul
"	Serekunda	"	KMC
"	Bakau	"	"
"	Brikama	"	W/Division
"	Soma	"	L. R.Division
"	Farafenni	"	N.B.Division
"	Kaur	"	C.R.Division
"	Basse	"	U.R.Division

Source: Market Statistics Section, NASS, 2005-2006 (DOP/DOSA)

¹⁷ Weekly rural markets trade in more diverse commodity products than regular daily rural markets do.

as cooks and other petty traders to get them started in business. This, contradicts the neo-economist formulations regarding individual decision-making in market transactions, and supports ‘moral economy’ perspective on the process by which actors re-embed economic activities in social relations by broadening the scope of rural entitlements (Granovetter, 1985; Knutsen, 2003). This study however was constrained by limited financial resources.

Limitations of the Study

Despite the seemingly collective consciousness and social cohesion within Wassu village, identity politics probably exist. This fact may rupture the *gemeinschaft* (Tonnies, [1893] 1957) notion that the countryside is uniformly constructed with residents having common goals and aspirations that promote their individual well-being (see e.g. Bell, 1995; Goodman & Redclift, 1991; Hinrichs, 2003; Murdoch, 2006; Narotzky & Smith, 2006; Schroeder, 1999; Woods, 2006). However, these distinctions are not easily discernable from the present study. Acquiring such knowledge would require a longer presence in, an intense interaction with, and a closer observation of the villagers. Thus, existence of conflict or divergent interests within this locality could not be determined from this study. Other restrictions involved the available data, which imposed limitations on the choice of analysis that could be undertaken in this study, as the data was not amenable to the multinomial analysis initially intended. Attempts at running correlation analysis failed because the key indicators were entered in the database in a group format, where each category of a particular variable was treated as a constant. Attempts to cross-tabulate variables produced many empty cell frequency counts. Thus I keep to a strictly descriptive analysis. Future study that is designed to collect primary data for the specific purpose of conducting more sophisticated analysis may be able to perform multivariate analysis in order to establish causal relations between food insecurity and key indicators of external and internal factors that may exacerbate the problem or ameliorate it. Furthermore, with adequate funding a study of longer duration involving various Lumo(s) may yield detailed comparative information on the impact of Lumo(s) on rural people’s livelihoods. Such an ambitious study could not be undertaken in this case due to funding constraints. These limitations notwithstanding, the theoretical framework advanced in this study with the compatible concurrent triangulation method of obtaining data offers useful insights to issues of food insecurity and rural development and creates new opportunities for further, more in-depth research, particularly on the effects that weekly rural markets have on food insecurity in the Gambia. What the structured interview

data show is social solidarity and unity among the villagers with regard to new immigrants and the long-time residents. Quantitative data supplements the qualitative data.

Quantitative Data Analysis and Results

In this segment of the quantitative data analysis I begin by demonstrating the effectiveness of the Lumo(s) in mitigating circumstances of food insecurity. Second, data are classified into the three categories of regional variously referred to as local government areas/sub-regions, individual and household, in order to describe differences in food security levels. Regions are ranked according to the severity of their individuals' food security situation. In accordance with the United Nations provisions, food security is defined in this study in terms of the availability, access, and utilization of sufficient, safe, and nutritious food to all people in the world on a stable basis without fear of losing such access. Third, the data displays the production, distribution and consumption patterns within the country exemplify how farmers strategically shift focus from producing large quantities of peanuts to allocating larger proportion of land area to coarse grain production. That is, survival analysis considers the productivity of the national agricultural system in terms of how farmers prioritize food production versus cash crop production when face with food insecurity. Fourth, the quantitative data is examined to discover how extra-local intervention efforts impact subsequent returns on The Gambia's production capacity in an attempt to ameliorate food insecurity at regional, household, and individual levels (see Ray, 2006).

Owing to the scope of this analysis, only a few tables are incorporated in the current text, while additional tables are included in Appendix B that provide an overall and an evolutionary view of The Gambia's agricultural system and history of food distribution among the population. Thus, the tables in Appendix B also contain rich socioeconomic data from which the reader can glean livelihood means and the scourge of poverty that impacts rural communities and puts them at risk of food insecurity. With the new structural changes promoting rural development (ibid), the current research seeks to discover whether food security problems have diminished and how neo-endogenous approach can mitigate food insecurity by suggesting a more sustainable bottom-up development agenda than the top-down approach international lending agents and WTO have to offer.

As the results of the quantitative data analysis displayed in Table 4-2 also reveal, rural communities can initiate and chart the course of their own endogenous development. Favorable commodity prices at the Lumo that immensely enhance its appeal to the rural community bear testimony to this fact.

Table 4-2 Average Regular (Retail) and “Lumo” (Weekly) Prices of Cereals in Dalasis Per Cup From January to December 2005

Months	Type of Markets	Commodities					
		Maize	Millet	Sorghum	Local Rice	Broken Rice	Long Grain Rice
January	Retail	9.50	9.52	9.50	13.00	11.20	11.65
	Lumo	8.55	8.60	8.40	12.50	11.35	12.00
	Country Average	9.02	9.06	8.95	12.75	11.27	11.83
February	Retail	9.50	9.52	9.50	13.00	11.20	11.65
	Lumo	8.55	8.60	8.40	12.50	11.35	12.00
	Country Average	9.02	9.06	8.95	12.75	11.27	11.82
March	Retail	9.60	9.62	9.50	13.05	11.20	11.65
	Lumo	8.55	8.60	8.40	12.50	11.35	12.00
	Country Average	9.08	9.11	8.95	12.78	11.30	11.83
April	Retail	9.72	9.70	9.69	13.15	11.25	11.75
	Lumo	8.65	8.65	8.70	12.70	11.35	12.00
	Country Average	9.19	9.18	9.20	12.93	11.30	11.88
May	Retail	9.85	9.80	9.90	13.15	11.25	11.75
	Lumo	8.70	8.65	8.75	12.70	11.35	12.00
	Country Average	9.28	9.23	9.33	12.93	11.30	11.88
June	Retail	10.00	10.00	10.00	13.00	11.25	11.85
	Lumo	9.01	9.00	8.95	12.50	11.35	12.00
	Country Average	9.51	9.50	9.48	12.75	11.30	11.93
July	Retail	10.10	10.12	10.12	13.00	11.25	11.75
	Lumo	9.05	9.05	9.08	12.25	11.35	12.00
	Country Average	9.58	9.59	9.63	12.63	11.30	11.88
August	Retail	10.19	10.12	10.12	13.25	11.25	11.75
	Lumo	9.00	9.05	9.08	12.25	11.35	12.00
	Country Average	9.60	9.63	9.63	12.75	11.30	11.88
September	Retail	11.00	11.06	11.05	13.50	11.25	11.75
	Lumo	9.18	9.15	9.18	12.25	11.50	12.00
	Country Average	10.09	10.10	10.11	12.87	11.37	11.875
October	Retail	11.00	11.06	11.05	13.50	11.25	11.75
	Lumo	9.00	9.00	9.10	13.58	11.75	11.75
	Country Average	10.00	10.03	10.07	13.54	11.75	11.75
November	Retail	11.10	11.10	11.10	13.50	11.25	11.75
	Lumo	9.05	9.10	9.10	13.58	11.75	11.75
	Country Average	10.07	10.10	10.10	6.79	11.50	11.75
December	Retail	11.15	11.20	11.15	13.65	11.25	11.75
	Lumo	9.20	9.20	9.18	13.58	11.75	11.75
	Country Average	10.17	10.20	10.16	13.61	11.50	11.75

Retail Markets are markets where commodities are sold in small quantities using local units (i.e., Cigarette cups (0.25 kg), baked beans cup (0.15 kg), Tomato tins (2.2 kg.) etc., and in kilo weights and price control cups (0.2 kg).

“Lumo Markets” are markets where commodities are sold in both small and large quantities of 50 kg or 100 kg bags.

Source: Market Statistics Section, NASS, 2004 (DOP/DOSA)

Commodities are sold in Dalasis per cup. Thus, the figures above represent the unit prices per cup for each grain commodity. The exchange rate fluctuates between \$1/D18 to \$1/D30 (eighteen Dalasis) ratio.

Generally, the average Lumo grain prices are lower and more affordable than the average retail grain prices for The Gambia except for the month of November when the average Lumo price of the imported long grain rice was higher than the average retail price for long grain rice. That is, in the month of November the average Lumo price of the imported long grain rice was D13.58 per cup while the average retail price was only D13.50 per cup, constituting eight unit-points (D.08 or 8 bututes Gambian currency) price difference. Inquiries to this anomaly indicate hoarding and price hiking of imported rice by traders at Lumo(s) when the supply is low or expected to be low. Thus Lumo prices of imported goods are more subjected to sudden rise in prices than retail market prices generally are. On the other hand, average prices for locally produced commodities appear stable at the Lumo(s). (These prices are typically low. It would be better for the producers, however, if prices of locally produced grain were more competitive, thereby preventing market forces from driving grain export to Senegal by local producers. This in turn would help retain Gambian stockpiles for greater food security.) This is one of the reasons why Lumo participants interviewed during the qualitative portion of this research might have thought that Lumo(s) are more beneficial to them than daily markets are. This table underscores the highest increase in grain prices in December; just before the improved paddy varieties are harvested or processed (another peak hungry season is late August to September). Moreover, fluctuation in prices of imported goods is one drawback with which village residents have to contend, which exemplifies why producers in the 1970s displayed so much enthusiasm and ready acceptance of any technologies that promised self-sufficiency in rice and less dependence on imported rice. So far, however, all such efforts and the enormous resources invested have amounted to virtually nothing. Carney (2008: 3; see also, Plateau, 2009) attribute this failure to IMF's "single minded focus on comparative advantage [that] replaced import-substitution policies" designed for the government parastatal to support irrigated rice farmers through provision of and easy access to production technologies. These technologies include farm inputs, in order to promote the country's food self-sufficiency. In this process, Carney (ibid) contends, structural adjustment programs created a disarticulated economy and reproduced the bifurcation between urban seaboard, where one third of the country's population resides and depends predominantly on processed imported food, and rural populations that live on inadequate supply of homegrown food. Owing to the devolution of government parastatal, rice producers from the countryside are denied the capacity, including transportation, marketing infrastructure, and input delivery system, to capitalize on the growing urban demand for rice. Thus, "In dismantling the capacity of the state to provide

agricultural services, the economic reforms contributed to disenfranchising domestic rice growers from a ready market for their output. Imported rice, its costs in foreign exchange and compliance with structural adjustment programs since 1986 have left rural economy in ruins” (ibid, p. 5). Thanks to structural adjustment programs, then, Gambia will be food import-dependent for the foreseeable future. Even the introduction of the drought tolerant hybrid known as New rice for Africa (Nerica) (a cross between Asian and African rice), which yields more than High Yielding Varieties without any need for fertilizer application, cannot help meet domestic requirement (ibid, p.20). Therefore while it is true as Boone (1996) indicates that IMF structural adjustment program loans and foreign aid do more harm than good to developing countries like The Gambia, his alternative that they adopt new technologies is problematic under the neo-endogenous approach. This approach is not opposed to transfer of technologies and new ideas; in fact, it heralds such innovation as it upgrades worker skills and knowledge. What it demands, however, is their appropriateness and sustainability under local conditions. Boone (1996) is once again right in pointing to the political temptations to misuse aid by both donors and receiving countries, particularly when used for “attack by omission,” a political tactics that deliberately uses hunger as weapon against dissent (Flores, 2004: 11). Undoubtedly this weapon subject marginalized groups to greater deprivation resulting in pervasive malnutrition.

Table 4-3 indicates the ranking of divisions/regions according to various food security indicators including availability, access, and utilization. Malnutrition is often thought of as only a measure of calories¹⁸ consumed per day by an individual. However, malnutrition can be defined broadly to include dietary deficiency of micronutrients (involving deficiencies in micronutrient such as iron, iodine, vitamin A, and the other vitamins, major and minor trace elements that are necessary for good health); secondary malnutrition is:

... associated with the complex interaction between diet and illness especially virulent diseases. The main killer of undernourished children is diarrhea, but other major killers are pneumonia, influenza, bronchitis, whooping cough and measles. Some conditions mean that the body cannot exploit the food that is available and this, results in secondary malnutrition. The most common causes of secondary malnutrition are diarrhea; respiratory illnesses; measles and intestinal parasites...loss of appetite; poor nutrient absorption; diversion of nutrients to parasites. Death due directly to undernutrition are limited, the bulk of deaths being from diseases associated with undernutrition.

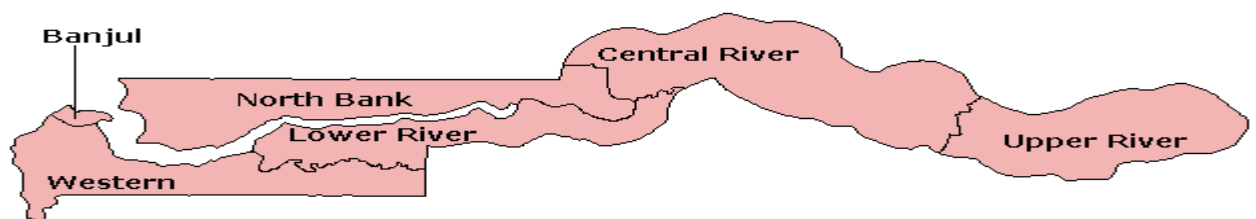
¹⁸ FAO uses a Basic Metabolic Rate (BMR- the caloric expenditure of an immobile body in a warm environment) of 1.54, which allows for light activity but not manual labor (ibid, p. 27) as the amount of calories required to provide sufficient energy for normal activity.

Undernourished people are more vulnerable to diseases than those with adequate nutrition. Diarrhea and Pneumonia remain two of the most serious causes of death among children in the developing world, claiming millions of children per year (Young, 1997:19).

The final form of malnutrition is undernutrition, which occurs when an individual's diet is short of calories and/or protein necessary for normal growth, body maintenance, and the energy required for normal activity. This kind of hunger is most common among the poorest populations in the developing world (ibid, p.25). According to Young, undernutrition increases susceptibility to infectious diseases in developing countries. Symptoms include marasmus and kwashiorkor, wasting diseases associated with severe undernutrition (p.26). Similarly, when the body does not get enough calories it breaks down protein to use as energy, leading to the impairment of brain development among children. There is little wonder then that UNICEF and other health organizations use anthropometric measures (which gauge considerable information) to determine individual food insecurity in developing countries. Why is it that within the same country some people suffer a higher incidence of hunger than others? Young observes that the difference lies in sharp contrasts that exist between those who enjoy decent diets and the marginalized groups who do not.

Based on the ranking criteria shown in Table 4-3, the Western division, including Brikama, produces only 29% of its total cereal consumption requirement and thus would have been food insecure were it not for its income diversity and other natural resource endowment which is attributable to urban bias introduced by the bifurcated state dating back to the colonial era.

NOTE: Divisions are now known as Regions.



The Gambia is divided in five divisions/regions and one city:

- 1) Western Division (Brikama)
- 2) North Bank Division (Kerewan)
- 3) Lower River Division (Mansa Konko)
- 4) Central River Division (Janjanbureh/Georgetown)
- 5) Upper River Division (Basse).

The Capital is Banjul. The divisions/regions are further subdivided into 37 districts.

Source: http://en.wikipedia.org/wiki/Divisions_of_The_Gambia

Table 4-3 Ranking of Divisions According to Various Food Security Indicators

DIVISION	AVAILABILITY		ACCESS		UTILIZATION		FOOD SECURITY	
	% of needs covered by Production ¹		% of population below extreme poverty line ²		Female Literacy Rates ³		Stunting (Height for age) ⁴	
	Ranking	Statistics	Ranking	Statistics	Ranking	Statistics	Ranking	Statistics
Western	1	29.4%	4	50%	5	16.8%	4	20%
North Bank	5	94.7%	2	71%	4	14.3%	3	29%
Lower River	2	54.2%	2	71%	3	12.9%	3	29%
Central River	4	92%	3	62%	2	11%	2	33%
Upper River	3	88%	1	73%	1	5.7%	1	38%

Source: CRS Senegal and Gambia offices. FY 2002-2006 Development Area Program, Proposal.

Note: A ranking of 1 indicates the most food-insecure and a ranking of 5 indicates the least food-insecure by divisions. A division is the same as a region within the country.

¹Surplus/Deficit production calculated by dividing regional-level total cereal production with consumption requirements for cereals- defined by CILSS as 190 Kg/per capita for Sahelian countries, FAO/GEOWEB (% of need covered by production)

²Government of The Gambia: 1998 National Household Poverty Survey Report, Banjul, The Gambia 1998 p. 174 (% of population below poverty line).

³GOTG, Central Statistics Census 1993 (Female Literacy)

⁴GOTG, 1998 National Household Poverty Survey Report. 1998 pp.79 (Stunting)

The North Bank division, including Kerewan, and the Central River divisions, including Jangjangbureh and Kuntaur, although, produced 95% and 92%, respectively, of their cereal consumption requirement, which meet almost 100% of the amount required, is generally more food insecure. As this table indicates, availability does not translate to access and utility due to various factors dealing with distribution and other mitigating circumstances. For example these regions despite high grain production, still exhibit high prevalence of poverty which is a marker that they would sell greater portion of their much needed grain, in order to obtain other goods and services, including health care, education, and miscellaneous items, ultimately rendering them food insecure. According to this table, female literacy is robust in mitigating conditions leading to individual food insecurity. This is a significant finding given that individual food security is a more accurate measure than household, regional or national estimates. Ultimately, every individual counts whether

affluent of marginalized. It is not surprising, then, that a neo-endogenous approach advocates infrastructure development which includes adequate health care for expecting or lactating women, children and the elderly, as well as greater access to education that fosters appropriate feeding practices by child caregivers (Staatz et al, 1990).

With all things being equal, these figures make it seem as though North Bank and Central River divisions are more food secure than the Western division. This is of course far from the truth. More importantly, it must also be noted that many households in the rural areas have family members living in urban areas, whom they provision a large portion of their produced grain, thus reducing their own stockpile. These urban residents reciprocate by sending their families in rural areas, employment remittances. The Western division is the least food insecure despite lower grain output because it has an enormous resource-base that includes forest and marine products, the most productive horticulture system that involves peri-urban agriculture, proximity to the capital, the tourist industry and the major ports. Thus what it lacks in the amount of grain production it more than makes up for in other resources, and families have the power to purchase imported goods from other regions as well internationally. This is an epitome of the rural-urban continuum and the networks that link the two together and makes them interdependent. In terms of access, the Upper River division ranks highest (73%) among those who lie below the poverty line (the number 1 indicating the most food insecure) while due to urban bias, the Western division ranks highest among the overall food secure areas in the country. In terms of utilization, according to the estimates in Table 4-3, again the Upper River division would be ranked highest among the food insecure because it offers the least amount of education (5.7%) to its females as compared to the Western division which offers the most and the highest level of education, thus acting as a buffer against food insecurity. In terms of the stunting rate caused by protein malnutrition, again the Upper River division ranks highest (38%) among the food insecure regions, followed closely (33%) by Central River division, with North Bank (29%) and Lower River divisions coming in third (29%), the Western division has the least incidence (20%) of stunting. These results support the notion that individual measures of food insecurity in a country are decoupled from aggregate per capita indicators, which often distort information on people vulnerable to hunger and starvation. The neo-endogenous development envisaged in this study would level the playing field in capacity building between rural and urban areas and transfer significant powers and funds to local actors to build appropriate and needed infrastructure that will enhance their livelihoods.

Such infrastructure is largely lacking and its absence is exposing households and individuals to widespread and severe malnutrition. Thus, Table 4-3 provides evidence for both individual level malnutrition and distribution of social capital in different regions of the country. Although this study ranks regions differently according their food insecurity level from methods used in the Staatz et al. study, the results are fundamentally similar. Table 4-3 also suffices as an anthropometric measure of individual food insecurity. However, as Staatz et al. (1990) indicate, the reasons for malnutrition also include as mentioned above, poor health, particularly malaria and improper feeding practices, especially at times of weaning, due to lack of education of caregivers. The government is making concerted efforts to educate mothers by disseminating relevant information to them in order to improve children's diet and increase individual food security in the nation. The government has embarked upon a campaign that promotes a six-month exclusive breastfeeding practice (GOG, 2006). Nonetheless a large entitlement bundle offered by neo-endogenous development includes income-source diversification that can serve as a buffer to food insecurity. Next, I analyze the trends in agricultural production.

It is important to find out whether producer mobilization to reduce peanut production in favor of increases in early maturing grains such as early millet and rice has reduced the level of food insecurity through food self-sufficiency in rural areas. Table 4-4 provides a summary of food production trends of the major crops in The Gambia between the 1974/1975 and 2006/2007 growing seasons. The results show that the total crop yields over the years has not been consistent. For example, the total yields have increased two-fold from 2003/2004 to 2006/2007 seasons when production reached 363 metric tons, as compared to the 1999/2000 seasons that produced only 152 metric tons. In that same period, production of peanuts/groundnuts increased merely from 123 to 150 metric tons as compared to early millet production that increased from 73 to 117 metric tons. There is an increase in the production of coarse grains in general while rice production has declined in comparison. This was expected, given that Gambians historically return to coarse grain production, particularly early millet, when people are threatened by food insecurity, as Webb Jr. (1992) aptly underscores. Since independence in 1965, there has been a commitment by policy makers to make the Gambia self-sufficient in food that has been the basis of many technology transfers to improve The Gambia's staple crop, namely rice. The question is, why does the country and international donors pursue the same transfer of technologies that have for many decades produced little results, as evidenced by large rice imports? The neo-endogenous development calls for participatory research that has the best interest of rural

communities in mind and would enlist women as producers in efforts to develop technologies that will improve their traditional rice varieties which took centuries to develop, rather than adopting ones introduced by seed companies and risk losing their original genetic materials.

Table 4-4 Evolution of the (Production of Major Crops¹⁹) (in 000 MT) 1974/75-2005/07

Year	Groundnuts	Early Millet	Late Millet	Maize	Sorghum	Paddy Rice	Total crop
1974/75	145.20	6.80	11.70	10.90	8.00	26.10	210.20
1975/76	141.10	3.60	9.30	4.80	7.40	27.20	194.60
1976/77	143.00	3.00	8.10	4.50	9.60	18.00	187.10
1977/78	100.00	4.40	6.40	7.00	11.90	17.20	147.50
1978/79	133.4	9.60	10.30	9.50	12.20	28.30	205.10
1979/80	66.90	1.70	7.00	6.60	8.80	29.40	121.50
1980/81	60.20	5.40	9.90	6.30	13.70	42.70	140.90
1981/82	108.90	14.50	14.70	12.50	12.80	39.50	207.80
1982/83	151.4	16.90	16.80	17.00	15.70	33.70	255.10
1983/84	113.8	14.40	11.70	8.50	7.10	26.10	182.75
1984/85	105.1	22.90	15.60	12.50	8.20	27.20	194.06
1985/86	75.80	43.00	11.60	26.50	11.60	23.10	194.06
1986/87	110.35	38.75	12.40	17.30	9.00	24.46	194.39
1987/88	120.00	38.20	11.42	15.44	6.55	20.43	214.00
1988/89	98.36	33.65	14.34	15.52	7.16	29.49	213.20
1989/90	129.90	38.01	12.68	14.14	10.72	21.23	202.82
1990/91	74.53	36.08	10.81	13.63	8.23	21.00	230.08
1991/92	84.16	49.65	8.21	20.42	12.18	20.53	166.15
1992/93	54.87	36.02	10.24	18.27	12.26	19.41	173.7
1993/94	76.72	43.66	8.51	23.78	8.97	12.05	173.69
1994/95	80.80	44.09	8.75	13.31	8.90	20.27	173.7
1995/96	75.18	43.44	10.58	13.63	11.87	18.95	175.24
1996/97	45.82	49.50	11.99	10.02	13.72	18.19	149.00
1997/98	78.10	54.37	11.72	8.47	12.93	13.05	224.66
1998/99	73.46	55.60	8.07	13.01	9.87	26.64	224.66
1999/00	122.86	72.62	8.34	20.42	17.97	31.65	151.73
2000/01	138.03	78.47	16.11	21.99	24.88	34.08	176.04
2001/02	151.07	89.02	15.95	28.99	33.42	19.20	337.65
2002/03	71.53	77.34	7.28	18.58	15.21	20.33	212.0
2003/04	92.94	107.14	13.20	30.13	33.35	31.22	309.21
2004/05	135.68	115.98	16.52	29.21	29.00	34.30	356.21
2005/06	140.66	109.12	17.08	27.70	28.46	18.14	341.16
2006/07	150.14	116.69	18.14	29.51	31.17	17.08	362.73

Source: National Agricultural Sample Survey/Department of Planning, 2007.

¹⁹ Crop production trends for the whole country.

This effort will include women as stakeholders who partake in the decision-making process because traditionally they have been the sole producers of rice and have acquired greater knowledge, especially of the indigenous rice, than their male counterparts (Carney, 1993). Furthermore, there must be guarantees put in place for them to retain entitlements to the outcome of the research and development that include land tenure and patents to genetic materials, a practice, which was very seldom the case. The neo-endogenous approach expects peanut production to decline due to unfavorable terms of trade for the peanut market, but a dramatic decline was not expected as the country still relies on foreign exchange earnings that the cash crop generates. The capacity building that is promoted by this approach involves income generating activities and diversification of crops both for subsistence and export, as insurance against diseases and crop failure wrought by drought, fertilizer and herbicide treadmills (see e.g., Altieri, 2000; Middendorf et al., 2000). Although some of the stakeholders in the network, such as agents for seed companies, have greater interests in promoting their own products, neo-endogenous development stipulates a departure from caving into pressures from such interest groups to adopt their technologies if they are neither sustainable nor provide food security to rural communities (Ray, 2006). The Gambia's food security must include the diversification of the income sources.

Table 4-5 below shows that on average households in the Brikama area or Western division earn the highest income (in Dalasis and bututs or D, The Gambian currency) D10,325 from sale of food crops including fruits, vegetables, oils, and cooked food, while Basse located in Upper River division ranked highest in the sale of cash crops (most probably peanuts). The picture is clear in terms of other income sources, as the Brikama local government area in the Western division ranks highest in the households averaging D10,489 for salary/wage and D11,698 in remittances.

The region also earns the most income selling game or fish. Kerewan in North Bank division and Basse in the Upper River division, on the other hand, sell most of the livestock. When one compares these findings with Table 4-6, auxiliary activities in which households engage, the Western division drew a clear picture as to the value of its involvement in forestry. Two estimates are surprising. The first one was the highest number of households in Basse that are involved in agricultural projects as compared to Kerewan, for example.

Table 4-5 Source of Cash Income of Households by LGA

LGA	Sale of Food Crops	Sale of Cash Crops	Sale of Livestock Products	Sale of Farm Produce	Salary From Workers	Remittance From Outside	Other (Hunting Fishing)
Brikama	10,325	7,551	3,473	-	10,489	11,698	2,771
Masakonko	1,504	4,090	1,752	-	2,506	3,683	1,202
Kerewan	3,423	6,800	8,190	95	2,663	7,226	2,002
Kuntaur	5,902	6,436	5,779	80	59	675	59
Janjanbureh	4,342	6,408	1,369	-	1,130	2,022	1,241
Basse	183	10,830	6,304	393	-	5,167	-

Source: Department of State for Agriculture (DOSA) 2005- 2006.

The second surprising factor was the high level of hunting (there was minimal level of fishing since this region lacks fishing resources) in the region, yet as Table 4-5 indicates, none of the game was sold for cash. Perhaps this is not surprising, given limitations in other protein sources; families consume the game they hunt rather than sell it.

Table 4-6 Auxiliary Activities of Agricultural Holdings by LGA

LGA	Forestry	Have access to irrigation	Fishery	Remittance from outside	Involved in any Agricultural Project	Other (Hunting, Fishing)
Brikama	3,433	-	696	8,698	2,027	1,469
Masakonko	328	-	407	2,696	1,590	730
Kerewan	716	-	315	1,327	2,986	2,685
Kuntaur	414	-	485	-	1,982	-
Janjanbureh	1,467	1,268	596	-	9,302	686
Basse	-		183	2,510	11,055	1,485
The Gambia	6,359	1,268	2,683	15,231	28,943	7,055

Source: Department of State for Agriculture (DOSA) 2005- 2006.

The results of the quantitative data analysis are consistent with those in the qualitative analysis. That is, food insecurity is more prevalent in rural Gambia the farther East one travels from Banjul to the hinterlands. This difference is due largely to the way in which natural resources are distributed in the country. This includes variation in the landscape gradient and rainfall patterns that affect soil fertility, access to forest products, and multi-season crop production. Rural communities in the Western Division/region that are in close proximity to the capital, air transportation, ports, and the coast are found to be more food secure than rural communities in the hinterland, where soil nutrients appear depleted due to over cropping. Despite their lower per capita grain production as compared to their counterparts up-country, rural communities in the Western Division live in areas endowed with more diverse sources of income and other food products especially fruits and vegetables (which also export to the winter European markets). These provide them with larger entitlement bundles and consequently make them more food secure than communities with fewer resources and means. Children in the Western Division have greater access to snacks because orchards and marine goods are more abundant in this area. This may explain why, as Table 4-1 indicates, no Lumo(s) are listed under the Western Division; perhaps this marketing system is less practical in the urban Gambia than the retail markets that are concentrated in this region. This can be contrasted to the movement in the rural Western nations where the farmers' markets are flourishing in order to provide an alternative to the conventional foods and marketing system. That is, consumers are more committed to quality than concern for sustenance. Whereas Lumo attendants are also focused on short food mileage, they are constrained more by transportation requirements than motivated to make a political statement of dissent against global free trade arrangements. Thus, these patterns of response to global economy raise questions as to whether or not the Lumo is a phenomenon invented by poor rural communities for the exclusive purpose of meeting their food security needs. In this instance, what is produced locally is consumed locally, and access to cheap international goods is preserved, which precludes the need to pay transportation to seek such goods elsewhere in the country or neighboring Senegal.

The quantitative data show prevalence of child malnutrition in the Gambia. Recent data collected from 2004 to 2006 indicate that food insecurity remains the number one problem for rural Gambians. These findings are consistent with IMF (2007) and The Gambia's country reports on the per capita food security problems. Analyses of the qualitative and quantitative data are supplemented by documents on fiscal expenditures,

import, and export strategies as well as policy issues to boost the economy. One crucial finding is that regions that had agricultural interventions are more food secure than regions that did not receive similar interventions. Overall, the findings, both qualitative and quantitative, corroborate issues that were raised by Staatz et al. (1990) on food security in Mali, West Africa.

Food procurement data was discarded because they combined information on both what was distributed for home consumption requirements with a portion (GOG, 2007) that was re-exported to neighboring countries, as a means of generating revenue for The Gambia. Thus, it was difficult to decouple the proportion that was distributed and consumed within the country and the quantity that was re-exported. However, it underscores how badly the country needs foreign exchange indicative of its willingness to re-export some of the procured food even as the greater proportion of the population is starving.

These facts are summarized and discussed in the next chapter, where more light is shed on areas that the government and the international donors, including the IMF and World Bank, perceive as needing further intervention in order to stimulate and sustain The Gambia's economic viability. Although the results are not robust due to minor inconsistencies in the data, on the whole, the concurrent triangulation method (synergy of various data sources) employed in this study provides important clues to the nature of food insecurity and demonstrates the usefulness of social networks theories such as the neo-endogenous model, and the ways in which they can inform policy on rural development. This is a significant departure from previous classical economic and other structural approaches that sought to explain large-scale global political economy through deductive methods instead of observing context specific issues.

Overall, the results indicate that development has eluded Gambians as it has many in other developing countries, a sentiment that Gustavo Esteva expressed about Latin America. Esteva urged, "My people are tired of development, they just want to live" (George, 1995: 27). Many people in the developing world would agree with this statement—especially after U.S. President Harry Truman's assertion, during his inaugural address that "We must embark on a bold new program for making the benefits of our scientific advances and industrial progress available for the improvement and growth of underdeveloped areas... (McMichael, 1996:30). This statement specified the trajectory that modern development project would take. Contrary to Truman's vision that the old colonial powers exploited these "areas" for profit and that this system of exploitation was not in his plan of development, hunger is the state of affairs in many less developed countries including The Gambia. The

fulcrum of the U.N. charter, which envisaged a rising standard of living as its global objective measured by per capita gross national product of countries, has not been realized because industrialization and the opening up of new frontiers were the bases of the modern development project (ibid). However, countries like The Gambia that could not industrialize were forced to continue with the production of raw materials established during the colonial epoch. Local farmers in The Gambia continue to produce peanuts for export instead of focusing on crop diversity and subsistence agricultural production. For this reason, the notion of development as construed by the West has lost its international flare and is no longer shared universally. The high rates of unemployment, insecurity, and poverty amid riches, as well as general questions about sustainability of Western lifestyle, have cast doubts on the rhetoric of the development project as a viable option for sustenance of life on our planet. Despite these shortcomings, development as designed by international donors follows the same premise of technology transfer to The Gambia that has failed for more four decades. How else can we explain the food insecurity that plague more than 60% of the population, many of them agrarian communities who have direct entitlement to their produce? As Carney (2008) succinctly points out, the structural adjustment program serves only one function: to provide comparative advantage to Western-based investors rather than secure welfare of developing countries. The neo-endogenous developments is the sustainable alternative to modern development just discussed, creating a win-win situation for rural communities as well as potential investors, but only on condition that development begins at the bottom. Embedding economic activities in socio-cultural life reins in human element and rejects exclusive pursuit of individualism and profits. Overall, the present study illuminates the dynamic of socioeconomic development in The Gambia and demonstrates how the neo-endogenous approach helps identify the problem of food insecurity. This approach, conceptualizes and operationalizes key indicators of food insecurity, and ultimately suggests practical solutions that involve devolution of significant powers to the rural territories to chart the course of their own developmental agendas as well as extra-local input in the form of program interventions. Evidence implies that Rural Gambians are not asking for economic affluence characteristic of Western nations, they simply want to be food-secure in order to live.

CHAPTER 5 - Discussion and Conclusion

Hunger plagues West African Sahel even as Western nations in the 21st century produce food at an unprecedented scale, to the extent that grain is fed to livestock confined in feeding operations and used to produce ethanol to fuel automobiles (Pollan, 2006; Wright & Middendorf, 2008). The staggering choice of foods for consumers is at times overwhelming, as food shelves display a myriad “choices” comprised largely of reconstituted basic foods (Busch, 1991; Marsden, 2006). Though the hunger-stricken do exist in pockets of these countries, particularly in urban slums (Allen, 2004), here in the West, indeed, comparatively few people go to bed on empty stomachs.

In analyzing the problems of food insecurity and rural development, it becomes apparent that conjoint influences exist: 1) the global political economy and 2) the emergence in counter-movements seeking to reorganize agriculture and food in the countryside both need to be considered. The disparity in the level of food security between the West African Sahel region and Western nations is due, in part, to differential developmental trajectories that, according to extant literature, are rooted in colonial legacies and extend to the current global political economic scene. While there is recognition and consensus about the menaces of hunger in the world generally and in West African Sahel specifically, academic scholarship has tended to view these development trajectories as unidirectional, as flowing downward from under the influence of social institutions, be they cultural, economic, or political. This deterministic view loses sight of agency that is manifested in the bottom-up or grassroots movements, which partake in the social construction of reality and which mutually, influence the direction of change (Giddens, 1984; Long, 2008; Marsden, 2006; Murdoch, 2006). In this study, the neo-endogenous approach to rural development attempts to reintegrate the mutually reinforcing constraints of structure (institutional imperatives) and the fluidity in agency that is equally important in shaping and directing causes of human action (ibid). According to Ray (2006), the neo-endogenous can be operationalized as entailing the restructuring of responsibilities and powers of institutions (including interested voluntary groups or private business sectors) in the process of capital accumulation at territorial levels as well as national or international levels. These restructuring and power dynamics require analysis that focuses on development as a discourse between the local networks and extra-local actors. These linkages between global political economic forces

and social networks in the countryside epitomize the nature and dynamics of development and food security issues in The Gambia.

In the global economic system, capital accumulation assumes a form referred to as autopoiesis, a form by which capital is able to monitor and regulate itself as an organism would, adapting to the current environment (Ray, 2006:284; see also Goodman, 2004). For policy efficiency, extra-local actors use discourse involving symbolic exchange, such as cultural and territorial identities, to gain control over modes of production and distribution of the products of specific localities. This identity politics is designed to establish legitimacy of interventions by which the state renews its managerial power and institute social control through subtle means. It is through these subtle means, then, that local actors become voluntarily embedded in the territorial logic of distinctive identities of culture and product. Having bought into the logic, dominant local actors will act to prevent any shocks to the new emergent system, shocks such as food shortages and crisis or environmental degradation. According to Ray (*ibid*), this type of self-regulation becomes grounded in the logic of convention and shared ways of understanding that these conventions entail. Although the neo-endogenous approach was formulated to address socioeconomic and political restructuring in Europe, it has applicability to West African Sahel rural development. The two foci of development are not mutually exclusive given the influence of Europe on Africa not only through its current extra-local transfer of funds, but also based on the historical relationships between the two societies. Europe's territorial development may have artificially created identity politics to promote pan-Europeanism as Narotzky and Smith (2006) suggest; however the development of Lumo(s) in The Gambia was not adulterated in the same way in that state support would follow local network persistence in making the Lumo work. However, this village initiative still has to contend with the effects of global politico-economic reforms.

There is little doubt about the links between West Africa's historical economic conditions, conditions that extended from the colonial period through the post World War II era of development projects, and the current economic issues associated with structural adjustment programs imposed by international donors such as the World Bank and the IMF (Carney, 1996; Paarlberg, 1999; Schroeder, 1999). The extant literature also posits that causes of rural underdevelopment in general and food insecurity in particular are multifaceted, involving both internal factors as well as external ones *viz.*, natural catastrophes. Systematic desertification and the consequent droughts that leave livelihoods in a state of precariousness have especially impacted this region, as the majority of people

depend entirely on agriculture to meet their basic needs. Erratic rainfall patterns and the vagaries of the international cash crop markets have limited the options rural Gambian communities, particularly peanut farmers, have for their survival. Overcoming these seemingly insurmountable obstacles is no small feat given their equally limited natural resource base, social capital, and poor social infrastructure inter alia, education, health, appropriate technologies, research, and development. These pressing issues have provided the impetus for extensive research among scholars, governments, international donors, and NGOs, both national and international. However, academic scholarship has failed to investigate concurrently the top-down and the bottom-up perspectives of rural underdevelopment and the consequent food insecurity problems they pose for the inhabitants of rural Gambia. Consequently, this gap in research set the stage for the present study.

This study advances a theoretical framework involving the neo-endogenous approach to analyze the nature and gravity of food insecurity problems and the new landscape of rural development in The Gambia, West Africa. This approach also offers solutions that the stakeholders seek out to alleviate food deprivation that afflicts the vast majority of Gambians. This embeddedness theory of rural development illuminates the dynamics of rural development, recognizing what Ray refers to as the interconnected territorial linkages that foster intensified interaction between the local and the extra-local network of actors vested in rural development. This networking epitomizes:

Flows of people, experiences, products and languages... [that] result in a parade of cultural signs in each participating territory. Sometimes, if the common identity constructed proves to be particularly effective, this may lead toward cultural mixing; each territory (insofar as it is a participant in the project) becomes a mirror image of the others so that the primary entity is not the component territories but rather the cooperative networks (2006:290).

According to Ray, at other times inter-territorial cooperation may promote specificity of each local culture when juxtaposition of each local territory's practices provides examples. Thus, this theoretical framework attempts to rework the relationship between structure and agency by highlighting the complex interdependence between them. Evidence of this claim appeared in Wassu village where qualitative research in the present was conducted.

Here, the quest for survival led to the establishment of a weekly rural market that draws in scores of immigrants and itinerant traders from neighboring countries who have coalesced into a single unit interested in the growth and development of the village. At the same time, they bring with them new cultural symbols and meanings interwoven into the socio-cultural practices of local villagers.

The Social embeddedness of Lumo(s) as Livelihood Means

Consequently, the analysis in this study focuses more on aspects of the Lumo that are socially reembedded within the village rather than on contrasting identities of residents that may co-exist within this context. What was observed was that infusion of different cultures enriches the village life, increasing the survival chances of the rural people. The neo-endogenous approach also underscores the role of extra-local input that made the Wassu Lumo a viable entity because inasmuch as the villagers initiated the Lumo, they could not sustain its operation due to inadequate infrastructure. This inadequacy led to its incineration on three separate occasions. A seemingly symbiotic relationship emerged between the Lumo attendants and the Area Council office that helped construct permanent structures on the Lumo site, by way of tax revenues collected from vendors (although some vendors resent the obligation to pay taxes). At this juncture, it is important to note that the presence of cheap commercial import goods that foreign firms dump at the Lumo is attributable to the political economic restructuring of the neo-liberal model that has made inroads into rural settings. Thus, there is reason to believe that elements of *gesellschaft* ([Tonnies, 1893] 1957) that promote instrumental, calculated market relations alongside social solidarity that is typical of country life also exist in an area even as remote as Wassu. Therefore, although the central role of the Lumo is to serve as a distribution center for agriculture and food commodities, it at the same time enables villagers to purchase farm implements and “white goods” originating from extra-local sources (see, e.g., Goodman & Redclift, 1991). However, such external influences have the potential to erode trust and unity that people come to expect in rural communities (Knutsen, 2003). Granted, every Lumo attendant has a stake in its viability, but villagers have a higher stake in it than outsiders, as their livelihoods seem to depend more directly on the Lumo’s success through multiplier effects of employment and revenue generation (Goodman, 2004; Hinrichs, 2003; Knutsen, 2003; Ray, 2006). Thus, policymakers can be informed by the neo-endogenous approach about cultural sensibilities that may serve to promote the success of intervention programs launched in specific rural contexts. However this success is contingent upon their willing to devolve all responsibilities and significant powers to democratically elect local representatives and the rural population at large.

Current analyses indicate that rural folks in The Gambia are scrambling to reembed agriculture and food in their economic activities by endogenously (from local level) initiating and establishing weekly rural markets in order to sustain their livelihoods. This requires charting new courses of action involving the formation and/or reinvigoration of traditional

civil societies and work groups or cooperatives, and the reaching of consensus on self-governance and unity. An argument could be made that rural communities were responding to structural changes per se; however, consistent with endogenous/local development schemes, local agency dates back to the colonial era when rural residents acted on their own socioeconomic interests to produce coarse grain while disregarding pressure from the government to increase peanut production for export. Even though farmers understand that the country depends on cash crop production for its foreign exchange earnings, they make independent decisions, as they have historically done when faced with food insecurity, to allocate more hectares to coarse grain production (see also Carney, 2008; Webb Jr. 1992). It is no wonder then that Long's (2008) actor-network approach emphasizes the need to understand from actors, rather than from the observers' own interpretations, features of their action (for doing what they do) as well as the reasons behind their behaviors and actions such as the idiosyncratic practices. Traditional quantitative scientific methods alone tend to occlude evidence of deprivation engulfing marginalized group of people in rural areas. The results obtained through strict adherence to such methods will likely be confounded by social capital and cultural capital embedded in face-to-face relationships of rural actors. Such results may fail to fully reveal development's long-term benefits generated from extra-local input. Therefore it is necessary based on neo-endogenous approach to explore concurrently the processes involved in Gambia's territorial development, the vitality of local socioeconomic initiatives and the effects of the much-needed extra-local intervention after the 1980s structural reforms.

That is, the economic restructuring of the 1980s abolished government-led and operated cooperatives, thereby denying farmers access to farming tools and subsidies on which they had for so long depended for agricultural production. This action thereby caused their production output, especially paddy, to plummet. Contrary to the neo-endogenous approach, which requires transfer of adequate funds to rural areas by the central government, structural adjustment's new policy measures privatize the economy and effectively impoverished rural communities by leaving them on their own with few options for sustenance. Rural actor-networks putatively took matters in their own hands to find sustainable livelihood means that resulted in the formation of Lumo(s) (extra-local help of government would follow upon request). However, there is no clear evidence that agency in The Gambia follows the same trajectory as that in the alternative foods movement in the U.S. and Europe that are "...associated with resistance to dominant groups and established forms of socio-economic development... and the establishment of more equitable socio-economic

conditions, along with direct engagement with the issues of resistance” (Bonanno & Constance, 2008:30). In these instances the processes of resistance entail conscious attempts to transform the established socioeconomic arrangements and to empower marginalized groups through social discourses that involve producers, consumers, and activists determined to challenge the global food system (Johnston, 2008; Ray, 2006; Wright & Middendorf, 2008). In these instances, rhetoric often includes references to food quality and safety, animal rights, environmental preservation, safe-working environment for agricultural workers, protest against child labor, sweatshop-based manufacturing, exploitation of women, the abuse of human and environmental resources, and organizing people to control their local resources. Bonanno and Constance (2008:41) propose, “better quality, healthier, culturally sensitive and environmentally sound products.” Henderson (2000: 187) also argues that to make a local food system more sustainable, it must be “... based on farms and gardens, of many sizes growing food in the most ecologically sensitive way, compensating farmers and farm workers with decent wages, respect, and safe working conditions, and distributing its benefits fairly so that everyone can enjoy fresh, nutritious, and safe food regardless of their ability to pay.”

This sort of reflexive agency is needed in Gambia, but as of now, is largely absent due to the current political climate in which decentralization is just a mere rhetoric—public policy is more de-concentrated with the state managerialism penetrating rural communities than fully devolving powers to democratically elected local authorities as required by neo-endogenous approach. For example although the Lumo has been effective for direct marketing, it does not have the capacity to distribute large quantities of peanuts produced in the country and thus farmers have to depend on the state to dispose of their produce. As Ribot (1999) indicates, the system of apartheid between urban and rural communities, which was introduced by colonial governments, is being reproduced by African states that give priorities to urban rather than rural infrastructure development. Rural communities have little power to change this situation. Since the change of government in 1994, the state warned against any citizen activities that may appear subversive and when people ignored these warnings and staged protests, they were severely dealt with. As a result, most rural communities are simply concerned with living day-to-day and making sure that their families are fed. Resistance takes on a covert form such as the independent decision to return to subsistence agriculture and allocating more land to coarse grain production instead of cash crop production. Such decisions do not elicit penalties that staging protests would. Even in the West such as Europe and the U.S. small producers and consumers may in some cases, be

ambivalent as to the course of action they must take against the looming structural constraints imposed by global food system (Jussaume & Kondoh, 2008). They have however, found partial solution to this problem through direct marketing that connect empathizing consumers with local producers.

The Lumo(s) were established rapidly, and so there is no evidence—at least not without further studies—of organizers’ reflexive involvement in subverting the agricultural food system. What is apparent is that the 1980s structural reforms left many rural communities at a socioeconomic disadvantage, and they had to act to find means of surviving. They decided on the Lumo as a total enterprise that integrates production, distribution, and consumption of agricultural products and technologies (see also, Bonanno & Constance, 2008). For the most part, the Lumo is credited for direct marketing, the local identity formation in Wassu village referred to as defensive localism, short-food mileage, and convenience (see also Hinrichs, 2003; Jussaume & Kondoh, 2008; Winter, 2003). Note however, that most of the participants of the Lumo are women engaged in petty trading who use their meager profit to supplement the household’s food stock and purchase miscellaneous items especially for the children.

The Women’s Role in Development and Food Security

No discussion on development and food security can be concluded without properly accounting for women’s contributions, which oftentimes flow not from top-down, but from the cornerstone, bottom-up economic foundations. Some of the village women in Wassu are involved in the Lumo by selling prepared foods, fruits, and vegetables, as well as other small commodity items. However, as Cole (1989) indicated, women traders typically operate on a smaller scale than their male counterparts who deal in imported goods, having a larger capital base to begin with and being able to arbitrage. Nonetheless, Gambian women like women elsewhere gain more respect in society by having an occupation and trade that provide this avenue for them. With limited educational background, entry into this occupation is easy because all she needs to start a business is her own produce and cooked food to sell. According to Cole (*ibid*), women do not perceive this gender specialization in trade negatively as long as they can lay claim to their own income. In fact, women have demonstrated their business acumen since the colonial period when they played indispensable roles in the distribution system and ultimately in the national economy generally (Cole, p.35.).

Furthermore, women's agency in the context of global economy is often overlooked (c.f., Carney, 1996, 2008; Schroeder, 1999); however, the country's entire economic system would falter were it not for their input. In colonial times women produced food so that men were free to produce cash crops for export. Lest anyone perceive Gambian women as backward in their business aptitude, it is important to note that some of The Gambian women, dating back to the colonial days, have surpassed men in their financial success, exuding keen knowledge of business (Ceesay, 2007). Some Gambian women also operate large-scale business—traveling internationally to procure merchandise, although they are few and far between. Moreover, gender specialization exists not only in business but also in food production.

The Role of Subsistence Agriculture on Food Security

The second component of this study was to underscore the role of subsistence agriculture in food security (Statz et al., 1990, Uvin, 1992). As Carney (1996) succinctly pointed out, West Africa in the pre-colonial period produced large quantities of food to feed whole empires while grain bins were still overflowing with surplus. Subsequent shifts to cash crop production served to undermine Africa's food security and safety networks. Since then, dependence on primary production of cash crops at the expense of food crops has opened up a cycle of poverty for rural families engaged predominantly on peanut production. According to Statz et al. (ibid), such increases in grain production is more helpful in mitigating food insecurity in rural areas, particularly those that cannot diversify their income sources to enlarge their bundle of entitlement to food than does peanut production (see also Sen, 1981). Statz et al. concur with Sen (1981) in asserting that per capita production may not be a good indicator for food insecurity at the household and individual levels, particularly when market forces during the peak hungry season allow millet to cross the borders into Senegal where prices are more competitive, hence causing food shortages in the countryside or an eventual rise in food prices (see also Scanlan, 2001). This notion of the market as self-regulating somehow does injustice to rural communities that are on the brink of starvation. This is one of the drawbacks of the free market system (well documented during periods of great famine around the world at different periods in history, see e.g., Sen, 1981). It was these market mechanisms that led to The Gambia's food insecurity.

Production of horticultural crops, however, seems promising in some areas and has a potential to replace and/or supplement peanuts as cash crop; however, this is predicated upon extra-local commitment and transfer of funds for rural producers to build infrastructure and improve on their processing, storage, and distribution facilities including value-added

endeavors or growing organic foods for Europe. There is clear evidence that horticultural production involving the peri-urban agriculture supported by international donors has provided high economic dividends, particularly for women and a couple of large-scale producers involved in the winter export business for European winter markets. Thus, adequate extra-local intervention would provide higher investment returns than peanut cultivation currently does. This potential increases as more rural participatory groups collaborate closely with extension works and academic personnel. It was this kind of networking between academia in Land Grant institutions in the U.S. and rural farmers that had enormously revolutionarized U.S. Agriculture and gave the country a political and socioeconomic tool to entice many countries to become her allies, leading to a new postwar world order beginning in late 1940s (Friedmann, 1982). Getz et al. (1999) suggests that forestry agencies and environmental activists in Africa take a similar collaborative approach to diversify rural income that will improve well-being of rural populations. Getz et al. (1999) noted that the goal is for policies and institutions to enable local people to have sustainable livelihoods where they have an effective voice at higher levels. With the help of the academic research group, rural networks in The Gambia can learn from Senegal what it takes to manage successful horticultural enterprises aimed at supplying European Winter markets (see also, Mackintosh, 1995). Currently, the horticultural market is dominated by a couple of large-scale enterprises owned by foreign nationals who are unlikely to provide multiplier effects for the communities. A number of communal and individual gardens exist but they are relatively small and do not generate as much revenue as the large farms do. Therefore, Getz et al. (1999) suggest that scientific methods be used to estimate, evaluate, and monitor the carrying capacities of various production practices under different environmental conditions. These include viz., wet season vs. dry season, project average long-term off-take rates and income flows as benchmarks for community leaders to judge project effectiveness. In order for this neo-endogenous approach to be effective, sufficient propriety rights and authority have to be given local communities, which may depend on their trust of the central government. Thus, horticultural activities can provide some rural communities a viable alternative to peanuts as cash crop, contingent upon their ecosystems' capacity to handle production as well as availability of adequate infrastructure. These products are presently being sold at the Wassu Lumo; however, despite its scale, the Lumo cannot absorb or distribute them efficiently without losses (see also, Carney, 1996). Therefore, adequate transfer of funds is imperative for infrastructure development, especially in the areas that are too remote from major ports.

Although the IFAD-led Village Saving and Credit Associations (VISACAs) in conjunction with the Central Bank of The Gambia have been established in specific villages to provide low interest loans to farmers, many are not taking advantage of the service, displaying instead risk adverse attitudes. This is especially true with the unpredictable outcomes that farming in The Gambia poses. The neo-endogenous approach recognizes and advocates for local networks not to conform or even transgress against political administrative boundaries that exploit without invigorating their socioeconomic vibrancy. Ray (2006) claims such actions are justifiable and even necessary. More farmers would participate if guarantees could be made of positive investment returns, which are difficult given the ever-present exogenous shocks. Therefore, the neo-endogenous approach makes a crucial link between the local and the extra-local in the process of rural development. That is, these gardening enterprises would not have been possible without the extra-local supports. Alternatively, the tourist industry, the expatriate community, and the European markets are guaranteed a steady supply of fresh fruits and vegetables in the winter (see also Carney, 1993; Mackintosh, 1989). Past intervention efforts have been in the form of agricultural technologies.

Moreover, even where production technologies such as the green revolution technologies are made available to farmers, the prohibitive cost of maintaining them has proven to be very difficult due to limited resources with which to purchase spare parts. Thus, although irrigation systems are needed in The Gambia, the transfer of the Green Revolution technologies to the farmers was inappropriate (Carney, 2008; see e.g. Shrum & Senhav, 1995, Shiva, 1991). The use of draft power is appropriate and has worked for the Amish Communities in the United States. It has also found wide usage in The Gambia in ploughing and weeding the upland crops; however, women are denied access to these tools as they neither can afford to purchase them nor have acquired the knowledge to operate them in their rice fields. Harvesting of all crops is done manually for both men and women, which is rather slow and causes farms to experience crop loss during the process. Thus, large-scale production is very much limited. It cannot be over emphasized that the neo-endogenous approach proposes that sustainable agriculture, which engages farmers directly in research and development by allowing them to partake in the development of the appropriate technologies, will conserve the environment while increasing productivity in The Gambia. This in turn will lead to substantial gains and ensure food security (Bell, 2004; Shrum & Senhav, 1995). Adoption of such an approach by policy makers will be a great resource to tap a community's talent intrinsically and will provide the most feasible means to the overall

success of the farming system (Tzeutschler, 1999). Upland crop farmers usually sit idle for much of the dry season. Asking them for input in developing appropriate technologies they can call their own might highly motivate them toward doing something new and different. Women in particular need more advanced appropriate technologies in their upland rice cultivation that will not compromise their 'intellectual' genetic material they have developed and maintain for millennia. Assisting women in this endeavor has a great potential to increase paddy output and increase Gambia's food self-sufficiency while reducing import-dependency on rice. That would be the true bottom-up approach, which may also effectively adapt transferred technologies to their farming environment by modifying those technologies capable of being modified to fit their specific ecosystem. Jordan is said to attain similar success when allowed to do so (see e.g., Elmusa, 1994). The Nigerian agricultural intensification experience is also exemplary of the transformative capacity of local input for the well being of the whole ecosystem simply because success is possible only by taking into account socio-cultural practices (see e.g., Adams & Mortimore, 1997).

Sen (1989), for example, pointed out the ways in which the isolation paradox helps explain how the motivation of pastoral families to increase herd sizes in order to accumulate wealth of the particular family results in overgrazing. Since each family attempts to exploit the scarce resources to the maximum, their cumulative action results in environmental degradation that ultimately leads to the demise of all, including those who made the initial gains. Therefore, only through a degree of sanctions, endogenously vesting local communities in the process of development, and through making them aware of the risks involved will they and their families make a full commitment to improve their productive technologies. For much too long, Gambians have been handed down instructions on the use of new technologies. It is time for them to be part of the process rather than being mere recipients of development technologies (Shrum & Senhav 1995; Tzeutschler, 1999). Women should be part of this process as well because no country in the world can make substantive socioeconomic gains without enlisting women in the project.

Women generally produce vegetables while men control fruit production. With the exception of irrigated rice cultivation (which has been highly contested by women since men effectively displaced them from this production sector), Mandinka and Jola women also predominantly produce most of the paddy. Fula women for the most part do not produce rice but cultivate peanuts and coarse grains along with their men. This process does not necessarily imply the Marxian idiom of each according to his or her ability and insight. However, according to the neo-endogenous approach, there is a real potential to produce

impressive results if everyone were called upon to participate in the process of development where international donors and NGOs offer what the locals cannot do on their own, that is, provide material input. In sum, the theory of embeddedness posits that embedding rural communities' economic behavior in their cultural norms and practices will ensure success through vested interests along a network of actors, including men, women, and extra-local donors and investors (see e.g., Fløysand & Sjøholt 2007; Tzeuschler, 1999). Anything short of this may result in failure.

The economic forecast for The Gambia is nonetheless positive according to IMF (2007), which points out the trends in the country's economic recovery in recent years. Encouraging is the news that "real GDP recovered from drought-induced decline in 2002 to average about 6 percent during 2003-06, outpacing population growth at 2.8% a year" from 4.2% in 2002 (ibid). Inflation is reportedly at its lowest, running annually below 3%. Credit to the private sector also has rebounded, and more importantly, "fiscal basic balance surpluses of about 3 percent GDP a year [brings] down domestic public debt to a sustainable path; maintenance of international reserves at 4-5 months of imports" (ibid). Furthermore, a significant increase in external financing is expected to stimulate the future economy, which will eventually reduce poverty. All this is conditional upon structural reforms that include accountability, transparency, internal controls, operational independence of the central bank, and more importantly, fiscal discipline (ibid). This last point cannot be overemphasized because the failures of many African economies have been attributed to their notorious public corruption. *Containment of this weakness will encourage private investment locally and from international sources, and in the process it will halt capital flight that has fundamentally impoverished the nation by crippling its economic growth* (emphasis added). Nevertheless, questions still remain about intervention program effects in ameliorating food insecurity problems in The Gambia and the prospects for improvement. Contrary to the neo-endogenous approach, the praxis of development in rural Gambia has been shortchanged by governmental de-concentration rather than decentralization. Extra-local intervention has had some benefits for rural population but ends up obfuscating the direction of development by denying them full autonomy in pursuing their own developmental goals. Thus, according to the neo-endogenous approach the neo-corporatism of the structural adjustment programs of the 1980s need to be completely revamped and be replaced by democratic populism through unregulated public discourse (see also Narotzky & Smith, 2006; Stockdale, 2004). Unless devolution of significant powers to local networks (Ribot, 1999) is meaningfully attained, intervention will not decisively eradicate hunger and malnutrition in The Gambian

countryside due to citizen ambivalence toward development agendas that have so far failed them dismally, despite minimal success.

The International Funds for Agriculture and Development (IFAD) and the African Development Bank (ADB) have had long term extra-local involvement since 1997 in the Lowland Agricultural Development Program, which they fund in an attempt to promote traditional rice production to improve food security while reducing the country's import dependence. Part of this effort was to control saline water inundation or pond water run-off through construction of dykes and slipways as well as enhancing access to tidal swamps by building bridges and causeways (GOG, 2003:37). The success of the project is said to depend on the demand and participation of swamp and tidal rice growers (*ibid*). However, these infrastructure developments have historically met with minimal success (Carney, 1993, 1996, 2008; Webb Jr. 1992). There is little doubt as to the well-intentioned efforts by these donors, but policy makers need to ponder why, for decades, these development efforts have yielded minimal productivity, at least in the rice sector. There is plenty of evidence as to the constraints salt-water inundation poses for rice production, but so far, controlling it has proven to be very difficult. Overcoming this stumbling block might open new opportunities to improve food security. Furthermore, policy should invite local input in finding solutions to the problem. As Boserup (cited in Adams & Mortimore, 1997; Lipton, 1989; Paarlberg, 1999; Scanlan, 2001) claimed, technology can overcome nature's limits; however, due to distribution constraints, increases in per capita food production and availability do not translate into access by marginalized groups. This explains the reasons why poverty exists amidst plenty (Norgaard 1994). The Gambian government does claim positive project effects in areas of the country in which agricultural projects have been launched and completed, improving the overall crop and livestock production and thereby increasing food security, as compared to areas that did not receive any intervention (GOG, 2003: 38; GOG, 2007). The Western Division has received most of the projects that include small-scale commercial poultry and small ruminant production, fish processing, horticulture, and market gardening. It is little wonder then that the Western Division is more food secure than the rest of the country. The Gambia is considering various means of adding value to agricultural produce that includes "fruit juice production and canning, pickles... export of flowers... solar drying of produce and other small-scale processing activities" (GOG, 2006: 9). Perhaps fortifying basic foods with vitamin A, iodine, and iron will also balance the nutrient contents and reduce nutrient-deficiency illnesses. Part of the efforts to combat food insecurity includes

eradicating social and economic exclusion of various marginalized groups by removing barriers that render them vulnerable.

Participation of the poor is ostensibly encouraged in the overall policy reforms. Thus, the prospects for food security improvements look somewhat promising, pending devolution of powers, transfer of adequate funds to rural areas, and careful resource management by local networks. Hopefully the vulnerable groups of individuals and households will benefit from the economic growth forecasted by IMF (2007). As Knutsen (2003) indicates, rural communities in Africa can reduce poverty and increase their economic viability by engaging in manufacturing enterprises located on production sites that add value to agricultural products, and thereby capture a large market share. Through extra-local means, the government and international donors are reportedly seeking to establish such production and marketing infrastructure in The Gambia (GOG, 2006; IMF, 2007). So far, notable differences exist between households and individuals in regions that received intervention and those that did not, with the former faring better than the latter in terms of food security. These differences notwithstanding, analysis of food security must not be viewed only in terms of shortfalls in national food production and price hikes; consideration should also be given to households and individuals with fewer entitlements to food (Bonanno & Constance, 2008; Sen, 1981). Sustainable access of households and individuals to adequate supply of coarse grain is a good indicator of food security. Moreover, Sen (1981) pointed to the fact that governments have the obligation to provide social security to citizens with small entitlement bundles to shelter them from deprivation and hunger. African governments are either unable or unwilling to commit themselves to these provisions. The preceding discussion underpins The Gambia's productive capacity and provides some understanding regarding the safety nets in a country that does not meet consumption requirements, compelling it to import large quantities especially of rice but also sugar and flour (introduced by PL480 which altered the food taste of Gambians and created dependency on wheat) (Carney, 1996).

To recapitulate, the neo-endogenous approach delineates the food insecurity issues and rural development in the context of global political economy and rural networks that seek to reembed agriculture and food in their political and socioeconomic activities. In the scene of global political economic restructuring, international lending agents such as the World Bank and IMF compelled African central governments into economic devolution (this is in fact more like de-concentration of central government that extends its hegemony over rural territories). The austerity measures imposed by these agencies meant that Gambian rural

communities must assume greater responsibility of self-governance by relying on and managing their natural resources. In the case of The Gambia, international donors wanted to curtail the aid flow into the country. However, the environmental degradation compelled the local communities, the Department of Forestry, and international donors, among them Germany and the U.S., to bargain for the preservation of the forest on conditions of contracts and strict stipulations. From these provisions, The Gambia's community-based forest management was established, which though it provides economic dividends to the community, reportedly do the government and international donors heavily regulate. For this reason, Schroeder pointed out, environmental NGOs inserted their objectives into local activities, thereby exerting control that minimizes the role of agency in many rural development agendas. According to Schroeder, the devolution of the central government was motivated by reasons of efficiency that cut cost for the government and the donors (1999). Ray (2006) points to this issue as the tension between the neo-endogenous approach to rural development and the use that extra-local, politico-administrative and exogenous actors make of it. That is, the neo-endogenous development emanates from the core bottom-up localities designed to address processes such as "awareness-raising, confidence building, the cultivation of local participation in society as well as broaden the meaning of the term development to include socio-cultural and environmental dimension" (2006:288). However extra-local use of the neo-endogenous development such as FAO intervention programs in The Gambia involves, for the purpose of evaluating intervention project effectiveness and state managerialism based on quantifiable, observable outputs. In their pursuits of short-term but tangible results, the state subsumes and compromises the process of rural development. Thus, decentralization does not absolve the state from its obligations to pursue efficiency that cuts cost and maximizes profits through transfer of ideas relating to technology.

As well, decentralization provides assurance that intervention reaches those that it is intended to benefit. However, neo-endogenous approach requires that the state relinquish or devolve all power and responsibilities to the local authorities to design and pursue their own development activities (ibid, p. 282). When this state obligation is not granted, tensions arise between the government and the local progressive actor networks. Actions of extra-local, political, or administrative actors may not always be calculated. This is because agency does sometimes produce desirable results. For example, Long (2008:86) alluded that it was through the global network of actions intricately linked that influenced the World Bank, IMF and WTO to establish the Heavily Indebted Poor Country initiative designed to write-off some of the debt of very poor countries in order to enhance survival of their people. This

move by the lenders was conditioned by fervent criticisms generated by various activists who were disillusioned by the stark injustices that prevail among the disadvantaged groups in poor countries. This resolution means that extremely poor countries can retain needed capital to develop their infrastructure and procure food in order to eradicate hunger and malnutrition that is crippling their workforce.

In addressing food insecurity issues, the former President of Germany, Mr. Johannes Rau, had called for patience, endurance, commitment, and pervasiveness in the fight against hunger (FAO, 2005). According to Rau, “we need patience and endurance because the fight against hunger is long and hard. We should not allow ourselves to become disheartened if progress is sometimes less than we had hoped, or if we suffer set-backs in some areas, and must keep our eyes firmly fixed on our goal: a world without hunger” (ibid, p. 1). These words may be encouraging to some, but rural Gambians can wait no longer for relief. Thus, they are drawing on indigenous survival knowledge coupled with extra-local intervention to stay afloat. In this regard, the neo-endogenous approach can provide a useful framework that guides significant policy-decision-making on rural development and food security. More importantly, the solution to food crisis and insecurity in the West African Sahel requires coordinated interdisciplinary efforts in research and development that engages inter alia, climatologists, geographers, historians, sociologists, political scientists, agriculturalists and economists. Their efforts should be geared towards, not only increasing acreage productivity in terms of high crop yields, but also naturally existing pesticides and herbicides need to be discovered to reduce crop lost. Oftentimes farmers, burn crop residue including rice fodder, in order to eradicate insects, residue that could be ploughed under to enrich the soil and prevent soil erosion or be fed to animals. Therefore, a single approach to the problem of food insecurity is inadequate. Coordination of the above disciplines will inform one another as well as all stakeholders on what needs to be done to overcome problems associated with agriculture and food, and ultimately, the well being of the inhabitants of this earth. Intellectual discourse needs to shift away from the concept of modernity and focus more on “sustainability” (although this term has now been co-opted by agents of modernization). The condition of Third World dependency on core nations through debt must both end, especially in the West African Sahel, a desolate region where so many people are on the brink of starvation. Gustavo Esteva’s lamentation at a conference of the Society for International Development echoes in the heart of West African Sahel: “my people are tired of development, they just want to live” (George, 1995: 27). A neo-endogenous approach can overcome poverty and food insecurity caused by neo-colonialism and postwar

reforms but this potential is contingent upon strong leadership with the power to transform society through grassroots movement as achieved in India under Gandhi (George, 1995; Shiva, 1991), and to some extent in Ghana as well (see e.g., Boone, 1995; Flores, 2004). China used labor-intensive technologies under Chairman Mao's regime to feed a large population, which enabled it to outlast the economic isolation it endured until President Nixon halted this isolation in the 1970s (see e.g., Hinton, 2000). When the Soviet Union disintegrated and could no longer supply Cuba with subsidized petroleum, Cuba turned labor-intensive technologies and became agriculturally very productive (Rosset, 2000).

Moreover, the reins of structure adjustment program must be loosened on The Gambia to permit rural communities in collaboration with academic scientists and policy makers, a degree of flexibility in designing their own system of well-being and viability, with the transfer of funds from extra-local sources both national and international networks. At any rate, the European Union and the U.S. continue to provide subsidies to their farmers under the guise of multifunctional exceptionalism with regards the preservation of agricultural landscape, even as they espouse free trade and impose liberalization on other countries (McCarthy, 2005; Sharma, 2004: 1). Sharma contends, "Under the EU's plans to reform the Common Agricultural Policy (CAP), big business will continue to get most of the subsidies that create starvation and death in the developing world" with impunity from WTO. This underpins the need to transfer funds from extra-local actors, albeit, conditional on oversight by international and local NGOs to maintain transparency and accountability in the use of such finances. Structural adjustment programs themselves need reforming and subject Gambian farmers to the same treatment such as direct access to cash subsidies available to large-scale farmers in the West. At the end of a specified period, these agricultural subsidies can be phased out while the new sustainable strategies take over. Local actor-networks must actively seek and/or demand that international agencies foster development that is context specific (consistent with their home policies rather than allow double standards with regard subsidies) and allow a quilt-work of cultures in harmony with specific ecosystems (Norgaard, 1996). External influence has had negative impact on The Gambia's food security and therefore an alternative trend must be sought that paves the way to autonomy and self-sufficiency (see also, Carney, 2008). After all, Japan's isolation by the rest of the world was exactly what it needed to achieve technological superiority by being freed from external interferences capable of thwarting the country's goals (Morishima, 1982). Moreover, a successful neo-endogenous approach to enhancing rural livelihood means is incumbent upon effective collaboration between empowered local participatory groups with academic

scientists and extension workers to undertake locally controlled experiments rather than indiscriminant adoption of blueprint transfers of technologies that may or may not be suitable for their environments. The success in developing new technologies at the local levels depends on dialogue between all the stakeholders involved. It is on these ideas of collective decision-making and control of public resources that neo-endogenous development model is premised. Although extra-local involvement in local activities is inevitable and at times even welcome, it should be concomitant with local goals and aspirations. The neo-endogenous approach recapitulates sustainable development premised on this collective decision-making and control of public resources. Finally, increased market access to Gambian farmers for the disposal of their cash crop will result in the improvement of household and individual food security. Thus far the rhetoric of development obscures the gravity of deprivation and the real life experiences of rural Gambians characterized by hunger and starvation.

This discussion can be summed up as follows: The theoretical perspective that guided this study is instrumental in discovering pervasive food insecurity in rural Gambia and the coping systems that emerge to deal with it at international, national, regional, household and individual levels. First, the territorial response through the establishment of weekly rural markets/Lumo(s) reembeds food in the village socioeconomic activities leading to the reduction but not eradication of food insecurity in Wassu village. The study also found that urban bias as well as differences in territorial entitlements account for the Western Division being more food secure than the rest of rural Gambia. This can be attributed to both infrastructure development and natural resource abundance in Western Division as opposed to the rest of the country. This natural resource endowment has afforded population in the Western Division to engage in diverse sources of income generating activities that lead to their food security in comparison with their rural counterparts farthest from the capital, air and seaports. Moreover, the qualitative and quantitative data as well as documents show that rural areas that are less endowed have become proactive in steering the direction of their own economic development through local networks. They make independent decisions in shifting focus from cash crop production such as peanuts, to food production for subsistence (although the data indicates cyclical patterns in the amount of peanuts produced over the years, ranging from low to high productivity). The production of coarse grains in times of food insecurity is robust. The effects of intervention programs are not yet fully realized, although IMF (2007) forecasts positive economic growth. The solution that the neo-endogenous approach suggests is for the government to deepen its decentralization efforts and devolve significant powers to territorial actors to manage their own resources.

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Appendix A - Cover Letter to the Alkali

January 11, 2008

Alkali

Kuntaur Wassu

Central River Division North

Dear Alkali,

My name is Sarjo Sanneh. I was born and raised in George Town, Janjangbureh, however I now live and study in America. As a fulfillment of my study, my school requires me to conduct a research that will contribute to the existing knowledge base about problems in rural areas around the world. Since I am from The Gambia, have learned that some households and individuals do not have enough food to provide for themselves and their families and I have decided to study this problem. I hope that any knowledge gained from this research will lead to more extensive research in order to determine the extent of hunger facing your village and the surrounding villages. Subsequently, I hope that the government and international bodies interested in alleviating hunger in The Gambia will be informed by the studies and consider these results in their decision-making to help relief hunger in this region.

I hereby ask for your permission to conduct case studies in your village that will ask the village leaders including yourself, who are knowledgeable about the weekly market (Lumo) operation, few questions regarding household food security and the organization of the Lumo. Although I am not able to come to The Gambia right now to conduct the study by myself, I have asked two research assistants to do this work for me. They will come to you and introduce themselves and remind you about their purpose in this village and schedule a time of interview that is convenient for you and other informants or leaders of the Lumo. The duration of the interview is expected to be about thirty minutes (30 minutes) unless you and others have more information to provide, which may exceed this allotted time frame. The research assistants are also instructed to observe and note the process of Lumo operation beginning on Sunday and ending on Tuesday. Once I have analyzed the information all of you have provided and draw conclusions, I will send one of the research assistants back to you and ask you and others to verify the accuracy of the information we have gained from this study and clarify any issues that may be unclear up to that point.

Dear Alkali, I therefore ask for your cooperation in the matter of conducting this study in your village. If you have any further question regarding this matter, please feel free to call my contact and family in The Gambia by the name of Sambou Kinteh. If you have an Internet access, please e-mail me about any questions you may have: sarjop@ksu.edu and your questions will be answered promptly. I thank you very much for your time.

Cordially,

Sarjo Sanneh

Appendix B - Government of The Gambia Reports



GOVERNMENT OF THE GAMBIA

Report of the

2005/2006 NATIONAL AGRICULTURAL SAMPLE SURVEY (NASS)

STATISTICAL YEARBOOK OF GAMBIAN AGRICULTURE

Agricultural Statistics and Resources Economics Unit (ASRE)

Department of Planning (DOP)

Department of State for Agriculture (DOSA)

Banjul

The Gambia

NATIONAL AGRICULTURAL SAMPLE SURVEY (NASS) 2005

PREFACE

This report presents the results of the 2005 National Agricultural Sample Survey (NASS) conducted each year since 1974. This annual survey is undertaken, every year by the Agricultural Statistics and Resource Economics Section (ASRE) of Department of Planning (DOP), Department of State for Agriculture (DOSA).

As a nation-wide sample enquiry conducted annually, the survey has proved to be a very effective medium for collecting current agricultural data on crop and livestock production and productivity as well as socio-economic data related to the farming community in the country. The conventional statistical methodology is used to estimate the required parameters.

The information contained in this publication covers topics such as comparisons of results for **the 2005 and 2006 National Agricultural Sample Survey on crop and livestock**, farming population, area cultivated, yield and production of major cereal crops and livestock numbers. The report also contains information on horticultural cultivated area, yield and production of the various schemes existing in the country.

Achievements of this survey should be largely attributed to the commitment and hard work of various staff of the Department of Planning. These include the survey designers; field enumerators and supervisors who sacrificed a lot by working under sometimes harsh and

difficult terrain to obtain good results; data entry and statistical clerks whose dedication to their duties contributed greatly to the reliability of the data and the ease of data processing; and other DOP staff whose support facilitated the entire exercise. The DOP is grateful for their co-operation and assistance.

Special thanks are due to several institutions for assisting in no small measure to the preparation of this report. These includes Catholic Relief Services (CRS), Action Aid, The Gambia, Central Statistics, Water Resources, Fisheries, Forestry, Strategy for Poverty Alleviation Coordinating Office (SPACO), Agricultural Technical Departments of Agriculture and Projects for providing their contributions and/or provision of funds/support for the completion of the report. And finally, special thanks are also due to the farming community, who willingly provided the funds for the publication of the report. Finally special thanks are due to the farming community who so willingly provided the information for which they were asked. Without their co-operation, the survey exercise could not have been successfully completed.

Kekoi Kuyateh
Acting Director

Department of Planning (DOP)
Department of State for Agriculture (DOSA)

TECHNICAL NOTES

1. Coverage

The 2005 National Agricultural Sample Survey report contains the results of an annual nation-wide sample enquiry of agricultural holdings during the year. As in previous surveys, the topics included information on crop and livestock production as well as on farming practices. The annual agricultural survey covers all agricultural holders except those residing permanently in urban areas.

2. Objective

The main objective of the survey is to generate up-to-date information on crop and livestock production and productivity in the country on an annual basis. Information produced is used for monitoring trends in food production and agricultural outputs in general. Agriculture is the core activities of the rural economy on which about 80 percent of the country's population depend.

3. Timetable: Schedule of Operations/Activities

For the survey, several field and office activities were undertaken to obtain the required data and information. These include the following:

Item	Activity	Commencement Period (Month)
1	Sample selection of survey units	May
2	Preparation of surveys instruments (Manuals, Questionnaires, etc.)	May
3	Training of staff	June
4	Listing of households/ selection of farmers (holders)	June
5	Holding interviews	July
6	Field interviews and measurements	August
7	Yield measurements	September
8	Processing of data received from the field	October

4. Data Collection Activities/Field Operations

At the end of the annual training course (3 days) the enumerators/supervisors, are posted to their areas of work in May and commenced work immediately on arrival in their respective Enumeration Areas (EAs). The field operations for the survey undertaken by the enumerators consisted of five different operations, viz.:

- a. Reconnaissance Survey/Canvassing the EA

The enumerator's first task on arrival is to locate his/her area of assignment. For this purpose he/she is provided with an EA map showing the list of villages in the EA together with boundaries. Senior Supervisors, together with the supervisors assisted the enumerators in identifying the selected EAs in the respective Local Government Areas (LGA's), to ensure accuracy. They discussed with the village elders within the selected EAs, explaining the purpose of the survey, acquainting them with the type of work to be done and the methods of enumeration, as a means of soliciting full co-operation from respondents. Upon identification of the EA, the enumerator then proceeded to canvass the EA in order to familiarize himself/herself with the EA and the corresponding localities.

b. Enumeration Area Listing of Heads of Household

The Enumeration Area Listing is the second assignment the enumerator performs in the EA. The operation involves contacting all heads of households in the villages within a selected EA, recording their names and asking them a few questions to determine whether they have any agricultural operations. In the process, the enumerator completed Form 1, the Household Listing Form. These forms are contained in a booklet referred to as the Enumeration Area Listing Booklet.

c. Filling of Holding Questionnaires

On completion of the enumeration area listing of heads of households, enumerators visited the E.A., interviewed a sample of holders selected from the list of heads of households, collected information about them and their operations, and in the process completed Form 2, the Holding Questionnaire.

d. Measurement of fields and Filling of Field Questionnaires

After filling the holding questionnaires, enumerators visited and measured all the fields (farms) of the selected holders for information on hectarage and the types of crop mix in the fields, thus completing Form 3 (Field Questionnaire) of in the process. At the farm, the enumerator walks around the field and with the help of the holder, identifies and observes the boundaries of the field. He/She then makes a free-hand sketch of the field and indicates the different crops growing in the field. He/she proceeds to measure the field using a prismatic compass and a measuring tape determining the final hectarage of the field is made with a programmable hand calculator by the supervisor.

e. Crop Yield Estimation and Filling the Yield Questionnaires

After the completion of field measurements, the supervisors prepared a list of all the fields of the selected holders, with their corresponding crops, and select a sample of two fields for each crop, for yield estimation. 5m x 5m square is laid in each selected field by enumerators and at harvest this plot is harvested and the proceeds weighed and dried. Then the final weight is taken.

5. Sampling Frame

A two-tier sampling frame is used. At the first stage, the sampling frame is the list of Enumeration Areas (EA) previously used for the population census (2003) which was

obtained from the Central Statistics Department (CSD). At the second stage, the sampling frame is the list of agricultural households (agricultural holdings) in the country.

6. Sample Size

The sample size is determined at two stages using past experiences. At the first stage, 74 Enumeration Areas (EAs) representing about 3 percent of EAs in the country were selected, while 370 Agricultural Holders (about 1 percent of holders in the country) were selected at the second stage. It is expected that such sample is adequate to provide accurate estimates at Local Government Area (LGA) level.

7. Stratification

Administratively, The Gambia is divided into six Local Government Areas (LGAs) and each LGA is divided into a number of districts. For the agricultural survey, the districts constitute the strata.

8. Method of Sample Selection

For the 2005 NASS, a two-stage sampling procedure was applied.

First stage: the primary units (EAs) were selected with a probability proportional to its size (PPS) and the size is the number of households in each EA with each district as a stratum.

Second stage: the selection of the sample of agricultural holdings (Dabadas) was made with equal probabilities and without replacement, using once more the systematic selection method.

9. Method of estimation and computation of random sampling errors

Notations:

A'_h = Total number of households in the stratum h for the annual survey

A'_{hi} = The total number of households in a sample primary unit in the stratum h

E'_h = Number of sample primary units in the stratum h;

P'_{hi} = A'_{hi}/A'_h , probability of an EA to be selected at any selection in stratum h

N'_{hij} = Number of agricultural holders enumerated in the sample EA i stratum h,

n'_{hij} = Number of agricultural holders selected in the sample EA i

Y'_h = Any variable (selected at the second stage) in the stratum h;

Y'_{hij} = The observed variable in the holding j, enumeration area i and
Stratum h

\hat{Y}'_l = Estimate of any variable at Local Government Area

\hat{Y}' = Estimate of any variable at the national level

$V(\hat{Y}'_h)$ = Estimation of the variance of \hat{Y}'_h

(CV) $_{\hat{Y}'_h}$ = Variation coefficient of \hat{Y}'_h

$$\frac{A'_h}{A'_{hi}} \frac{1}{E'_h} = \text{Adjustment factor in stratum h}$$

The adjusted global expansion factor for the annual survey could be written as follows:

$$\frac{A_h}{E_h \cdot A_{hi}} \frac{A'_h}{E'_h \cdot A'_{hi}} \frac{N'_{hij}}{n'_{hij}}$$

Estimates of Y

9.1 At District Level

$$\hat{Y}'_h = \sum_{i=1}^{E_h} \frac{A_h}{E_h \cdot A_{hi}} \frac{A'_h}{E'_h \cdot A'_{hi}} \frac{N'_{hi}}{n'_{hij}} \sum_{j=1}^{n'_{hij}} Y'_{hij}$$

9.2 At LGA Level $\hat{Y}'_l = \sum_{h=1}^H \hat{Y}'_h$

9.3 At National Level $\hat{Y}' = \sum_{l=1}^L \hat{Y}'_l$

10. Sampling Errors

10.1 At District Level

The estimate of the variance is:

$$V(\hat{Y}'_h) = \frac{1}{E_h} \frac{1}{E'_h} \frac{1}{E'_h - 1} \sum_{i=1}^{E'_h} \left(\hat{Y}'_{hi} \frac{A_h}{A_{hi}} \frac{A'_h}{A'_{hi}} - \hat{Y}'_h \right)^2 \quad \text{With } \hat{Y}'_{hi} = \sum_{j=1}^{n'_{hij}} Y'_{hij}$$

The estimate of the variation coefficient and standard deviation are:

$$(CV)^2_{\hat{Y}'_h} = \frac{V(\hat{Y}'_h)}{\hat{Y}'_h{}^2} \quad \text{and} \quad \hat{\sigma}_{\hat{Y}'_h} = \hat{Y}'_h \cdot (CV)_{\hat{Y}'_h}$$

10.2 At LGA Level

$$V(\hat{Y}'_l) = \sum_{h=1}^H V(\hat{Y}'_h)$$

$$(CV)^2_{\hat{Y}'_l} = \frac{V(\hat{Y}'_l)}{\hat{Y}'_l{}^2} \quad \text{and} \quad \hat{\sigma}_{\hat{Y}'_l} = \hat{Y}'_l \cdot (CV)_{\hat{Y}'_l}$$

10.3 At National Level

$$V(\hat{Y}') = \sum_{l=1}^L V(\hat{Y}'_l)$$

$$(CV)^2_{\hat{Y}'} = \frac{V(\hat{Y}')}{\hat{Y}'^2} \quad \text{and} \quad \hat{\sigma}_{\hat{Y}'} = \hat{Y}' \cdot (CV)_{\hat{Y}'}$$

11. The Survey Questionnaires

In this survey, most of the data/information is obtained by direct investigation through: (a) the interview method in which answers were solicited from respondents and (b) physical measurements of fields and weighing of produce in order to obtain estimates of hectareage, yields and production respectively.

12. Data Processing

The filled questionnaires collected from respondents are collated and entered into the computer using the SPSS software. In order to minimise non-sampling errors, the data in the computer are validated, thus making them ready for analysis.

13. Data Analysis and Tabulation

Initial tabulations of results from the early rounds of the survey operations were produced and analysed to check on coverage, response rate, consistency and reliability of the information obtained. Also, preliminary tables comprising more important variables related to the basic socio-economic parameters are prepared. The detailed tables containing all the survey results are contained in this report.

14. Basic Concepts and Definitions

The basic concepts and definitions used in the survey generally followed guidelines set in the 2000 FAO World Census of Agriculture Programme. However, some were developed as best suited to The Gambian situation and the more important ones included:

“Alkalo” **The local head of a village or town.**

Enumeration Area (EA) **An Enumeration Area may be a single village or group of villages. Several EAs may also be within a single village or town. For the purpose of the agricultural survey, the number of sample EAs for the country is shared among districts, roughly in proportion to their agricultural population. An Enumeration Area constitutes a population**

of 50 people. Villages with small number of people are clustered together to form an EA of at least 50 people. At the same time, a village that has a population of 100 or more people is divided into two enumeration areas.

Locality (Settlement): A locality is a village or town. No physical boundaries are given. An EA comprises of one or more localities depending on the size of the localities concerned.

Compound: A compound may be defined as a “ roofless “ structure consisting of a space enclosed or in some case not enclosed by walls and containing one or more buildings or huts. There can be a separate single dabada or strucure which constitutes a compound by itself.

“Dabada”/Household: A group of individuals, usually related, that conduct work activities (farming or non-farming) as a unit and pool their resources from their activities. A “dabada”/household may contain one or more “sinkiros”.

“Sinkiro”: A group of persons living together and eating together from the same pot regardless of whether they live in the same house.

Head of the “Dabada”/Household

The head of the dabada/household is the person (male or female) who is acknowledged as such by all other members. Such a person is usually vested with the responsibility for the maintenance of the dabada/ household and gives advice to other dabada members on all matters of social and economic significance. (N.B.: Only persons residing a minimum of 6 months per year in a dabada are considered members of that unit and the same applies to the Head of the Dabada).

Respondent Is a person who answers survey questions and most of the time he is regarded as a holder.

Agricultural Holder The holder is the person (man, woman or youngster) who makes the day-to-day decisions for the agricultural holding. A holder could be the owner, manager, senior partner, etc. but should be present in the dabada at least 6 months per year.

Agricultural Holding An agricultural holding is defined to include all the land that is used wholly or partially for agricultural production under one

technical or operational unit by one person alone or with others without regard to title, legal form, size or location. Non-crop agricultural units producing livestock and poultry are also considered as holdings, where the scope of the survey is extended to count for livestock and poultry.

Agricultural Production	Agricultural production includes the growing, processing and marketing of field crops, fruits and vegetables and the rearing of livestock, small ruminants (goats, sheep) and poultry/rabbits and their products.
Field	Is a piece of land, which is inter-cropped or planted in one or more crops.
Plot	Piece of land demarcated on a field for yield and density studies.
Field Manager	The field manager is the person (man, woman or youngster) who makes the day-to-day decisions for a particular part of the agricultural holding (field/s), without necessarily being the owner of the part.
Fallow Land	Land not planted this year but has been planted in previous years. It is farming land allowed to rest so as to regain its fertility under natural cover.

Appendix C - Tables & Figures²⁰

Table C-1 Farming Tools and Implements Available by Farm and Farm Family by Gender by LGA

LGA	Harrow		SMB Plough		DMB Plough*		Weeder		Seeders	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Brikama	68	-	832	279	490	107	3,308	279	3,264	386
Mansakonko	-	-	405	-	186	-	1,350	-	3,873	-
Kerewan	-	-	-	-	192	-	8091	-	14,609	-
Kuntaur	-	-	1021	-	1,973	-	11567	342	10,407	342
Janjanbureh	849	-	421	-	890	-	7,641	-	6,283	-
Basse	159	-	6,177	636	1,949	159	18,426	1,010	17,663	983
The Gambia	1,077	-	8,856	915	5,680	266	50,383	1,631	56,100	1,711

*The SMB stands for Single Mode Board while DMB stands for Double mode Board

²⁰ All the tables in the appendix include the 2005 to 2006 National Sample Survey data as indicated in the introduction to this section.

Figure C-1 Distribution of Holders Growing Tree Crops

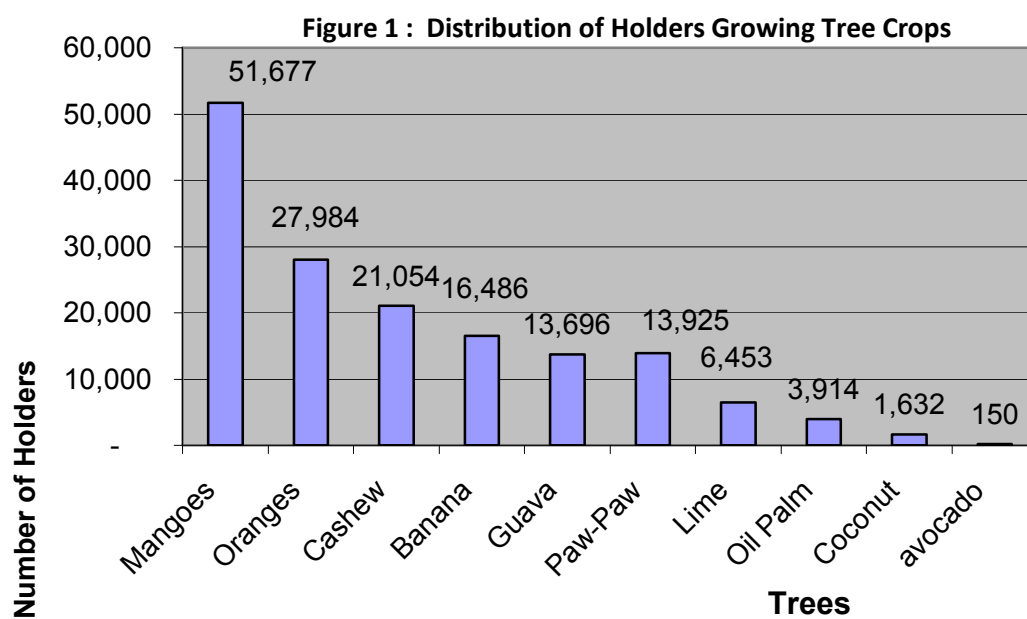


Table C-2 Mode of Transportation Used for Selling Farm Produce by LGA

LGA	Head Loading	Bicycle /Motorcycle	Cart	Boat/River Transportation	Other* Specify
Brikama	3,349	4,059	8,262	0	2,165
Mansakonko	1,302	371	2,535	177	1,091
Kerewan	1,756		9,603	0	1,807
Kuntaur	1,970	420	7,369	317	-
Janjanbureh	51		8,329	0	40
Basse	776		9,609	0	299
The Gambia	9,206	4,850	45,708	495	5,403

Other means of transportation may include loading the donkey with a cart, using wheelbarrow, etc.

Table C-3 Type of Method Used for Selling Own Farm Produce by LGA

LGA	On the Farm	At Dabada Level	Local Market	Local Market (retail)	Whole sale Market	Others
Brikama	1,984	2,236	104	4,579	10,286	2,150
Masakonko	343	1,733	1,366	1,076	1,501	830
Kerewan	642	2,484	3,932	1,195	5,219	3,561
Kuntaur	-	1,813	4,031	1,391	2,253	4,680
Janjanbureh	-	1,164	2,320	3,731	1,837	2,869
Basse	318	159	2,763	1,051	183	9,306
The Gambia	<u>3,287</u>	<u>9,589</u>	<u>14,516</u>	<u>13,023</u>	<u>21,280</u>	<u>23,396</u>

Table C-4 (A) Number of Holders Growing Early Millet, Late Millet, Sorghum, Maize and Upland Rice by LGA

LGA	Total Holders Reporting Crops	Number of Holders Growing				
		Early Millet	Late Millet	Sorghum	Maize	Upland Rice
Brikama	26,239	628	6,902	228	2,696	1,501
Mansakonko	22,997	6,732		19	2,391	2,928
Kerewan	57,937	18,399		149	3,727	1,125
Kuntaur	35,242	11,039		1,146	2,986	25
Janjanbureh	16,493	4,255		1,144	963	318
Basse	38,949	529	2,519	5,817	8,775	115
Total	197,856	41,582	9,421	8,502	21,539	6,012

Table C-5 (A) Number of Hectares Allocated to Growing Early Millet, Late Millet, Sorghum, Maize and Upland Rice Area

LGA	Early Millet	Late Millet	Sorghum	Maize	Upland Rice
Brikama	626.32	6,902.06	228.06	2,669.86	3,470.46
Mansakonko	18,464.95	34.23	72.06	1,691.88	1,980.83
Kerewan	48,943.31	25.00	253.89	6,538.36	1,817.60
Kuntaur	19,295.09	84.70	3,978.02	2,809.12	598.60
Janjanbureh	15,292.84	214.65	3,272.89	3,975.56	1,274.11
Basse	7,253.20	10,186.00	15,144.77	9,891.95	2,330.15
The Gambia	109,875.71	17,446.64	22,949.69	27,576.73	11,471.75

Figure C-2 Yield Distribution for Early Millet, Late Millet, Sorghum, Maize, Upland Rice, Swamp Rice, Groundnut New (73/33), Groundnut Old (28/206), Sesame and Findo by LGA

Figure 2. Yield Distribution For Early Millet, Late Millet, Sorghum, Maize, Upland Rice, Swamp Rice, Ground Nut new (73/33), Ground Nut Old (28/206), Sesame and Findo by LGA

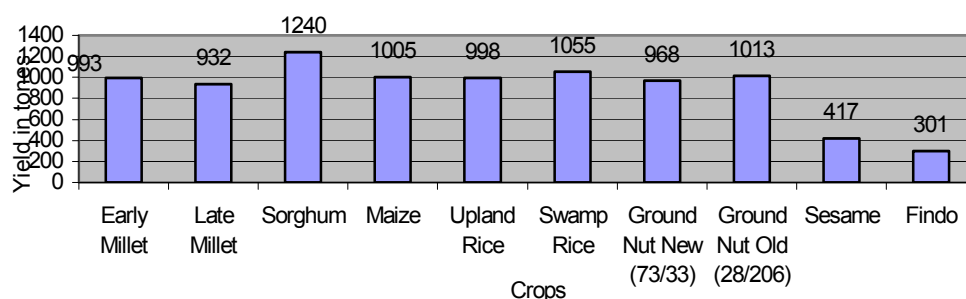


Figure C-3 Production for Early Millet, Late Millet, Sorghum, Maize, Upland Rice, Swamp Rice, Groundnut New (73/33), Groundnut Old (28/206), Sesame and Findo by LGA

Figure 3. Production for Early Millet, Late Millet, Sorghum, Maize, Upland Rice, Swamp Rice, Goundnut New (73/33), Groundnut Old (28/206), Sesame and Findo by LGA

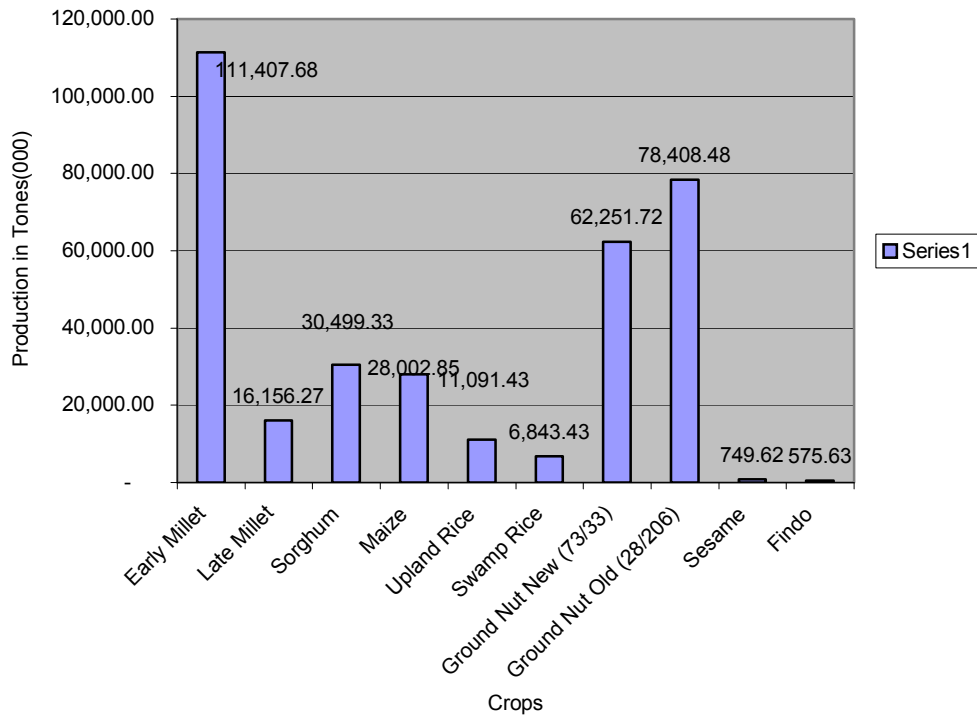


Table C-6 Numbers of Pigs, Horses, Donkeys and Mules Reporting by LGA

LGA	Holder Reporting Pig	Total Pig	Holder Reporting Horses	Total Horses	Holder Reporting Donkey	Total Donkey	Holder Reporting Mules	Total Mules
Brikama	559	1,118	146	224	872	1,488	-	-
Mansakonko	-	-	880	2,369	2,288	3,276	-	-
Kerewan	988	2,904	3,900	4,897	5,779	7,755	1,449	1,872
Kuntaur	308	422	3,127	4,452	3,540	5,632	-	-
Janjanbureh	2,213	9,588	2,104	2,842	3,569	5,424	-	-
Basse	-	-	8,571	16,117	11,245	21,795	1,210	1,809
The Gambia	4,067	14,032	18,729	30,900	27,294	45,369	2,659	3,680

Table C-7 Draft Power Ownership: Crop Field by LGA

LGA	Own	Borrowed	Hires	Other	Total Crop Fields
Number of Fields					
Brikama	32,128.80	4,947.92	4,255.55	-	74,262.13
Mansakonko	15,878.99	2,923.33	495.12	-	48,912.44
Kerewan	53,541.12	3,375.00	1,277.43		73,956.63
Kuntaur	42,920.60	2,586.98	205.18		48,537.03
Janjanbureh	26,054.26	3,010.55	5,737.59		34,226.57
Basse	58,202.50	947.29	183.35	237.87	60,370.18
Total	228,726.28	17,791.06	12,154.22	237.87	340,264.98

Table C-8 Type of Facilities Used to Store Farm Produce by LGA

LGA	Barns (Farm House)	Cribs (Mats - Baskets)	Pots	Wooded Bins	Stores	Others** Specify
Brikama	7,312	1,041	-	139	51,844	11,418
Mansakonko	915	2,345	248	1,586	32,790	915
Kerewan	14,488	229	-	203	47,098	15,089
Kuntaur	6,658	396	1,804	301	32,227	358
Janajnbureh	2,656	143	937	63	8,473	3,067
Basse	-	-	-	821	5,742	-
Total	31,905	4,072	2,906	3,030	166,921	31,485

** Clay pots, one gallon plastic containers, 200 litter barrels (depending on the quantity needing to be stored), all these to protect from pest infestation of grain or seed.

Table C-9 Number of Fields to Which Chemically Dressed Seeds are Sown by LGA

LGA	Seed Dressing	Total Fields	Percentage Seed Dressing
	Number of fields sown with Chemically Dressing Seeds		
Brikama	13,378	82,071	16.30
Mansakonko	7,062	49,488	14.27
Kerewan	27,886	89,092	31.30
Kuntaur	25,024	60,868	41.11
Janjanbureh	1,741	37,398	4.66
Basse	29,139	71,808	40.58
Total	104,230	390,726	26.68

Table C-10 Yearly Average Lumo (Weekly) and Retail (Regular) Prices (Dalasis/Kilogram) 2001-2005

Cereal Market Prices (2001 -2005)

Product	Markets Lumo (Weekly)					Retail (Regular)									
	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
Maize	2.88	5.74	6.18	6.23	8.87	2.05	4.10	9.13	8.81	10.23	2.46	4.92	7.65	7.52	9.55
Early Millet	2.96	5.81	6.18	6.20	8.89	1.97	3.91	9.13	8.66	10.24	2.46	4.86	7.65	7.43	9.57
Sorghum	2.95	5.91	6.18	6.25	8.86	2.01	3.90	9.02	8.71	10.23	2.52	4.90	7.60	7.48	9.55
Local Rice	5.41	6.46	8.32	11.76	12.74	4.52	5.18	8.54	12.28	13.00	4.97	5.82	8.43	12.02	12.87
Broken Rice	4.38	5.05	7.55	11.38	11.46	4.74	5.16	7.32	11.14	11.24	4.56	5.10	7.43	11.26	11.25
Long Grain Rice The Gambia	4.51	5.11	7.65	11.70	11.94	4.83	5.36	7.41	11.51	11.73	4.67	5.23	7.53	11.60	11.84

Source: Market Statistics Section, Department of Planning

Table C-11 fish Biomass (Metric tons)

Year	Biomass (Metric tons)	
	Demersal	Pelagics
1986	43,645	
1992	30,000	160,000
1995	22,000	158,000
1996		122,000
1997		113,000
1998		173,000
1999		510,000
2000		213,000
2001 Jun		217,000
2001 Nov		165,000
2002 Jun		470,000
2002 Nov		242,000
2003 Jun		62,000
2003 Nov		285,000
2004 Nov		212,700
2005		

Source: Department Of Fisheries

Table C-12 Rainfall Level at Five Regional Stations 2005

Decadal Rainfall for 2005 (mm) for The Gambia																						
STATIONS	May			Jun			Jul			Aug			Sept			Oct			Year total 2005	Compared to		
	I	ii	iii	I	li	iii	I	ii	iii	I	ii	lii	I	ii	lii	I	ii	iii		2004	2003	2002
Bakendic	0.0	0.0	0.0	0.0	0.0	21.0	0.4	28.4	57.7	0.0	123.7	78.0	142.9	51.2	28.2	43.5	55.5	60.0	690.5	203.5	-404.6	109.5
Banjul Marina	0	0	0	0	0	36.4	72.8	62.6	56.6	43.5	114.3	82	136.8	30.5	44.6	46.1	41.8	71.5	839.5	-103.5	133.5	364.7
Bansang	0	98.7	24	55.6	10	55	106.4	122.9	24.2	123.7	47.4	157.2	128.0	48.2	128.4	20.1	47.2	10.3	1207.3	393.9	198.7	614.8
Basse	0	22.5	2.2	7.7	0	59.1	82.9	198.8	14.9	142.3	28.4	142.9	137.4	67.3	117.6	31.8	20.7	6.3	1082.8	176.6	-62.3	341.7
Jambanjelli	0	0	2	3.8	0	33	67.3	99.2	22.5	121.2	69.4	134.7	116.8	32.6	38.3	2.6	0	33.6	777.0	322.3	87.1	58.1
Dankunku	0	0	0	0	0	30	121.2	156.8	5.5	178.0	34.0	140.8	116.8	32.6	38.3	2.6	0	33.6	890.2	13.1	203.2	348.1
Fatoto	0	25.3	19.3	50.3	0	57.3	83.8	34.1	27.3	46.3	85.1	131.5	133.2	92	86.5	47.0	0	39.9	958.9	88.0	-356.6	324.9
Janjanbureh	0	39.2	17.0	3.5	0.0	85	97.6	315.7	22.8	173.1	42.2	140.7	160.3	77.6	145.7	37.7	26.1	2.5	1386.7	591.1	354.1	896.2
Jenoi	0	13.9	6.8	0	4.8	63.9	132.8	108.5	42.8	197.2	84.2	90	154.2	62.4	84.4	24.3	15.5	91.0	1176.7	225.1	655.6	794.2
Karantaba	0	0	0	0	0	118.6	50.9	38.8	16.1	23.5	91.8	104.0	78.1	73.1	73.5	47.0	2.1	0	717.5	-90.5	-299.4	89.6
Kaur	0	9.3	19.2	0	0.5	121.6	107.9	103.4	48.4	151.9	146.1	112.1	114.8	59.2	218.0	18.8	2.8	39.7	1273.7	315.9	355.7	675.8
Kerewan	0	0	0	0	0	34.5	73.8	48.9	37.5	60.2	151.7	141.7	95.8	174.8	83.0	28.9	9.3	17.9	958.0	196.5	76.9	324.9
Kuntaur	0	29.7	28.9	2	0	76.6	77.2	142	21.1	180.1	79.4	152.8	121.4	64.5	5.0	32.9	14.1	38.5	1066.2	288.5	299.6	538.6
Kwinela	0	3.7	0	15.3	0.0	21.1	73	135.2	7.0	95.0	111.9	94.8	44.8	63.0	121.5	39.5	3.5	missing	829.3	-244.8	-52.7	255.8
Mankamang	0	3.6	13.1	16.5	6	60.7	65.3	127.2	77.3	118.3	141.1	139.8	124.1	48.8	187.3	36.7	2.1	0	1167.9	284.5	135.9	524.5
Naudeh	0	31.7	4.2	29.6	8.8	68.5	81.6	231.5	24.9	156.3	70.5	109.7	143.9	66.3	111.4	46.0	49.3	39.7	1273.9	544.1	189.6	801.4
N'jau	2.3	0.0	0.0	0.0	0.0	0.0	85.5	146.0	72.0	135.0	112.2	92.0	146.0	72.6	33.5	10.0	5.0	15.0	927.1	26	393.9	564.2
Pirang	0	0	0	0	0	52.1	87.1	40.7	65.5	105.6	112.1	122.2	126.7	111.5	41.1	37.3	6.4	missing	908.3	91.9	56.5	46.7
Sare Sofie	0	9.5	9	17.7	10.5	90.5	87.1	205.1	25.6	70.5	69.3	127.6	100.0	59.6	55.0	37.6	44.8	38.5	1057.9	138	-71.7	421.9
Sapu	0	49.9	37.9	3.7	0	80.7	83.3	225.9	41.7	152.4	116.3	147.7	146	68.1	5.6	19.7	20.3	17.9	1217.1	417.6	328.1	608.9
Yallal	0	0.1	106.0	0.5	0.3	41.0	120.5	182.0	32.0	66.7	92.9	66.3	75.0	73.8	10.1	47.1	9.0	42.4	965.7	-61.4	245.1	502.6
Yundum	0	0	1.1	11	0	61.5	94.3	43.6	44.7	87.2	105.5	135.1	175.7	80.2	51.2	14.6	42.9	69.6	1018.2	368.2	178.3	429.4
Serrekunda	0	0	0	0.7	0.0	69.3	133.1	107.6	26.6	41.2	220.2	224.8	252.5	153.2	90.8	125.5	90.3	77.4	1613.2	891.3	837	766.8
Giroba	0	8.4	2.2	16.4	0.0	56.6	93.5	217.1	18.1	109.3	40.4	129.4	128.3	45.6	124.5	30.2	0.0	54.0	1074.0	414.5	51	479.9
Sibanor	0	0	0	74.2	1.5	32.4	98.7	37.7	24.1	25.8	51.6	210.6	170.2	76.5	99.0	36.4	13.9	9.6	962.2	25.5	-49.8	319.1

Sources: Department of Water Resources

Figure C-4 Map of Africa 2008

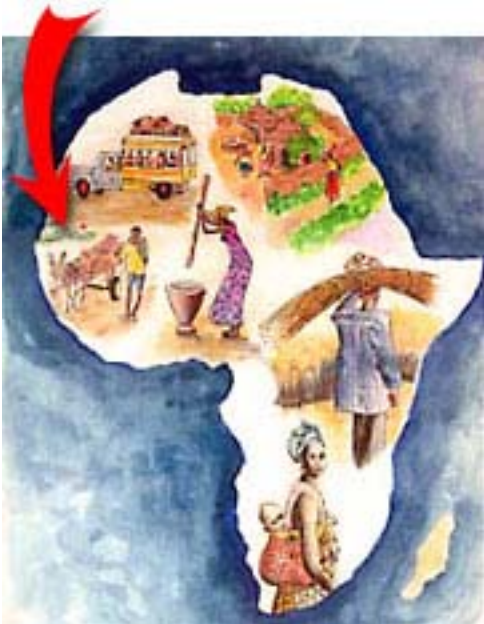


Figure C-5 Map of Africa



Appendix D - Additional Figures

Figure D-1 River Boat Named After a District Called Niumi 2008.



Figure D-2 Brikama Ba Lumo Central River Division South 2008



Figure D-3 Albert Daily Market in Banjul 2008



Figure D-4 Banjul, Capital of The Gambia 2008



See the following rural markets as well

[www.gm/africa/gambia/article/2007/7/1/markets](http://www.wow.gm/africa/gambia/article/2007/7/1/markets)

www.panoramio.com/photo/234259

http://www.wow.gm/_library/articles/2CDC8E2F-44C2-400F-9B1C-D6DBA5151C30-s.jpg

<http://www.google.com/imgres?imgurl=http://www.panoramio.com/photos/original/234259.jpg>

Appendix E - Qualitative Research Instrument

Part I: Key informant Questionnaire

Time span of interview per informant: **25 to 30 minutes**

Date of interview _____

Time of interview _____

Location of interview _____

Respondent No. _____

A. Demographics of Informants

16. Ethnicity _____

17. Age in years _____

18. Gender _____

19. Position in the household _____

20. Occupation _____

B. Age dependency ratio or allocation of household Labor Measures

21. Number of people in the household _____

22. Number of children in the household under the age of 5 _____

23. Number of children in the household between age 5 and 18 _____

24. Number of adults in the household over 55 years of age _____

25. Number of family members employed in the cities _____

26. What are the family's other sources of income? _____

27. Number of surgas (migrant workers in the household) _____

C. Lumo Impact Assessment on Food Security

- 28. How was the decision made to establish the Lumo in this village? _____
- 29. What problems if any, did the organizers encounter in setting up the Lumo in this village? _____
- 30. What are the advantages for having the Lumo in this village and the surrounding villages? _____

D. Consumption Security Measures

- 31. In your estimation, how many households in this village do not regularly add meat or fish to their meals? _____
- 32. How many households in this village regularly cook gruel for their main meals due to poverty? _____
- 33. What types of snacks do those households often eat between meals? _____
- 34. How many meals a day do these households consume? _____
- 35. What ingredients do these households add to their main meals? _____
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____

Part II Lumo-Day participant Questionnaire

Time span of interview per participant: **10 minutes**

Date of interview _____

Time of interview _____

Location of interview _____

A. Demographics of Respondents

- 1. Ethnicity _____

2. Age in years _____
3. Gender _____
4. Occupation _____

B. Food Distance in Kilometers between household and commodity market

5. Where is your home village? _____ km
6. What brought you to this Lumo today? _____
7. What do you see as the advantages of Lumo(s)? _____
8. How often do you attend Lumo(s)? _____

C. Food Consumption Security Measure

9. Explain to me your food situation at home and whether or not everyone in your household has enough to eat. _____
10. What kind of ingredients do you normally add to your main meals? Please name a few of these ingredients:
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____

Part III Direct Observation and Field notes: Provide Detail descriptions of participants and activities

A. Field Notes on the Day Before Lumo

- Monday from sunrise to sunset, observe and note as many activities as possible, the confluence of preparation processes in lieu of the Lumo scheduled for the next day.
- Note down how many cooling systems are available and the adequacy in preserving fresh fish, meat and agricultural produce such as fruits and vegetables.

B. Field Notes on the Day After the Lumo

- Wednesday following the Lumo: observe and note down detail accounts of the aftermath activities of the market transactions.

- Note down what happens to the merchandize or commodities left over from the Lumo. (hint: what kind of storage or disposal arrangements do the traders make?)