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# PARTICIPANT PERCEPTION OF THE EFFECTIVENESS OF THE RIVERS SONGHAI INITIATIVE IN THE NIGER DELTA

Mwangi S. Kimenyi, Temesgen T. Deressa, Jessica E. Pugliese, Andrew Onwuemele and Micah Mendie

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**Mwangi S. Kimenyi** is a senior fellow and director of the Africa Growth Initiative (AGI) at the Brookings Institution.

**Temesgen T. Deressa** is a guest scholar with AGI.

**Jessica E. Pugliese** is a research analyst with AGI.

**Andrew Onwuemele** is a researcher with the Nigerian Institute of Social and Economic Research (NISER).

**Micah Mendie** is an analysis and advocacy program officer with the Foundation for Partnership Initiatives in the Niger Delta (PIND).

The Africa Growth Initiative at the Brookings Institution engages in timely, high quality policy analysis with six leading African think tanks and external partners. With the help of these partners, AGI and Brookings tap into the latest trends and data from the region, access local expertise and knowledge, and work to elevate the voice of African scholars in policy discussions in Washington and across the globe.

The PIND Foundation works to establish and encourage innovative multi-stakeholder partnerships that support programs and activities, which empower communities to achieve a peaceful and enabling environment for equitable economic growth in the Niger Delta. Incorporated in Nigeria, the Foundation for Partnership Initiatives in the Niger Delta is a nonprofit organization that supports the design, development, and management of the programs funded by its counterpart in the United States, the NDPI Foundation and other donor partners.

The Nigerian Institute of Social and Economic Research (NISER) is a semi-autonomous national policy research institution. NISER produces scholarly research on the social and economic challenges facing Nigeria and the African continent. NISER's current research themes include analysis of the role of the state and public-private partnerships in Nigerian development, understanding poverty in Nigeria, and the socioeconomic challenges of climate change.

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*About the Models of Development and Experiential Learning (MODEL) study:*

The Models of Development and Experiential Learning study is a collaborative effort between AGI, PIND and NISER. The goal of the MODEL study is to identify, understand, document and share development models that address a broad range of constraints to economic growth and community well-being in the Niger Delta. Through the analysis of different models, practitioners, policymakers and communities can gain a greater understanding about various interventions that could be widely adopted in the region.

*Abstract:*

This is the second case study conducted as part of the Models of Development and Experiential Learning (MODEL) pilot project, which will serve as a compendium of analyses of development interventions. This study is based on data obtained from a household survey of Rivers Songhai Initiative (RSI) participants, focus group discussions, and in-depth interviews with key informants in paid positions within the RSI conducted by the Foundation for Partnership Initiatives in the Niger Delta (PIND) and the Nigerian Institute of Social and Economic Research (NISER) in collaboration with the Brookings Africa Growth Initiative in September of 2013. Participants reported that the general state of farms, farm yields, farm incomes and farm sizes improved after RSI training. The reported outcomes by participants imply that the RSI has a high potential to improve agricultural productivity and economic outcomes of farmers in Rivers state. Additionally, the survey results show that women (for farm size), older participants (for general state of their farm, farm yields and farm size), and more educated participants (for farm income) report more benefits from the RSI training. These results suggest that the RSI may want to consider methods to integrate poorer farmers, less established farmers and less educated farmers into the program. Results also indicate that participants view the RSI as beneficial in terms of job creation, general community benefits and skill development. However, respondents stated that the program is challenged by administrative ambiguities as well as farming methods that are not suitable to the local environment. Thus, relevant policies should focus on building a feasibility study of farming methods and a clear administrative structure of farming methods to plan for the long-term sustainability of the project.

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# PARTICIPANT PERCEPTION OF THE EFFECTIVENESS OF THE RIVERS SONGHAI INITIATIVE IN THE NIGER DELTA

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## 1. INTRODUCTION

Rivers state in the Niger Delta region of Nigeria contributes significantly to the Nigerian economy, as it accounts for the production of about 50 percent of Nigerian crude oil and 95 percent of the country's gas exports (Rivers State, 2014). Despite Rivers' high level of contribution to Nigeria's gross domestic product, the state suffers from poverty, unemployment and poor infrastructure, especially in its rural communities. Illiteracy, income inequality, economic marginalization and youth restiveness also prevail in Rivers state and throughout the Niger Delta region (Jack-Akhigbe and Okouwa, 2013).

Rivers state is endowed with a large potential for agricultural production: Nearly 39 percent of the land is suitable for farming (Rivers State Ministry of Agriculture, 2014). However, the agricultural productivity in the state has dropped over time due to multiple factors, including a nationwide shift in production from agriculture to extractive industries; a decrease in soil fertility; and a loss of farmland due to oil spillage and leakage (Cookey and Ohale, 2005; Oyekale and Idjesa, 2009).

Government and nongovernmental organizations as well as multinational oil companies operating in Rivers state have undertaken efforts to use agricultural development to halt and counteract the social and economic problems of the state by increasing agricultural productivity and making agriculture an attractive business opportunity (Igbanibo, 2012; Robinson, 2013). One example of such an effort was the establishment of the School-to-Land program in 1985 by the Rivers state government. This program aimed to enhance food production, increase employment opportunities for young people, and reduce the incidence of school dropouts through agricultural training. Previous analyses of the School-to-Land program show mixed results in terms of sustainability and effectiveness in achieving improved agricultural performance (Olulu and Kalu, 2013; Igbanibo, 2012). Now, the School-to-Land program is still functional in the some local government areas. However, in 2008, defunct School-to-Land programs in the Tai and Etche local government areas were handed over to the Rivers Songhai Initiative (RSI), which is the focus of this study (Rivers State Ministry of Agriculture, 2014).

The main goals of the Rivers Songhai Initiative are to increase productivity in the agricultural sector, expand opportunities for employment, improve livelihoods and reduce youth restiveness (RSSDA, 2014). As with the School-to-Land initiative, it was implemented by the Rivers state government. The RSI is a replication of the Songhai Center in Benin that provides training on agricultural production, entrepreneurship, research and sustainable agricultural practices.

There is little knowledge of beneficiaries' perceptions of other Songhai replications, and there has not been an empirical analysis of their opinions about the general Songhai model. In addition, there have been limited studies of the model in the Nigerian (and specifically the Niger Delta) context. There are also no studies available that examine the RSI training center specifically. In order to better inform current and future replications of the Songhai model, it is useful to study the perception of the RSI program beneficiaries—including their opinions of the effectiveness of the training at providing improved results on the farm, the overall benefits it provides and any challenges that may exist for management. A review of these components of the RSI will inform policies for a lasting agricultural training center, as well as provide guidance for scaling up and replication in other sites. According to the Songhai International website, there are multiple replications of the Songhai model in Nigeria in various stages of implementation (e.g., in Cross Rivers, Enugu, Katsina and Lagos). Our study hopes to provide useful information to potentially improve their programs.

Therefore, the two main research questions of our study include 1) What is perception of beneficiaries (trainees) on the whether the RSI has met its goals?; and 2) What are the current benefits and challenges of the initiative? To answer these questions, we used a random survey of RSI trainees, focus group discussions with men, women and youth groups, and in-depth interviews with individuals in various paid positions in RSI.

The results of the random survey show that the majority of Rivers Songhai Initiative trainees believe that the general state of their farms, farm yields, farm incomes and farm sizes have improved since their participation in the initiative. Thus, despite only having started in 2008, the RSI has had some success supporting women, but it has shown the potential to positively impact agricultural productivity and economic outcomes of farmers in Rivers state. The survey of trainees also shows that women, older farmers and better-educated farmers are the main beneficiaries of the RSI. This finding implies that the RSI has had some success supporting women, but it should carefully consider how it reaches out to poorer and younger groups. The in-depth interviews find that job creation and skills development are the top benefits reported by the Songhai key informants. While issues with crop selection, farming methods and various concerns with management are the top challenges reported.

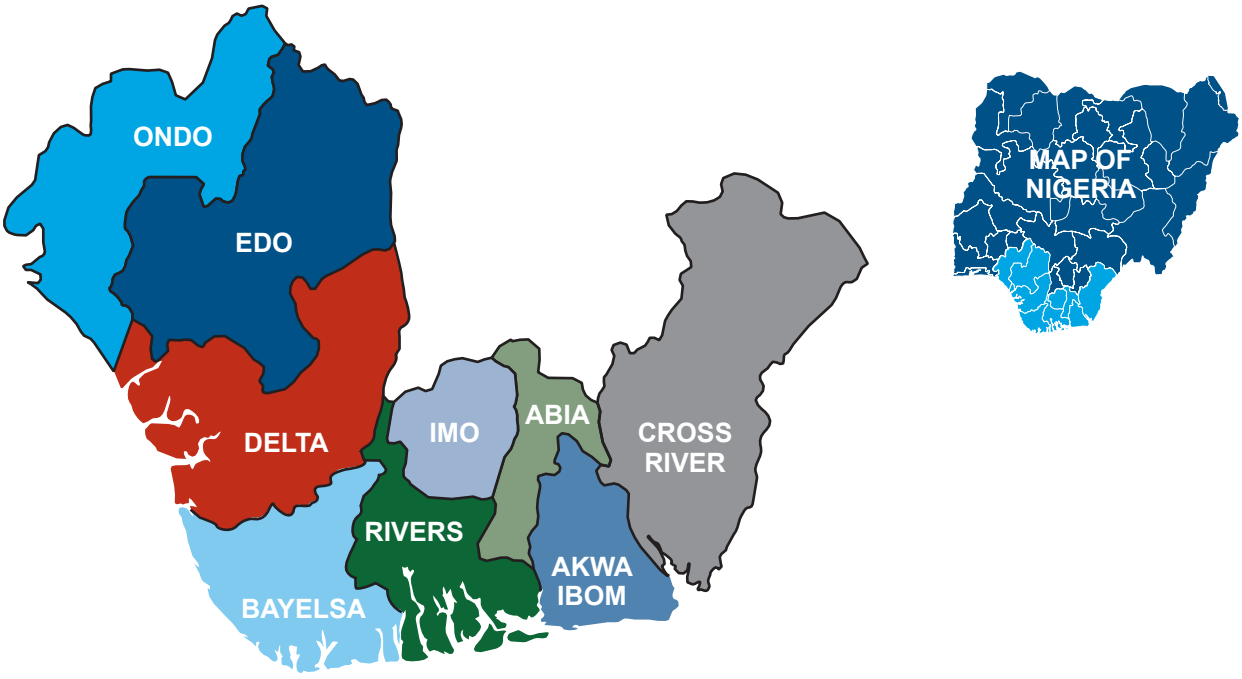
This paper is organized as follows. Section 2 describes the background characteristics of the Niger Delta. Section 3 overviews the origin, location and organization of the Rivers Songhai Initiative. Section 4 reviews the literature on previous studies of the effectiveness of other Songhai replications and studies of similar programs aimed at improving agricultural productivity in Rivers state. Section 5 describes the data and methods of data collection. Section 6 gives the results and discussion, and section 7 presents conclusions and policy recommendations.

## 2. BACKGROUND CHARACTERISTICS OF THE NIGER DELTA REGION AND RIVERS STATE

Rivers state is located in the south-central part of the Niger Delta and is one of the largest state economies in Nigeria (figure 1). It produces 50 percent of Nigeria's crude oil exports and 95 percent of the country's natural gas exports (Rivers state, 2014). According to the National Bureau of Statistics Annual Abstract of Statistics (2011), Rivers state had a projected population of more than 6 million people in 2010 (estimated from 2006 census figures) spread over 10,575 square kilometers. Rivers state has developed infrastructure primarily to support the oil industry, e.g., two seaports, an international airport, and two oil refineries that are subsidiaries of the Nigerian National Petroleum Corporation (NNPC). Other industries in the state include manufacturing of fertilizer and other petrochemicals.

Despite the high contribution of Rivers state to Nigeria's GDP, the local opportunities and services of Rivers state are not a reflection of the growth it experiences. The unemployment rate for Rivers state in 2011 was about 26 percent, which is higher than the national unemployment rate of about 24 percent (2011 figures found in NBS, 2012). Across Nigeria, the unemployment rate for youth ages 15-24 is higher than the rate for any other working-age group, and unemployment rates for women are higher than unemployment rates for men (NBS, 2012). In 2008, 56 percent of households in Rivers state reported making between ₦1,000 and ₦20,000 per month (the lowest income bracket reported), which roughly translates to between $6 and $120 per month in current U.S. dollars (or $.20 and $4 per day) (NBS, 2011). The percentage of people in the lowest income bracket at the national level is 75 percent. While Rivers state performs better than the national average on poverty indicators, it has a lower level of health services. For example, there are only 8 health facilities per every 100,000 people in Rivers state, compared with 22 facilities per every 100,000 people nationwide (2011 figures found in NBS, 2012).

Figure 1. Map of Niger Delta States




*Source: Niger Delta Working Group, 2010*

# 3. ORIGIN, LOCATION AND DESCRIPTION OF THE RIVERS SONGHAI INITIATIVE

## 3.1 The Development of the Songhai Center and its Replicates

The Rivers Songhai Initiative is a state-initiated agricultural training center and farm that is a replication of the original nongovernmental organization Songhai Center in Porto Novo in the Republic of Benin (Rivers State Sustainable Development Agency, 2014; Vodouhe and Zoundji, 2013). Songhai Porto Novo was started by Godfrey Nzamujo, a Nigerian Catholic priest of the Dominican order, in response to the disastrous 1983 Ethiopian famine (Vodouhe and Zoundji, 2013).

In describing the model, Nzamujo, the founder, emphasizes what he terms the "indigenous" nature of the Songhai model. He notes that previous approaches to development did not substantially involve beneficiaries. Thus, Songhai centers "allow people to continually identify their problems systematically, and organize in response." In addition, "[n]ew needs and expectations can be acknowledged, reinforcing partnership and community needs in order to create and harness social energy." Thus, Nzamujo (1999) suggests that the Songhai model actively incorporates community knowledge and inputs. The original Songhai Center in Porto Novo was later replicated to other sites within Benin (e.g., Kinwédji, Parakou and Savalou). The Songhai model has also been replicated in Liberia, Nigeria, the Republic of the Congo and Sierra Leone.

In short, the Songhai model is a centralized agricultural training center with a working farm that provides opportunities for learning by doing and agricultural tourism. The Songhai model incorporates three main components to train farmers. First, it provides instruction on the concept of zero waste. Zero waste means that farm by-products are used in farm activities, e.g., grain hulls are fed to fish, and manure is used to fertilize crops and fish ponds. Second, the model trains farmers on the principles of entrepreneurship combined with instruction on processing primary products for value addition. Third, it facilitates access to a network of farms started by trainees. These farms are termed "satellite farms" and are intended to exchange knowledge and work with the central Songhai farm to facilitate market access (Vodouhe and Zoundji, 2013). In the Rivers Songhai Initiative replication the "satellite farms" are not yet up and running.

## 3.2 The Study Area

This study focuses on the Rivers state's replication of the Songhai model. The Rivers Songhai Initiative is located in the Tai and Etche local government areas, at the Bunu (Tai) and Egbeke-Nwuba (Etche) farm sites of the School-to-Land project (RSSDA, 2014). See figure 2 for the location of the Rivers Songhai Initiative in Nigeria. The Rivers Songhai Initiative was started with funding from the Rivers state government in 2008 as part of Governor Chibuike Rotimi Amaechi's goal to create a "paradigm shift" of production from the oil sector to agriculture via an increase in agricultural production in the state (Rivers State Sustainable Development Agency, 2014). The farm initiative also attempts to address the high unemployment rate, especially for youth. Ideally, the Rivers Songhai model creates employment and entrepreneurship opportunities for youth to help prevent their involvement in agitation toward the oil industry and the state. The RSI model focuses on making agriculture an attractive employment opportunity. The RSI model's integrated farming system also focuses on a "zero waste" concept, which addresses the state's efforts to fight environmental degradation. In addition, the grounds of the Songhai model are thought to be beautiful and thus perceived to be compatible with the goal of Rivers state in building its tourism industry. Thus, the focus on organic farming methods and the presence of a demonstration farm at the training site bills the Songhai model as an ideal agro-tourism opportunity.

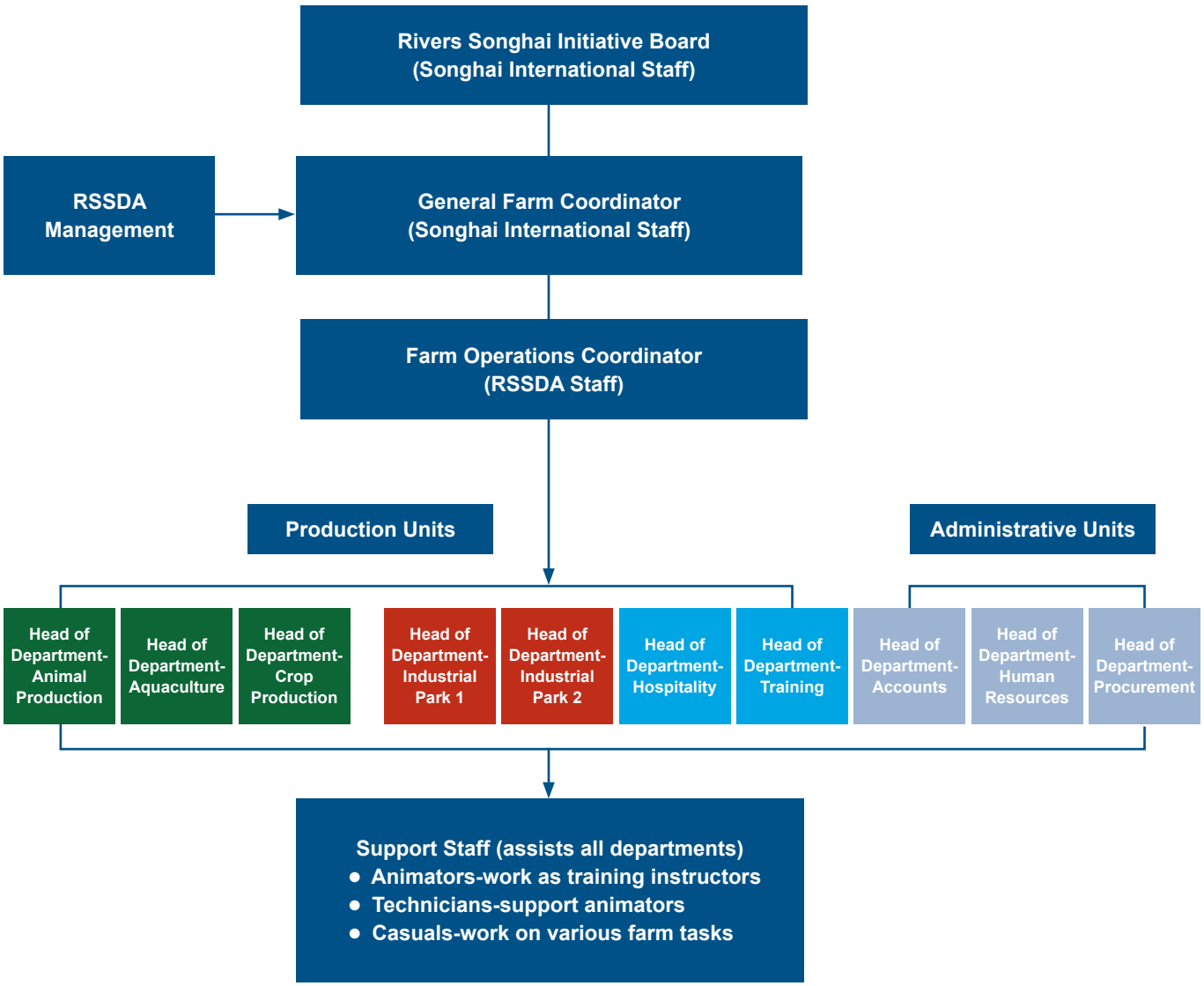
Figure 2. Location of the Rivers Songhai Initiative in Nigeria


## 3.3 The Organizational Setup of the Rivers Songhai Initiative

The Rivers State Sustainable Development Agency (RSSDA) is the agency of the Rivers state government that manages the RSI. The RSSDA acts as the link between the RSI and the government—with funding from the government channeled through the RSSDA to the RSI. Songhai International is a private partner from Benin that is working as the project's technical director. It has been given the contract to build and operate the Rivers Songhai Initiative for a period of five years, after which it will transfer management to the RSSDA (the transfer is scheduled for 2015). The RSSDA and Songhai International (i.e., the Beninese staff from the original Songhai Center in Porto Novo) form the board of the RSI. Songhai International provide functional oversight to the initative as well as help shape its overall focus. For a diagram on the management organization of the RSI, see figure 3. Below the board and under management of the RSSDA is the general farm coordinator. The general coordinator is a Beninese from the Songhai Center in Porto Novo. He oversees all the activities of the center. Below the general coordinator is the farm operations coordinator. The operations coordinator is attached to the general coordinator, who provides the operations coordinator with mentorship. The operations coordinator is a local staff member, who is expected to assume the responsibilities of the general coordinator when Songhai International hands over management to the RSSDA.

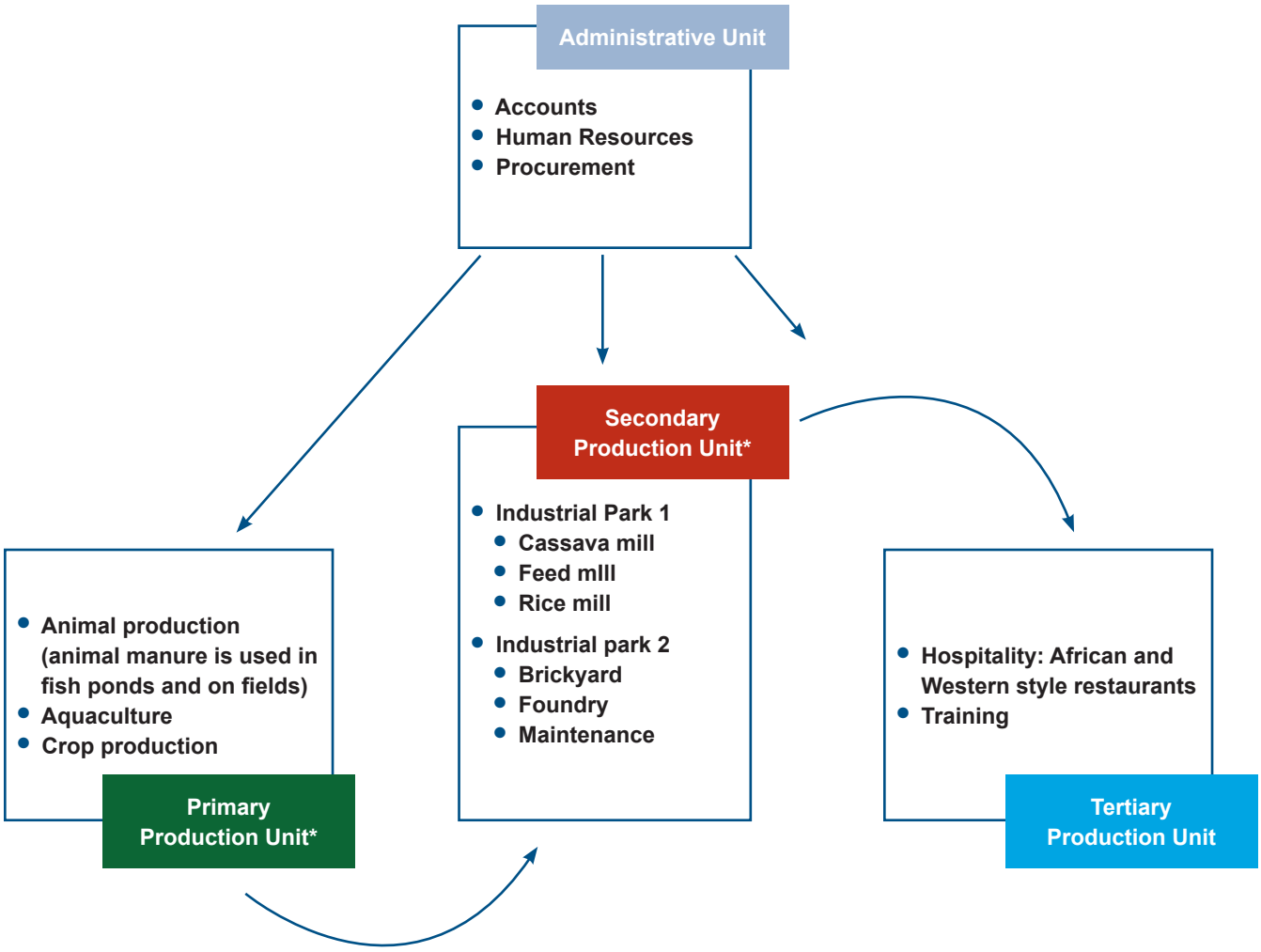
Ten heads of departments report directly to the operations coordinator. The heads of department work under either the administrative unit or one of the three production units. The primary production unit produces farm products (e.g., eggs and crops), the secondary production unit processes primary products to add value (e.g., milling maize into animal feeds) and the tertiary production unit produces auxiliary services from the farm products and environment (e.g., two restaurants and agro-tourism). Below the department heads are the animators. The animators are the original trainees that performed the best in the training, have passed an approval examination by the Songhai International staff and work as the training staff. The technicians attended the original training, but are waiting to pass the approval examination by the Songhai International staff and provide support to the animators. The casual workers did not attend the training, but are locals that work under the technicians and are progressing toward the technician position. Eventually, the RSI has plans to set up the "satellite farms" feature of original Songhai Center in Benin. These will be farms established by the trainees that are in a network with the RSI farm in Tai and Etche local government areas. The farmers at the satellite locations will ideally train more farmers in their areas.

Figure 3. Rivers Songhai Initiative Organization Chart




The RSI is run by an administrative unit that is composed of accounts, procurement and human resources (figure 4). Under the primary production unit, the RSI has three departments: animal production, aquaculture and crop production (Office of the Governor, Rivers State, 2014). The primary production products are sold at the farm gate as well as used as raw materials for the secondary production unit. Some examples of high-demand Songhai products are daily harvests of fresh eggs. These are sold at a low price to the surrounding communities near Tai and Etche and to other communities in Rivers state.

Figure 4. Rivers Songhai Initiative Process Flow




**Primary production products and cassava mill products are used in the hospitality department's restaurants.*

The RSI secondary production unit is composed of two industrial park departments. The first industrial park focuses on the further processing of the agricultural products produced in the primary production unit. For example, the RSI has a rice mill, cassava mill and feed mill to process crops into flours and animal feeds (figure 4). The second industrial park is focused on maintaining RSI farm equipment and grounds. It contains a brickyard, foundry and maintenance units.

The tertiary unit is focused on hospitality and training. The hospitality department features two restaurants on-site—one for African cuisine and the other, Western.

# 4. LITERATURE REVIEW

## 4.1 Studies on the Effectiveness of Songhai Initiatives in West Africa

Only a sparse amount of literature on the Songhai model exists despite its replications and apparent success. In particular, there is currently a knowledge gap about the effectiveness of the Rivers Songhai Initiative. While the majority of the following studies on other Songhai replications are case study reports without identified methods of analysis, these studies are useful for identifying the approach of the Rivers Songhai model and gaining insight into what is working within Songhai models in general, what is not, and what questions remain for research.

### *4.1.1 Achievements of the Songhai Model*

The achievements of the Songhai Center Benin have garnered attention from the development community. Since 1983, the Songhai Center Benin has established more than 500 farms managed by young people trained by the various Songhai Benin centers; created employment for more than 150 permanent staff, facilitators, technicians and administrators; and continue to receive more than 5,000 visitors every year (Agbo and Tokannou, 2009). In another study of the Songhai Center in Benin, Vodouhe and Zoundji (2013) found that the major success of the model was its ability to change "mindsets" about working in agriculture. The Songhai Center Benin model used performance incentives to motivate staff and trainee farmers as well as change attitudes. Another achievement of the Songhai Center Benin was its human capacity development and the use of the local context: "The model encourages the use of local resources, the combination of traditional and modern agricultural practices, technology adaptation, and the diversification of activities," (Vodouhe and Zoundji, 2013).

A qualitative case study of the Liberian replication of Songhai noted other areas of success. Fayia (2011) reviews the replication of the Songhai model in Bensonville, Liberia (the Center Songhai Liberia Initiative, or CSLI). The center successfully supported its target groups of women and children—the two key groups for economic development interventions in Liberia. The success of CSLI in targeting women and children was attributed to a high level of government involvement; the creation of a steering board that involved government and external partners at bi-monthly and monthly meetings; the level of follow-up monitoring with trainee farmers from the establishment of their own farms and beyond; and the ability of the government of Liberia to match trainee farmers with land allocations.

The Songhai-Delta Initiative, another replication of the Songhai Benin Center, provides evidence of how the Songhai model performs in the Niger Delta context. Aphunu and Ajayi (2010) estimated beneficiary farmers' perceptions about the effectiveness of the aquaculture training at the Songhai-Delta Initiative. They found that respondents adopted fish culture technologies after the training program. Records indicate that about 1,000 farmers have been trained through Songhai-Delta. According to the Songhai International website, there are additional Nigerian replications of the Songhai model, but at the time of writing this study we found no studies of these replications.

### *4.1.2 Challenges of the Songhai Model*

On the other hand, farmers in the Songhai Center Benin and the CSLI faced major challenges. Songhai farmers in both countries experienced uncertain climatic conditions; low access to credit; low profit margins on Songhai products; and problems in organizing the satellite farmers' networks (Fayia 2011; Vodouhe and Zoundji, 2013). Both centers have been criticized

for not adequately helping farmers overcome these issues. In Benin, farmers had difficulties obtaining farmland, but the Liberians avoided this challenge by providing land allocations to trainees. The Songhai model also reportedly has a weak interaction between the national agricultural innovation systems of Benin and Liberia, i.e., agricultural extension and other agricultural technicians. Agricultural technicians have information on local demand of agricultural products as well as information on the most suitable crops for various climatic conditions. A better linkage between farmers and technical resources would address some of the farmers' challenges. The Songhai-Delta replication is no longer operating in Delta state. The reasons for the end of the Songhai-Delta training center are unclear, but the project reportedly stopped after the program was handed over from Songhai International (the implementing staff from Songhai Benin) to the Delta state government.

## 4.2 Studies of Previous Attempts to Improve Agricultural Production in Rivers State

As mentioned in the introduction, the RSI's predecessor, the School-to-Land program, was implemented in Rivers state through the establishment of an agricultural training institute for young secondary school dropouts. Trainees were taught modern agricultural practices and encouraged to start ventures in agriculture (Rivers State Ministry of Agriculture, 2014). The School-to-Land program is very similar to the Songhai model as it is a semi-autonomous agricultural training center, which means that it was not under management by the Rivers State Ministry of Agriculture, yet the government was involved via the governing board. The RSI is managed by the RSSDA, a parastatal of the state government. The goals of the School-to-Land program are to increase food production, increase opportunities for youth, and reduce the number of school dropouts. Excluding the focus on school dropouts, the School-to-Land's goals are very similar to the RSI's.

The School-to-Land program struggled to achieve its goals at some of its project sites: The Bunu and Iriebe farm sites failed due to a lack of political will by subsequent governments (Igbanibo, 2012). When government officials changed, so did the level of funding and commitment to the project. Low accountability, poor management of farm revenue and government interference via the governing board also contributed to the challenges of the School-to-Land program.

In the end, the School-to-Land program was not successful at the Bunu and the Iriebe farm sites, i.e., the trainees there did not farm after the program. However, it was found, through a survey of 300 participants, to have increased crop and livestock production for trainees in other Rivers state School-to-Land sites (Olulu and Kalu, 2013). Despite the improvements, that survey also found that the adoption of modern farming techniques, constant review of agricultural programs and policies, and periodic re-training of farmers could lead to improved results for the School-to-Land program. Thus, there is evidence that, with some adjustments, agricultural training centers can function as long-term development interventions in the Niger Delta region and Rivers state.

## 4.3 Gaps in the Research

Our study addresses two gaps in the research: 1) the absence of empirical analysis of beneficiaries' perceptions of the general Songhai model and 2) the lack of analysis of the Rivers Songhai Initiative and other replications in Nigeria (particularly the Niger Delta region). As stated previously, the Rivers Songhai Initiative farm holds itself to the following goals: 1) to

shift production from the oil sector to agriculture; 2) to increase food production; 3) to increase employment and entrepreneurship opportunities; 4) to improve livelihoods; and 5) to reduce youth restiveness (the likelihood that youth will join militant groups). This study asks the trainees of the RSI a series of perception questions in order to estimate whether the initiative is making progress toward its goals. In addition, this study attempts to determine the benefits and challenges that the RSI faces. The intention of this study is to help policymakers make adjustments that can improve the longevity of and participant satisfaction with the Rivers Songhai Initiative and to assist in further, successful replications of the initiative.

# 5. DATA AND METHODS OF DATA ANALYSIS

## 5.1 Data Sources

The data for this study is obtained from a survey of RSI trainees, focus group interviews, and in-depth interviews conducted by the Foundation for Partnership Initiatives in the Niger Delta (PIND) and the Nigerian Institute of Social and Economic Research (NISER) in collaboration with the Brookings Africa Growth Initiative in September of 2013. Both quantitative and qualitative data were collected in this survey. The quantitative data was collected based on a structured questionnaire. Available data indicate that five communities made up of 1,000 farmers have been trained at the Rivers Songhai Initiative. For this study, 10 percent of the total beneficiaries (farmers previously trained in the RSI program) were sampled, resulting in a sample size of 100. A sample of 120 beneficiaries was selected to allow for drop off. Thus, 24 questionnaires were administered in each of the five communities where the trainees live to create a representative sample. Respondents were selected using a systematic random sampling with a random starting number and a sampling interval of five. Eighty-six respondents fully completed the questionnaire. The qualitative data were obtained from nine in-depth interviews with the key informants (i.e., purposively selected individuals who work in various paid positions within the initiative) as well as focus group interviews with groups of men, women and youth from the communities that participate in the RSI training.

The data collected through the administration of the structured questionnaire include socio-demographic and biophysical attributes of RSI trainees and their community as well as their perception of the methods of selection and the outcomes from participation in the RSI. This data is presented as descriptive statistics in the results and discussion (the trainee questionnaire can be found in annex 1).

The focus group and in-depth interviews were based on questions in the structured questionnaire of trainees. The interview guides feature open-ended questions to gain more information on the benefits and challenges of the RSI. The focus groups with men and women helped inform the background characteristics on Rivers state, the origin of the initiative and the organizational set up (sections 2 and 3). The results of the in-depth interviews are presented in section 6 (the focus group and in-depth interview questionnaires can be found in annexes 2 and 3, respectively).

## 5.2 Methods of Data Analysis

Descriptive statistics—namely, frequencies, means, percentages and coefficients of correlation (form pairwise correlation of means)—were used to present and describe the data collected through the questionnaire surveys of trainees. Each of the in-depth interviews with key informants (i.e., individuals in various paid positions in the RSI) were analyzed for mentions of benefits and challenges, and the number of mentions were compiled in tables (see annexes 4 and 5).

# 6. RESULTS AND DISCUSSION

## 6.1 Basic Descriptive Statistics of Respondents

According to the 86 random, representative survey responses, the average age of respondents (in this case the RSI trainees) is about 43 years old, and a majority of beneficiaries are between the ages of 36-45 (see figure 5). The higher age of respondents is evidence that a majority of the beneficiaries of the training are relatively established or experienced. There are 22 respondents that did not respond to the question of age in the questionnaire, this must be kept in mind when interpreting the results for age. It is unclear why these respondents failed to report their age, one possibility is that they do not have documentation of their age, a common scenario in rural areas of Africa. Even with this stipulation, the initiative does not appear to reach the younger age groups, which are its target population (see RSI goals in section 4.3). This result is unlike the experience of the Liberian replication that effectively reached its target groups of women and children.

The survey results reveal that more than half of the respondents are female. This is a very important indication that the RSI is encouraging female members of the community to be entrepreneurs in agriculture, which is rare in most rural African communities where training opportunities for women are very low (Lastarria-Cornhiel, 2008). Similar to other African rural communities, the household size of the respondents is large, with an average of eight people per household (table 1). Results also show that majority of the respondents are married, and every respondent is a Christian by religious affiliation (the questionnaire did include multiple options for religious preferences; see annex 1, question B.9).

Figure 5. Respondents by Age Group

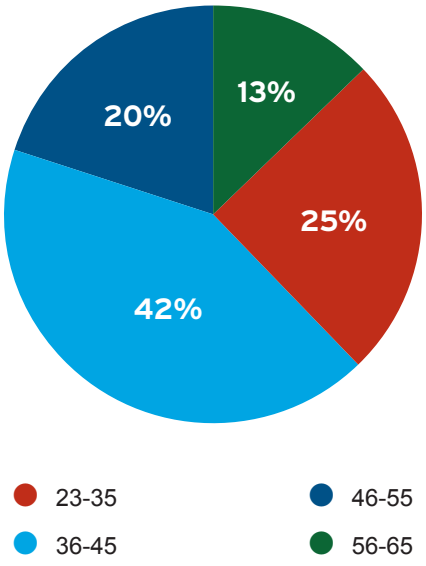
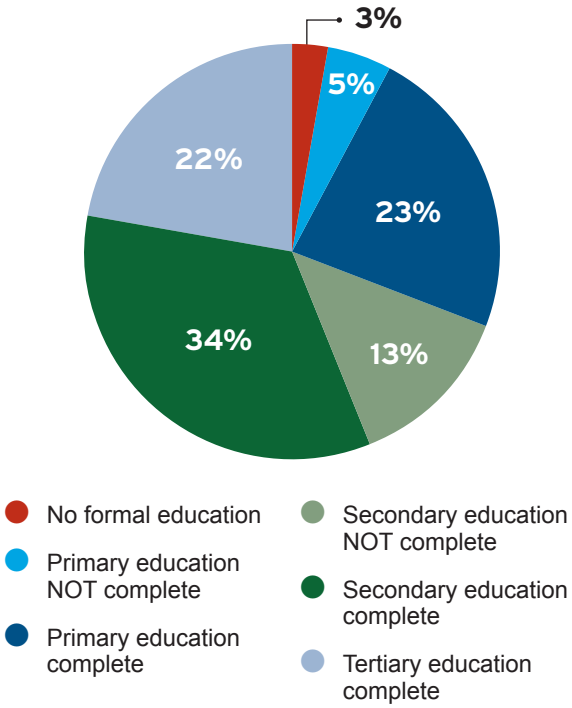



Table 1. Basic Demographic Characteristics of Respondents

| Variable | Number of Observations | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Age | 64 | 42.98 | 9.38 | 23 | 63 |
| Gender (1=male, 0=female) | 86 | 0.44 | 0.50 | 0 | 1 |
| Household size | 86 | 8.16 | 3.44 | 2 | 20 |
| Marital status (1=married, 0=else) | 86 | 0.93 | 0.26 | 0 | 1 |
| Religion (1=Christian) | 86 | 1 | 0 | 1 | 1 |

Figure 6. Level of Education of Respondents




As shown in figure 6, the survey results also reveal that majority of the respondents have completed secondary education. This is a relatively high level of education compared to the rest of sub-Saharan Africa: UNESCO (2013) reports that a one-third of sub-Saharan Africans fail to complete primary school. Thus, there is good indication that the respondents have the educational background to effectively apply the training they gained from the RSI. Various studies show that there is a positive relationship between the education level of the household head and the adoption of improved technologies (Igodan, et al., 1988; Lin, 1991).

Table 2 looks at the relationship between the respondents' education level and their basic demographic characteristics. A review of the general relationship between demographics and education level helps provide a benchmark when looking at the relationships between education level and the trainees' reported outcomes from the RSI. The average education level of male RSI trainees is significantly higher than the average education level for female trainees. Larger households report a significantly lower level of education. There is no significant relationship between the level of education of respondents and their age, income or marital status.

As expected, the majority of the respondents practice farming as their primary means of livelihood—nearly 83 percent. Trade is the second-most prevalent means of livelihood among the respondents, but the frequency is low with only five respondents (6 percent of the sample) reporting trading as their occupation (figure 7).

In terms of income distribution, only 7 percent of the respondents earn more than $10 (₦1640) per day, in current U.S. dollars. Only 17 percent of the respondents earn less than $2 per day (figure 8). However, a majority of them earn between $2 and $10 (between ₦328 and ₦1640) per day. In terms of purchasing power

Table 2. Correlation between Basic Demographic Characteristics and Level of Education of Respondents

| | Age | Gender (1=male, 0=female) | Household Size | Income (brackets 1-6) | Marital Status (1=married, 0=else) |
|---|---|---|---|---|---|
| Education Level | -0.179 | 0.376*** | -0.467*** | 0.078 | 0.003 |
| (categories 1-6) | (0.157) | (0.000) | (0.000) | (0.474) | (0.977) |

*p-value in parentheses, ***p<0.01*

Figure 7. Occupations of Respondents

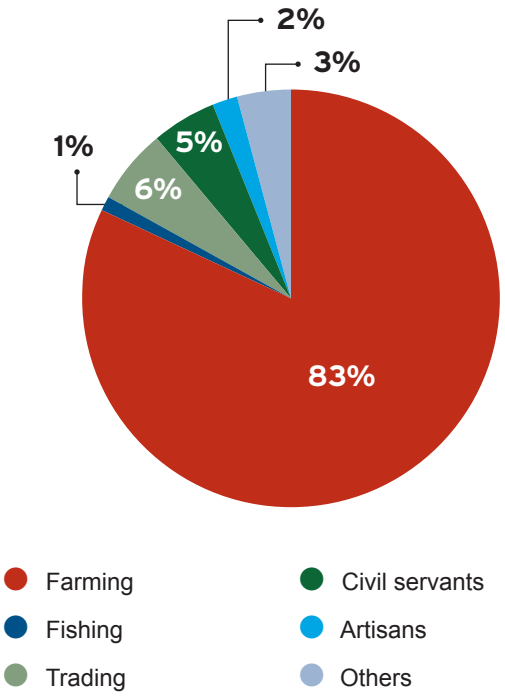
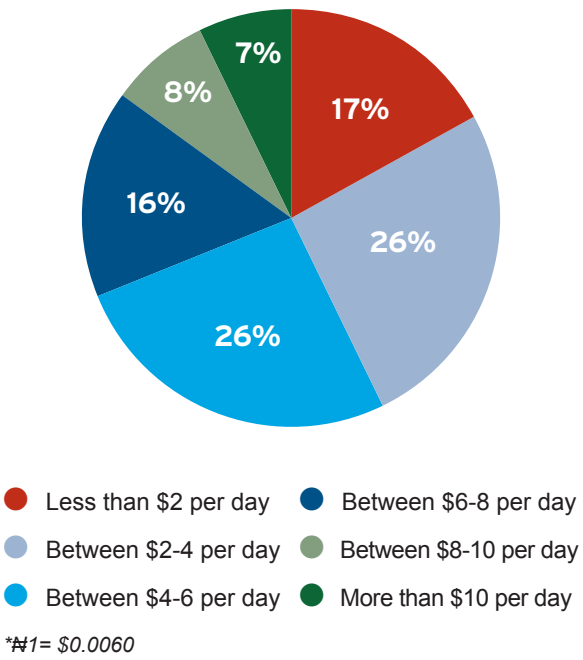



Figure 8. Respondents by Income Bracket (Current U.S. Dollars)*




*₦1= $0.0060*

parity, the majority earn between $3.33 and $16.67, an indication that respondents earn far above the international poverty line of $1.25 (PPP) per day (World Bank Data Bank, 2012). The low number of very poor trainees raises a question about the selection methods of the program beneficiaries. In a country where one-third of the population lives on less than a dollar per day (Zakaria, 2006), it is unclear if the initiative has successfully targeted the poor or not.

The results in table 3 show the relationship between income and basic demographic characteristics of respondents. Income increases with age, and male trainees of the RSI report statistically significant higher levels of income than female trainees. On the other hand, neither the level of education, household size, nor marital status are significantly correlated with the income bracket of the respondents (table 3). These results provide a benchmark to further examine the rela-

Table 3. Correlation between Income Bracket and Basic Demographic Characteristics of Respondents

| | Age | Education (categories 1-6) | Gender (1=male, 0=female) | Household Size | Marital Status (1=married, 0=else) |
|---|---|---|---|---|---|
| Income | 0.276** | 0.078 | 0.369*** | -0.054 | 0.114 |
| (brackets 1-6) | (0.027) | (0.474) | (0.001) | (0.619) | (0.297) |

*p-value in parentheses, ***p<0.01,**p<0.05*

tionship between the trainee-reported outcomes of the RSI and income. For example, to determine whether women on average report more improved outcomes for farm income we first need to know the general relationship between income and gender.

Table 4 describes how beneficiaries are selected for RSI agricultural training. A majority of the respondents (nearly 63 percent) were selected by community members to get training from the initiative. Allowing the community to participate in the selection of the RSI trainees is an indication that the Songhai model was consultative and in line with Nzamujo's (1999) description of community involvement in the Songhai model. In follow-up discussions on the survey results with the RSI management and RSSDA, respondents mentioned that some of the trainees that were "selected by community members" had been selected by their agricultural cooperatives. This provides evidence of community selection as well as suggests that some trainees have prior agricultural experience.

Next, we looked at the relationship between respondent's satisfaction with the selection methods and respondent's basic demographic characteristics (table 5). Married respondents are significantly more satisfied with the selection methods on average than their unmarried counterparts. Statistical inference about the more satisfied married respondents is difficult because a majority of respondents are married (80 out of 86 respondents), and most of the respondents are also satisfied with participant selection (74 out of 86 respondents). It is expected that the participants would be satisfied with selection because they were chose to participate in the program. Results further indicate that there is no statistically significant relationship between age, education, gender, household size or income levels of respondents and their levels of satisfaction with the selection methods. These results are preliminary evidence that the selection method was fair.

Table 4. Method of Selection of Songhai Trainees

| How were you selected for the Rivers Songhai training? | Frequency | Percent |
|---|---|---|
| Selected by the sponsors of the community training | 10 | 12.82 |
| Selected by community members | 49 | 62.82 |
| Other methods of selection | 19 | 24.36 |
| **Total** | **78** | **100** |

Table 5. Correlation between Respondent Satisfaction with the Method of Selection of Songhai Trainees and Basic Demographic Characteristics of Respondents

| Survey Question | Age | Education (categories 1-6) | Gender (1=male, 0=female) | Household Size | Income (brackets 1-6) | Marital Status (1=married, 0=else) |
|---|---|---|---|---|---|---|
| Are you satisfied with the methods of selection of trainees for the Rivers Songhai Initiative farms? | 0.127<br>(0.316) | -0.054<br>(0.620) | -0.088<br>(0.420) | -0.039<br>(0.723) | 0.113<br>(0.300) | -0.417***<br>(0.000) |

*p-value in parentheses, ***p<0.01*

## 6.2 Reported Outcomes for Respondents since Participation in the Rivers Songhai Initiative

Importantly, RSI trainees report that participation in the training has generally improved the performance of their farms. To gain a general sense of whether the RSI program has improved farm outcomes, the respondents were asked the following questions:

1. What has been the state of your farm since participation in the Rivers Songhai training?
2. What has been the state of your yields since participation in the Rivers Songhai training?
3. What has been the state of income from your farm since participation in the Rivers Songhai training?
4. What has been the state of the size of your farm since participation in the Rivers Songhai training?

For instance, the majority of farmers (96 percent) indicate that they have either observed little (55 percent) or drastic improvement (41 percent) in the general state of their farm after participating in the RSI training (figure 9a). Only 4 percent have seen no change in general farm status.

The figures for respondent-reported improvements in yields are similar to the general state of the farm: 97 percent of farmers have seen improved yields since the RSI training. About 41 percent of respondents indicated that they observed a drastic change, 56 percent of farmers indicated they saw little improvement, and only 3 percent saw no change in yields after the training program (figure 9b).

Figure 9c indicates that the trainee-reported change in farm income improved the least out of all four reported outcomes; still, the majority of respondents (91 percent) reported that they experienced an increase in income after the RSI training. Nine percent of respondents reported no change in income since the training.

Ninety-four percent of beneficiaries of the training also noted that size of their farms has increased little (62 percent) or drastically (32 percent) after participating in training (figure 9d). The increase in farm size could be affiliated with the farmers' needed to acquire more land for farming business. These results provide evidence that the Rivers Songhai farmers do not face the same challenges acquiring land as the Songhai Benin farmers (Agbo and Tokannou, 2009; Vodouhe and Zoundhi, 2013). The Rivers Songhai farmers have relatively unrestricted access to land in their village areas. The Rivers Songhai farmers were not given any land by the program, unlike the land allocations to farmers by the Center Songhai Liberia Initiative discussed in Fayia (2011).

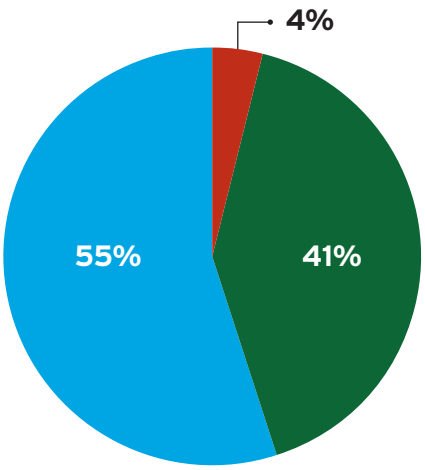
In general, this preliminary analysis shows that the perceived welfare of the farmers has improved due to participation in the RSI training. The positive reported outcomes for the RSI beneficiaries show that the project has the potential to change the lives of farmers in Rivers state.

## 6.3 Correlation between Reported Effects of the Training and Basic Demographic Characteristics of Respondents

The next step of the analysis examines the statistical relationships between the reported effects of participation (improved general state of farms, farm yields, farm incomes and farm sizes) and the demographic characteristics of the RSI beneficiaries. For some of the reported effects of participation the responses are broken down by age brackets of the respondents. This breakdown allows for further examination of the types of respondents that reported more or less benefits from the RSI training (age group comparisons for yields and farm size can be found in annexes 6 and 7).

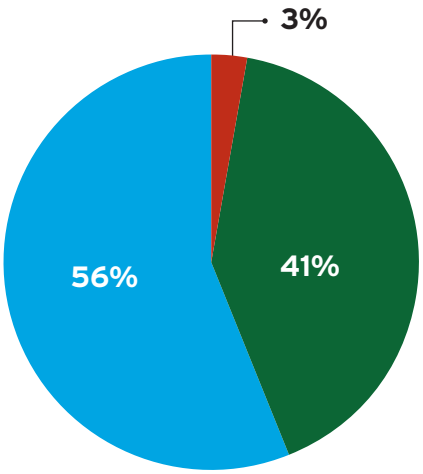
Figure 9. Reported Outcomes for Respondents Since Participation in the Rivers Songhai Training

***a. What has been the state of your farm since your participation in the Rivers Songhai training?***



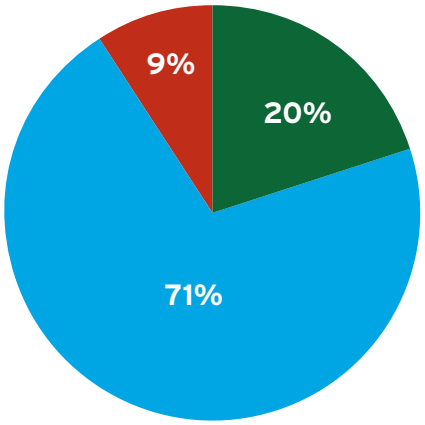

- Improved drastically
- Improved little
- No change

***b. What has been the state of yields from your farm since your participation in the Rivers Songhai training?***



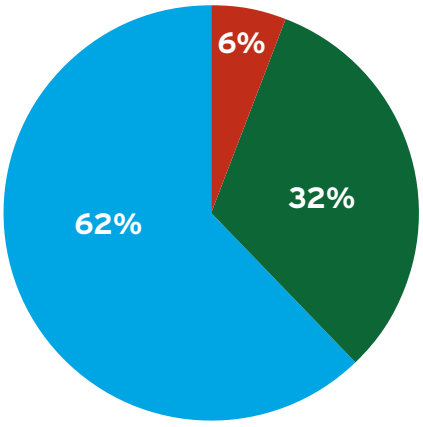

- Improved drastically
- Improved little
- No change

***c. What has been the state of income from your farm since your participation in the Rivers Songhai training?***




- Improved drastically
- Improved little
- No change

***d. What has been the state of the size of your farm since your participation in the Rivers Songhai training?***




- Improved drastically
- Improved little
- No change

Table 6. Correlation between Reported Effects of Training on State of Farm and Basic Demographic Characteristics of Respondents

| Reported Effects of Training on State of Farm | Age | Education (categories 1-6) | Gender (1=male, 0=female) | Household Size | Income (brackets 1-6) | Marital Status (1=married, 0=else) |
|---|---|---|---|---|---|---|
| Improved drastically | 0.001<br>(0.992) | 0.101<br>(0.354) | 0.121<br>(0.268) | 0.127<br>(0.246) | 0.106<br>(0.331) | 0.227**<br>(0.036) |
| Improved little | 0.138<br>(0.277) | -0.076<br>(0.488) | -0.177<br>(0.103) | -0.032<br>(0.772) | -0.093<br>(0.394) | -0.250**<br>(0.021) |
| No change | -0.284**<br>(0.023) | -0.057<br>(0.603) | 0.137<br>(0.208) | -0.220**<br>(0.042) | -0.028<br>(0.800) | 0.061<br>(0.580) |

*p-value in parentheses, **p<0.05*

### *6.3.1 Perception of Change of General State of Farm*

Table 6 reveals that younger respondents were more likely to report no change in the general state of their farm. Respondents with smaller households were also more likely to report no change in the general state of their farm. A possible reason for this result is that a large household has more people available to provide labor and thus can achieve better results on the farm than a smaller household. Additionally, married respondents observed drastic improvements more often on average than unmarried program beneficiaries—although one must remember that most of the respondents are married when interpreting this result. Education level, gender and income of the trainees do not show a significant relationship with respondents' reported impact of the RSI training on the general state of the farm. Notably, there are only four respondents that reported no change in the general state of their farm, and all of them were in the 23-35 year old age group (table 7).

Table 7. Reported Effects of Training on State of Farm by Respondent Age Group

| What has been the state of your farm since your participation in the Rivers Songhai training? | | | | |
|---|---|---|---|---|
| Age Group | Improved Drastically | Improved Little | No Change | Total |
| 23–35 | 5 | 7 | 4 | 16 |
| 36–45 | 11 | 16 | 0 | 27 |
| 46–55 | 2 | 11 | 0 | 13 |
| 56–65 | 5 | 3 | 0 | 8 |
| **Total** | **23** | **37** | **4** | **64** |

### *6.3.2 Perception of Change in Yields*

Table 8 shows that younger people were statistically more likely to report no change in yields after the RSI training. After participation in the training, male trainees are statistically more likely to report increased yields. As with the general state of the farm, the smaller households are more likely to report no change in yields. Married participants were also more likely to report a drastic improvement in their yields on average than the unmarried. Education and income of respondents do not have statistically significant relationship with the reported effects of the training on farm yields. The respondents that reported no change in yields (3 individuals) were all in the 23-35 year old age group (annex 6).

Table 8. Correlation between Reported Effects of Training on Farm Yields and Basic Demographic Characteristics of Respondents

| Reported Effects of Training on Farm Yields | Age | Education (categories 1-6) | Gender (1=male, 0=female) | Household Size | Income (brackets 1-6) | Marital Status (1=married, 0=else) |
|---|---|---|---|---|---|---|
| | 0.057 | 0.049 | -0.070 | 0.085 | -0.157 | 0.227** |
| Improved drastically | (0.656) | (0.655) | (0.523) | (0.436) | (0.148) | (0.036) |
| | 0.039 | -0.013 | -0.010 | -0.012 | 0.152 | -0.244** |
| Improved little | (0.758) | (0.906) | (0.928) | (0.910) | (0.162) | (0.024) |
| | -0.222* | -0.096 | 0.214** | -0.194* | 0.009 | 0.052 |
| No change | (0.078) | (0.380) | (0.048) | (0.073) | (0.933) | (0.634) |

*p-value in parentheses, **p<0.05,*p<0.10*

### *6.3.3 Perception of Change in Income*

In terms of the effect of the RSI training on income, less-educated beneficiaries were more likely to report no change in farm income (table 9). All of the other listed demographic characteristics (age, gender, household size and marital status) do not have a significant relationship with the reported effects of the RSI training on income. Importantly, despite the fact that men in the survey sample reported higher incomes on average than women (table 3) there is no significant relationship between gender and perceived growth of income in table 9. Therefore, men are not earning more on average than women due to the initiative; rather it must be another factor that provides men with higher income. In the case of income, more respondents report no change than in the questions for general state of the farm, yields or farm size (figure 9c). The respondents that reported no change in farm income are distributed over the various age groups, rather than clustered in the younger age groups (table 10).

### *6.3.4 Perception of Change in Farm Size*

Finally, table 11 shows the correlation between the reported effects of farm size with demographic characteristics. Young beneficiaries are more likely to report no change in farm size due to the training, similar to their response on the general state of the farm. Interestingly, female respondents were more likely to report a drastic increase in the size of farm land on average than male respondents. Married respondents were more likely to report a drastic improvement in their farm size of land than the unmarried. The other demographic characteristics do not have a significant relationship with the reported effects of the training on the farm size. The respondents (5 individuals) that reported no change in farm size were in younger age groups—four individuals in the 23-35 year-old age group and one in the 36-45 year old age group (annex 7).

Table 9. Correlation between Reported Effects of Training on Farm Income and Basic Demographic Characteristics of Respondents

| Reported Effects of Training on Farm Income | Age | Education (categories 1-6) | Gender (1=male, 0=female) | Household Size | Income (brackets 1-6) | Marital Status (1=married, 0=else) |
|---|---|---|---|---|---|---|
| Improved drastically | -0.098 | 0.131 | -0.148 | 0.011 | -0.078 | 0.136 |
| | (0.440) | (0.230) | (0.175) | (0.924) | (0.478) | (0.212) |
| Improved little | 0.034 | 0.089 | 0.157 | -0.029 | 0.147 | -0.175 |
| | (0.791) | (0.413) | (0.149) | (0.788) | (0.177) | (0.106) |
| No change | 0.077 | -0.319*** | -0.043 | 0.032 | -0.124 | 0.088 |
| | (0.547) | (0.003) | (0.693) | (0.773) | (0.256) | (0.422) |

*p-value in parentheses, ***p<0.01*

## 6.4 Results from the In-depth Interviews with Rivers Songhai Initiative Management

Nine in-depth discussions were conducted with key informants from the Rivers Songhai Initiative. The informants are local staff members who work in various paid positions within the initiative. Annexes 4 (benefits) and 5 (challenges) provide a synthesis of the key themes from the interviews.

### *6.4.1 Benefits*

All nine respondents in the in-depth interviews stated that the Rivers Songhai Initiative creates jobs. Seven respondents reported that the RSI generally benefits the community, and six respondents reported that the RSI builds skills and human capacity. Specifically, respondents mentioned that the initiative provides entrepreneurship training, creates a disciplined work culture and improves the perception of agriculture as a viable occupation. These reported benefits are similar to the reported achievements of Songhai Benin and Liberia

Table 10. Reported Effects of Training on Farm Income by Respondent Age Group

| What has been the state of income from your farm since your participation in the Rivers Songhai training? | | | | |
|---|---|---|---|---|
| Age Group | Improved Drastically | Improved Little | No Change | Total |
| 23–35 | 3 | 10 | 3 | 16 |
| 36–45 | 9 | 17 | 1 | 27 |
| 46–55 | 1 | 10 | 2 | 13 |
| 56–65 | 2 | 4 | 2 | 8 |
| **Total** | **15** | **41** | **8** | **64** |

inimproving employment, human capacity building and the general perception of agriculture as an employment opportunity (Agbo and Tokannou, 2009; Fayia, 2011; Vodouhe and Zoundji, 2013).

Respondents also discussed the spillover of economic benefits from the RSI into the two communities where the program is located. According to respondents, Songhai creates indirect employment and income

Table 11. Correlation between Reported Effects of Training on Farm Size and Basic Demographic Characteristics of Respondents

| Reported Effects of Training on Farm Size | Age | Education (categories 1-6) | Gender (1=male, 0=female) | Household Size | Income (brackets 1-6) | Marital Status (1=married, 0=else) |
|---|---|---|---|---|---|---|
| Improved drastically | -0.010 | 0.078 | -0.219** | 0.163 | -0.139 | 0.190* |
| | (0.938) | (0.478) | (0.043) | (0.135) | (0.202) | (0.079) |
| Improved little | 0.162 | -0.026 | 0.172 | -0.074 | 0.161 | -0.216** |
| | (0.202) | (0.810) | (0.112) | (0.497) | (0.138) | (0.046) |
| No change | -0.275** | -0.101 | 0.079 | -0.172 | -0.057 | 0.068 |
| | (0.028) | (0.356) | (0.469) | (0.114) | (0.602) | (0.534) |

*p-value in parentheses,**p<0.05,*p<0.10*

beyond that of the individuals that are employed as permanent or casual laborers. For example, some members of the surrounding communities have become landlords to the students trained at the RSI and are earning rental income. In addition, community members are able to purchase produce at the Songhai farm gate for resale at regional markets in Rivers state, also creating income-generating opportunities.

In addition to noting increased jobs and improved income from the RSI program, respondents noted that there are now access roads from the surrounding villages that lead to the RSI, which has improved rural infrastructure. Respondents highlighted the initiative's focus on reducing waste and utilizing an integrated farming method as a way to address environmental degradation. Some less frequently noted benefits that stem from the RSI include reduced prices of food due to the increase in food supply and increased market linkages.

### *6.4.2 Challenges*

There were 11 mentions of various issues with unsuitable crops and farming methods in the nine in-depth interviews (annex 3). Respondents reported that the RSI often attempts to grow crops that are not suitable to the environment (do not grow well) or are not profitable (no local demand). The respondents specifically mentioned two crops, rice and Chinese yams. Other noted concerns from respondents were the outdated methods of farming that are preferred by the Benin staff and the lack of soil testing before decisions are made on the types of crops to cultivate. For example, large expanses of land for crop cultivation are prepped manually with hoes, which is time consuming. As found by Olulu and Kalu (2013), agricultural training programs in the Niger Delta can be improved by a constant review of the appropriateness of the agricultural methods used within the training centers to improve efficiency.

There were nine mentions of general issues with the Songhai International senior management in the nine in-depth interviews. Three respondents mentioned that senior management frequently does not listen to suggestions from the Nigerian managers. The problems with senior management in the initiative are contrary to the focus on local input and knowledge that Nzamujo (1999) championed in the original Songhai Center in Benin. The respondents followed up these concerns by mentioning that when the project shifts to the Nigerian staff they plan on modifying their approach to farm management. Another respondent suggested that the Rivers state government via the RSSDA needs to have more representation on the ground to resolve general management problems as well as labor and employee welfare issues. It should be noted that respondents also reported that the Rivers state government has been very supportive of the RSI.

Less frequently noted challenges include concerns about security (theft); concerns about future funding after Songhai International hands over the management of the farm to RSSDA; concerns that marketing opportunities and the potential for eco-tourism are not being fully harnessed; and confusion about the bottom line (a profit focus versus the pursuit of social objectives). A few respondents made it clear that while the project is facing challenges, it needs more time to develop past the initial five-year phase where the Nigerian staff is under tutelage from Songhai International.

# 7. CONCLUSIONS AND RECOMMENDATIONS

The Rivers Songhai Initiative is a replication of the Songhai International model, an agricultural training model that focuses on reducing waste through the use of farm by-products and integrated farming methods. There has been a gap in knowledge of participant perception about the Songhai model generally and in the Nigerian context. To address these gaps and inform policymakers, this study obtained data from a survey, focus group discussions and in-depth interviews conducted by the Foundation for Partnership Initiatives in the Niger Delta (PIND) and the Nigerian Institute of Social and Economic Research (NISER) in collaboration with the Brookings Africa Growth Initiative in September of 2013. The random survey covered 120 former trainees that have already participated in RSI training to create a representative sample of the 1,000 individuals trained. Out of the 120 randomly selected trainees, 86 completed the survey.

## 7.1 Conclusions from the Quantitative Data

Results from the survey showed that only 17 percent of the respondents earn less than $2 (₦328) per day. This observation raises a question on the ability of the program to target the poor. If the RSI training program were to implement policies that target and integrate the poor who earn less than $2 per day, then the RSI program would also complement Nigeria's current poverty reduction strategy. Similarly, results indicate that a majority of the beneficiaries are older: Only 25 percent of the survey respondents are between the ages of 23 and 35 years old. Additionally, some of the beneficiaries were selected by their agricultural cooperatives to participate in the program, which shows that some trainees have had prior experience with farming.

The analysis of the relationship between the respondents' reported effects of the training and the demographic characteristics indicated that female participants (for farm size), older beneficiaries (for general state of the farm, yields and farm size), and more educated beneficiaries (for income) reported the most benefits from participation in the training. Additionally, younger farmers reported no change in the general state of their farm, yields and farm size from the RSI training significantly more often. Less-educated trainees were more likely to report no change in farm income from the training.

As the RSSDA specifically lists "a reduction in youth restiveness" as a goal for the RSI program, perhaps strategies for engaging youth more closely should be enacted. The board of the initiative should consider policy designs that encourage and integrate youth into the agriculture sector. An increased focus on youth will meet the goals of youth employment, poverty reduction and food security.

## 7.2 Conclusions from the In-depth Interviews

Results from the in-depth interviews with the key informants of the RSI (purposively selected Nigerian management of the initiative) depict both benefits and challenges. The main benefits include job creation, general benefits for the community, and skills and capacity building. The main challenges include unsuitable crops, outdated farming methods and misunderstandings between the Songhai International management and the local Nigerian staff. There are also concerns about theft and long-term funding for the project.

The following policy options are suggested to help meet the multiple objectives of the RSI and to sustain the encouraging development intervention.

First, before scaling-up or replication, there needs to be a careful study on the agro-climatology of the selected sites (i.e., an analysis of the suitability of crops to the soil, rainfall and drainage properties of the area). The cultural preferences for crops and socio-political backgrounds of the beneficiary community should also be included when determining suitability and profitability of crops. In particular, the discussions with management highlighted the unsuitability of rice and Chinese yams for the RSI location—this claim should be examined further. The results from the in-depth interviews also demonstrate that it is advisable to adjust development programs to local conditions rather than utilizing cut-and-paste designs with no modifications, even if the program are of African origin (i.e., from Benin). If the RSI is able to find crops that are better suited to the local environment and local demand, it might have the potential to further impact trainee incomes and yields, among other outcomes. Finally, the in-depth interviews relay that a clearer administrative process and consistent funding will help the initiative make strides in improvements to agricultural production long after the exit of the Songhai International staff.

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## ANNEX 1. RIVERS SONGHAI INITIATIVE QUESTIONNAIRE FOR TRAINEES

The general purpose of the questionnaire administration is to yield quantitative data that will shed light on and complement the findings that stem from the qualitative data relating to all issues and indicators pertaining to the Rivers Songhai Initiative in the Niger Delta region of Nigeria.

Data/information obtained through this questionnaire will be kept confidential and used only for research and planning purposes.

### Instructions

1. The target respondents for this questionnaire are the beneficiaries of the Rivers Songhai farm initiatives.
2. Only one questionnaire may be administered to a beneficiary
3. For each question with options, please tick the appropriate option(s) that fit the respondent's answer(s).

### *Section A: Identification*

Name of Interviewer:

Interviewer ID No.:

Name of Supervisor:

Household ID No.:

Name of Community/Village:

Date of interview:

A.1. State:

A.2. LGA:

### *Section B: Household Demographic Characteristics*

B.1. Sex of respondents:

1. Male
0. Female

B.2. Age of respondent in years:

B.3. Marital status of respondent:

1. Married
2. Single
3. Divorced/separated
4. Widow/widower

B.4. Level of education

1. No formal education
2. Primary education not completed
3. Primary education completed
4. Secondary education not completed
5. Secondary education completed
6. Tertiary education completed

B.5. Household size, total no. of persons:

B.6. No. of children (number male, number female)

B.7. Occupation of household head:

1. Farming
2. Fishing
3. Trading
4. Civil servants
5. Artisans
6. Others (specify)

B.8. Estimated income of the respondent per month

1. Less than ₦10,000
2. ₦10,001 – ₦20,000
3. ₦20,001 – ₦30,000
4. ₦30,001 – ₦40,000
5. ₦40,001 – ₦50,000
6. More than ₦50,000

B.9. Indicate your religious preferences

1. Christianity
2. Muslims
3. African traditional religion
4. None of the above

B.10. Household size, total number of children

B.11. Number of children (number male, number female)

B.12. Do you belong to any social network or community social groupings in your community?

1. Yes
0. No

B.13. Are you registered with any political party in your community?

1. Yes
0. No

14. How often do you vote in election of political offices holders in your community?

1. Regularly
2. Occasionally
3. Not at all

15. Do you think your vote counts in the election of political office holders in your community?

1. Yes
0. No

### *Section C: Model Project Design and Implementation*

C.1. Are you aware of the Rivers Songhai Initiative?

1. Yes
0. No

C.2. What was the goal of the project in your community? (Tick all that apply)

1. Provide employment for youth
2. Provide social amenities
3. Protect the environment
4. Provide security
5. Capacity building for members of the community
6. All of the above
7. Don't know

C.3. Where you or any members of your family involved in the setting the goal of the project?

1. Yes
0. No

C.4. Who were the main stakeholders in the design and implementation of project? (Tick all that apply)

1. Men group in the community
2. Women group in the community
3. Youth group in the community
4. Community based organizations (CBOs)
5. Government agencies and representatives
6. All of the above
7. Don't know

C.5. Who determines the type of livelihood training for community members in the Rivers Songhai model? (Tick all that apply)

1. Men group in the community
2. Women group in the community
3. Youth group in the community
4. Operators in the Rivers Songhai model

5. Government agencies and representatives
6. All of the above
7. Don't know

C.6. Do community members participate in the management of the project?

1. Yes
0. No

C.7. Do community members feel that their level of participation is sufficient?

1. Yes
0. No

C.8. Have community members been asked to discuss and approve the rules that establish functions, power and responsibilities in the Rivers Songhai model?

1. Yes
0. No

### *Section D: Benefits of the Project*

D.1. What has been the state of your farm since your participation in the Rivers Songhai training?

1. Improve drastically
2. Improve little
3. No change

D.2. What has been the state of yields from your farm since your participation in the Rivers Songhai training?

1. Improve drastically
2. Improve little
3. No change

D.3. What has been the state of income from your farm since your participation in the Rivers Songhai training?

1. Improve drastically
2. Improve little
3. No change

D.4. What has been the state of the size of your farm since your participation in the Rivers Songhai training?

1. Improve drastically
2. Improve little
3. No change

D.5. How were you selected for the Rivers Songhai training?

1. Selected by the sponsors of the community training
2. Selected by community members
3. Random selection
4. Others (specify)

D.6. Are you satisfied with the methods of selection of trainees for the River Songhai model farms?

1. Yes
0. No

D.7. State three reasons for your answer.

1. _____

2. _____

3. _____

D.8. How will you describe the success of the project?

1. Very successful
2. Successful
3. Don't know

D.9. What factors in the design and implementation of the model projects brought about the successes of the project?

1. Popular participation
2. Sufficient funding
3. Bottom-top approach of the project
4. Wide consultation
5. Others (specify) ……

D.10. State three reasons why you think the project was successful.

1. _____

2. _____

3. _____

D.11. Did the model project implementation have any effect on the market with regards to prices of commodities?

1. Yes
0. No

## ANNEX 2. FOCUS GROUP DISCUSSION GUIDE FOR KEY INFORMANTS IN THE RIVERS SONGHAI INITIATIVE

1. What, in your view, is Rivers Songhai Initiative all about?
2. What are the features and elements in your community that necessitated the need for farmers training in the Rivers Songhai farms?
3. Who were the main actors in the design and implementation of the project in your community?
4. Were the community members involved in the design and implementation of the project in your community?
5. Did you play any role in the design and implementation of the project in your community?
6. Do the beneficiaries/community members have a say in decision making in the Rivers Songhai model?
7. How do community members express their concerns over decision making? (e.g., speak in a meeting, legal ways etc.)
8. What are the changes that came about because of this project in your community?
9. What do you see as the benefit of community participation and management in preparation and implementation of the model project?
10. What are the benefits for the community and how are they distributed?
11. What type of good is produced and managed?
12. How many weeks of training did you receive at Rivers Songhai farms?
13. How would you describe the performance of your farms after the training at the Rivers Songhai farms?
14. Are you sharing the knowledge from Songhai training with other farmers in your community? If yes, how are you doing this?
15. What do you think contributed to the success of the Rivers Songhai model?
16. How would you describe the acceptability of the model project by the immediate communities and beneficiaries?
17. Is the model project community-led?
18. Kindly describe the ownership structure of the model project.

## ANNEX 3. IN-DEPTH INTERVIEW PROTOCOL FOR THE RIVERS SONGHAI INITIATIVE

1. What are Rivers Songhai Initiatives all about?
2. What are the philosophy and the main terms used in operating the model?
3. What are the background features and elements in Rivers state that necessitated the need for the initiation of the model?
4. Could you highlight the goal and specific objectives of the Rivers Songhai?
5. How many departments do you have at the Songhai Initiatives and what type of governance is involved?
6. What are their responsibilities?
7. Could your kindly describe the organizational structure of the Rivers Songhai?
8. What is the hierarchy of the various arms in the structure of the Rivers Songhai?
9. How many staff do you have in your department and how were they employed?
10. How do you resolve conflicts among departments and competing needs?
11. What are the measures in place in the initiatives that enable the efficient implementation of the program?
12. How does your Rivers Songhai interact with other organizations like government agencies, NGOs, etc.?
13. What is your view on the Rivers Songhai in terms of whether it is complementing or substituting other projects from government and NGOs, etc.?
14. How is the Rivers Songhai development model project different from other development projects from government or NGOs?
15. How do you obtain funds to support the initiatives?
16. Are there penalties for misappropriation of funds among members?
17. How do you source for trainees for the initiatives and who bears the cost of the training?
18. What will you say are the factors which brought about the success of the project?
19. What are the benefits of the Rivers Songhai and who are the main benefactors?
20. What are the perceived challenges facing the initiatives?
21. Does Rivers Songhai have an exit strategy from the Songhai International?
22. How affordable is the Rivers Songhai projects in terms of other smaller organization interested in replicating the model in other location?
23. How would you describe the acceptability of the Rivers Songhai by the immediate communities and beneficiaries?
24. Kindly describe the level of accessibility of the operational modalities of the Rivers Songhai to other development stakeholders within and outside the Niger-Delta.
25. Based on the social, cultural, political and environmental factors surrounding the Rivers Songhai, do you think this project can be replicated or adapted to other locations?
26. How would you describe the Rivers Songhai in terms of ease of operations?

Annex 4. Key Benefits of the Rivers Songhai Initiative from In-depth Interviews with Songhai Management

| Benefits | Number of Mentions |
|---|---|
| Creates jobs | 9 |
| Community benefits | 7 |
| Builds capacity or skills | 6 |
| Creates strong work culture | 5 |
| Addresses environmental degradation, reduces waste | 3 |
| Develops entrepreneurs | 3 |
| Develops infrastructure, rural areas | 3 |
| Improves regional economy | 3 |
| Improves the perception of agriculture as employment | 3 |
| Self-sustaining project | 3 |
| Builds market linkages | 2 |
| Empowers community | 2 |
| Garners government and community support | 2 |
| Reduces food costs | 2 |
| Builds awareness of food security | 1 |
| Provides research space | 1 |

Annex 5. Key Challenges of the Rivers Songhai Initiative from In-depth Interviews with Songhai Management

| Challenges | Number of Mentions |
|---|---|
| **Issues with crops and farming methods (see subgroups of challenges below)** | 11 |
| Crops not suitable to the environment | 6 |
| Crops not profitable | 1 |
| Lack of soil test | 2 |
| Outdated farming methods | 2 |
| **Issues with management (see subgroups of challenges below)** | 9 |
| Benin staff does not take suggestions from managers | 3 |
| Benin staff has culture clash with Nigerian staff | 1 |
| Benin staff not concerned with employee welfare | 2 |
| Bureaucratic bottlenecks | 1 |
| General management problems | 1 |
| Management is confused about bottom line | 1 |
| **Project needs more time to develop** | 3 |
| **Security issues** | 3 |
| **Funding concerns** | 2 |
| **Underdeveloped tourism potential** | 2 |
| **High operating costs** | 1 |
| **Inadequate labor** | 1 |
| **Lack of government oversight** | 1 |
| **Needs auditing** | 1 |
| **Needs better prioritization** | 1 |
| **Needs more efficient marketing** | 1 |

Annex 6. Reported Effects of Training on Yields by Respondent Age Group

| What has been the state of yields from your farm since your participation in the Rivers Songhai training? | | | | |
|---|---|---|---|---|
| Age group | Improve drastically | Improve little | No change | Total |
| 23–35 | 4 | 9 | 3 | 16 |
| 36–45 | 12 | 15 | 0 | 27 |
| 46–55 | 2 | 11 | 0 | 13 |
| 56–65 | 6 | 2 | 0 | 8 |
| **Total** | **24** | **37** | **3** | **64** |

Annex 7. Reported Effects of Training on Farm Size by Respondent Age Group

| What has been the state of the size of your farm since your participation in the Rivers Songhai training? | | | | |
|---|---|---|---|---|
| Age group | Improve drastically | Improve little | No change | Total |
| 23–35 | 1 | 11 | 4 | 16 |
| 36–45 | 15 | 11 | 1 | 27 |
| 46–55 | 1 | 12 | 0 | 13 |
| 56–65 | 2 | 6 | 0 | 8 |
| **Total** | **19** | **40** | **5** | **64** |



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1775 Massachusetts Avenue, NW
Washington, DC 20036
202-797-6000
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